# **Supplementary file**

## **Contents**

Systematic search strategy	2
Study selection and criteria	4
PRISMA flow diagram	
Patient demographics	6
Summary of critical and important outcomes	
Risk of Bias assessment	14
GRADE Evidence Assessment	
Summary of Findings tables	
Recommendations level of agreement	

## Systematic search strategy

Search	Search term	Results
Dubus ad		
	(MEDLINE)	20 221
1	((((anterior cruciate ligament[MeSH Terms]) OR (anterior cruciate ligament reconstruction[MeSH Terms])) OR (anterior cruciate ligament[Title/Abstract])) OR (ACL[Title/Abstract])) OR (ACLR[Title/Abstract])	28,221
2	<ul> <li>((((((((((((((((((((((((((((((((((((</li></ul>	1,759,895
3	<pre>((((((((((((((((((((((((((((((((((((</pre>	13,699,716
4	#2 OR #3	14,492,265

5	#1 AND #4	21,263
6	# 5 AND filters "Humans, English"	14,606
EMBAS	SE (MEDLINE)	
	Query('postoperative care':ab,ti OR 'physical therapy':ab,ti OR 'exercise therapy':ab,ti OR 'pain management index':ab,ti OR 'patient education':ab,ti OR 'weight bearing exercise program':ab,ti OR 'range of motion':ab,ti OR 'treatment outcome':ab,ti OR cryotherapy:ab,ti OR 'movement therapy':ab,ti OR biofeedback:ab,ti OR proprioception:ab,ti OR 'muscle strength':ab,ti OR 'outcome assessment':ab,ti OR plyometrics:ab,ti OR 'resistance training':ab,ti OR rehabilitation:ab,ti OR physiotherapy:ab,ti OR 'preoperative exercise':ab,ti OR 'supervised exercise therapy':ab,ti OR electrotherapy:ab,ti OR 'dry needling':ab,ti OR kinesiotherapy:ab,ti OR 'joint laxity':ab,ti OR stability:ab,ti OR effusion:ab,ti OR balance:ab,ti OR perturbation:ab,ti OR performance:ab,ti OR criteria:ab,ti OR prevention:ab,ti OR prediction:ab,ti OR restriction':ab,ti OR cost:ab,ti OR prevention:ab,ti OR prediction:ab,ti OR 'return to play':ab,ti OR 'return to sport':ab,ti) AND ('anterior cruciate ligament reconstruction':ab,ti OR acl:ab,ti OR 'anterior cruciate ligament':ab,ti OR isb,ti OR isb,ti OR 'anterior cruciate ligament':ab,ti OR [english]/lim	13,150
COCHR	ANE	
	"anterior cruciate ligament reconstruction" OR "ACL" OR "anterior cruciate ligament"	3,487
CINIALI		
1	L (EBSCO) "anterior cruciate ligament reconstruction"	7,139
2	"physiotherapy" OR "rehabilitation" OR "exercise" OR "intervention" OR "pain management" OR "training" OR "dry needling" OR "cryotherapy" OR "biofeedback" OR "balance" "treatment" "return to sport"	1,919,720
3	#1 AND #2	4,197
4	#3, Limited to English language, Humans	2,757
	Discus (EBSCO)	
1	"anterior cruciate ligament reconstruction"	3,717
2	"physiotherapy" OR "rehabilitation" OR "exercise" OR "intervention" OR "pain management" OR "training" OR "dry needling" OR "cryotherapy" OR "biofeedback" OR "balance" "treatment" "return to sport"	65,504
3	#1 AND #2	3,523
4	#3, Limited to English language, Humans	2,349

## Study selection and criteria

To be included, an article had to meet the following selection criteria:

- Study was of rehabilitation after ACL surgery.
- Study was performed in humans.
- Study design was a systematic review, a meta-analysis, or a randomized controlled trial, peer reviewed in English language.
- Study that compared physical therapy interventions or against no intervention, placebo, or standard care.
- Study results included outcomes of interest: strength, muscle atrophy, pain, range of motion, patient-reported outcome measures (PROMs), swelling, laxity, functional activities, adverse events, return to activity.

The following publications were excluded:

- Animal or laboratory studies
- Studies performed on cadavers.
- Non-randomised trials, observational studies, case series and case reports, analyses of medical records, narrative reviews, editorials, letters, and commentaries
- Studies that did not report on any outcomes of interest.
- Rehabilitation in a paediatric population
- Studies in patients after ACL treated conservatively.
- Studies in patients after completion of their rehabilitation
- Studies reporting only biomechanical results.
- Studies reporting specifics only on other concomitant injuries such as other knee ligament injuries, meniscal or cartilage injuries surgical decisions (e.g., brace), nutritional, and psychological interventions.

## PRISMA flow diagram

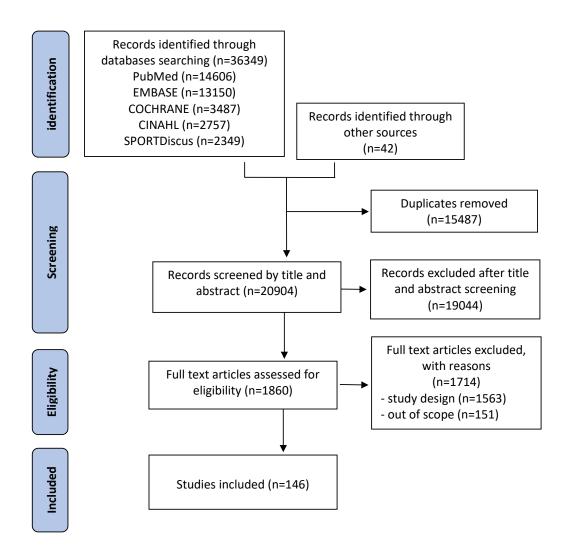


Figure S1 PRISMA study selection flow chart.

## Patient demographics

## TIMING AND STRUCTURE OF REHABILITATION

## Pre-operative rehabilitation

	Preop						Controls						Tota	I			
		n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
Shaarani 2013	preop	14	14	0	27.6±7.9	BTB	no preop	9	9	0	32±8.3	BTB	23	23	0	NR	23 BTB
Kim 2015	preop	40	40	0	NR	NR	no preop	40	40	0	NR	NR	80	80	0	28±6	80 NR
Reddy 2020	preop	20	19	1	28.2	HS	no preop	21	19	2	27.5	HS	41	38	3	NR	41 HS
Hartigan 2009	Perturbation + strength	9	6	3	28±10.7	HS or allograft	strength	10	7	3	30±9.4	HS or allograft	19	13	6	NR	19 HS/ALLO
Hartigan 2010	Perturbation + strength	18	12	6	27.1±10.2	HS or allograft	strength	22	17	5	29.5±10.8	HS or allograft	40	29	11	NR	40 HS/ALLO
													184	170	14		23 BTB 41 HS 40 HS/ALLC 80 NR

## Unsupervised vs supervised rehabilitation

	Unsupervised						Clinic						Tota	I			
		n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
Schenck 1997	Unsupervised	22	NR	NR	NR	BTB	Clinic	15	NR	NR	NR	ВТВ	37	28	9	24.1	37 BTB
Beard 1998	Unsupervised	13	10	3	27	BTB	Home+ supervised	13	11	2	29	BTB	26	21	5	28 (20-46)	26 BTB
Fischer 1998	Unsupervised	27	16	11	33 (16-44)	BTB/ALLO	Clinic	27	13	14	28 (15-39)	BTB/ALLO	54	29	25		54 BTB/ALLO
Grant 2005	Unsupervised	73	47	26	29.1±9.2	BTB	Clinic	72	38	34	29.5±10.2	BTB	145	85	60		145 BTB
Ugutmen 2008	Unsupervised	52	NR	NR	NR	HS	Clinic	52	NR	NR	NR	HS	104	103	1	31.5 (18-43)	104 HS
Revenas 2009	Unsupervised	24	15	9	25 (16-40)	16 BTB 8 HS	Clinic	14	11	3	21 (16-35)	7 BTB 7 HS	38	26	12	23 (16-40)	23 BTB 15 HS
Grant 2010	Unsupervised	40	27	13	30.8±10.1	BTB	Clinic	48	23	25	30.3±11.1	BTB	88	50	38		88 BTB
Hohmann 2011	Unsupervised	20	14	6	27 (19-35)	BTB	Clinic	20	16	4	28 (20-34)	BTB	40	30	10		40 BTB
Lim 2019	Unsupervised	15	9	6	38.79±12.58	HS	Clinic	15	10	5	32.25±8.26	HS	30	19	11		30 HS
													562	391	171		359 BTB 149 HS 54 BTB/ALL

## **Rehabilitation duration**

	Accelerated R (19-week)	Rehabili	tation				Controls						Total			
	<u>(</u> ,	n	м	F	age	graft		n	м	F	age	graft	n	м	Fa	ge graft
Beynnon 2011	ACC	19	13	6	29.7±10.1	BTB	Non-ACC	17	9	8	30.2±9.9	BTB	36	22	14	36 BTB
Gupta 2017	ACC	20	20	0	26.5±4.7	HS	Non-ACC	20	18	2	28.9±6.3	HS	40	38	2	40 HS
													106	60	16	36 BTB
																40 HS

## **MODALITIES**

## Continuous passive motion (CPM)

	СРМ						Controls						Total				
		n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
CPM vs no CPM																	
Anderson 1989	CPM	19	11	8	22.8	HS	No CPM	20	11	9	20.4	HS	39	22	17	NR	39 HS
Yates 1992	CPM	15	6	9	25.5±10.5	BTB	No CPM	15	9	6	25.3±7.7	BTB	30	15	15	25.4±9.1	30 BTB
McCarthy 1993a	CPM	10	4	6	25.1±10.5	BTB	No CPM	10	4	6	24.8±8.2	ВТВ	20	8	12	NR	20 BTB
McCarthy 1993b	CPM	15	6	9	25.5±10.5	BTB	No CPM	15	9	6	25.3±7.7	BTB	30	15	15	25.4±9.1	30 BTB
CPM vs active mot	ion																
Engstrom 1995	CPM+Active	17	NR		NR	BTB	Active	17	NR	NR	NR	ВТВ	34	25	9	27±8	34 BTB
Friemert 2005	CPM	30	29	1	NR	12 BTB 18 HS	Active	30	28	2	NR	10 BTB 20 HS	60	57	3	23±3.6	22 BTB 38 HS
Rosen 1992	CPM	25	20	5	25±8	BTB	Active	25	19	6	29±9	BTB	50	39	11	NR	50 BTB
Long term vs short	term use of CPN	1															
Richmond 1991	CPM-14d	9	5	4		BTB	CPM-4d	10	7	3		втв	19	12	7	NR	19 BTB
													282	193	89		205 BTI 77 HS

## Cryotherapy

	Cryotherapy						Controls						Tota	I			
		n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
Cryotherapy																	
Cohn 1989	Ice	26	17	9	22.9	BTB	No cold	28	15	13	25.1	BTB	54	32	22	NR	54 BTB
Daniel 1994	Ice pad (5°C)	16	11	5	27	BTB	No cold	42	30	12	26	BTB	58	41	17	NR	58 BTB
Brandsson 1996	Cold	20	NR	NR	NR	втв	No cold	10	NR	NR	NR	BTB	30	NR	NR	26	30 BTB
Konrath 1996	Polar cold	27	*	*	27	BTB	No cold	27	16	11	26	BTB	54	*	*	NR	54 BTB
Edwards 1996	Ice	26	18	8	28.7	BTB	No cold	24	15	9	28	BTB	50	33	17	NR	50 BTB
Barber 1998	ice water	51	34	17	NR	BTB	No cold	49	40	9	NR	BTB	100	74	26	34	100 BTB
Dervin 1998	ice water	40	27	13	30.6±10.2	BTB	No cold	38	27	11	26.9±6.2	BTB	78	54	24	NR	78 BTB
Ohkoshi 1999	Cold (5°C)	7	NR	NR	NR	HS	No cold	7	NR	NR	NR	HS	14	NR	NR	NR	14 HS
Koyonos 2014	Cold preop)	27	NR	NR	NR	16 ALLO 11 AUTO	No cold (preop)	26	NR	NR	NR	15 ALLO 11 AUTO	53	30	23	29	31 ALLO 22 AUTO
Compressive cryothera	ру																
Schroder 1994	cold compression	21	15	6	24.8	BTB	ice	23	18	5	24.2	BTB	44	33	11	NR	44 BTB
Waterman 2012	cold compression	18	15	3	28.7	8 ALLO 10 AUTO	ice	18	15	3	30.9	10 ALLO 8 AUTO	36	30	6	NR	18 ALLO 18 AUTO
Ruffilli 2015	cold compression	23	14	9	32.2	HS	ice	24	15	9	31.4	HS	47	29	18	NR	47 HS
Kijkunasathian 2017	cold compression	20	18	2	25.1	HS	ice	20	18	2	29.6	HS	40	36	4	NR	40 HS
Dambros 2012	cold compression	10	10	0	31.9	HS	No cold	9	9	0	27.2	HS	19	19	0	NR	19 HS
*Authors report 11 ma	le and 6 female	e part	icipan	its									677	411 98 N			468 BTB 120 HS 49 ALLO 40 AUTC

77	411 168	468 BTB
	98 NR	120 HS
		49 ALLO
		40 AUTO

## **Neuromuscular Electrical Stimulation (NMES)**

	NMES						Controls						Tota	l i			
		n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
Neuromuscular Ele	ctrical Stim	ulati	on (N	IME	S)												
Sisk 1987	NMES	11	6	5	23.4±7.5	HS/ITB	No NMES	11	7	4	23.9±9.2	HS/ITB	22	13	9	NR	22 HS/ITB
Delitto 1988	NMES	10	NR	NR	NR	NR	No NMES	10	NR	NR	NR	NR	20	NR	NR	29 (19-44)	20 NR
Wigerstad-Lossing 1988	NMES	13	11	2	28 (21-45)	BTB	No NMES	10	5	5	26 (21-33)	BTB	23	16	7	28 (21-45)	23 BTB
Snyder-Mackler 1991	NMES	5	NR	NR	NR	NR	No NMES	5	NR	NR	NR	NR	10	6	4	18-28	2 BTB 8 HS
Snyder-Mackler 1995	NMES	31	NR	NR	NR	NR	No NMES	34	NR	NR	NR	NR	65	NR	NR	25	65 NR
Lieber 1996	NMES	20	16	4	28±8.2	NR	No NMES	20	16	4	27.3±8.5	NR	40	32	8	15-44	40 NR
Paternostro-Sluga 1999	NMES	16	9	7	27.8±7.1	BTB	No NMES	17	7	10	28.6±11.3	BTB	33	16	17	NR	33 BTB
Fitzgerald 2003	NMES	21	12	9	29.2±10.1	5 BTB 12 HS 4 ALLO	No NMES	22	14	8	31.9±10.9	5BTB 9HS 8ALLO	43	26	17	NR	10 BTB 21 HS 12 ALLO
Hasegawa 2011	NMES	10	8	2	23.5±9.3	HS	No NMES	10	8	2	29.4±14.1	HS	20	16	4	26.3±11.8	20 HS
Feil 2011	NMES	33	25	8	31.1±1.52	HS	No NMES	34	27	7	31.6±1.36	HS	67	52	15	31.3	67 HS
Ediz 2012	NMES	13	10	3	28.3±9.9	HS	No NMES	13	11	2	27.6±9.6	HS	26	21	5	NR	26 HS
Taradaj 2013	NMES	40	40	0	22.4±5.8	HS	No NMES	40	40	0	21.3±5.7	HS	80	80	0	22±5	80 HS
Wright 2019	NMES	14	9	5	29(17-51)	AUTO/ ALLO	No NMES	11	10	1	32.9(16- 54)	AUTO/ ALLO	25	19	6	30.8±11.7	25 AUTO/ ALLO
Toth 2020	NMES	12	5	7	25±2	10 BTB 2 ALLO	Sham	9	4	5	24±3	7BTB 1ALLO 1HS	21	9	12	NR	17 BTB 3 ALLO 1 HS
Functional NMES																	
Ross 2000	NMES+CKC	10	6	4	27.1±4.9	BTB	СКС	10	7	3	28.4±5.9	BTB	20	13	7	NR	20 BTB
Labanca 2018	NMES+sit-to- stand	16	16	0	23.2±4.6	BTB	Usual care	17	17	0	22±3.2	BTB	33	33	0	NR	33 BTB
Moran 2019	NMES+walkir g	n 10	10	0	20.4±1.1	BTB/HS	NMES	13	13	0	21.6±4.2	BTB/HS	26	26	0	NR	26 BTB/HS
													574	378 85 N	111 R		138 BTB 245 HS 15 ALLO 125 NR 26 BTB/H 25 AUTO/ ALLO

## Electromyographic biofeedback (EMG-BFB)

	EMG-BFB						Controls						Total				
		n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
Draper 1990	EMG-BFB	11	NR	NR	NR	BTB	No EMG-BFB	11	NR	NR	NR	BTB	22	15	7	23 (16-36)	22 BTB
Christanell 2012	EMG-BFB	8	NR	NR	32.9±9.3	BTB	No EMG-BFB	8	NR	NR	27.1±6.2	BTB	16	12	4	30 (20-49)	16 BTB
													38	27	11		38 BTB

### **Blood flow restriction (BFR)**

	BFR						Controls						Total				
		n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
Ohta 2003	BFR	22	13	9	28±9.7	HS	no BFR	22	12	10	30±9.7	HS	44	25	19		44 HS
lversen 2016	BFR	12	7	5	24.9±7.4	HS	no BFR	12	7	5	29.8±9.3	HS	24	14	10		24 HS
Hughes 2019a	BFR	12	7	5	29±7	HS	no BFR	12	10	2	29±7	HS	24	17	7		24 HS
Hughes 2019b	BFR	12	7	5	29±7	HS	no BFR	12	10	2	29±7	HS	24	17	7		24 HS
Curran 2020	BFR	18	10	8	15.7±1.3	13 BTB 3 HS 2 QT	no BFR	16	5	11	17.4±3.5	12 BTB 3 HS 1 QT	34	15	19		25 BTB 6 HS 3 QT
Grapar Zargi 2016	BFR	10	8	2	33±7	HS	sham	10	8	2	34±10	HS	20	16	4		20 HS
Zargi 2018	BFR	10	8	2	34±6	HS	sham	10	8	2	35±5	HS	20	16	4		20 HS
													190	120	70	28	25 BTB 162 HS 3 QT

## **Kinesiology taping**

	КТ						Controls						Tota				
		n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
Boguszewski 2013	KT	NR	NR	NR	NR	NR	No KT	NR	NR	NR	NR	NR	26	10	16	20-41	NR
Balki 2016	KT	15	15	0	28.6±4.5	HS/ALLO	Sham KT	15	15	0	27.66±7.45	HS/ ALLO	30	30	0	28.1 (18-39)	30 HS/ ALLO
Oliveira 2016	KT	15	NR	0	NR	HS	No KT/Sham	30		0	NR	HS	47	47	0	28.6±3.8	47 HS
Balki 2019	КT	13	13	0	27.7±4.1	HS/ ALLO	Sham KT	13	13	0	27.1±7.5	HS/ ALLO	26	26	0	27.4±5.9	26 HS/ ALLO
Chan 2017	KT	30	22	8	27.4±8.25	HS	No KT	30	24	6	26.3±7.04	HS	60	46	14		60 HS
Gholami 2020	КT	10	9	1	32±5.98	HS/BTB	Sham KT	10	9	1	32.7±6.82	HS/BTB	20	18	2		20 HS/BTB
													183	151	32		107 HS 20 HS/BTB 30 HS/ALLO 26 NR

## Dry needling

Dry	Needling					Controls						Total				
	n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
Velázquez-Saornil 2017 DN	22	16	6	31.4±8.3	11BTB 11HS	No DN	22	12	10	34.4±8.6	10BTB 12HS	44	28	16		21 BTB 23 HS
												44	28	16		21 BTB 23 HS

## Whole body and local vibration

	Interventi	ion gr	oup				Control gro	oup					Total				
		n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
whole-body vibratior	1																
Salvarani 2003	WBV	10	NR	NR	29.7±7.8	BTB	Usual care	10	NR	NR	26.8±5.2	втв	20	17	3		20 BTB
Moezy 2008	WBV	10	10	0	24.5±3.4	BTB	Usual care	10	10	0	22.7±3.8	втв	20	20	0		20 BTB
Fu 2013	WBV	24	18	6	23.3±5.2	HS	Usual care	24	14	10	25.2±7.3	HS	48	32	16		48 HS
Berschin 2014	WBV	20	14	6	27±4.2	BTB	No WBV	20	15	5	28±6.8	втв	40	29	11		40 BTB
Pistone 2016	WBV	17	NR	NR	27±7	HS	Usual care	17	NR	NR	29±7	HS	34	NR	NR		34 HS
Costantino 2018	WBV	19	0	19	25.5±2	BTB	Usual care	19	0	19	25.4±2.4	втв	38	0	38		38 BTB
da Costa 2019	WBV	22	22	0	28±5.5	HS	Usual care	22	22	0	26.8±6.8	HS	44	44	0		44 HS
local vibration																	
Brunetti 2006	Local vibration	15	15	0	NR	HS	sham treatment	15	15	0	NR	HS	30	30	0	25±3	30 HS
Park 2019	Local vibration	11	NR	NR	26.8±12.1	NR	No local vibration	13	NR	NR	31.3±16.5	NR	24	NR	NR		NR
Coulondre 2022	Local vibration	11	6	5	30±10	1BTB 10HS	No local vibration	12	7	5	29±9	3BTB 9HS	23	13	10		4 BTB 19 HS
													321	185 58 NI	78 ?		122 BTB 175 HS 24 NR

## **EXERCISED-BASED REHABILITATION**

### Early phase rehabilitation

	Early						Controls						Total	l			
		n	м	F	age	graft		n	м	F	age	graft	n	М	F	age	graft
Early mobilisation																	
Haggmark 1979	Brace	8	7	1	28.9±5.7	BTB	Cast	8	7	1	27.8±2.5	BTB	16	14	2	28.3±4.5	16 BTB
Henriksson 2002	Brace	22	18	4	24±5	BTB	Cast	23	16	7	24±6	BTB	45	34	11	NR	45 BTB
Hiemstra 2009	No Imob	44	27	17	29.4±5.8	HS	Imob	44	26	18	27.8±5.8	HS	88	53	35	NR	88 HS
lto 2007	3 days immobilization	15	10	5	29.2±10	HS	2w immobilization	15	6	9	27.3±10.9	HS	30	16	14	NR	30 HS
Noyes 1987	Early CPM	9	5	4	23.7±9.8	ALLO/B TB	Delayed CPM	9	7	2	22.6±4.3	ALLO/BT B	18	12	6	23.1±7.6	ALLO/BT
Isberg 2006	Early EXT	11	5	6	25 (16-41)	BTB	Late EXT	11	9	2	21 (17-38)	BTB	22	14	8	NR	22 BTB
Vadala 2007	Early Mob	18	13	5	29 (16-42)	HS	Late Mob	23	17	6	30 (17-44)	HS	45	33	12	NR	45 HS
Christensen 2013	Early Mob +imm WB	19	10	9	30.1±10.5	HS	Late Mob +late WB	17	15	2	33.1±10.9	HS	36	25	11	31.5±10.6	36 HS
Immediate weight b	earing																
Tyler 1998	Early WB	25	NR	NR	NR	BTB	Late WB	20	NR	NR	NR	BTB	45	21	24	30±1	45 BTB
Early open-kinetic cl	hain exercises																
Heijne 2007	Early OKC-BTB	19	11	8	31±8	BTB	Late OKC-BTB	15	11	4	27±5	BTB	34	22	12	NR	34 BTB
	Early OKC-HS	17	7	10	30±8	HS	Late OKC-HS	17	7	10	31±9	HS	34	14	20	NR	34 HS
Fukuda 2013	Early OKC	23	16	7	26.5±8.5	HS	Late OKC	22	13	9	23.9±5.5	HS	45	29	16	NR	45 HS
Early (quadriceps an	d hamstring) st	reng	the	ning													
Shaw 2005	Early ISOM	55	41	14	28.8±9.3	31 BTB 24 HS	Usual care	48	34	14	28.4±8.1	32 BTB 16 HS	103	75	28	28.6±8.8	63 BTB 40 HS
Kinikli 2014	Early Leg Press	16	NR	NR	33.87±8.19	HS	Usual care	17	NR	NR	32.64±8.21	HS	33	31	2	33.2±8.1	33 HS
Sekir 2010	Early H ISOK	26	26	0	24.8±7.2	BTB	Late H ISOK	22	22	0	25.1±5.3	BTB	48	48	0	NR	48 BTB
Early eccentric train	ing																
Gerber 2007a	Early ECC	16	9	7	29.4±9.4	6 BTB 10 HS	Usual care	16	9	7	31±9.8	6 BTB 10 HS	32	18	14	NR	12 BTB 20 HS
Gerber 2007b	Early ECC	20	12	8	29.3±8.6	10 BTB 10 HS	Usual care	20	12	8	29.3±9.7	10 BTB 10 HS	40	24	16	NR	20 BTB 20 HS
Gerber 2009	Same as Gerbe 2007b	er															

2 465 217 293 BTB 371 HS 18 ALLO/BTB

## Strength training

	Resistance						Controls						Tota	ıl			
		n	М	F	age	graft		n	М	F	age	graft	n	М	F	age	graft
Open vs closed kinetic c	hain exerci	ses															
Bynum 1995	ОКС	47	45	2	26	BTB	СКС	50	43	7	27	BTB	97	88	9		97 BTB
Morrissey 2000	OKC	18	17	1	28±9	BTB	CKC	18	12	6	31±8	BTB	36	29	7		36 BTB
Mikkelsen 2000	OKC+CKC	22	17	5	NR	BTB	CKC	22	17	5	NR	BTB	44	34	10	18-40	44 BTB
Hooper 2001	ОКС	19	16	3	NR	BTB	CKC	18	13	5	NR	BTB	37	29	8	NR	37 BTB
Morrissey 2002	OKC	22	19	3	28±8	BTB	CKC	21	15	6	19±8	BTB	43	34	9		43 BTB
Perry 2005	ОКС	24	17	7	33±7	BTB/HS	CKC	25	20	5	33±8	BTB/HS	49	37	12		49 BTB/HS
Kang 2012	ОКС	18	12	6	29.9±2.3	NR	СКС	18	12	6	29±4	NR	36	24	12		36 NR
Chrzan 2013	ОКС	20	NR	NR	27.3±8.5	18HS 2BTB	СКС	20	NR	NR	26.2±4.2	20HS	40	14	26	26.5	38 HS 2 BTB
Ucar 2014	OKC	28	23	5	28.1±11.9	HS	CKC	30	24	6	27.4±10.5	HS	58	47	11		58 HS
Eccentric training																	
Friedmann-bette 2018	ECC overload	21	NR	NR	24±4	QT/HS	CON/ECC	16	NR	NR	26±5	QT/HS	37	NR	NR		37 QT/HS
Milandri 2021	ECC	12	12	0	25.8±6.4	HS	CON	10	10	0	25.2±6	HS	22	22	0		22 HS
Kasmi 2021	ECC	10	0	10	20.3±3.1	BTB	Usual care	e 10	0	10	20.3±3.3	BTB	20	0	20	20.3	20 BTB
Isokinetic training																	
Tsaklis 2002	ECC	15	15	0	NR	BTB	CON	15	15	0	NR	BTB	30	30	0	25	30 BTB
Vidmar 2020	ISOK	15	15	0	26.9±5.8	HS	Control	15	15	0	24.3±4.6	HS	30	30	0		30 HS

,,	igh intensity resis																
Bieler 2014	Low	26	16	10	29.2±1.1	14BTB	High	24	15	9	29.2±1.5	13BTB	50	31	19	18-45	27 BTB
	intensity					12HS	intensity					11HS					23 HS
	resistance						resistance	e									
	training						training										
													629	449	143		336 BTB
														37NF	2		171 HS
																	49 BTB/HS
																	37 QT/HS
																	37 Q17113

### Motor control training

	Intervention g	group					Control group						Tota	al			
		n	м	F	age	graft		n	м	F	age	graft	n	М	F	age	graft
Motor control traini	ng																
Cappellino 2012	Neurocogni- tive exercises	7	7	0	27±6	втв	No neuro-cognitive exercises	7	7	0	28±4	BTB	14	14	0		14 BTB
Cho 2013	Unstable surface exercise	e 14	14	0	28.8±7.2	NR	Stable surface exercises	14	14	0	29.9±5.5	NR	28	28	0		28 NR
Kaya 2019	Neuromuscular exercises	20	NR	NR	29.4±9.7	ALLO	No neuromuscular exercises	20	NR	NR	31.6±8.5	ALLO	40	36	4		40 ALLO
Shen 2021	15° treadmill angle backward walking	10	6	4	32.9±11.5	3BTB 5HS 2ALLO	No backward walking	10	7	3	35.5±10.1	2BTB 7HS 1ALLO	20	13	7		5 BTB 12 HS 3 ALLO
Hajouj 2021	Proprioception training	15	15	0	23.1±3.0	HS	No proprioception training	15	15	0	24.3±3.7	HS	30	30	0		30 HS
Bartels 2016	SpeedCourt system	28	22	6	31.4±7.5	HS	Regular stabilization training	22	14	8	34.4±12.5	HS	50	36	14		50 HS
Baltaci 2013	Nintendo Wii Fit	: 15	15	0	28.6±6.8	HS	Usual care	15	15	0	29.3±5.7	HS	30	30	0		30 HS
Motor control traini	ng vs strength tra	aining	ş														
Liu-ambrose 2003	Balance, agility, perturbation training	5	1	4	25±3.7	HS	Strength training	5	3	2	24.7±2.7	HS	10	4	6		10 HS
Cooper 2005	Balance training	14	12	2	31.3±7.8	1BTB 13HS	Strength training	15	8	7	24.7±5.1	2BTB 13HS	29	20	9		3 BTB 26 HS
													251	211	40		22 BTB 158 HS 43 ALLC 28 NR

## Plyometric and agility training

	Intervention	l gro	up				Control group						Tota	l –			
		n	м	F	age	graft		n	м	F	age	graft	n	М	F	age	graft
Plyometric and agilit	y training																
Risberg 2007	Balance, plyometrics, agility training	39	26	13	27	BTB	Usual care	35	21	14	28.5	BTB	74	47	27		74 BTB
Risberg 2009	Balance, plyometrics, agility training	39	26	13	NR	BTB	Usual care	35	21	14	NR	BTB	74	47	27		74 BTB
Souissi 2011	Plyometric and agility training		8	0	21.7±3	NR	Usual care	8	8	0	21.5±4.1	NR	16	16	0		16 NR
Kasmi 2021	Plyometric training	10	0	10	20.3±3.4	втв	Usual care	10	0	10	20.3±3.1	втв	20	0	20		20 BTB
Low intensity vs high	n intensity plyo	met	ric tra	aining													
Chmielewski 2016	Low intensity plyometric training	12	7	5	20.7±4.9	AUTO/ ALLO	High intensity plyometric training	12	8	4	19.3±3.8	AUTO/ ALLO	24	15	9	15-30	24 AUTO/ALLO
	0												134	78	56		94 BTB 16 NR

24 AUTO/ALLO

## **Cross education**

	BFR						Controls						Total				
	-	n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
Papandreou 2007	3d/week 5d/week		14 14	0 0	23.6±2.6 25.1±2.4	HS HS	No cross- training	14	14	0	23.1±2.7	HS	42	42	0		42 HS
Papandreou 2009	Same population																
Papandreou 2013	Same population																
Zult 2018	Cross-training	22	16	6	28±9	18 HS 3 BTB 1 ALLO	No cross- training	21	8	13	28±10	19 HS 2 BTB	43	24	19		37 HS 5 BTB 1 ALLO
Zult 2019	Same population																
Harput 2019	CON ECC	16 16	NR NR		29.7±6.9 30.4±7.5	HS HS	No cross- training	16	NR	NR	28.1±6.1	HS	48	NR	NR	NR	48 HS
Minshull 2021	Cross-training	22	15	7	33.3±10	10 HS 12 BTB	No cross- training	22	10	12	30.4±9.4	10 HS 11 BTB 1 QT	44	25	19	NR	20 HS 23 BTB 1 QT
													177	91 48 N	38 R		28 BTB 147 HS 1 ALLO 1 QT

## Core stability training

	Core training					Controls						Total				
	n	м	F	age	graft		n	м	F	age	graft	n	м	F	age	graft
Panchal 2017	Core training 30	27	3	29±5.5	HS	Usual care	30	27	3	29±5.5	HS	60	54	6	NR	60 HS
Li 2019	Core training 37	37	0	26.5±3.1	HS	Usual care	37	37	0	27.6±2.4	HS	74	74	0	NR	74 HS
-												134	128	6		134 HS

## Aquatic therapy

	Aquatic therapy						Controls						Total				
	шегару	n	м	F	age	graft	controis	n	м	F	age	graft	n n	м	F	age	graft
Tovin 1994	Hydro	10	6	4	NR	BTB	Usual care	10	8	2	NR	BTB	20	14	6	29	20 BTB
Zamarioli 2008	Hydro	5	NR	NR	NR	BTB	Usual care	5	NR	NR	NR	BTB	10	10	0	NR	10 BTB
Peultier-Celli 2017	Hydro +usual care	32	26	6	28.2±7.4	HS	Usual care	35	21	14	29.9±7.3	HS	67	47	20	29	67 HS
													107	71	26		30 BTB 67 HS

## Summary of critical and important outcomes

	ROM	Swelling	Laxity	PROM	Pain	Balance	Proprioception	Functional	Atrophy	Strength	RTS
Pre-operative rehab			IMPORTANT	CRITICAL				IMPORTANT	CRITICAL	CRITICAL	CRITICAL
Unsupervised rehab	CRITICAL		CRITICAL	CRITICAL	CRITICAL		IMPORTANT	IMPORTANT	CRITICAL	CRITICAL	
Accelerated rehab			CRITICAL	CRITICAL			IMPORTANT	CRITICAL		CRITICAL	
СРМ	CRITICAL	CRITICAL	CRITICAL	CRITICAL	CRITICAL		IMPORTANT		IMPORTANT	IMPORTANT	
Cryotherapy	CRITICAL	CRITICAL			CRITICAL						
Compressive cryotherapy	CRITICAL	CRITICAL		CRITICAL	CRITICAL			IMPORTANT	IMPORTANT	IMPORTANT	
NMES	IMPORTANT	IMPORTANT	CRITICAL	CRITICAL	CRITICAL			IMPORTANT	CRITICAL	CRITICAL	
Functional NMES			CRITICAL		CRITICAL	IMPORTANT		IMPORTANT	CRITICAL	CRITICAL	
EMG-Biofeedback	IMPORTANT	IMPORTANT		CRITICAL	CRITICAL					CRITICAL	
BFR	IMPORTANT	CRITICAL	CRITICAL	CRITICAL	CRITICAL	IMPORTANT			CRITICAL	CRITICAL	
Kinesio-tape	CRITICAL	CRITICAL		CRITICAL	CRITICAL	IMPORTANT		IMPORTANT	IMPORTANT	IMPORTANT	
Dry needling	IMPORTANT			CRITICAL	CRITICAL	IMPORTANT					
Whole body vibration	IMPORTANT		CRITICAL	CRITICAL		CRITICAL	CRITICAL	IMPORTANT		CRITICAL	
Local vibration	IMPORTANT			CRITICAL	CRITICAL	CRITICAL		IMPORTANT		CRITICAL	
Early mobilization	CRITICAL	CRITICAL	CRITICAL	CRITICAL	CRITICAL		IMPORTANT	IMPORTANT	IMPORTANT	IMPORTANT	
Immediate WB	CRITICAL		CRITICAL	CRITICAL	CRITICAL						
Early start OKC	CRITICAL		CRITICAL	CRITICAL	CRITICAL	IMPORTANT		IMPORTANT		CRITICAL	
Early isometric	CRITICAL		CRITICAL	CRITICAL	CRITICAL			IMPORTANT		CRITICAL	
Early leg press				CRITICAL				IMPORTANT		CRITICAL	
Early HSs isokinetic				CRITICAL						CRITICAL	
Early ECC		CRITICAL	CRITICAL	CRITICAL	CRITICAL			IMPORTANT	CRITICAL	CRITICAL	
OKC vs CKC	IMPORTANT		CRITICAL	CRITICAL	CRITICAL			IMPORTANT	CRITICAL	CRITICAL	CRITICAL
Eccentric training				CRITICAL		IMPORTANT		IMPORTANT		CRITICAL	
Isokinetic vs isotonic				CRITICAL				IMPORTANT	CRITICAL	CRITICAL	
Low vs high intensity			CRITICAL	CRITICAL				IMPORTANT		CRITICAL	
Motor control vs usual care	IMPORTANT	IMPORTANT	CRITICAL	CRITICAL	CRITICAL	CRITICAL	CRITICAL	IMPORTANT	CRITICAL	CRITICAL	
Motor control vs strength	IMPORTANT			CRITICAL				IMPORTANT		CRITICAL	
Plyometric/agility training			CRITICAL	CRITICAL	CRITICAL	IMPORTANT	IMPORTANT	CRITICAL		CRITICAL	
Cross education				CRITICAL		IMPORTANT	IMPORTANT	IMPORTANT		CRITICAL	
Core stability training	IMPORTANT			CRITICAL	CRITICAL			IMPORTANT			
Aquatic therapy	CRITICAL	CRITICAL	CRITICAL	CRITICAL	CRITICAL	IMPORTANT	IMPORTANT	IMPORTANT	CRITICAL	CRITICAL	

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

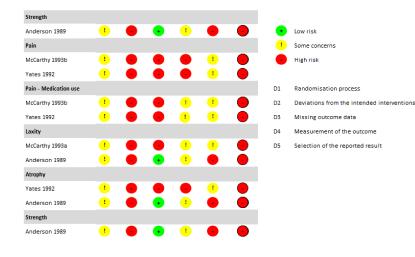
13

## **Risk of Bias assessment**

Bencip         Secure         Secure<		Outcome / Author	D1	D2	D3	D4	D5	Overall		
Pretubilitation         Description         O <td>Pre-onerative</td> <td>Strength</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Pre-onerative	Strength								
<ul> <li></li></ul>			1	1	•	•		•	•	Low risk
<ul> <li></li></ul>		Kim 2015		ŏ.	ŏ	ŏ	•	ĕ		
Secure 203         0 <th0< td=""><td></td><td>Atrophy</td><td></td><td></td><td></td><td></td><td></td><td></td><td>Ö</td><td>High risk</td></th0<>		Atrophy							Ö	High risk
Number of the second activity:         Description of			•	•		•				•
Outcome / Auchor         D1         D2         D3         D4         D5         Overall           Perturbation in pre- babilitation         0									D1	Randomisation process
Automa / Autor       D				•						
Perturbation in pre- nabilitation								-		
Banani 2031         0 <td< td=""><td></td><td></td><td></td><td>-</td><td>•</td><td>•</td><td></td><td>-</td><td></td><td></td></td<>				-	•	•		-		
Perturbation in pre- habilitation       Outcome / Auchor       D1       D2       D3       D4       D5       Overall         Besign       Image: Source So										
Materian polity         Dial         Dial <thdia< th="">         Dial         Dial</thdia<>									00	Selection of the reported result
Sharani 2013         0         0         0         0         0         0           Imig         Resdy 2020         0         0         0         0         0         0           Perturbation in primabilitation         Seage         0         0         0         0         0         0         0           Perturbation in primabilitation         Seage         0         0         0         0         0         0         0           Perturbation in primabilitation         Seage         0 <t< td=""><td></td><td></td><td>•</td><td>-</td><td>-</td><td>•</td><td><u> </u></td><td>-</td><td></td><td></td></t<>			•	-	-	•	<u> </u>	-		
Number list of an antipartitie of antipartitie							•			
Reddy 220         0         0         0         0         0         0         0           Perturbation in premised         Sectome / Author         D1         D2         D3         D4         D5         Oreal           Sectome / Author         D1         D2         D3         D4         D5         Oreal           Sectome / Author         D1         D2         D3         D4         D5         Oreal           Hartigan 2020         0         0         0         0         0         0         0           Predict sectories         Hartigan 2020         0         0         0         0         0         0           Retring 2020         0         0         0         0         0         0         0         0           Hartigan 2020         0			•	•	•	•	•	-		
Perturbation in pre- habilitation         Outcome / Author         D1         D2         D3         D4         D5         Overall           Harigan 2010         1         0         1         0         1         0           Harigan 2010         1         0         1         0         1         0           Harigan 2010         1         0         1         0         1         0           Harigan 2010         1         0         1         0         0         0         0           Harigan 2010         1         0         0         0         0         0         0         0           Harigan 2010         1         0         0         0         0         0         0         0         0           Grant 2005         1         1         0										
Strength         Image: Perturbation in pre- habilitation         Strength Perturbation         Image: Pertur		Reddy 2020	•	-	-	•	•	-		
Strength         Image: Perturbation in pre- habilitation         Strength Perturbation         Image: Pertur										
Determ         Sense         I <thi< th="">         I         I         <thi<< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></thi<<></thi<>										
Detunctation in pre- habilitation         Strength Retent reported outcome:         I         I         I         I         I           Integen 2010         1         0         0         0         0         0           Hartigan 2010         1         0         0         0         0         0         0           Hartigan 2020         1         0         0         0         0         0         0         0           Hartigan 2020         1         0         0         0         0         0         0         0           Junupervised exercise execution         Strength         1         0         0         0         0         0         0         0           Insupervised exercise execution         Strength         0										
Nabilitation         Hartigan 2010         I         I         I         I         I           Paleint reported outcomes         Hartigan 2010         I		Outcome / Author	D1	D2	D3	D4	D5	Overall		
Sector         Control         Control <thcontrol< th=""> <thcontrol< th=""> <thco< td=""><td>Perturbation in pre-</td><td>Strength</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thco<></thcontrol<></thcontrol<>	Perturbation in pre-	Strength								
Hartigen 2010         I <thi< th=""> <thi< th=""> <thi< th=""> <thi< td=""><td>habilitation</td><td>Hartigan 2010</td><td>!</td><td>•</td><td>!</td><td>•</td><td>!</td><td>-</td><td></td><td></td></thi<></thi<></thi<></thi<>	habilitation	Hartigan 2010	!	•	!	•	!	-		
Purctional activities       Partigen 2020       I		Patient reported outcomes								
Hartigen 2009       I       I       I       I       I       I       I         Hartigen 2010       I <tdi< td=""><td></td><td>Hartigan 2010</td><td>•</td><td>•</td><td>•</td><td>•</td><td>•</td><td>-</td><td></td><td></td></tdi<>		Hartigan 2010	•	•	•	•	•	-		
Image 200		Functional activities						-		
Outcome / Author         D1         D2         D3         D4         D5         Overall           Insupervised exercise execution         Grant 2005         I		Hartigan 2009	1				•	•		
Ductome / Author         D1         D2         D3         D4         D5         Overall           Insupervised exercise execution         Sergith		Hartigan 2010		Ă	<u> </u>	Ă	<u> </u>	Ă		
Strength         Strength           Grant 2005         I <th></th> <th>Outcome / Author</th> <th>D1</th> <th>D2</th> <th>D3</th> <th>D4</th> <th>D5</th> <th>Overall</th> <th></th> <th></th>		Outcome / Author	D1	D2	D3	D4	D5	Overall		
Grant 2005       I <tdi< td=""><td>Insupervised exercise</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tdi<>	Insupervised exercise									
Revenas 200911010Grant 2010000000Hohmann 2011000000Im 2019100000Beard 1998100000Fischer 199810010Grant 200500000Grant 200500000Grant 201000000Fischer 199810000Grant 201000000Fischer 199810000Grant 201000000Grant 201000000Grant 201000000Grant 201000000Grant 201000000Grant 201000000Grant 202500000Grant 202500000Grant 202600000Grant 202000000Grant 202000000Grant 202000000Grant 202000000Grant 202000 <td></td> <td>Grant 2005</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>1</td> <td>(!)</td> <td></td> <td></td>		Grant 2005	•	•	•	•	1	(!)		
Grant 201011111Hohmann 201111111Lim 201911111Beard 199811111Schenck 199711111Grant 200511111Ugutmen 200811111Grant 201011111Beard 199811111Grant 201111111Beard 199811111Grant 201211111Grant 201311111Grant 201411111Juttmen 200811111Juttmen 200811111Juttmen 200811111Grant 200511111Juttmen 200811111Juttmen 200811111Grant 200511111Juttmen 200811111Juttmen 200811111Juttmen 200811111Juttmen 200811111Juttmen 20081111<			•	_	_			ĕ		
Hohmann 2011IIIIILim 2019IIIIIIBeard 1998IIIIIIAnge of motionFischer 1998IIIIIIGrant 2005IIIIIIUgutmen 2008IIIIIIFischer 1998IIIIIIGrant 2010IIIIIIDetent reported outcomeIIIIIFischer 1998IIIIIIGrant 2005IIIIIIDetent reported outcomeIIIIIIFischer 1998IIIIIIIGrant 2005IIIIIIIDetent coordsIIIIIIIFischer 1998IIIIIIIUgutmen 2008IIIIIIIRevenas 2009IIIIIIIGrant 2010IIIIIIIIIIIIIIIIIIIIIIIIIIIII </td <td></td> <td></td> <td>_</td> <td>_</td> <td>-</td> <td>-</td> <td></td> <td></td> <td></td> <td></td>			_	_	-	-				
Lim 2019111111Beard 1998111111Shenck 1997111111Fischer 1998111111Orant 2005111111Ugutmen 2008111111Fischer 1998111111Orant 2010111111Schenck 1997111111Fischer 1998111111Grant 2010111111Juttmen 2008111111Grant 2015111111Grant 2010111111Grant 2017111111Grant 2018111111Grant 2005111111Grant 2005111111Grant 2010111111Grant 2010111111Grant 2019111111Grant 2018111111Grant 2019111111 <tr< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td><u> </u></td><td></td><td></td></tr<>								<u> </u>		
Beard 1998111111Amge of motionSchenck 199711111Fischer 199811111Grant 200511111Ugutmen 203811111Grant 20101111Beard 199811111Schenck 199711111Beard 199811111Fischer 199811111Grant 200511111Beard 199811111Grant 200511111Grant 200511 <td< td=""><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td>Ă</td><td></td><td></td></td<>			-					Ă		
Rage of motion         Schenck 1997       1       1       1       1         Fischer 1998       1       1       1       1         Grant 2005       1       1       1       1         Ugutmen 2008       1       1       1       1         Grant 2010       1       1       1       1         Attended to totome       1       1       1       1         Schenck 1997       1       1       1       1       1         Schenck 1997       1       1       1       1       1         Schenck 1997       1       1       1       1       1         Grant 2005       1       1       1       1       1         Schenck 1997       1       1       1       1       1         Schenck 1997       1       1       1       1       1         Schenck 1997       1       1       1       1       1         Schenck 1998       1       1       1       1       1         Ugutmen 2008       1       1       1       1       1         Ugutmen 2008       1       1       1       1										
Schenck 1997IIIIIFischer 1998IIIIIGrant 2005IIIIIUgutmen 2008IIIIIRevenas 2009IIIIIGrant 2010IIIIIPatient reported outcomeIIIIBeard 1998IIIIIFischer 1998IIIIIGrant 2005IIIIIGrant 2005IIIII<			-	-	-	-	-			
Fischer 1998IIIIGrant 2005IIIIUgutmen 2008IIIIRevenas 2009IIIIGrant 2010IIIIPatient reported outcomesIIISchenck 1997IIIIBeard 1998IIIIFischer 1998IIIIGrant 2005IIIIGrant 2005IIIIGrant 2005IIIIGrant 2005IIIIRevenas 2009IIIIGrant 2010IIII					•	•				
Grant 2005IIIIUgutmen 2008IIIIIRevenas 2009IIIIIGrant 2010IIIIIPatient reported outcomesIIIISchenck 1997IIIIIBeard 1998IIIIIFischer 1998IIIIIGrant 2005IIIIIGrant 2005IIIIIGrant 2005IIIIIRevenas 2009IIIIIGrant 2010IIIII										
Ugutmen 20081IIIRevenas 200911IIIGrant 2010IIIIIPatient reported outcomesSchenck 1997IIIIBeard 1998IIIIIFischer 1998IIIIIGrant 2005IIIIIUgutmen 2008IIIIIRevenas 2009IIIIIGrant 2010IIIII		Fischer 1998	<u>'</u>					-		
Revenas 200911••1•Grant 2010•••••11Patient reported outcomesSchenck 19971••11•Beard 199811•11•1Fischer 19981••11••Grant 2005••11•••Revenas 200911•1•••Grant 2010•••11••				-						
Grant 2010IIIIPatient reported outcomesSchenck 1997IIIIIBeard 1998IIIIIIFischer 1998IIIIIIGrant 2005IIIIIIRevenas 2009IIIIIIGrant 2010IIIIIIIIIIIIIIIIIIIIIIIIIII					•			-		
Patient reported outcomesSchenck 19971111Beard 199811111Fischer 199811111Grant 200511111Ugutmen 200811111Revenas 200911111Grant 201011111		Revenas 2009	_	_	•	-		-		
Schenck 19971111Beard 199811111Fischer 199811111Grant 200511111Ugutmen 200811111Revenas 200911111Grant 201011111		Grant 2010	•	•	•	•	•	(!)		
Beard 1998       1       1       1       1         Fischer 1998       1       1       1       1         Grant 2005       1       1       1       1         Ugutmen 2008       1       1       1       1         Revenas 2009       1       1       1       1         Grant 2010       1       1       1       1		Patient reported outcomes								
Fischer 1998       1       Image: Constraint of the second		Schenck 1997	•		•			-		
Grant 2005     1     1     1       Ugutmen 2008     1     1     1       Revenas 2009     1     1     1       Grant 2010     1     1     1		Beard 1998	!	!	•	!	!	!		
Ugutmen 2008 1 0 1 1 0 Revenas 2009 1 1 0 1 0 Grant 2010 <b>1 1 1</b> 1		Fischer 1998	!	•	•	!	!	-		
Ugutmen 2008 1 0 1 1 0 Revenas 2009 1 1 0 1 0 Grant 2010 1 1 1 1 1		Grant 2005	•	•	•	•	!	•		
Grant 2010 🕢 😧 😯 🤨 !!!		Ugutmen 2008	!	•	•	!	!	-		
		Revenas 2009	•	!	•	!	•	-		
		Grant 2010	-	•	•	•	•	()		
Honmann 2011 🔫 🤫 🥲 🤃 🤃		Hohmann 2011	•	•	•	•	1	Ĭ		

	Functional activities									
	Schenck 1997	1		•	•	•				
	Fischer 1998				1	•	-	•	Low risk	
	Revenas 2009			ě	•		-		Some concerns	
	Hohmann 2011			-	ŏ		•		Some concerns High risk	
	Laxity	•	•	•	•	•		•	righ fisk	
				•	•				<b>B</b>	
	Schenck 1997	•	-	-		!		D1	Randomisation	
	Beard 1998	!	•	•	•	•	!	D2	Deviations from	
	Fischer 1998	!				•	-	D3	Missing outcom	
	Grant 2005	•	•	•	•	!	()	D4	Measurement o	f the outco
	Ugutmen 2008	!		•	•	!	-	D5	Selection of the	reported r
	Grant 2010	•	•	•	•	•	!			
	Proprioception									
	Lim 2019	!	•	•	•	•	-			
	Pain									
:	Schenck 1997	!	•	•	!	!	-			
	Atrophy									
	Fischer 1998	!	•	•	•	•	•			
	Chen 2021	!	•	!	!	!	-			
1	Ugutmen 2008	!	•	•		!	ē			
	Outcome / Author	D1	D2	D3	D4	D5	Overall			
1	Strength	~*		23		20	- /			
	Blanpied 2000	1	•	•	•	•	!			
	Functional activities	•	•	•	•	•				
	Blanpied 2000	1	•	•	•		(!)			
							U			
-	Outcome / Author	D1	D2	D3	D4	D5	Overall			
tion duration	Outcome / Author Laxity	D1		D3	D4	D5				
tion duration	<b>Outcome /</b> Author Laxity Beynnon 2011	D1				D5				
ion duration	<b>Outcome /</b> Author Laxity Beynnon 2011 Gupta 2017	D1		D3	D4	D5				
tion duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes	D1		D3	D4	D5				
tion duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011	D1		D3	D4	D5				
ion duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017	D1		D3	D4	D5				
ion duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength	D1		D3	D4	D5				
ion duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011	D1		D3	D4	D5				
tion duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength	D1		D3	D4	D5				
ion duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011	D1		D3	D4	D5				
ion duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomess Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Functional activities	D1		D3	D4	D5				
on duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Strength Beynnon 2011 Functional activities Beynnon 2011	D1		D3	D4	D5				
on duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Functional activities Beynnon 2011 Gupta 2017	D1		D3	D4	D5				
tion duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Functional activities Beynnon 2011 Gupta 2017 Proprioception	D1		D3	D4					
ation duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Functional activities Beynnon 2011 Gupta 2017 Proprioception	D1		D3	D4					
tion duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Functional activities Beynnon 2011 Gupta 2017 Proprioception	D1		D3	D4					
ion duration	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomess Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Gupta 2017 Proprioception Beynnon 2011		D2	D3	D4		Overall Ove			
ion duration bus passive M) versus no	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Eunctional activities Beynnon 2011 Gupta 2017 Proprioception Beynnon 2011 Gupta 2017 Coutcome / Author		D2	D3	D4		Overall Ove			
tion duration ous passive M) versus no	Outcome / Author Laxity Beynnon 2011 Gupta 2017 Patient reported outcomess Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Gupta 2017 Proprioception Beynnon 2011 Gupta 2017 Proprioception Beynnon 2011 Gupta 2017 Cutcome / Author Range of motion	D1	D2	D3	D4	D5	Overall Ove			
ion duration bus passive M) versus no	Outcome / Author Lakity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Gupta 2017 Proprioception Beynnon 2011 Beynnon 2011 Cutcome / Author Range of motion Yates 1992 Anderson 1989	D1	D2	D3	D4	D5	Overall Ove			
ion duration bus passive M) versus no PM	Outcome / Author Lakity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Gupta 2017 Proprioception Beynnon 2011 Beynnon 2011 Cutcome / Author Range of motion Yates 1992 Anderson 1989	D1	D2	D3	D4	D5	Overall Ove			
on duration us passive V) versus no M	Outcome / Author Lakity Eakity Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Gupta 2017 Proprioception Beynnon 2011 Beynnon 2011 Beynnon 2011 Cutcome / Author Range of motion Yates 1992 Anderson 1989 Swelling Yates 1992	D1	D2	D3	D4	D5	Overall Ove			
on duration us passive V) versus no M	Outcome / Author Lakity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Gupta 2017 Proprioception Beynnon 2011 Beynnon 2011 Beynnon 2011 Cutcome / Author Range of motion Yates 1992 Anderson 1989 Swelling Yates 1992 Anderson 1989	D1	D2	D3	D4	D5	Overall Ove			
ion duration bus passive M) versus no PM	Outcome / Author Lakity Eseynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Gupta 2017 Proprioception Beynnon 2011 Beynnon 2011 Beynnon 2011 Cutcome / Author Range of motion Yates 1992 Anderson 1989 Anderson 1989 Athophy Cutcome / Strength Cutcome / Str	D1	D2	D3	D4	DS 1 1 1 1 1 1 1 1 1 1 1 1 1	Overall Ove			
on duration us passive M) versus no M	Outcome / Author Lakity Beynnon 2011 Gupta 2017 Patient reported outcomes Beynnon 2011 Gupta 2017 Strength Beynnon 2011 Gupta 2017 Proprioception Beynnon 2011 Beynnon 2011 Beynnon 2011 Cutcome / Author Range of motion Yates 1992 Anderson 1989 Swelling Yates 1992 Anderson 1989	D1	D2	D3	D4	D5	Overall Ove			

15



	Outcome / Author	D1	D2	D3	D4	D5	Overall
CPM vs active motion	Range of motion						
	Rosen 1992	•	•	•	•	!	-
	Engstrom 1995	•	•	•	•	!	-
	Friemert 2006	•	•	•	!	•	-
	Swelling						
	Friemert 2006	•	-	-	•	!	-
	Engstrom 1995	•	•	•	•	•	-
	Pain						
	Friemert 2006	•	-	-	•	!	-
	Laxity						
	Rosen 1992	!	•	•	•	!	-
	Atrophy						
	Engstrom 1995	!	•	•	•	!	-
	Patient reported outcomes						
	Rosen 1992	•	•	•	•	•	-
	Proprioception						
	Friemert 2006	!	•	•	•	!	-

	Outcome / Author	D1	D2	D3	D4	D5	Overall
	Range of motion						
Long vs short CPM use	Richmond 1991	•	•	•	•	•	-
	Swelling						
	Richmond 1991	•	•	•	•	•	-
	Laxity						
	Richmond 1991	•	•	•	•	•	-
	Outcome / Author	D1	D2	D3	D4	D5	Overall
Cryotherapy vs no	Pain - Medication use						
cryotherapy	Cohn 1989	•	•	•	•	!	-
	Daniel 1994	•	•	•	•	•	-
	Brandsoon 1996	•	•	•	•	•	-
	Konrath 1996	•	•	•	•	!	-
	Edwards 1996	!	•	•	•	•	-
	Barber 1998	!	•	•	•	•	•
	Dervin 1998	!	•	•	•	!	-
	Ohkoshi 1999	•	•	•	!	!	-
	Koyonos 2014		•	•			

16

Data MAC

Pain - VAS	
Daniel 1994	e e Lov
Brandsoon 1996 ! 😑 + + !	🗧 ! Sor
Edwards 1996 🤚 😦 😦 !	🕘 😑 нір
Barber 1998 🤨 🔸 😑 🧧	•
Dervin 1998 🤚 😦 😑 ! !	D1 Rai
Ohkoshi 1999 😦 😦 🔸 🕘 !	D2 De
Koyonos 2014 🤚 😛 😛 !	- D3 Mi
Swelling	D4 Me
Daniel 1994 😦 😦 😦 !	D5 Sel
Barber 1998 🤚 🔸 😦 !	-
Edwards 1996 ! 😦 😦 ! !	-
Dervin 1998 🤚 😦 😦 !	-
Ohkoshi 1999 😦 😦 🔸 ! !	-
Konrath 1996 😦 😦 😦 !	-
Range of motion	
Daniel 1994 😦 😦 😦 !	-
Edwards 1996 ! 😐 😑 ! !	-
Barber 1998 ! 😐 😑 !	-
Konrath 1996 😦 😦 😦 !	-
Ohkoshi 1999 😑 😑 🔸 😑 !	-

Low risk
Some concerns
High risk
Randomisation process

2 Deviations from the intended interventions

Missing outcome data

Measurement of the outcome

5 Selection of the reported result

Compressive cryotherapy versus cryotherapy

Outcome / Author	D1	D2	D3	D4	D5	Overall
Pain - Medication use						
Kijkunasathian 2017	•	•	•	!		!
Schroder 1994	•	•	•	!	!	•
Waterman 2011	!	•	•	•		
Ruffilli 2015	!	•	•	•	!	•
Pain						
Dambros 2012	•	•	•	•	•	•
Kijkunasathian 2017	•	•	•	•	•	
Ruffilli 2015	!	•	•	•	!	•
Schroder 1994	!	•	•	•	!	-
Waterman 2011	!	•	•	!	!	-
Range of motion						
Schroder 1994	•	•	•	•	•	•
Dambros 2012	•	•	•	•	!	-
Kijkunasathian 2017	•	•	•	!	!	!
Ruffilli 2015	!	•	•	•	!	•
Swelling						
Kijkunasathian 2017	•	•	•	•	•	-
Ruffilli 2015	!	•	•	•	!	-
Schroder 1994	•	•	•	•	•	-
Waterman 2011	!	•	•	•	!	-
Patient reported outcomes						
Waterman 2011	•	•	•	!	•	•
Kijkunasathian 2017	•	•	•	•	•	•
Ruffilli 2015	!	•	•	•	!	-
Atrophy						
Schroder 1994	•	•	•	•	!	-
Ruffilli 2015	!	+	•	•	!	-
Strength						
Schroder 1994	•	•	•	•	•	-
Functional activities						
Kijkunasathian 2017	•	•	•	!	!	!

<ul> <li>I</li> <li>I</li></ul>
<ul> <li>I</li> <li>I</li></ul>
<ul> <li>High risk</li> <li>High risk</li> <li>High risk</li> <li>High risk</li> <li>High risk</li> <li>D1 Randomisation process</li> <li>D2 Deviations from the intended interventions</li> <li>D3 Missing outcome data</li> <li>D4 Measurement of the outcome</li> <li>D5 Selection of the reported result</li> </ul>
<ul> <li>I</li> <li>I&lt;</li></ul>
<ul> <li>I</li> <li>I&lt;</li></ul>
<ul> <li>I</li> <li>I&lt;</li></ul>
<ul> <li>1</li> <li>1&lt;</li></ul>
1 D4   Measurement of the outcome   1
1       1         1       1
• • •
• • •
• • •

•

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

•

!

•

!

Θ

Labanca 2018



19

	Outcome / Author	D1	D2	D3	D4	D5	Overall
inesio-tape versus no	Pain						
kinesio-tape	Boguszewski 2013	!					-
	Balki 2016	•		•	•	•	-
	Chan 2016	•	•	•	•	•	-
	Swelling						
	Boguszewski 2013	•				•	
	Balki 2016	•		•	•	•	
	Chan 2016	•	•	•	•	•	-
	Strength						
	Balki 2016	!			-	!	
	Oliveira 2016	•	-		•	•	
	Balki 2019	•	•	•	•	•	-
	Range of motion						
	Boguszewski 2013	•		•	•	•	-
	Balki 2016	!	-	•	•	•	-
	Chan 2016	!	•	!	•	•	-
	Patient reported outcomes						
	Balki 2016	!	•	•	•	!	-
	Chan 2016	!	•	•	•	•	-
	Gholami 2020	•	•	•	•	•	-
	Balance						
	Oliveira 2016	•	-	•	•	!	-
	Gholami 2020	•	•	•	•	!	!
	Atrophy						
	Boguszewski 2013	•	•	•	•	•	-
	Functional activities						
	Gholami 2020	•	•	•	•	1	()
)ry needling versus no	Outcome / Author Pain	D1	D2	D3	D4	D5	Overall
dayaaadling	Velázquez-Saornil 2017	1		-			
dry needling	verazquez-saomin zor/	<u> </u>	•	•	•	•	-
ary needing	Patient reported outcomes	·	-	•	-	!	-
ary needing		•	•	•	•	! 	•
ary needing	Patient reported outcomes		•		•		•
ary needing	Patient reported outcomes Velázquez-Saornil 2017		•		•		•
ary needing	Patient reported outcomes Velázquez-Saornil 2017 Range of motion	•	•	•	•	!	•
ary needing	Patient reported outcomes Velázquez-Saornil 2017 Range of motion Velázquez-Saornil 2017	•	•	•	•	!	•
ury needining	Patient reported outcomes Velázquez-Saornil 2017 Range of motion Velázquez-Saornil 2017 Balance	1	•	•		1	•
ury needining	Patient reported outcomes Velázquez-Saornil 2017 Range of motion Velázquez-Saornil 2017 Balance Velázquez-Saornil 2017	1	• • •	•		1	Overall
	Patient reported outcomes Velázquez-Saornil 2017 Range of motion Velázquez-Saornil 2017 Balance Velázquez-Saornil 2017 Outcome / Author	! !	• • • •	•	•	•	Overall
Whole-body vibration	Patient reported outcomes Velázquez-Saornil 2017 Range of motion Velázquez-Saornil 2017 Balance Velázquez-Saornil 2017 Outcome / Author Strength	! ! D1		• • • D3	• D4	! ! ! D5	
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Strength         Berschin 2014	1 1 1 D1	•	• • • D3	• D4	! ! ! D5	!
Whole-body vibration WBV) versus usual care	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Strength         Berschin 2014         Pistone 2016	! ! ! D1	•	• • • • •	• D4	! ! ! D5	   
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Strength         Berschin 2014         Pistone 2016         Costantino 2018	: : : D1	•	• • • • •	• D4	! ! D5	     
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Strength         Berschin 2014         Pistone 2016         Costantino 2018         Dacosta 2019	1 1 1 1 1 1 1 1	•	• • • • •	• D4	1 1 1 5	() () () () () () () () () () () () () (
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Strength         Berschin 2014         Pistone 2016         Costantino 2018         Dacosta 2019         Salvarani 2003	1 1 1 1 1 1 1 1 1	•	• • • • • • • • • • •	• • • • •	1 1 1 05	1 1 1 •
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Strength         Berschin 2014         Pistone 2016         Costantino 2018         Dacosta 2019         Salvarani 2003         Fu 2013	1 1 1 1 1 1 1 1	•	• • • • •	• D4	1 1 1 5	() () () () () () () () () () () () () (
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Strength         Berschin 2014         Pistone 2016         Costantino 2018         Dacosta 2019         Salvarani 2003         Fu 2013         Proprioception	1 1 1 1 1 1 1 1 1 1		<ul> <li>D3</li> <li>0</li> <li>0</li></ul>	• • • • • • • •	1 1 1 1 1 1 1 1 1 1 1 1 1	
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Strength         Pistone 2016         Costantino 2018         Dacosta 2019         Salvarani 2003         Fu 2013         Proprioception         Moezy 2008		•	<ul> <li>D3</li> <li>D3</li> <li>0</li> <li></li></ul>	• • • • • • • • • •	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Strength         Pistone 2016         Costantino 2018         Dacosta 2019         Salvarani 2003         Fu 2013         Proprioception         Moezy 2008         Fu 2013	1 1 1 1 1 1 1 1 1 1		<ul> <li>D3</li> <li>0</li> <li>0</li></ul>	• • • • • • • •	1 1 1 1 1 1 1 1 1 1 1 1 1	
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Strength         Berschin 2014         Pistone 2016         Costantino 2018         Dacosta 2019         Salvarani 2003         Fu 2013         Proprioception         Moezy 2008         Fu 2013         Balance	1 1 1 1 1 1 1 1 1 1 1 1 1 1		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	• • • • • • • • • •	<ul> <li>1</li> <li>1&lt;</li></ul>	
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Brength         Berschin 2014         Pistone 2016         Costantino 2018         Dacosta 2019         Salvarani 2003         Fu 2013         Propicoption         Moezy 2008         Fu 2013         Balance         Moezy 2008	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		D3	• • • • • • • • • •	<ul> <li>1</li> <li>1&lt;</li></ul>	
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Velázquez-Saornil 2017         Outcome / Author         Berschin 2014         Pistone 2016         Costantino 2018         Dacosta 2019         Salvarani 2003         Fu 2013         Proprioception         Moezy 2008         Fu 2013         Pialance         Moezy 2008         Fu 2013				• • • • • • • • • • • • • • • • • • •	<ul> <li>8</li> <li>9</li> <li>9</li> <li>9</li> <li>9</li> <li>9</li> <li>9</li> <li>1</li> <li>1&lt;</li></ul>	
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Outcome / Author         Brength         Berschin 2014         Pistone 2016         Costantino 2018         Dacosta 2019         Salvarani 2003         Fu 2013         Propicoption         Moezy 2008         Fu 2013         Balance         Moezy 2008			D3	• • • • • • • • • •	<ul> <li>8</li> <li>9</li> <li>9&lt;</li></ul>	
Whole-body vibration	Patient reported outcomes         Velázquez-Saornil 2017         Range of motion         Velázquez-Saornil 2017         Balance         Velázquez-Saornil 2017         Velázquez-Saornil 2017         Outcome / Author         Berschin 2014         Pistone 2016         Costantino 2018         Dacosta 2019         Salvarani 2003         Fu 2013         Proprioception         Moezy 2008         Fu 2013         Pialance         Moezy 2008         Fu 2013				• • • • • • • • • • • • • • • • • • •	<ul> <li>8</li> <li>9</li> <li>9</li> <li>9</li> <li>9</li> <li>9</li> <li>9</li> <li>1</li> <li>1&lt;</li></ul>	

							_	
Patient reported outcor	nes						•	Low risk
Berschin 2014	•	•	•	•	•		•	Some concerns
Pistone 2016	!	•	•	•	!	•	•	High risk
Functional								
Fu 2013	•	•	•	•	!	!	D1	Randomisation proce
Range of motion							D2	Deviations from the
Berschin 2014	•	•	•	•	!	!	D3	Missing outcome dat
laxity							D4	Measurement of the
Fu 2013	1	•	•	•	1	!	D5	Selection of the repo
Berschin 2014	-	•	•	•				

D5 Overall

#### Local vibration versus no local vibration

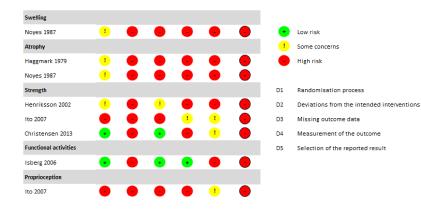
Outcome / Author

Brunetti 2006       1       1       1         Strength         Brunetti 2006       1       1       1         Coulondre 2022       1       1       1       1         Park 2019       1       1       1       1       1         Patient reported outcomes       I       1       1       1       1       1         Park 2019       1       1       1       1       1       1       1       1         Park 2019       1 <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
Strength Brunetti 2006 1	Balance						
Brunetti 2006         1         •         •         1         •           Coulondre 2022         1         • </td <td>Brunetti 2006</td> <td>!</td> <td>•</td> <td>•</td> <td>•</td> <td>!</td> <td>-</td>	Brunetti 2006	!	•	•	•	!	-
Coulondre 2022 1 • • • • • • • • • • • • • • • • • •	Strength						
Park 2019 1 1 1 1 1 1 1 Painer reported outcomes  Frunctti 2006 1 1 1 1 1 1 1 1 1 1 Painer reported outcomes  Frunctional  Coulondre 2022 1 2 2 2 1 2 2 2 1 1 1 1 1 1 1 1 1	Brunetti 2006	!	•	•	•	!	-
Patient reported outcomes Brunetti 2006 1 0 1 0 1 0 1 0 1 0 1 0 1 0 0 0 0 0	Coulondre 2022	•	•	•	•	•	-
Brunetti 2006 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Park 2019	!	•	!	•	!	!
Park 2019 1 1 1 1 1 Functional Coulondre 2022 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	Patient reported outcome	5					
Functional Coulondre 2022 1 • • • • • • • • • • • • • • • • • •	Brunetti 2006	•	•	•	•	•	•
Coulondre 2022 1 • • • • • • • • • • • • • • • • • •	Park 2019	!	•	!	•	!	•
Range of motion Park 2019 ! • ! • ! [] Pain	Functional						
Park 2019 ! • ! • ! • !	Coulondre 2022	•	•	•	•	•	•
Pain	Range of motion						
	Park 2019	•	•	!	•	!	!
Park 2019 🤚 💿 ! 😦	Pain						
	Park 2019	!	•	!	•	!	-

D1 D2 D3 D4

#### Early mobilisation versus delayed mobilisation

Outcome / Author	D1	D2	D3	D4	D5	Overall
Range of motion						
Haggmark 1979	1	•	•	•	•	•
Henriksson 2002	!	•	!	•	•	•
Hiemstra 2009	+	•	+	•	!	
Isberg 2006	•	•	•	•	•	•
Christensen 2013	+	•	+	!	•	•
Noyes 1987	!	•	•	•	•	•
Vadala 2007	!	•	!	•	•	-
Pain						
Hiemstra 2009	•	•	•	•	•	•
Pain - Medication used						
Hiemstra 2009	•	•	•	•	•	•
Noyes 1987	!	•	•	•	•	•
Laxity						
Noyes 1987	!	•	•	•	•	•
Henriksson 2002	!	•	!	•	•	•
Ito 2007	•	•	•	!	•	•
Isberg 2006	+	•	•	•	!	•
Vadala 2007	!	•	!	•	•	
Christensen 2013	•	•	•	•	•	•
Haggmark 1979	!	•	•	•	•	•
Patient reported outcomes						
Henriksson 2002	!	•	•	•	•	-
Ito 2007	•	•	•	•	!	-
Isberg 2006	•	•	•	!	•	
Christensen 2013	•		•		1	



Immediate weightbearing versus delayed weight-bearing

Outcome / Author

!	•	•	•	!	•
•	•	•	•	•	•
nes					
•	•	•	•	•	-
•	•	•	•	•	•
	! nes	es	1 1 1 nes	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 nes 1 1 1 5

D2

D3

D4

D5 Overall

D1

Early start of OKC versus delayed start of OKC exercises

Outcome / Author	D1	D2	D3	D4	D5	Overall
Strength						
Heijne 2007	•	•	•	•	•	-
Fukuda 2013	•	•	•	•	•	•
Laxity						
Heijne 2007	•	•	•	•	!	-
Fukuda 2013	•	•	•	•	•	-
Pain						
Heijne 2007	•	•	•	!	!	•
Fukuda 2013	•	•	•	•	•	•
Patient reported outcomes						
Fukuda 2013	•	•	•	•	•	•
Functional activities						
Fukuda 2013	•	•	!	•	!	•
Balance						
Heijne 2007	•	•	•	•	•	-
Range of motion						
Heijne 2007	•	•	•	•	!	-

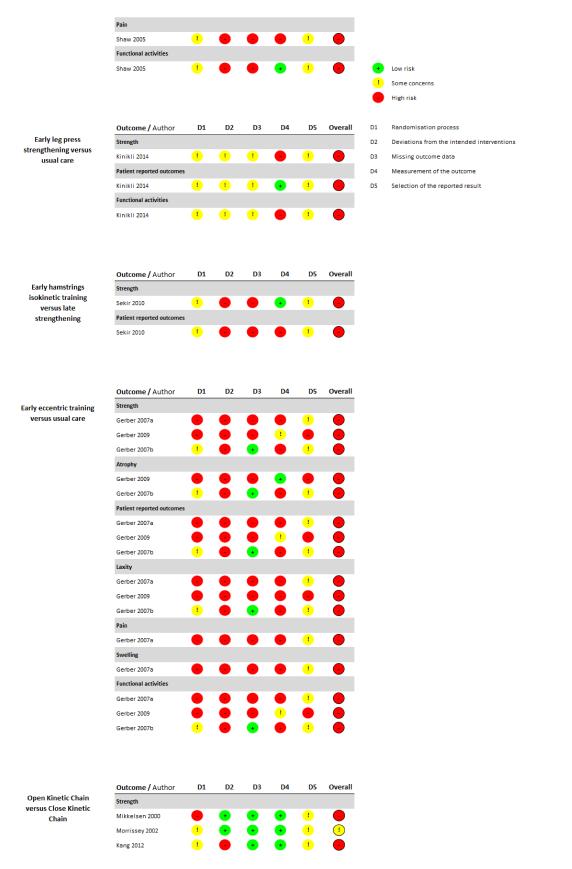
	Outcome / Author	D1	D2	D3	D4	D5	Overall
Early isometric	Strength						
strengthening versus usual care	Shaw 2005	•	•	•	•	•	-
	Laxity						
	Shaw 2005	•	•	•	•	•	-
	Range of motion						
	Shaw 2005	!	•	•	•	•	-
	Patient reported outcomes						

Shaw 2005

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

1

22



Laxity							
Bynum 1995	•	•	•	•	-		
Morrissey 2000	<mark>.</mark>	• •	•	!	!	•	Low risk
Mikkelsen 2000		• •	• •	•	-	•	Some concerns
Perry 2005	<u> </u>	• •	•	!	!	•	High risk
Pain							
Morrissey 2002	•	• •	•	•	!	D1	Randomisation process
Ucar 2014	<u> </u>	• •		•	-	D2	Deviations from the intended interventi
Patient reported outcomes						D3	Missing outcome data
Bynum 1995	•	• 6		!	-	D4	Measurement of the outcome
Morrissey 2002	<u> </u>	• •	•	•	!	D5	Selection of the reported result
Perry 2005	1	• •		•	!		
Chrzan 2013		• •	•	!	-		
Ucar 2014	<u> </u>	• •		•	-		
Hooper 2001	•	• •		!	!		
Atrophy							
Ucar 2014	• •	• •	•	•	-		
Range of motion							
Ucar 2014	1 (	• •	•	•	-		
Functional activities							
Hooper 2001	1	• •	•	•	!		
Perry 2005	•	• •		!	•		
Return to sport							
Mikkelsen 2000		• •		•	-		

	Outcome / Author	D1	D2	D3	D4	D5	Overall
Eccentric training versus	Strength						
usual care	Friedmann-bette 2018	!	•	•	•	•	-
	Milandri 2021	•	•	•	•	•	+
	Atrophy						
	Friedmann-bette 2018	•	•	•	•	•	-
	Milandri 2021	•	•	•	•	•	•
	Patient reported outcomes						
	Milandri 2021	•	•	•	•	•	!
	Kasmi 2021	!	•	•	•	•	!
	Functional activities						
	Kasmi 2021	!	•	•	•	•	!
	Balance						
	Kasmi 2021	!	•	•	•	•	!

D4

Overall

D5

Isokinetic training versus isotonic training Outcome / Author

Strength Vidmar 2020 • 1 Tsaklis 2002 Ð Atrophy Vidmar 2020 Tsaklis 2002 1 • • Patient reported outco Vidmar 2020 . • (!) Functional activities (!) Vidmar 2020 .

D2 D3

D1

	Outcome / Author	D1	D2	D3	D4	D5	Overall		
Low intensity vs high intensity resistance training	Strength								
	Bieler 2014	!		•	•	!	-	•	Low risk
	Patient reported outcomes							•	Some concerns
	Bieler 2014	!	•	•	•	!	-	•	High risk
	Functional activities								
	Bieler 2014	!	•	•	•	!	-	D1	Randomisation process
	Laxity							D2	Deviations from the intended intervention
	Bieler 2014	!	•	•	•	!	-	D3	Missing outcome data
								D4	Measurement of the outcome

D3

D2

D1

D4

D5 Overall

D5 Selection of the reported result

#### Motor control training vs usual care

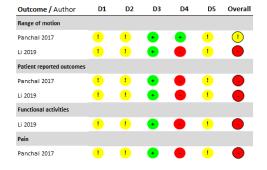
Outcome / Author

Outcome / Author	DI	DZ	05	04	05	Overall
Proprioception						
Kaya 2019	•	•	•	•	•	•
Cho 2013	•	•	•	•	•	-
Shen 2021	•	•	•	•	•	-
Hajouj 2021	•	•	•	•	•	-
Baltaci 2013	•	•	•	•	•	
Balance	•	•	+	!	•	-
Baltaci 2013	•	•	•	•	•	!
Cappellino 2012	!	•	•	•	!	-
Coordination	•	•	•	!	!	•
Baltaci 2013	•	•	•	•	•	!
Reactivity	•	•	•	!	•	-
Baltaci 2013	•	!	•	•	•	!
Bartels 2016	•	•	•	•	!	
Patient reported outcomes	!		•	•	!	•
Cappellino 2012	•	•	•	!	•	•
Cho 2013	!	•	•	!	!	•
Hajouj 2021	•	•	•	!	!	•
Functional	•	Ō	•	•	•	-
Cappellino 2012	•	•	•	•	•	•
Kaya 2019	•	•	•	•	•	-
Bartels 2016	!	•	•	•	!	•
Strength						
Baltaci 2013	•	•	•	•	•	!
Кауа 2019	•	•	!	•	•	! -
Atrophy						
Cappellino 2012	•	•	•	•	•	-
Bartels 2016	•	•	•	•	•	-
Pain						
Hajouj 2021	•	•	•	!	•	•
Cappellino 2012	!	•	•	!	!	•
Range of motion						
Cappellino 2012	•	•	•	•	•	-
Bartels 2016	•	•	•	•	•	•
Swelling						
Cappellino 2012	•	•	•	•	•	-
Laxity						

	Outcome / Author	D1	D2	D3	D4	D5	Overall
lotor control training	Strength						
vs strength training	Liu-ambrose 2003	•	•	•	•	-	-
	Patient reported outcomes						
	Liu-ambrose 2003	-	!		!	•	
	Cooper 2005	•	•	•	!	!	!
	Functional						
	Liu-ambrose 2003	-	•			•	-
	Cooper 2005	•	•	•	•	!	!
	Range of motion						
	Cooper 2005	•	•	•	•	•	!
	Outcome / Author	D1	D2	D3	D4	D5	Overall
ometric and agility	Strength						
ning versus usual care	Risberg 2009	•	•	•	•	1	!
cure	Balance						_
	Risberg 2007	•	•	•	•	1	!
	Kasmi 2021	1	•	•	•	•	<u> </u>
	Proprioception						
	Risberg 2007	•	•	1	•	1	!
	Patient reported outcomes				-		<u> </u>
	Risberg 2007	•	•	1	1	1	!
	Risberg 2009	ē	ē	•	•		•
	Kasmi 2021			•		•	•
	Functional						
	Risberg 2009	•	•	•	•	1	!
	Souissi 2011		ŏ		ē	1	•
	Kasmi 2021			•	ē		•
	Pain		-	-	-		
	Risberg 2009	•	•	•	•	1	!
	Risberg 2007		ž		ē		ĕ
	Laxity		-	-	-	-	-
	Risberg 2007	•	•	1	•	1	!
	Risberg 2009	ă		•		•	
	VIENCIA TODA	-	-	-	-	-	$\overline{}$
	Outcome / Author	D1	D2	D3	D4	D5	Overall
Plyometric and	Balance						
ntric training versus usual care	Kasmi 2021	•	•	•	•	!	!
	Patient reported outcomes						
			-				
	Kasmi 2021	•	•	•	•	1	!
	Kasmi 2021 Functional	!	•	•	!	1	!
			•	•	•		
	Functional	1				•	! !
	Functional						
	Functional						
	Functional Kasmi 2021	•	•	•	•	•	!
	Functional Kasmi 2021 Outcome / Author	•	•	•	•	•	!
ntensity plyometric	Functional Kasmi 2021 Outcome / Author Strength	! D1	• D2	• D3	+ D4	! D5	! Overall
ntensity plyometric	Functional Kasmi 2021 Outcome / Author Strength Chmielewski 2016	! D1	• D2	• D3	+ D4	! D5	! Overall
ntensity plyometric	Functional Kasmi 2021 Outcome / Author Strength Chmielewski 2016 Patient reported outcomes	! D1	• D2	• D3	• D4	! D5	! Overall
ntensity plyometric	Functional Kasmi 2021 Outcome / Author Strength Chmielewski 2016 Patient reported outcomes Chmielewski 2016	! D1	• D2	• D3	• D4	! D5	! Overall
ntensity plyometric	Functional Kasmi 2021 Outcome / Author Strength Chmielewski 2016 Patient reported outcomes Chmielewski 2016 Functional activities	! D1	• D2	• D3	• •	! D5	•       •       •       •
intensity plyometric	Functional Kasmi 2021 Outcome / Author Strength Chmielewski 2016 Patient reported outcomes Chmielewski 2016 Functional activities Chmielewski 2016	! D1	• D2	• D3	• •	! D5	•       •       •       •
Low intensity vs high intensity plyometric training	Functional Kasmi 2021 Outcome / Author Strength Chmielewski 2016 Patient reported outcomes Chmielewski 2016 Functional activities Chmielewski 2016	• •	• • •	• D3 •	• D4	• •	() Overall

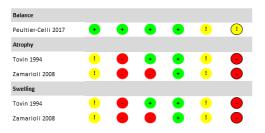
	Outcome / Author	D1	D2	D3	D4	D5	Overall		
Cross-education versus	Strength								
usual care	Harput 2019	!	•	•	•	•	•	•	Low risk
	Minshull 2021	•	•	!	•	!	!	•	Some concerns
	Zult 2019	•	!	•	•	+	!	•	High risk
	Papandreou 2013	!	•	•	•	!	-		
	Papandreou 2007	!	•	•	•	!	-	D1	Randomisation process
	Patient reported outcomes							D2	Deviations from the intended interventions
	Zult 2019	•	!	•	•	•	-	D3	Missing outcome data
	Harput 2019	!	•	•	•	•	-	D4	Measurement of the outcome
	Minshull 2021	•	•	!	•	•	-	D5	Selection of the reported result
	Papandreou 2009	!	•	•	•	•	-		
	Functional activities								
	Zult 2019	•	!	•	•	•	!		
	Harput 2019	!	•	•	•	•	-		
	Minshull 2021	•	•	!	•	!	!		
	Proprioception								
	Zult 2018	•	!	•	•	•	!		
	Balance								
	Zult 2018	•	!	•	•	•	!		

Core stability training
versus no core stability
training

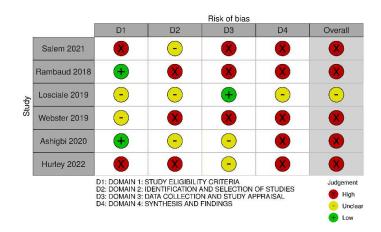


Aquatic therapy versus no aquatic therapy





## Risk of Bias assessment for systematic and scoping reviews



## **GRADE Evidence Assessment**

Quality assessment	Standard	Reasons for downgrade
domain	downgrade	
Risk of Bias	Serious= -1	"Some concerns", as determined by the RoB2 tool.
	Very Serious= -2	"High risk", as determined by the RoB2 tool
Inconsistency	Serious= -1	40-75% l <sup>2</sup>
	Very Serious= -2	>75% l <sup>2</sup>
Indirectness	Serious= -1	Indirectness present in one of the four key extraction categories- Population, Intervention, Comparator, Outcome
	Very Serious= -2	Indirectness present in more than one of the four key extraction categories Population, Intervention, Comparator, Outcome
Imprecision	Serious= -1	Total participants <800 95% CI of an SMD extends > 0.5 points in either direction (continuous outcomes) 95% CI boundaries cross the arbitrary thresholds of 0.75 and 1.25 (dichotomous outcomes)
	Very Serious= -2	Studies not reporting results or SDs

# Summary of Findings tables

## Pre-operative rehabilitation versus no pre-operative rehabilitation after ACLR

Bibliography: Shaarani 2013, Kim 2015, Reddy 2020

			Certainty asses	sment			Nº of p	atients	Effect					
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	pre- habilitation	no pre- habilitation	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance		
Strengt	h													
2														
Strength - 0	Quadriceps CC	)N 60-90°/s (beti	er indicated by high	ier values) – 3 m	onths post-op		-							
2 Kim 2015 Shaarani 2013	randomised trials	very serious	not serious I²=0%	not serious	serious ª	none	54	49	SMD 0.75 (0.35 higher to		⊕⊖⊖⊖ Very low	CRITICAL		
Strength - 0	Strength - Quadriceps CON 180°/s (better indicated by higher values) – 3 months post-op													
1 Kim 2015	randomised trial	very serious	not assessable	not serious	serious a	none	40	40	SMD 0.42 (0.03 lower to		⊕⊖⊖⊖ Very low	CRITICAL		
Strength - Hamstring CON 90°/s (better indicated by higher values) – 3 months post-op														
1 Shaarani 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	14	9	SMD <b>0.76</b> (0.11 lower to		⊕⊖⊖⊖ Very low	CRITICAL		
Atrophy														
1														
Atrophy - C	Quadriceps cro	ss sectional are	a (better indicated b	y higher values	) – 3 months post	ор	•				1			
1 Shaarani 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	9	SMD <b>0.7</b> (1.67 lower to		⊕⊖⊖⊖ Very low	CRITICAL		
Atrophy - Vastus Medialis cross sectional area (better indicated by higher values) – 3 months post-op														
1 Shaarani 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	9	SMD <b>0.47</b> (0.38 lower to		⊕⊖⊖⊖ Very low	CRITICAL		
Atrophy - H	lamstring cros	s sectional area	– 3 months post-op	,										
1 Shaarani 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	14	9	The authors statistically difference bety grou	significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL		
Functio	nal activiti	es												
2														
Functional	- single hop fo	r distance (bette	er indicated by high	er values) – 3 m	onths post-op									
2 Kim 2015 Shaarani 2013	randomised trials	very serious	serious I2=69%	not serious	very serious <sup>a, b</sup>	none	54	49	SMD <b>0.94</b> (0.01 higher to		⊕⊖⊖⊖ Very low	IMPORTANT		
Patient	reported o	utcomes (P	ROM)				•							
2														
PROM - Ly	sholm score –	3 weeks post-op	) )	,	,	,	•							
1 Reddy 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	20	21	SDs are not re authors reported significant differ the two	no statistically rence between	⊕⊖⊖⊖ Very low	CRITICAL		
PROM - Ly	sholm score –	6 weeks post-op	0									-		
1 Reddy 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	20	21	SDs are not re authors reported significant differ the two	no statistically rence between	⊕⊖⊖⊖ Very low	CRITICAL		
PROM - Ly	sholm score –	3 months post-o	ор											

			Certainty asses	sment	Nº of p	atients	E	ffect				
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	pre- habilitation	no pre- habilitation	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Reddy 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	20	21	SDs are not reported. The authors reported no statistically significant difference between the two groups		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Mo	dified Cincinna	ati total score (b	etter indicated by h	igher values) – 3	months post-op	•	•	•	•		•	
1 Shaarani 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	14	9		. <b>36 higher</b> r to 1.2 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lys	sholm score –	6 months post-c	p									
1 Reddy 2020	randomised trial	very serious	not assessable	not serious	very serious a.c	none	20	21	authors report significant dif	t reported. The ted no statistically fference between vo groups	⊕⊖⊖⊖ Very low	CRITICAL
Return t	to sport											
1												
Time to ret	urn to sport (b	etter indicated b	y lower values)				•					
1 Shaarani 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	9	SMD 1.11 lower (2.01 lower to 0.2 lower)		⊕⊖⊖⊖ Very low	CRITICAL
Laxity												
1												
Laxity - pat	tients with Lacl	hman grade I – 6	months post-op									
1 Reddy 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	19/20 (95.0%)	19/21 (90.5%)	<b>RR 1.05</b> (0.88 to 1.25)	<b>45 more per</b> <b>1,000</b> (from 109 fewer to 226 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - pat	tients with Lacl	hman grade II – (	6 months post-op			,			,			
1 Reddy 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	1/20 (5.0%)	2/21 (9.5%)	<b>RR 0.53</b> (0.05 to 5.35)	<b>45 fewer per</b> <b>1,000</b> (from 90 fewer to 414 more)	⊕⊖⊖⊖ Very low	CRITICAL
Adverse	e events											
Shaarani 2013									None	reported		CRITICAL
Kim 2015									None	reported		CRITICAL
Reddy 2020									None	reported		CRITICAL

CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

а

b.

c. d.

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction Not reporting results or SDs 95% CI boundaries cross the arbitrary thresholds of 0.75 and 1.25

## Perturbation at pre-habilitation versus no perturbation in rehabilitation after ACLR

Bibliography: Hartigan 2009, Hartigan 2010

		Certainty ass	essment			Nº of pa	tients	Effect				
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Perturbation+ pre-habilitation	Pre- habilitation	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Strengt	:h											
1												
Strength -	Quadriceps I	SOM (better i	indicated by high	er values) – 3 m	onths post-op							
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD 0.2 (0.88 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength -	Quadriceps I	SOM (better i	indicated by high	er values) – 6 m	onths post-op				1			
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	22	SMD <b>0.2</b> (0.40 lower to	<b>3 higher</b> 0.85 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength -	Quadriceps I	SOM (better i	indicated by high	er values) – 1 ye	ar post-op							
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD <b>0.0</b> (0.57 lower to	<b>5 higher</b> 0.67 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Patient	reported	outcome	es (PROM)			<u> </u>			<u> </u>			
1												
PROM - KO	OS-ADLS (bet	ter indicated	by higher values)	- 3 months pos	it-op	<u> </u>			<u> </u>		<u> </u>	
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD <b>0.1</b> (0.51 lower to	<b>2 higher</b> 0.74 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - GI	obal Rating S	cale (better i	indicated by high	er values) – 3 m	onths post-op				ł			
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	22	SMD <b>0.4</b> (0.2 lower to	<b>3 higher</b> 1.06 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS-ADLS (bet	ter indicated	by higher values)	– 6 months pos	it-op	Į			Į			
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	22	SMD <b>0.6</b> (0.03 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - GI	obal Rating S	cale (better i	indicated by high	er values) – 6 m	onths post-op	Į			<u> </u>			
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD <b>0.6</b> (0.01 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS-ADLS (bet	ter indicated	by higher values)	– 1 year post-o	p	Į			<u> </u>			
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD <b>0.0</b> (0.71 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - GI	obal Rating S	cale (better i	indicated by high	er values) – 1 ye	ar post-op						,	
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD <b>0.5</b> (0.08 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Functio	onal activi	ties	,						ł		,	
2												
Functional	I - single hop	for distance	(better indicated	by higher value	s) – 3 months po	st-op					•	
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD <b>0.0</b> (0.56 lower to	<b>6 higher</b> 0 0.69 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional	I - triple hop f	or distance (	(better indicated I	oy higher values	i) – 3 months pos	t-op						
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD <b>0.</b> (1.23 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	I - crossover I	hop (better in	dicated by highe	r values) – 3 mo	nths post-op	•			•		+	

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

33

			Certainty asse	essment		Nº of pa	tients	Eff	ect			
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Perturbation+ pre-habilitation	Pre- habilitation	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD <b>0.42 lower</b> (1.05 lower to 0.21 higher)		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- 6-meter tim	ed hop (bett	er indicated by hi	gher values) – 3	months post-op				I		ļ	l
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD <b>0.0</b> (0.68 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- knee excur	sion at mid-	stance of gait at	(better indicate	d by higher value	s) – 6 months pos	t-op		1		,	1
1 Hartigan 2009	randomised trial	very serious	not assessable	not serious	very serious a, b	none	9	10	SMD 0.5 (0.42 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- single hop	for distance	(better indicated	by higher value	s) – 6 months po	st-op		<u></u>	Į		ļ	Į
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD <b>0.0</b> (0.66 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- triple hop f	or distance (	better indicated b	by higher values	s) – 6 months pos	t-op					,	
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD 0.2 (0.91 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- crossover	hop (better in	dicated by highe	r values) – 6 mo	nths post-op						,	
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	22	SMD 0.2 (0.88 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- 6-meter tim	ed hop (bett	er indicated by hi	gher values) – 6	o months post-op						,	
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	22	SMD <b>0.5</b> (1.17 lower t		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- single hop	for distance	(better indicated	by higher value	s) – 1 year post-o	p						
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD <b>0.4</b> (1.06 lower t		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- triple hop f	or distance (	better indicated b	by higher values	s) – 1 year post-op	)			ł		,	
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	22	SMD <b>0.4</b> (1.11 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- crossover	hop (better in	dicated by highe	r values) – 1 yea	ar post-op				•			•
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD 0.1 (0.76 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- 6-meter tim	ed hop (bett	er indicated by hi	gher values) – 1	year post-op							
1 Hartigan 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	22	SMD 0.9 (1.6 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse	events											
Hartigan 2009									None re	eported		CRITICAL
Hartigan 2010									None re	eported		CRITICAL

CI: confidence interval; SMD: standardised mean difference

a.

Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs b.

C.

### Unsupervised versus supervised rehabilitation after ACLR

Bibliography: Schenck 1997, Beard 1998, Fischer 1998, Grant 2005, Ugutmen 2008, Revenas 2009, Grant 2010, Hohmann 2011, Lim 2019

Nº of			Certainty asse	ssment			Nº of p	atients	Effect			
studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Unsupervised rehabilitation	Supervised rehabilitation	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Strength												
6												
Strength - C	uadriceps ISO	M 30° (better i	ndicated by highe	r values) – 3 mc	onths post-op		•					
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious a, b	none	20	20	SMD <b>0.8</b> (0.23 higher to	<b>8 higher</b> o 1.53 higher)		CRITICAL
Strength - C	uadriceps CO	N 60°/s LSI% (I	better indicated by	y higher values)	- 3 months post-	ор						
1 Beard 1998	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD <b>0.4</b> (1.20 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	uadriceps CO	N 120-180°/s L	SI% (better indica	ted by higher va	alues) – 3 months	post-op						
2 Grant 2005 Hohmann 2011	randomised trials	serious	not serious I²=0%	not serious	serious a	none	83	83	SMD <b>0.0</b> (0.24 lower to	7 higher 0.37 higher)		CRITICAL
Strength - C	uadriceps EC	C 120°/s LSI%	(better indicated h	by higher values	s) – 3 months post	-op						
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD 0.1 (0.8 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	uadriceps ISO	M 30-60° LSI%	better indicated	by higher value	es) – 6 months pos	st-op						
2 Hohmann 2011 Revenas 2009	randomised trials	very serious	very serious I <sup>2</sup> =79%	not serious	very serious <sup>a, b</sup>	none	44	34	SMD 0.2 (1.23 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	uadriceps CO	N 60°/s LSI% (I	better indicated b	y higher values)	- 6 months post-	ор	•					
1 Beard 1998	randomised trial	serious	not assessable	not serious	very serious a, b	none	13	13	SMD 0.5 (1.29 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	uadriceps wor	k CON 60°/s (I	petter indicated by	y higher values)	- 6 months post-o	ор	•					
1 Lim 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	12	SMD <b>0.9</b> (0.15 higher to	<b>7 higher</b> o 1.79 higher)	⊕⊖⊖⊖ Very low	CRITICAL
	uadriceps CO	N 120-180°/s (H		v higher values)	- 6 months post-							
strength - C		1 120 100 /0 (1	petter indicated by	,	e mentile poor i	h						
2	randomised trials	very serious	not serious I²=45%	not serious	very serious <sup>a, b</sup>	none	34	32	SMD <b>0.1</b> (0.48 lower to		⊕⊖⊖⊖ Very low	CRITICAL
2 Hohmann 2011 Lim 2019	trials	very serious	not serious I²=45%	not serious	-	none	34	32				CRITICAL
2 Hohmann 2011 Lim 2019 Strength - C	trials	very serious	not serious I²=45%	not serious	very serious <sup>a, b</sup>	none	34 20	32 20		0.86 higher)		CRITICAL
2 Hohmann 2011 Lim 2019 Strength - C 1 Hohmann 2011	trials Ruadriceps ECC randomised trial	very serious	not serious I <sup>2</sup> =45% (better indicated to not assessable	not serious	very serious <sup>a, b</sup>	-op none			(0.48 lower to SMD <b>0.8</b>	0.86 higher)		
2 Hohmann 2011 Lim 2019 Strength - C 1 Hohmann 2011	trials Ruadriceps ECC randomised trial	very serious	not serious I <sup>2</sup> =45% (better indicated to not assessable	not serious	very serious <sup>a, b</sup> s) – 6 months post very serious <sup>a, b</sup>	-op none			(0.48 lower to SMD <b>0.8</b>	0.86 higher) 11 lower 0.0.16 lower) 25 lower		
2 Hohmann 2011 Lim 2019 Strength - C 1 Hohmann 2011 Strength - C	trials tuadriceps ECC randomised trial tuadriceps ISO randomised trial	very serious C 120°/s LSI% serious M 30° LSI% (b serious	not serious I²=45% (better indicated b not assessable etter indicated by not assessable	not serious by higher values not serious higher values) - not serious	very serious a.b a) – 6 months post very serious a.b – 9 months post-o	-op none p none	20	20	(0.48 lower to SMD 0.8 (1.46 lower to SMD 0.2	0.86 higher) 11 lower 0.0.16 lower) 25 lower	Very low ⊕⊖⊖⊖ Very low	CRITICAL
2 Hohmann 2011 Lim 2019 Strength - C 1 Hohmann 2011 Strength - C 1 Strength - C 1	trials tuadriceps ECC randomised trial tuadriceps ISO randomised trial	very serious C 120°/s LSI% serious M 30° LSI% (b serious	not serious I²=45% (better indicated b not assessable etter indicated by not assessable	not serious by higher values not serious higher values) - not serious	very serious <sup>a, b</sup> s) – 6 months post very serious <sup>a, b</sup> - 9 months post-o very serious <sup>a, b</sup>	-op none p none	20	20	(0.48 lower to SMD 0.8 (1.46 lower to SMD 0.2 (0.87 lower to	0 0.86 higher) 11 lower 0 0.16 lower) 25 lower 0 0.37 higher) 17 lower	Very low ⊕⊖⊖⊖ Very low	CRITICAL
2 Hohmann 2011 Lim 2019 Strength - C 1 Hohmann 2011 Strength - C 1 Strength - C 1 Hohmann 2011	trials trials trials trial tri	very serious C 120°/s LSI% serious M 30° LSI% (b serious N 120°/s LSI% serious	Inot serious I?=45% (better indicated by not assessable not assessable (better indicated by not assessable	not serious          by higher values         not serious         higher values) -         not serious         by higher values) -         not serious         by higher values         not serious         by higher values         not serious	very serious <sup>a, b</sup> s) – 6 months post very serious <sup>a, b</sup> -9 months post-o very serious <sup>a, b</sup> s) – 9 months post	-op none p none -op	20	20	(0.48 lower to SMD 0.8 (1.46 lower to SMD 0.2 (0.87 lower to SMD 1.1	0 0.86 higher) 11 lower 0 0.16 lower) 25 lower 0 0.37 higher) 17 lower	Very low           ⊕○○○           Very low           ⊕○○○           Very low	CRITICAL

			Certainty asse	essment			Nº of p	atients	E	ffect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Unsupervised rehabilitation	Supervised rehabilitation	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
2 Hohmann 2011 Revenas 2009	randomised trials	very serious	not serious I²=0%	not serious	serious ª	none	44	34		<b>.41 lower</b> to 0.05 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	Quadriceps CO	N 120-180°/s L	SI% (better indica	ted by higher va	alues) – 1 year pos	st-op			-			
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		<b>.16 lower</b> to 0.46 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	Quadriceps ECC	C 120°/s LSI%	(better indicated b	by higher values	s) – 1 year post-op		,					
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		1.42 lower r to 0.2 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	Quadriceps CO	N 60°/s LSI% (I	better indicated b	y higher values)	– 3 years post-op		,				· ·	
1 Grant 2010	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	34		.31 lower to 0.20 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Strength - H	lamstring ISON	l 30° LSI% (be	tter indicated by I	nigher values) –	3 months post-op	1	,				, ,	
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		<b>.01 higher</b> to 0.63 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	60°/s LSI% (b	etter indicated by	higher values) -	- 3 months post-o	р	,					
1 Beard 1998	randomised trial	serious	not assessable	not serious	very serious a, b	none	13	13		1.09 lower to 0.68 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	120-180°/s LS	il% (better indicate	ed by higher val	ues) – 3 months p	ost-op					<b>r</b>	
2 Grant 2005 Hohmann 2011	randomised trials	serious	not serious I²=0%	not serious	serious a	none	83	86		<b>.01 higher</b> to 0.31 higher)		CRITICAL
Strength - H	lamstring ECC	120°/s LSI% (I	better indicated by	y higher values)	- 3 months post-	op		<u></u>	<u>.</u>			
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious a, b	none	20	20		.29 lower to 0.33 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Strength - H	amstring ISON	l 30° LSI% (be	tter indicated by h	nigher values) –	6 months post-op	1					<u> </u>	
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious a, b	none	20	20		.21 higher to 0.83 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Strength - H	lamstring CON	60°/s LSI% (b	etter indicated by	higher values) -	– 6 months post-o	p	<u></u>		<u>.</u>		I	
1 Beard 1998	randomised trial	serious	not assessable	not serious	very serious a, b	none	13	13		<b>.62 lower</b> to 0.17 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Strength - H	lamstring work	CON 60°/s (be	etter indicated by	higher values) -	- 6 months post-o	p					. <u> </u>	
1 Lim 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	12		.12 higher r to 0.9 higher)	⊕⊖⊖⊖ Very low	CRITICAL
_	1	-	-		- 6 months post-o				[		1 1	
2 Hohmann 2011 Lim 2019	randomised trials	very serious	not serious I²=0%	not serious	serious <sup>a</sup>	none	34	32		1.15 lower to 0.34 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring ECC	120°/s LSI% (I	better indicated by	y higher values)	- 6 months post-	op					· ·	
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		<b>.29 higher</b> to 0.92 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring ISON	l 30° LSI% (be	tter indicated by h	nigher values) –	9 months post-op							
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious a, b	none	20	20		to 0.47 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Strength - H	lamstring CON	120°/s LSI% (I	better indicated b	y higher values)	– 9 months post-	ор	ļ		L		۰	
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		<b>1.88 lower</b> to 0.23 lower)	⊕⊖⊖⊖ Very low	CRITICAL

			Certainty asse	ssment			Nº of p	atients	E	ffect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Unsupervised rehabilitation	Supervised rehabilitation	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
Strength - H	lamstring ECC	120°/s LSI% (I	better indicated b	/ higher values)	– 9 months post-	ор	-		-			
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		.29 higher to 0.92 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring ISON	1 30° LSI% (be	tter indicated by I	nigher values) –	1 year post-op							
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		0.48 lower to 0.15 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	120-180°/s LS	SI% (better indicat	ed by higher val	ues) – 1 year posi	t-op			-			
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		0.21 lower to 0.42 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring ECC	120°/s LSI% (I	better indicated b	/ higher values)	– 1 year post-op	•	•					
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		<b>.11 higher</b> to 0.74 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	60°/s LSI% (b	etter indicated by	higher values) -	- 3 years post-op			<u> </u>	,		,,	
1 Grant 2010	randomised trial	serious	not assessable	not serious	very serious a, b	none	26	34		.07 higher to 0.59 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Range of	f motion (F	ROM)										
6												
ROM - knee	flexion (better	indicated by I	higher values) – 4-	6 weeks post-op	0							
1 Fischer 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	27	27		<b>.26 higher</b> to 0.79 higher)		CRITICAL
1 Ugutmen 2008	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	52	52		ant difference en groups	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
ROM - knee	flexion (better	indicated by I	higher values) – 3	months post-op			ļ	<u> </u>			J	
2 Fischer 1998 Grant 2005	randomised trials	very serious	very serious I2=90%	not serious	serious <sup>a, b</sup>	none	90	93		<b>0.09 lower</b> to 0.91 higher)	⊕⊖⊖⊖ Very low	CRITICAL
1 Ugutmen 2008	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	52	52		ant difference en groups		CRITICAL
ROM - knee	flexion (better	indicated by I	higher values) – 6	months post-op								
2 Fischer 1998 Revenas 2009	randomised trials	very serious	serious I2=53%	not serious	very serious <sup>a, b</sup>	none	51	41		.35 higher to 0.97 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee	flexion (better	indicated by I	higher values) – 1	year post-op		•	•					
1 Revenas 2009	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	14		1.34 lower to 0.32 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Schenck 1997	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	22	15	132 ° at 1 ye together) significantly d	n averaged ear (both groups and was not different between oups"	⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee	flexion (better	indicated by I	higher values) – 3	years post-op					9.	r-		
1 Grant 2010	randomised trial	serious	not assessable	not serious	serious ª	none	30	36		.20 higher to 0.68 higher)		CRITICAL
ROM - knee	extension (bet	ter indicated I	by lower values) –	3 months post-	ор							
1 Grant 2005	randomised trial	serious	not assessable	not serious	serious a	none	63	66		.41 higher to 0.76 higher)		CRITICAL
ROM - knee	extension (bet	ter indicated I	by lower values) –	6 months post-	ор							
1 Revenas 2009	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	14		<b>0.28 lower</b> to 0.38 higher)	⊕⊖⊖⊖ Very low	CRITICAL
	1	1	1			1	1		1		1	

37

			Certainty asse	essment			Nº of p	atients	E	ffect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Unsupervised rehabilitation	Supervised rehabilitation	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
ROM - knee	extension (bet	ter indicated b	y lower values) –	1 year post-op		<u></u>	ļ	<u> </u>	<u> </u>		JJ	
1 Revenas 2009	randomised trial	very serious	not assessable	not serious	very serious a, b	none	24	14		1.60 lower to 0.08 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
ROM - knee	extension (bet	ter indicated b	y lower values) –	3 years post-op		ļ	1	ļ	Į		II	
1 Grant 2010	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	30	36		1.38 lower to 0.11 higher)		CRITICAL
Patient re	eported ou	tcomes (P	ROM)		<u></u>	ļ	Į	ļ	1		ļļ	
9	·											
PROM - Lyst	nolm (better in	dicated by hig	her values) – 3 m	onths post-op		,		,			,,	
3 Beard 1998 Fischer 1998 Hohmann 2011	randomised trials	very serious	not serious I2=0%	not serious	serious a	none	60	60		<b>.2 higher</b> to 0.56 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Tegr	ner (better indi	cated by high	er values) – 3 moi	nths post-op		,		,			, , , , , , , , , , , , , , , , , , , ,	
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		0.4 lower to 0.23 higher)		CRITICAL
Beard 1998	randomised trial	serious	not assessable	not serious	very serious <sup>a, c</sup>	none	13	13	difference be both the ch level for the s	rt "no significant tween groups for ange of activity study period and I outcome"	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lysł	holm (better in	dicated by hig	her values) – 6 m	onths post-op			ļ				JJ	
4 Beard 1998 Fischer 1998 Hohmann 2011 Revenas 2009	randomised trials	very serious	not serious I²=40%	not serious	serious <sup>a</sup>	none	84	74		1. <b>18 lower</b> to 0.23 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Tegr	ner (better indi	cated by high	er values) – 6 moi	ths post-op		<u></u>	Į	<u></u>	Į		JJ	
3 Beard 1998 Hohmann 2011 Revenas 2009	randomised trials	very serious	not serious I2=0%	not serious	serious a	none	57	47		<b>.39 lower</b> ower to 0)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Subj	jective health	status questio	nnaire (better ind	cated by higher	values) – 6 mont	hs post-op			•			
Fischer 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27		ant difference en groups	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lyst	holm (better in	dicated by hig	her values) – 9 m	onths post-op								
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		to 0.02 lower)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
PROM - Tegr	ner (better indi	cated by high	er values) – 9 moi	nths post-op		·	•	·			·	
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		1.37 lower to 0.26 higher)		CRITICAL
PROM - Lyst	nolm (better in	dicated by hig	her values) – 1 ye	ar post-op							n I	
2 Hohmann 2011 Revenas 2009	randomised trials	very serious	very serious I <sup>2</sup> =90%	not serious	very serious <sup>a, b</sup>	none	44	34		. <b>52 higher</b> to 2.22 higher)	⊕⊖⊖⊖ Very low	CRITICAL

№ of studiesSchenck 1997	Study design randomised	Risk of bias										
			Inconsistency	Indirectness	Imprecision	Other considerations	Unsupervised rehabilitation	Supervised rehabilitation	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
	trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	22	15	difference b "Lysholm da not signific between gro 93.8 in CB p	reported. No etween groups. ta at 1 year was cantly different oups, averaging atients and 96.2 patients."	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Tegner	er (better indi	cated by high	er values) – 1 yea	r post-op								
2 r Hohmann 2011 Revenas 2009	randomised trials	very serious	serious I²=74%	not serious	very serious <sup>a, b</sup>	none	44	34		0.42 lower to 0.49 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - sickne	ess impact pi	rofile (better in	dicated by higher	r values) – 1 yea	r post-op	r						
1 r Schenck 1997	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	15		.39 higher to 1.05 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
PROM – Lysho	olm scale (be	tter indicated	by higher values)	– last evaluatio	n visit							
1 r Ugutmen 2008	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	52	52		ant difference en groups	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Mean /	ACL quality	of life (better i	ndicated by highe	er values) – 3 ye	ars post-op	,	,				,	
1 r Grant 2010	randomised trial	serious	not assessable	not serious	serious a	none	40	48		<b>.51 higher</b> to 0.94 higher)	⊕⊕⊖⊖ Low	CRITICAL
Functional	l activitie	s										
4												
Functional - sir	ingle leg hop	for distance L	SI% (better indica	ated by higher v	alues) – 3 months	post-op						
1 r Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		.02 higher to 0.64 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	IMPORTANT
Functional - tin	med hop LSI	% (better indic	ated by higher va	lues) – 3 month	s post-op		,					
1 r Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious a, b	none	20	20		<b>0.33 lower</b> r to 0.3 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	IMPORTANT
Functional - ve	ertical hop LS	SI% (better ind	licated by higher	values) – 3 mon	ths post-op	ļ	ļ		<u> </u>		ļI	
1 r Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		1.39 lower to 0.23 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	IMPORTANT
	ingle leg hop	for distance (	better indicated b	y higher values	– 6 months post-	-ор					ļ]	
2 r Hohmann 2011 Revenas 2009	randomised trials	very serious	not serious I²=0%	not serious	serious ª	none	44	34		.03 higher to 0.49 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Fischer r 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27		ant difference en groups		IMPORTANT
Functional - tir	med hop (bet	tter indicated I	oy higher values)	– 6 months pos	t-op							
1 r Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		0.01 lower to 0.61 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	IMPORTANT
	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27		ant difference en groups	⊕⊖⊖⊖ Very low	IMPORTANT
Functional - ve	ertical hop LS	SI% (better ind	licated by higher	values) – 6 mon	ths post-op				L			
1 r Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		0.4 lower to 0.22 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional - tri	iple hop for c	distance (bette	er indicated by hig	her values) – 6	months post-op						,	
1 r Fischer 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27		ant difference en groups	⊕⊖⊖⊖ Very low	IMPORTANT
	rossover hop	for distance (	better indicated b	y higher values	) – 6 months post	-op						

			Certainty asse	essment			Nº of p	atients	E	ffect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Unsupervised rehabilitation	Supervised rehabilitation	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Fischer 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27		cant difference en groups	⊕⊖⊖⊖ <sub>Very low</sub>	IMPORTANT
Functional -	single leg hop	for distance I	SI% (better indicated)	ated by higher v	alues) – 9 months	post-op						
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious a, b	none	20	20		0.15 lower to 0.47 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	IMPORTANT
Functional -	timed hop LSI	% (better indic	ated by higher va	lues) – 9 month	s post-op						,	
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		0.26 lower to 0.37 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	vertical hop (b	etter indicate	d by higher values	s) – 9 months po	ost-op							
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious a, b	none	20	20		.44 higher to 1.07 higher)		IMPORTANT
Functional -	single leg hop	for distance (	better indicated b	y higher values	) – 1 year post-op							
2 Hohmann 2011 Revenas 2009	randomised trials	very serious	not serious I²=0%	not serious	serious <sup>a</sup>	none	44	34		0.03 lower to 0.42 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Schenck 1997	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	22	15	significant di	reported no fference between roups.	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	timed hop LSI	% (better indic	cated by higher va	ilues) – 1 year p	ost-op		•					
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		. <b>16 higher</b> to 0.78 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	vertical hop L	SI% (better ind	licated by higher	values) – 1 year	post-op		•					
1 Hohmann 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		0.47 lower to 0.16 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Laxity												
5												
Laxity – bety	ween limbs diff	ference (bette	r indicated by low	er values) – 3 m	onths post-op							
2 Beard 1998 Grant 2005	randomised trials	serious	not serious I²=3%	not serious	serious a	none	76	79		.20 higher to 0.53 higher)	⊕⊕⊖⊖ Low	CRITICAL
Fischer 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27	significant di	reported no fference between roups.		CRITICAL
Laxity - betw	veen limbs diff	erence (better	indicated by lowe	er values) – 6 me	onths post-op							
1 Beard 1998	randomised trial	serious	not assessable	not serious	very serious a, b	none	13	13	SMD <b>0</b> (0.15 lower	.64 higher to 1.43 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Fischer 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27	significant dif	reported no fference between roups.	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Laxity – 1 ye	ear post-op		•	•	•	•	•		•			
1 Schenck 1997	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	22	15	significant di	reported no fference between roups.	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - betw	veen limbs diff	erence (better	indicated by lowe	er values) – 3 ye	ars post-op							
1 Grant 2010	randomised trial	serious	not assessable	not serious	serious ª	none	30	35		<b>0.41 lower</b> to 0.09 higher)	$\underset{Low}{\oplus} \underset{Low}{\oplus} \underset{Low}{\odot}$	CRITICAL
Proprioc	eption											
1												
Propriocept	ion - overall sta	ability index (k	better indicated by	/ lower values) -	- 6 months post-o	p					1	
1 Lim 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	12		.63 higher to 1.42 higher)	⊕⊖⊖⊖ Very low	IMPORTANT

№ of studies Pain	Study design	Risk of										
-		bias	Inconsistency	Indirectness	Imprecision	Other considerations	Unsupervised rehabilitation	Supervised rehabilitation	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
4							·					
1												
Pain – VAS s	scale – 1 year p	oost-op										
1 Schenck 1997	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	22	15	difference "VAS pain 5.1 (ra preoperative	ed if there is any between groups scores averaged inge, 2 to 10) ely for both groups range, 0 to 6) at 1 year"	⊕⊖⊖⊖ Very low	CRITICAL
Atrophy												
3												
Atrophy - thi	gh circumfere	nce (better ind	licated by lower v	alues) – 6 weeks	s post-op		•		,		•	
1 Fischer 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	27	27		0.22 lower er to 0.32 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - thi	gh circumfere	nce (better ind	licated by lower v	alues) – 3 monti	is post-op							
1 Fischer 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	27	27		0.17 lower r to 0.37 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - thi	gh circumfere	nce (better ind	licated by lower v	alues) – 4 montł	is post-op							
1 Fischer 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	27	27		0.27 lower r to 0.27 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - thi	gh circumfere	nce (better ind	licated by lower v	alues) – 6 monti	is post-op	<u> </u>	,i		, 		L	
1 Fischer 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	27	27		0.15 lower er to 0.38 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Atrophy – qu	adriceps atro	ohy (method is	s not reported) – 1	year post-op					,		, ,	
1 Schenck 1997	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	22	15	significant of	s reported no lifference between groups.	⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - thi	gh atrophy – a	t the last exam	nination visit						1			
Ugutmen 2008	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	52	52	significant of	s reported no lifference between groups.	⊕⊖⊖⊖ Very low	CRITICAL
Laxity												
1												
laxity - patier	nts with Lachn	nan negative –	- 31 months post-	ор					,			
1 Ugutmen 2008	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	38/52 (73.1%)	36/52 (69.2%)	<b>RR 1.06</b> (0.83 to 1.35)	<b>42 more per</b> <b>1,000</b> (from 118 fewer to 242 more)	⊕⊖⊖⊖ Very low	CRITICAL
laxity - patier	nts with Lachn	nan grade I – 3	1 months post-op	)								
1 Ugutmen 2008	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	12/52 (23.1%)	14/52 (26.9%)	<b>RR 0.86</b> (0.44 to 1.67)	38 fewer per 1,000 (from 151 fewer to 180 more)	⊕⊖⊖⊖ Very low	CRITICAL
laxity - patier	nts with Lachn	nan grade II –	31 months post-o	p					,			
1 Ugutmen 2008	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	2/52 (3.8%)	2/52 (3.8%)	<b>RR 1.00</b> (0.15 to 6.83)	0 fewer per 1,000 (from 33 fewer to 224 more)	⊕⊖⊖⊖ Very low	CRITICAL
laxity - patier	nts with Lachn	nan grade III –	31 months post-o	op					,			
1 Ugutmen 2008	randomised trial	very serious	not assessable	not serious	serious ª	none	0/52 (0.0%)	0/52 (0.0%)	study arms	ro events in both , an absolute risk vas not estimable	⊕⊖⊖⊖ Very low	CRITICAL
laxity - patier	nts with Pivot	shift negative	– 31 months post	-op					,			

			Certainty asse	ssment			Nº of p	atients		Effect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Unsupervised rehabilitation	Supervised rehabilitation	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Ugutmen 2008	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	49/52 (94.2%)	49/52 (94.2%)	<b>RR 1.00</b> (0.91 to 1.10)	0 fewer per 1,000 (from 85 fewer to 94 more)	⊕⊖⊖⊖ Very low	CRITICAL
laxity - patie	nts with Pivot	shift positive -	- 31 months post-	ор			•	,				
1 Ugutmen 2008	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	3/52 (5.8%)	3/52 (5.8%)	<b>RR 1.00</b> (0.21 to 4.73)	0 fewer per 1,000 (from 46 fewer to 215 more)	⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events											
Beard 1998									group ha (range of r persistent p further	ent in the "home" d complications notion problems, pain) and required arthroscopic sessment		CRITICAL
Schenck 1997									Nor	e reported		CRITICAL
Fischer 1998									Nor	e reported		CRITICAL
Grant 2005									group ha manip anesthes extension o within the period (1 pa and 1 pat	ient at 10 weeks		CRITICAL
Ugutmen 2008									<ul> <li>within the 12-week study period (1 patient at 5. swee and 1 patient at 5. swee patients (5.8%) had km pain after activity, two (1.9%) had flexion deficiency &lt; 11 without impairing their dai and sporting activities, for (3.8%) had swollen knees two (1.9%) reported persist 'giving way' and four (3.8%) had paraesthesia around the surgical wound scar. It is n reported how these patien are distributed between groups</li> </ul>			CRITICAL
Revenas 2009									Nor	e reported		CRITICAL
Grant 2010									therapy g subsequent operating ro patients in who requ arthroscop with pa resection were also physical th required an under anest cast fo	nts in the physical roup required a t procedure in the orm. There were 2 subsequent icd subsequent icd subsequent subsequ		CRITICAL
Hohmann 2011									Nor	e reported		CRITICAL
Lim 2019									Nor	e reported		CRITICAL
Higgins 2020									Nor	e reported		CRITICAL

CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

a. b.

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction

Not reporting results or SDs 95% CI boundaries cross the arbitrary thresholds of 0.75 and 1.25 c. d.

# Rehabilitation duration: accelerated versus non-accelerated rehabilitation protocol after ACLR

Bibliography: Beynnon 2011, Gupta 2017

			Certainty asse	essment		<b>-</b>	Nº of p	atients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Accelerated rehabilitation	Non accelerated rehabilitation	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
.axity												
1												
axity - laxity	y KT-1000 dis	placement (m	m) of the injured	limb (better indi	icated by lower va	llues) – 3 months p	oost-op	Į	Į			J
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	17	SMD 0.15 (0.49 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Gupta 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a. c</sup>	none	20	20	Laxity was mea clinical grading test and Pivo The authors n statistically s difference betw grou	by Lachman t Shift test eported no significant reen the two	⊕⊖⊖⊖ Very low	CRITICAL
axity - laxity	y KT-1000 dis	placement (m	m) of the injured	limb (better indi	icated by lower va	ilues) – 6 months p	oost-op					
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	17	SMD 0.06 (0.59 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Gupta 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a. c</sup>	none	20	20	Laxity was mea clinical grading test and Pivo The authors n statistically s difference betw group	by Lachman t Shift test eported no significant reen the two	⊕⊖⊖⊖ Very low	CRITICAL
axity - laxity	y KT-1000 dis	placement (m	m) of the injured	limb (better ind	icated by lower va	lues) – 1 year post	t-op					
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	19	17	SMD <b>0.08</b> (0.58 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
axity - laxity	y KT-1000 dis	placement (m	m) of the injured	limb (better indi	icated by lower va	llues) – 2 years po	st-op					
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	19	17	SMD <b>0.34</b> (1 lower to 0.		⊕⊖⊖⊖ Very low	CRITICAL
Patient re	eported or	utcomes (I	PROM)				1		1			
2	•											
ROM - KOO	OS pain (bette	r indicated by	higher values) –	3 months post-	ор	L	1	1	1			
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	17	SMD <b>0.52</b> (0.13 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - KOO	OS symptoms	(better indica	ted by higher val	ues) – 3 months	post-op	ł						
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	17	SMD <b>0.45</b> (0.19 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - KOO	DS ADL (bette	r indicated by	higher values) –	3 months post-	ор		,	,	,			
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	17	SMD 0.28 (0.92 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
ROM - KOO	OS sports and	recreation (b	etter indicated by	higher values)	– 3 months post-o	op						,
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	17	SMD 0.31 (0.34 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
ROM - KOO	DS quality of I	ife (better indi	icated by higher v	alues) – 3 mont	hs post-op							
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	17	SMD 0.3 (0.34 lower to )		⊕⊖⊖⊖ Very low	CRITICAL
2011 <b>ROM - KOO</b> 1 Beynnon 2011 <b>ROM - KOO</b> 1 Beynnon 2011	DS sports and randomised trial DS quality of I randomised trial	very serious ife (better indi very serious	not assessable	not serious ralues) – 3 mont not serious	very serious <sup>a, b</sup>	none			SMD <b>0.31</b> (0.34 lower to f	higher 0.95 higher) higher	⊕⊖⊖⊖ Very low	

			Certainty asse	ecement			Nº of p	ationte	Effe	ct		
			Certainty asso				Nº OF P	Non	Life		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Accelerated rehabilitation	accelerated rehabilitation	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Gupta 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD 0.89 (0.23 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS pain (bette	r indicated by	higher values) –	6 months post-	op							
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	17	SMD 0.08 (0.57 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS symptoms	(better indica	ted by higher val	ues) – 6 months	post-op	•	•	•	•			
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	17	SMD <b>0.58</b> (0.09 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS ADL (bette	r indicated by	higher values) –	6 months post-	ор	ł						
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	17	SMD 0.09 (0.55 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	I OS sports and	l recreation (b	etter indicated by	higher values)	– 6 months post-c	op			1			
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	17	SMD 0.17 (0.47 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS quality of I	ife (better indi	icated by higher v	values) – 6 mont	ths post-op							
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	17	SMD 0.17 (0.47 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OOS total (bette	r indicated by	higher values) –	6 months post-	ор							
1 Gupta 2017	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.39 (0.23 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OOS pain (bette	r indicated by	higher values) –	1 year post-op								
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	19	17	SMD 0.09 (0.57 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OOS symptoms	(better indica	ted by higher val	ues) – 1 year po	st-op	•						
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	19	17	SMD 0.71 (0.03 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS ADL (bette	r indicated by	higher values) –	1 year post-op	,	<u>I</u>						
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	19	17	SMD 0.2 (0.85 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS sports and	l recreation (b	etter indicated by	higher values)	– 1 year post-op	<u> </u>	Į	Į	Į			
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	19	17	SMD 0.06 (0.71 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OOS quality of I	ife (better indi	icated by higher v	values) – 1 year	post-op	•						
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	19	17	SMD 0.33 (0.32 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OOS pain (bette	r indicated by	higher values) –	2 years post-op	)			•	•			
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	19	17	SMD 0.2 (0.86 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS symptoms	(better indica	ted by higher val	ues) – 2 years p	ost-op							
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	19	17	SMD 0.31 (0.34 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OOS ADL (bette	r indicated by	higher values) –	2 years post-op								
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	19	17	SMD 0.13 (0.78 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS sports and	l recreation (b	etter indicated by	higher values)	– 2 years post-op							
												1/

			Containty and	a a mant			No of a	atianta	Effe	<b>.</b>		
			Certainty asse	essment			N≌ or p	atients	Епе			
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Accelerated rehabilitation	Non accelerated rehabilitation	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	19	17	SMD 0.07 (0.73 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS quality of li	fe (better indi	cated by higher v	alues) – 2 years	s post-op		•	•				•
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	19	17	SMD 0.37 (0.29 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength	ı											
1												
Strength - C	Quadriceps CO	N 60°/s (bette	r indicated by hig	her values) – 3	months post-op							
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	17	SMD <b>0.45</b> (0.19 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CO	N 60°/s (bette	r indicated by hig	her values) – 6	months post-op		ļ	ļ	<u> </u>			Į
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	17	SMD 0.41 (0.25 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CO	N 60°/s (bette	r indicated by hig	her values) – 1	year post-op							,
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	19	17	SMD 0.31 (0.35 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CO	N 60°/s (bette	r indicated by hig	her values) – 2	years post-op							1
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	19	17	SMD 0.54 (0.13 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Function	nal activitie	s	ļ				ļ	ļ				
2												
	- single leg hor	o for distance	difference betwe	en limbs (better	indicated by low	er values) – 3 mont	ths post-op					<b>I</b>
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	17	SMD 0.15 (0.79 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	- single leg hoj	o for distance	difference betwe	en limbs (better	indicated by lowe	er values) – 6 mont	ths post-op					
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	17	SMD 0.49 (1.15 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Gupta 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	20	20	SDs are not re authors rep statistically s difference betw groups (p=	orted no significant reen the two	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	- single leg hoj	o for distance	difference betwe	en limbs (better	indicated by lowe	er values) – 1 year	post-op		3			
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	19	17	SMD 0.37 (0.29 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
	- single leg hor	o for distance	difference betwe	en limbs (better	indicated by lowe	er values) – 2 years	s post-op					1
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	19	17	SMD <b>0.34</b> (1 lower to 0.		⊕⊖⊖⊖ Very low	IMPORTANT
Propriod	eption					L						
1												
	tion - detection	of passive kr	nee motion (bette	r indicated by lo	ower values) – 3 m	onths post-op			<u> </u>			ļ
1 Beynnon 2011	randomised trial	very serious		not serious	very serious a, b	none	21	17	SMD 0.1 (0.54 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
	tion - detectior	of passive kr	nee motion (bette	r indicated by lo	ower values) – 6 m	onths post-op	ļ	ļ				
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	17	SMD <b>0.77</b> (1.44 lower to		⊕⊖⊖⊖ Very low	IMPORTANT

			Certainty asse	essment			Nº of p	atients	Effe	rt					
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Accelerated rehabilitation	Non accelerated rehabilitation	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance			
Propriocept	tion - detectior	of passive ki	nee motion (bette	r indicated by lo	ower values) – 1 y	ear post-op	·								
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	19	17	SMD 0.12 (0.78 lower to (		⊕⊖⊖⊖ Very low	IMPORTANT			
Propriocept	tion - detectior	of passive ki	nee motion (bette	r indicated by lo	ower values) – 2 y	ears post-op									
1 Beynnon 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	19	17	SMD 0.25 (0.41 lower to		⊕⊖⊖⊖ Very low	IMPORTANT			
Adverse	2011 Juerse events														
Beynnon 2011									One participi nonacceleral suffered a rete graft detected month follow-t was produced same sport (ch that produced injur	ed group ear of their d at the 6- up and this during the eerleading) the index		CRITICAL			
Gupta 2017									None rep	orted		CRITICAL			

CI: confidence interval; SMD: standardised mean difference

а.

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction Not reporting results or SDs b. c.

# Continuous passive motion (CPM) versus no CPM in rehabilitation after ACLR

Bibliography: Yates 1992, Anderson 1989, McCarthy 1993a, McCarthy 1993b

			Certainty ass	essment			Nº of	patients	Effec	:t		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	СРМ	no CPM	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Range	of motio	n (ROM)										
2												
ROM - flexi	on – 3 days po	st-op							1			
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors rep flexion in the C			CRITICAL
ROM - flexi	on – 1 week po	ost-op		-					1			
Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors rep flexion in the C			CRITICAL
ROM - flexi	on – 3 weeks p	oost-op										
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	More flexion in CF before physiothe after	rapy but not	⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexi	on – 6 months	post-op				ļļ			ļ			
Anderson 1989	randomised trial	very serious	not assessable	serious <sup>d</sup>	very serious <sup>a, c</sup>	none	19	20	The authors re statistically signific between the to	ant difference	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exte	nsion – 3 days	post-op				<u> </u>						
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors re statistically signific between the to	ant difference	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exte	nsion – 7 days	post-op				ļļ			ļ			
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors re statistically signific between the to	ant difference	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exte	l nsion – 3 weeł	s post-op	ļ	<u> </u>		<u> </u>		1	1		<u> </u>	
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors re statistically signific between the to	ant difference	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exte	nsion – 6 mon	ths post-op				<u> </u>			1			
Anderson 1989	randomised trial	very serious	not assessable	serious d	very serious <sup>a, c</sup>	none	19	20	The authors re statistically signific between the to	ant difference	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Swelling	1					ļļ		1				
2	, 	[	[					Γ				
Swelling - s	welling mid-pa	atella – 1 day p	post-op	1		ı		1	1		I	
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors less swelling in th		⊕⊖⊖⊖ Very low	CRITICAL
Swelling - s	welling mid-pa	atella – 2 days	post-op									
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors less swelling in th		⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Swelling - s	welling mid-pa	atella – 3 days	post-op									
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors less swelling in th			CRITICAL
Swelling - s	welling – 6 we	eks post-op							1			
Anderson 1989	randomised trial	very serious	not assessable	serious <sup>d</sup>	very serious <sup>a, c</sup>	none	19	20	The authors re statistically signific between the to	ant difference	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Effusion	1											
1												
Effusion - e	ffusion sweep	test - 3 days	post-op			ı I						

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

Nº of studies							142 01	patients	Effe	ul l	and the second	
1	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	СРМ	no CPM	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors repo had a significan hemarth	t reduction in	⊕⊖⊖⊖ Very low	CRITICAL
Effusion - ef	ffusion sweep	test – 7 days	post-op									
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors r statistically signific between the t	cant difference	⊕⊖⊖⊖ Very low	CRITICAL
Effusion - ef	ffusion sweep	test – 3 week	s post-op			, , ,			•			
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors r statistically signific between the t	cant difference	⊕⊖⊖⊖ Very low	CRITICAL
Pain												
2												
Medication	(morphine) via	a analgetic pu	mp (better indicat	ed by lower val	ues) – 1 day post-	op		,	•			
1 McCarthy 1993b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>1.16</b> (1.94 lower to			CRITICAL
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors repo medication const CPM g	umption in the		CRITICAL
Pain - numb	er of times pa	tient pushed t	the analgetic pum	p (better indica	ted by lower value	es) – 1 day post-op						
1 McCarthy 1993b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.82 (1.57 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	Patients in the pushed the buttor than the non-0	half the times	⊕⊖⊖⊖ Very low	CRITICAL
Pain - pain (	oral medicatio	n (better indic	ated by lower val	ues) – 2-3 days	post-op	<u> </u>		<u>.</u>	<u> </u>			
1 McCarthy 1993b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>0.74</b> (1.49 lowe		⊕⊖⊖⊖ Very low	CRITICAL
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors repo medication const CPM g	umption in the	⊕⊖⊖⊖ Very low	CRITICAL
Pain - perce	l eived pain sco	re - question 1	– constant pain	level (better ind	icated by lower va	lues) – 3 days post	-op	ļ				
1 McCarthy 1993b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.21 (0.93 lower to )		⊕⊖⊖⊖ Very low	CRITICAL
Pain - perce	ived pain sco	re - question 2	2 – worst level (be	tter indicated b	y lower values) – 3	days post-op		<u> </u>				
1 McCarthy 1993b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>0.64</b> (1.37 lower to			CRITICAL
Pain - perce	eived pain sco	re - question 3	8 – least level (bet	ter indicated by	r lower values) – 3	days post-op			ł			
1 McCarthy 1993b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>0.14</b> (0.58 lower to 1			CRITICAL
Pain - perce	ived pain sco	re – 1 day pos	t-op					-				
Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors r statistically signific between the t	cant difference	⊕⊖⊖⊖ Very low	CRITICAL
Pain - perce	eived pain sco	re – 2 days po	st-op									
Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors n statistically signific between the t	cant difference	⊕⊖⊖⊖ Very low	CRITICAL
Pain - perce	eived pain sco	re – 3 days po	st-op									
Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors n statistically signific between the t	cant difference	⊕⊖⊖⊖ Very low	CRITICAL
Laxity												
2												

			Certainty ass	essment			Nº of	patients	Effec	t		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	СРМ	no CPM	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
Laxity - laxit	ty (better indic	cated by lower	values) – 1 year	post-op				•			,	
1 McCarthy 1993a	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD (0.88 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Anderson 1989	randomised trial	very serious	not assessable	serious d	very serious <sup>a, c</sup>	none	19	20	The authors re statistically signific between the tv	ant difference	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - pivo	ot shift test (be	etter indicated	by lower values)	– 1 year post-o	p							
1 McCarthy 1993a	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD <b>0.38</b> (1.27 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy								•	•		•	
2												
Atrophy - 10	)cm above pa	tella – 1 day p	ost-op					•	1		,	
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors re atrophy in the nor		⊕⊖⊖⊖ Very low	IMPORTANT
Atrophy - 10	)cm above pa	tella – 2 days j	post-op					-	-			
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors re atrophy in the nor		⊕⊖⊖⊖ Very low	IMPORTANT
Atrophy - 10	Icm above pat	tella – 3 days j	post-op					1	1		r	
1 Yates 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors re atrophy in the nor		⊕⊖⊖⊖ Very low	IMPORTANT
Atrophy - 15	icm above pa	tella – 6 weeks	s post-op					-				
Anderson 1989	randomised trial	very serious	not assessable	serious	very serious <sup>a, c</sup>	none	19	20	The authors re statistically signific between the tv	ant difference	⊕⊖⊖⊖ Very low	IMPORTANT
Strength								•				
1												
Strength - Q	uadriceps str	ength– 1 year	post-op					•			-	
Anderson 1989	randomised trial	very serious	not assessable	serious <sup>d</sup>	very serious <sup>a, c</sup>	none	19	20	The authors re statistically signific between the tw	ant difference	⊕⊖⊖⊖ Very low	IMPORTANT
Strength - H	amstring stre	ngth– 1 year p	oost-op					•	•		·	
Anderson 1989	randomised trial	very serious	not assessable	serious d	very serious <sup>a, c</sup>	none	19	20	The authors re statistically signific between the tw	ant difference	⊕⊖⊖⊖ Very low	IMPORTANT
Adverse	events											
Yates 1992									"The only complication a patient who has sensory palsy, thought to be tourniquet pressus resolved itself with It was not specifie this patient."	d a temporary which was related to re and which in 3 months". d the group of		CRITICAL
McCarthy 1993b									None rep	orted		CRITICAL
McCarthy 1993a									None rep	orted		CRITICAL
Anderson 1989									Manipulation in the group (non			CRITICAL

#### CI: confidence interval; SMD: standardised mean difference

a.

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction Not reporting results or SDs Conclusions based on indirect comparisons b.

c. d.

#### Continuous passive motion (CPM) versus active motion in rehabilitation after ACLR

Bibliography: Friemert 2006, Rosen 1992, Engstrom 1995

			Certainty ass	essment			Nº of	patients	Effe	ect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	СРМ	Active motion	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Range	of motio	n (ROM)	)									
3												
ROM - flexio	on (better indie	cated by highe	er values) – 1 wee	k post-op					•			
Friemert 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	30	30	SMD 0.3 (0.89 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	25	25	SDs are not repor reported no statis difference bety grou	tically significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexio	on – 4 weeks p	oost-op										
Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	25	25	SDs are not repor reported no statis difference betw grou	tically significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexio	on (better indie	cated by highe	er values) – 6 wee	ks post-op					•			
1 Engstrom 1995	randomised trial	very serious	not assessable	not serious	very serious a, b	none	17	17	SMD <b>0.2</b> (0.92 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	on – 2 months	post-op										
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	25	25	SDs are not repor reported no statis difference betw grou	tically significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexid	on – 6 months	nost-on						1	giou	po.		
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	25	25	SDs are not repor reported no statis difference betw grou	tically significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exter	nsion – 7 days	nost-on	L					1	9.00	p0.		
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	25	25	SDs are not repor reported no statis difference betw grou	tically significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exter	nsion – 4 week	s post-op	I					1				
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	25	25	SDs are not repor reported no statis difference beto grou	tically significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exter	nsion (better in	ndicated by low	wer values) – 6 w	eeks post-op								
1 Engstrom 1995	randomised trial	very serious	not assessable	not serious	very serious a, b	none	17	17	SMD <b>0.1</b> (0.82 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	nsion – 2 mon	ths post-op	l					1	1			
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	25	25	SDs are not repor reported no statis difference betw grou	tically significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exter	nsion – 6 mont	ths post-op	I						J	·		
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	25	25	SDs are not repor reported no statis difference betw grou	tically significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Swelling								,				
2												
			' days post-op			ļ ļ		1	1			

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

			Certainty asse	essment			N≌ofj	patients	Eff	iect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	СРМ	Active motion	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Friemert 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	30	30	statistically sign	reported no ificant difference two groups.	⊕⊖⊖⊖ Very low	CRITICAL
Swelling - s	welling (bette	r indicated by	lower values) – 6	weeks post-op								
1 Engstrom 1995	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	17		71 lower o 0.01 lower)	⊕⊖⊖⊖ Very low	CRITICAL
Pain	-											
1												
Pain - perce	eived pain sco	re – 1 week po	ost-op									
1 Friemert 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	30	30	statistically sign	reported no ificant difference two groups.	⊕⊖⊖⊖ Very low	CRITICAL
Laxity					-	ł		,				-
1												
Laxity - pati	ients with <3m	ım difference b	oetween limbs – 1	month post-op	1	•	•					
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	23/25 (92.0%)	21/25 (84.0%)	<b>RR 1.10</b> (0.89 to 1.35)	84 more per 1,000 (from 92 fewer to 294 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - pati	ients with 3-5r	nm difference	between limbs – 2	2 months post-	op							
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	0/25 (0.0%)	2/25 (8.0%)	<b>RR 0.20</b> (0.01 to 3.97)	64 fewer per 1,000 (from 79 fewer to 238 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - pati	ients with <3m	m difference b	oetween limbs at	89N – 6 months	post-op		ļ					
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	19/25 (76.0%)	21/25 (84.0%)	<b>RR 0.90</b> (0.68 to 1.20)	84 fewer per 1,000 (from 269 fewer to 168 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - pati	ients with 3-5r	nm difference	between limbs at	89N – 6 months	s post-op		ļ					
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	4/25 (16.0%)	3/25 (12.0%)	<b>RR 1.33</b> (0.33 to 5.36)	<b>40 more per</b> <b>1,000</b> (from 80 fewer to 523 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - pati	ients with >5m	m difference b	oetween limbs at	89N – 6 months	post-op	<u> </u>	Į					
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	0/25 (0.0%)	1/25 (4.0%)	<b>RR 0.33</b> (0.01 to 7.81)	27 fewer per 1,000 (from 40 fewer to 272 more)		CRITICAL
Laxity - pati	ients with <3m	im difference b	petween limbs at	max – 6 months	s post-op			,				
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	15/25 (60.0%)	19/25 (76.0%)	<b>RR 0.79</b> (0.54 to 1.16)	<b>160 fewer per</b> <b>1,000</b> (from 350 fewer to 122 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - pati	ients with 3-5r	nm difference	between limbs at	max – 6 month	s post-op							
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	1/25 (4.0%)	1/25 (4.0%)	<b>RR 1.00</b> (0.07 to 15.12)	0 fewer per 1,000 (from 37 fewer to 565 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - pati	ients with >5m	im difference b	petween limbs at	max – 6 months	s post-op	•	•	·				
1 Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious a	none	2/25 (8.0%)	0/25 (0.0%)	<b>RR 5.00</b> (0.25 to 99.16)	NA e	⊕⊖⊖⊖ Very low	CRITICAL
Atrophy												
1												
Atrophy - 7.	.5cm above pa	tella (better in	dicated by lower	values) – 6 wee	ks post-op							
1 Engstrom 1995	randomised trial	very serious	not assessable	not serious	very serious a, b	none	17	17		1 <b>6 higher</b> o 0.74 higher)	⊕⊖⊖⊖ Very low	IMPORTANT

			Certainty ass	essment			Nº of	patients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	СРМ	Active motion	Relative (95% CI)	Absolute (95% Cl)	Certainty	Importance
Atrophy - 1	5cm above pa	tella (better in	dicated by lower	values) – 6 weel	ks post-op			•				
1 Engstrom 1995	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	17	SME (0.67 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
PROM	•					•			•			
1												
PROM - IKD	C score (bette	er indicated by	, higher values) –	6 months post-	ор	•		•	•			
Rosen 1992	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	25	25	SMD 0.12 (0.44 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Propriod	ception		ł	<u></u>		I		•				
1												
Propriocept	tion - joint pos	ition sense (b	etter indicated by	lower values) -	- 1 week post-op	I			1			-
1 Friemert 2006	randomised trial	very serious	not assessable	not serious	very serious a, b	none	30	30	SMD <b>1.54</b> (0.96 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse	events		<u></u>			<u></u>		1	Į			
Rosen 1992									17% complained sleep. During hos CPM was used a 4 patients needee These patients we evenly across thei months, 3 morr manipulation. All area on numbre incisi	pitalisation the t least 20h/day. d manipulation. re split relatively r 3 groups. At 6 e patient had patients had an ss around the		CRITICAL
Engstrom 1995									None re	ported		CRITICAL
Friemert 2006									None re	ported		CRITICAL
Cost						•		•	•			
Rosen 1992									The cost of physic month, based on t week for 4 wee session, was \$84 CPM rental for \$180	hree sessions a ks at \$70 per 40. The cost of 1 month was		CRITICAL

CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

a.

b.

c. d.

Total participants <800 95% C1 of an SMD extends > 0.5 points in either direction Not reporting results or SDs 95% C1 boundaries cross the arbitrary thresholds of 0.75 and 1.25 Due to zero events in the comparator arm, an absolute risk reduction was not estimable

e.

# Long-use CPM (14 days) versus short-use CPM (4 days) in rehabilitation after ACLR

Bibliography: Richmond 1991

			Certainty ass	essment			Nº of p	atients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Long-use CPM	Short-use CPM	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Range o	f motion (I	ROM)										
1		(olli)	1			[		1				
	on (better indi	cated by highe	er values) – 1 wee	k post-op					ļ			
1 Richmond 1991	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	10	SMD 1.11 (0.13 higher to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexi	on (better indie	cated by highe	er values) – 2 wee	ks post-op					ļ			
1 Richmond 1991	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	10	SMD <b>0.94</b> (0.02 lower to 7		⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexi	on (better indie	cated by highe	er values) – 6 wee	ks post-op					ļ			
1 Richmond 1991	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	10	SMD <b>0.15</b> (1.05 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
ROM - exte	nsion (better in	ndicated by low	wer values) – 1 w	eek post-op		<u> </u>	<u> </u>	<u> </u>	<u> </u>			
1 Richmond 1991	randomised trial	serious	not assessable	not serious	very serious a, b	none	9	10	SMD 2.63 (3.93 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - exte	nsion (better in	ndicated by low	wer values) – 2 w	eeks post-op		I			1			
1 Richmond 1991	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	10	SMD 1.31 (2.32 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - exte	nsion (better i	ndicated by low	wer values) – 6 m	onths post-op					I			
1 Richmond 1991	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	10	SMD 2.31 (3.53 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - exte	nsion (better in	ndicated by lo	wer values) – 6 w	eeks post-op		<u> </u>			ł			
1 Richmond 1991	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	10	SMD 3.1 (4.53 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Swelling	1					<u> </u>			ł			
1												
Swelling - (	better indicate	d by lower val	ues) – 1 week po	st-op			<u></u>	<u></u>	Į			
1 Richmond 1991	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	10	SMD 1.48 (2.52 lower to			CRITICAL
Swelling - (	better indicate	d by lower val	ues) – 2 weeks p	ost-op			<u></u>	<u></u>	Į			
1 Richmond 1991	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	10	SMD 2.4 (3.64 lower to			CRITICAL
Swelling - (	better indicate	d by lower val	ues) – 4 weeks p	ost-op		· · · · · · · · · · · · · · · · · · ·						
1 Richmond 1991	randomised trial	very serious	not assessable	not serious	very serious a, b	none	9	10	SMD 0.51 (0.41 lower to 7		⊕⊖⊖⊖ Very low	CRITICAL
Swelling - (	better indicate	d by lower val	ues) – 6 weeks p	ost-op					•			
1 Richmond 1991	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	10	SMD 1.27 (2.27 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Laxity												
1												
Laxity KT-1	000 (better ind	licated by lowe	er values) – 6 wee	ks post-op			L	<u>.</u>				

			Certainty ass	essment			Nº of p	atients	Effec	t		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Long-use CPM	Short-use CPM	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Richmond 1991	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	10	SMD <b>1.03</b> (2.01 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events											
Richmond 1991									None rep	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

a. b.

Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs

C.

### Cryotherapy versus no cryotherapy in rehabilitation after ACLR

Bibliography: Cohn 1989, Daniel 1994, Brandsson 1996, Konrath 1996, Edwards 1996, Barber 1998, Dervin 1998, Ohkoshi 1999, Koyonos 2014

			Certainty asse	ssment			Nº of p	atients	Effe	ect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other consideration s	Cryotherapy	No cryotherapy	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
Pain - M	edication u	se										
9												
Medication	use - medicatio	n use Demer	ol (better indicate	d by lower value	s)							
1 Cohn 1989	randomised trial	very serious	not assessable	not serious	very serious a, b	none	26	28	SMD <b>0.8</b> (1.37 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Medication	use - medicatio	n use Vicodi	n (better indicated	by lower value	5)							
1 Cohn 1989	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	28	SMD 0.20 (0.26 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Barber 1998	randomised trial	very serious	not assessable	not serious	very serious a.c	none	51	49	SDs are not rep patients' averag Vicodin use was than the cold p =0.013) varyin more on day 2 (I more on	e postoperative always greater atients' use (P g from 125% P=0.001) to 5%	⊕⊖⊖⊖ Very low	CRITICAL
Medication	use - medicatio	n use Vistari	il (better indicated	by lower values	)		<u> </u>					
1 Cohn 1989	randomised trial	very serious	not assessable	not serious	very serious a, b	none	26	28	SMD <b>0.8</b> (1.40 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Medication	use - medicatio	n use Meper	idine (better indica	ated by lower va	lues)			,	,		•	
1 Daniel 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	42	SMD <b>0.2</b> (0.37 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Konrath 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27	SDs are not n authors reported significant differ the two	no statistically rence between	⊕⊖⊖⊖ Very low	CRITICAL
Medication	use - medicatio	n use Codeii	ne (better indicate	d by lower value	s)					5 - 1 -		
4 Daniel 1994 Brandsoon 1996 Edwards 1996 Dervin 1998	randomised trials	very serious	very serious I2=91%	not serious	very serious <sup>a, b</sup>	none	102	114	SMD <b>0.8</b> (1.93 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Medication	use - medicatio	n use Morph	ine (better indicat	ed by lower valu	es)			•	•			
3	randomised trials	very serious	very serious I²=94%	not serious	very serious <sup>a, b</sup>	none	86	72	SMD <b>1.0</b> (2.53 lower to		⊕⊖⊖⊖ Very low	CRITICAL
5 Brandsoon 1996 Edwards 1996 Dervin 1998												
Brandsoon 1996 Edwards 1996 Dervin	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27	SDs are not re authors reporter significant differ the two	no statistically rence between	⊕⊖⊖⊖ Very low	CRITICAL
Brandsoon 1996 Edwards 1996 Dervin 1998 Konrath 1996	trial	serious	not assessable codoxe (better ind			none	27	27	authors reported significant differ	no statistically rence between		CRITICAL
Brandsoon 1996 Edwards 1996 Dervin 1998 Konrath 1996	trial	serious				none	27	27	authors reported significant differ	no statistically rence between groups eported. The t no statistically rence between		CRITICAL
Brandsoon 1996 Edwards 1996 Dervin 1998 Konrath 1996 Medication Konrath 1996	trial use - medicatio randomised trial	serious n use Hydroo very serious	codoxe (better ind	icated by lower not serious	values) very serious a.c				authors reported significant differ the two SDs are not n authors reported significant differ	no statistically rence between groups eported. The t no statistically rence between		

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

			Certainty asse	ssment			Nº of p	atients	Eff	ect		1
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other consideration s	Cryotherapy	No cryotherapy	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Ohkoshi 1999	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD <b>0.3</b> (1.36 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Medication	use - medicatio	n use Parace	etamol			,	1	,	,		,	
Konrath 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27	SDs are not r authors reporte significant diffe the two	d no statistically rence between	⊕⊖⊖⊖ Very low	CRITICAL
Medication	use - medicatio	n use Perco	cet			•	•	•	•		•	
Koyonos 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	26	SDs are not r authors repoi medication use surgery an medicatio postoperative d no significant medication us groups during	ted 23% less d on the day of d 26% less n used on ay 1. There was difference in e between the	⊕⊖⊖⊖ Very low	CRITICAL
Pain												
7												
Pain - VAS	scale (better ind	icated by lo	wer values) – 1 ho	ur post-op			-					
1 Brandsoon 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	10	SMD <b>4.</b> 1 (5.49 lower t		⊕⊖⊖⊖ Very low	CRITICAL
Barber 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	51	49	SDs are not r authors reporter significant diffe the two	d no statistically rence between	⊕⊖⊖⊖ Very low	CRITICAL
Koyonos 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	26	SDs are not r authors report pain compare cryothera	ed 22% lower ed to the non-	⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS s	scale (better ind	icated by lo	wer values) – 2 ho	urs post-op								
1 Brandsoon 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	10	SMD <b>4.3</b> (5.78 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Barber 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	51	49	SDs are not r authors reporte significant diffe the two	d no statistically rence between	⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS	scale (better ind	icated by lo	wer values) – 4 ho	urs post-op								
1 Brandsoon 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	10	SMD 3.2 (4.41 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS	scale (better ind	icated by lo	wer values) – 6-8 h	ours post-op								
1 Brandsoon 1996	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	10	SMD 3.4 (4.6 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Barber 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	51	49	SDs are not r authors reporte significant diffe the two	d no statistically rence between	⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS	scale (better ind	icated by lo	wer values) – 12 h	ours post-op								
Koyonos 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27	SDs are not r authors report pain compare cryothera	ed 22% lower ed to the non-	⊕⊖⊖⊖ Very low	CRITICAL
Edwards 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	26	24	SDs are not r authors reporte significant diffe the two	d no statistically rence between	⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS	scale (better ind	icated by lo	wer values) – 1 da	y post-op		•	•	•	•		•	

			Certainty asse	ssment			Nº of p	atients	Ef	fect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other consideration s	Cryotherapy	No cryotherapy	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
3 Brandsoon 1996 Ohkoshi 1999 Dervin 1998	randomised trials	very serious	very serious I²=94%	not serious	very serious <sup>a, b</sup>	none	67	55		24 lower o 0.86 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Edwards 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	26	24	authors reporte significant diffe	reported. The ed no statistically erence between o groups	⊕⊖⊖⊖ Very low	CRITICAL
Koyonos 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	26	authors repor pain compar	reported. The ted 26% lower ed to the non- apy group	⊕⊖⊖⊖ Very low	CRITICAL
Barber 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	51	49	authors reporte significant diffe	reported. The ed no statistically erence between o groups		CRITICAL
Pain - VAS s	scale (better ind	icated by lov	wer values) – 2 dag	ys post-op							,	
2 Brandsoon 1996 Ohkoshi 1999	randomised trials	very serious	very serious I²=96%	not serious	very serious <sup>a, b</sup>	none	27	17		<b>51 lower</b> o 2.59 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Barber 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a. c</sup>	none	51	49	authors reporte significant diffe the two grou patients'averag 25% more postoperative of	reported. The d no statistically prence between ups. Noncold le VAS pain was a in the first lay than the cold is pain (P=.059)	⊕⊖⊖⊖ Very low	CRITICAL
Edwards 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	26	24	authors reporte significant diffe	reported. The ed no statistically erence between o groups		CRITICAL
Koyonos 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	26	authors reported	reported. The ed no significant rence.	⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS s	scale (better ind	icated by lov	wer values) – 3 da	ys post-op		1	1	1	1			
1 Daniel 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	42		<b>24 lower</b> o 0.33 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Barber 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	51	49	authors reported	reported. The ed no significant rence.	⊕⊖⊖⊖ Very low	CRITICAL
Edwards 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	26	24	authors reporte significant diffe	reported. The ed no statistically erence between o groups	⊕⊖⊖⊖ Very low	CRITICAL
Koyonos 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	26	authors reported	reported. The ed no significant rence.	⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS s	scale (better ind	icated by lov	wer values) – 6 da	ys post-op								
Barber 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	51	49	authors reported	reported. The ed no significant rence.	⊕⊖⊖⊖ Very low	CRITICAL
Patient satis	sfaction with the	eir postopera	ative pain relief – 2	days post-op		•	•	•	•			
Brandsoon 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	16/20 (80.0%)	3/10 (30.0%)	<b>RR 2.67</b> (1.01 to 7.05)	<b>501 more per</b> <b>1,000</b> (from 3 more to 1,000 more)	⊕⊖⊖⊖ Very low	CRITICAL
Swelling												
6												
Swelling - ki	nee circumferer	nce – 3 days	s post-op									

			Certainty asse	ssment			Nº of p	atients	Eff	ect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other consideration s	Cryotherapy	No cryotherapy	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Daniel 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	16	42		eported. The d no significant ence.	⊕⊖⊖⊖ Very low	CRITICAL
Swelling - k	nee circumferer	nce – 7 days	post-op			,		,				
Barber 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	51	49		eported. The d no significant ence.	⊕⊖⊖⊖ Very low	CRITICAL
Swelling - k	nee circumferer	nce – 12 day	s post-op				-					
1 Daniel 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	16	42		eported. The d no significant ence.	⊕⊖⊖⊖ Very low	CRITICAL
Swelling - d	rainage volume	(better indic	ated by lower valu	ues)		,						
3 Dervin 1998 Edwards 1996 Ohkoshi 1999	randomised trials	very serious	serious I²=65%	not serious	very serious <sup>a, b</sup>	none	73	69	SMD <b>0.3</b> (0.98 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Konrath 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27			⊕⊖⊖⊖ Very low	CRITICAL
Range of	f motion (R	OM)	1									
5												
ROM - flexic	on – 2-3 days po	ost-op										
Daniel 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	16	42		eported. The d no significant ence.	⊕⊖⊖⊖ Very low	CRITICAL
Konrath 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27	authors reported significant diffe	eported. The d no statistically rence between groups	⊕⊖⊖⊖ Very low	CRITICAL
Edwards 1996	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	26	24	authors reporter significant diffe		⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexio	on (better indica	ted by highe	er values) – 7 days	post-op		,		,				
1 Barber 1998	randomised trial	very serious	not assessable	not serious	serious ª	none	51	49	SMD <b>0.4</b> (0.02 higher to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexio	on (better indica	ted by highe	er values) – 12 day	s post-op								
Daniel 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	16	42		eported. The d no significant ence.	⊕⊖⊖⊖ Very low	CRITICAL
ROM - days	to 120° of flexio	on										
1 Ohkoshi 1999	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD <b>0.9</b> (2.08 lower to	<b>5 lower</b> 0 0.17 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exter	nsion deficit – 3	days post-o	p									
Daniel 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	16	42		eported. The d no significant ence.	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exter	nsion deficit – 12	2 days post-	ор						· · · · · · · · · · · · · · · · · · ·			
Daniel 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	16	42		eported. The d no significant ence.	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exter	nsion deficit – n	umber of pa	tients who failed f	ull extension by	5° – 7 days post-o	p		•	•			

			Certainty asse	ssment			Nº of p	atients	E	ifect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other consideration s	Cryotherapy	No cryotherapy	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Barber 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	27/51 (52.9%)	24/49 (49.0%)	<b>RR 1.08</b> (0.74 to 1.59)	<b>39 more per</b> <b>1,000</b> (from 127 fewer to 289 more)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - exter	nsion deficit – n	umber of pat	tients who failed f	ull extension by	10° – 7 days post	-op						
Barber 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	13/51 (25.5%)	11/49 (22.4%)	<b>RR 1.14</b> (0.56 to 2.29)	<b>31 more per</b> <b>1,000</b> (from 99 fewer to 290 more)	⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events											
Cohn 1989									palsies in the There was a tr nerve palsy i female patit Hot/lce g examinatio following surry was unable to There wer pressure caus being too tight palsy resolved Although ti certain, our su- palsy was ca bag being leff too long a peri case the ice b for nearly 40 r patient was	peroneal nerve Hot/ce patients. ansient peroneal ansient peroneal ant in the non- roup. Upon the morning pery, the patient dorsiflex her foot. en o signs of eed by the brace hor signs of sed by the brace solicion is that the used by the ice on the knee for on the knee for on the knee for on the knee for on the knee for initutes while the in the recovery om.		CRITICAL
Koyonos 2014									None	reported		CRITICAL
Barber 1998									None	reported		CRITICAL
Konrath 1996									None	reported		CRITICAL
Daniel 1994									None	reported		CRITICAL
Brandsoon 1996									None	reported		CRITICAL
Edwards 1996									None	reported		CRITICAL
Dervin 1998									None	reported		CRITICAL
Ohkoshi 1999									None	reported		CRITICAL

CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

a.

b.

Total participants <800 95% C1 of an SMD extends > 0.5 points in either direction Not reporting results or SDs 95% CI boundaries cross the arbitrary thresholds of 0.75 and 1.25 c. d.

#### Compressive cryotherapy versus cryotherapy alone in rehabilitation after ACLR

Bibliography: Schroder 1994, Ruffilli 2015, Kijkunasathian 2017, Waterman 2011, Dambros 2012

			Certainty asses	sment			Nº of p	atients	Effe	ect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Compressive cryotherapy	Cryotherapy	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
Pain - med	ication us	e										
4												
Medication use	- medication	use Bupivaca	aine (better indica	ited by lower va	lues)		•					
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD 0.4 (0.14 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Medication use	- medication	use Tramado	l (better indicated	l by lower value	s)							
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD 0.2 (0.36 lower to			CRITICAL
Ruffilli 2015	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	23	24	The authors statistically difference bet grou	significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Medication use	- medication	use Tilidine (	better indicated b	y lower values)		I	1					1
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD <b>0.6</b> (1.28 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Medication use	- medication	use Pethidine	e (better indicated	l by lower value	s)							Į
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	23	SMD <b>0.4</b> (1.07 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Medication use	- medication	use Piritrami	de (better indicate	ed by lower valu	ies)							1
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD <b>0.7</b> (1.35 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Medication use	- medication	use Morphine	e (better indicated	i by lower value	s)							Į
Kijkunasathian 2017	randomised trial	serious	not assessable	not serious	very serious <sup>a, c</sup>	none	19	19	SDs are not r authors re statistically difference bet grou	ported no significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Medication use	e – number of	patients that	discontinued the	use of all pain r	nedication at 6 we	eks post-op	Į		,			4
1 Waterman 2011	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	15/18 (83.3%)	5/18 (27.8%)	<b>RR 3.00</b> (1.38 to 6.50)	556 more per 1,000 (from 106 more to 1,000 more)	⊕⊖⊖⊖ Very low	CRITICAL
Pain						•	•					
5												
Pain - VAS sca	le (better indi	cated by lowe	r values) – 1 day	post-op			I					
3 Dambros 2012 Ruffilli 2015 Schroder 1994	randomised trials	very serious	not serious I²=0%	not serious	serious a	none	54	56	SMD <b>0.8</b> (1.24 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Kijkunasathian 2017	randomised trial	very serious	not assessable	not serious	very serious a.c	none	19	19	SDs are not r authors re statistically difference bet grou	ported no significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sca	le (better indi	cated by lowe	r values) – 2 days	s post-op								
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	40	42	SMD 0.3 (0.9 lower to		⊕⊖⊖⊖ Very low	CRITICAL

			Certainty asses	sment			Nº of p	atients	Effe	ect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Compressive cryotherapy	Cryotherapy	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Kijkunasathian 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	19	19	SDs are not n authors re statistically difference bet grou	ported no significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sca	le (better indi	cated by lowe	er values) – 3 days	s post-op								
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD 0.3 (0.95 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sca	le (better indi	cated by lowe	r values) – 1 wee	k post-op								
2 Schroder 1994 Waterman 2011	randomised trials	very serious	very serious I <sup>2</sup> =81%	not serious	very serious <sup>a, b</sup>	none	39	41	SMD 0.2 (1.26 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sca	le (better indi	cated by lowe	er values) – 2 wee	ks post-op								
2 Schroder 1994 Waterman 2011	randomised trials	very serious	not serious I²=0%	not serious	serious <sup>a</sup>	none	39	41	SMD 0.1 (0.55 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sca	le (better indi	cated by lowe	er values) – 4-6 we	eks post-op								
2 Schroder 1994 Waterman 2011	randomised trials	very serious	not serious I2=3%	not serious	serious ª	none	39	41	SMD <b>0.3</b> (0.76 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Range of n	notion (RC	DM)				,	ł					ł
4	··· 、 ·	,										
ROM - flexion (	better indicat	ed by higher	l values) – 1-2 days	post-op		ļ	I		Į			I
4 Dambros 2012 Kijkunasathian 2017 Ruffilli 2015 Schroder 1994	randomised trials	very serious	very serious I <sup>2</sup> =84%	not serious	very serious a.b	none	73	75	SMD 0.59 (0.28 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM – flexion	(better indicat	ed by higher	values) – 1 week	post-op			Į		μ			<u>.</u>
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	23	SMD 1.36 (0.7 higher to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexion (	better indicat	ed by higher	values) – 2 weeks	post-op		•	•					•
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	23	SMD 0.76 (0.14 higher to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexion (	better indicat	ed by higher	values) – 1 month	post-op								
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	23	SMD 0.96 (0.33 higher to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - extensio	on deficit (beti	ter indicated I	by lower values) -	1-2 days post-	op							
2 Dambros 2012 Schroder 1994	randomised trials	very serious	not serious I²=0%	not serious	serious ª	none	31	32	SMD 0.10 (0.39 lower to	<b>) higher</b> 0.60 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - extensio	on deficit (bet	er indicated I	by lower values) -	3 days post-op			•					•
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	23	SMD 0.2 (0.79 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - extensio	on deficit (bet	ter indicated I	by lower values) -	6 days post-op								
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD 0.2 (0.87 lower to		⊕⊖⊖⊖ Very low	CRITICAL

1							Nº of p					
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Compressive cryotherapy	Cryotherapy	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
ROM - extensio	on deficit (bet	ter indicated	by lower values) -	2 weeks post-c	op							
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD <b>0.4</b> (1.01 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - extensio	on deficit (bet	ter indicated	by lower values) -	1 month post-c	op		•					•
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD <b>1.0</b> (1.73 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM – patients	s with limited	extension – 2	days post-op				•					•
1 Kijkunasathian 2017	randomised trial	serious	not assessable	not serious	very serious <sup>a, d</sup>	none	4/19 (21.0%)	6/19 (31.0%)	<b>RR 0.68</b> (0.42 to 1.09)	<b>99 fewer</b> <b>per 1,000</b> (from 180 fewer to 28 more)	⊕⊖⊖⊖ Very low	CRITICAL
Swelling	•		•			•	•					
4												
Swelling - knee	e circumferen	ce (better ind	icated by lower va	lues) – 1 day po	ost-op							
2 Ruffilli 2015 Schroder 1994	randomised trials	very serious	serious I²=54%	not serious	very serious <sup>a, b</sup>	none	44	47	SMD 0.2 (0.89 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Swelling - knee	e circumferen	ce (better ind	icated by lower va	lues) – 2 days p	oost-op							
2 Kijkunasathian 2017 Schroder 1994	randomised trials	very serious	serious I²=50%	not serious	very serious <sup>a, b</sup>	none	40	42	SMD <b>0.2</b> (0.41 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Swelling - knee	e circumferen	ce (better ind	icated by lower va	lues) – 3 days p	oost-op	,	ł					1
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	23	SMD 0.1 (0.78 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Swelling - knee	e circumferen	ce (better ind	icated by lower va	lues) – 1 week	post-op							
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD 0.5 (1.18 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Waterman 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a. c</sup>	none	18	18	SDs are not r authors re statistically difference bet grou	ported no significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Swelling - kner	e circumferen	ce (better ind	icated by lower va	lues) – 2 weeks	s post-op	L	L					1
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	23	SMD <b>0.</b> (0.9 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Waterman 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	18	18	SDs are not r authors re statistically difference bet grou	ported no significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Swelling - kner	e circumferen	ce (better ind	icated by lower va	lues) – 4-6 wee	ks post-op							•
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	23	SMD 0.3 (0.94 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Waterman 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	18	18	SDs are not r authors re statistically difference bet grou	ported no significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Swelling - drai	nage volume (	better indicat	ted by lower value	s)			•					•
2 Ruffilli 2015 Schroder 1994	randomised trials	very serious	very serious I <sup>2</sup> =81%	not serious	very serious <sup>a, b</sup>	none	44	47	SMD 0.6 (1.66 lower to		⊕⊖⊖⊖ Very low	CRITICAL

			Certainty asses	sment			Nº of p	atients	Effe	ect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Compressive cryotherapy	Cryotherapy	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
3												
PROM - SF-36	score (better i	ndicated by h	igher values) – 1	week post-op								
1 Waterman 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	18	SMD 0.09 (0.56 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lyshol	m score (bett	er indicated b	y higher values)	- 1 week post-o	p							•
1 Waterman 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	18	SMD 0.5 (1.2 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-36	score (better i	ndicated by h	igher values) – 2	weeks post-op								•
1 Waterman 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	18	SMD 0.0 (0.67 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lyshol	m score (bett	er indicated b	y higher values)	- 2 weeks post-	ор							
1 Waterman 2011	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	18	SMD 0.0 (0.74 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-36	score (better i	ndicated by h	igher values) – 6	weeks post-op					·			
1 Waterman 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	18	SMD 0.1 (0.56 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lyshol	m score (bett	er indicated b	y higher values)	- 6 weeks post-	ор					,		ł
1 Waterman 2011	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	18	SMD 0.1 (0.75 lower to			CRITICAL
PROM - Patient	t satisfaction	– 2 days post	-op						Ι	Į		Į
Kijkunasathian	randomised	very	not assessable	not serious	serious a	none	7/19	19/19	RR 0.38	620 fewer	0000	CRITICAL
2017	trial	serious					(36.8%)	(100%)	(0.22 to 0.68)	per 1,000 (from 780 fewer to 320 fewer)	Very ow	
Ruffili 2015	randomised trial	very serious	not assessable	not serious	serious =	none	23	24	The subjectiv of the Hild generally pc patients (39 % the devi comfortable, rated the d comfortable, (4 %) patient about the lac Five patients Hildtherm ve cases (57 %) opinions satisfying"), 1 patients were dissatisfied, a patients were	herm was sistive. Nine 6) considered ce very 4,13 (67 %) avice quite and only one complained k of comfort. (22 %) found ry useful, 13 had positive ("quite three (13 %) ere quite nd two (9 %) e completely	⊕⊖⊖⊖ Very low	CRITICAL
Atrophy												
2 Atrophy - thiah	- 10cm provi	mal to superi	or patellar pole ci	rcumference (br	atter indicated by	lower values) – 1 d	av post-on					
1	randomised	very	not assessable	not serious	very serious a, b	none	23	24	SMD 0.2	1 lower	000	IMPORTANT
Ruffilli 2015	trial	serious			,				(0.78 lower to		Very low	
Atrophy - calf -	girth differen	ce - at maxim	um girth of calf (I	better indicated	by higher values)	– 2 days post-op						
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD 0.9 (0.36 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Atrophy - calf -	girth differen	ce - at maxim	um girth of calf (I	better indicated	by higher values)	– 3 days post-op						
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD 1.09 (0.41 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
A.L.,	airth differen	ce - at maxim	um girth of calf (I	etter indicated	by higher values)	- 6 days post-op						1

			Certainty asses	sment			Nº of p	atients	Effe	ect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Compressive cryotherapy	Cryotherapy	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD 0.53 (0.07 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Atrophy - calf -	girth differen	ice - at maxim	um girth of calf (I	etter indicated	by higher values)	– 2 weeks post-op	ſ					
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD 0.66 (0.05 higher to	<b>6 higher</b> o 1.27 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Atrophy - calf -	girth differen	ice - at maxim	um girth of calf (I	etter indicated	by higher values)	– 4 weeks post-op						
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious a.b	none	21	23	SMD 0.97 (0.34 higher t		⊕⊖⊖⊖ Very low	IMPORTANT
Strength			ļ									1
1												
Strength - Qua	driceps CON	60°/s (better i	ndicated by highe	r values) – 3 m	onths post-op							
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD 0.0 (0.69 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Ham	string CON 6	0°/s (better in	dicated by higher	values) – 3 mo	nths post-op			-	,			ł
1 Schroder 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	23	SMD 0.0 (0.66 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	activities	,	ι			•		<u></u>				ł
1												
Number of pati	ients able to p	erform active	quads contractio	n for 5 sec and	repeat 3 times – 2	2 days post-op						
1 Kijkunasathian 2017	randomised trial	serious	not assessable	not serious	serious ª	none	8/19 (45.0%)	18/19 (95.0%)	<b>RR 0.47</b> (0.38 to 0.59)	<b>503 fewer</b> <b>per 1,000</b> (from 589 fewer to 390 fewer)		IMPORTANT
Number of pati	ents able to p	erform active	straight leg test a	and hold for 5 s	ec – 2 days post-c	р						
1 Kijkunasathian 2017	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	6/19 (30.0%)	10/19 (55.0%)	OR 0.35 (0.20 to 0.63)	250 fewer per 1,000 (from 354 fewer to 115 fewer)		IMPORTANT
Adverse ev	vents					-						
Schroder 1994									None re	eported		CRITICAL
Waterman 2011									None re	eported		CRITICAL
Dambros 2012									None re	eported		CRITICAL
Ruffilli 2015									None re	eported		CRITICAL
Kijkunasathian 2017									None re	eported		CRITICAL

CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

а.

b.

Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs 95% Cl boundaries cross the arbitrary thresholds of 0.75 and 1.25 c. d.

#### Neuromuscular electrical Stimulation (NMES) versus no NMES in rehabilitation after ACLR

Bibliography: Sisk 1987, Delitto 1988, Wigerstad-Lossing 1988, Snyder-Mackler 1991, Snyder-Mackler 1995, Lieber 1996, Paternostro-Sluga 1999, Fitzgerald 2003, Hasegawa 2011, Feil 2011, Ediz 2012, Taradaj 2013, Wright 2019, Toth 2020

			Certainty asses	sment			Nºofp	atients	Effect			
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	NMES	no NMES	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Strength	- quadricep	s										
13												
Strength - Qu	uadriceps ISOM	30-90° (better	indicated by high	ner values) – 4-7	weeks post-op							
5 Delitto 1988 Wigerstad- Lossing 1988 Hasegawa 2011 Sisk 1987 Paternostro- Sluga 1999	randomised trials	very serious	serious I²≃51%	not serious	very serious <sup>a, b</sup>	none	59	56	SMD <b>0.67 hig</b> (0.11 higher to 1.2		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Qu	uadriceps ISOM	45-90° (better	indicated by high	ner values) – 2-3	8 months post-op			•				•
5 Fitzgerald 2003 Hasegawa 2011 Lieber 1996 Paternostro- Sluga 1999 Sisk 1987	randomised trials	very serious	not serious I2=0%	not serious	serious <sup>a</sup>	none	78	80	SMD <b>0.25 hig</b> (0.06 lower to 0.50		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Qu	uadriceps ISOM	45-90° (better	indicated by high	ner values) – >6	months post-op							
3 Lieber 1996 Paternostro- Sluga 1999 Toth 2020	randomised trials	very serious	not serious I²=0%	not serious	serious <sup>a</sup>	none	45	44	SMD <b>0.03 hig</b> (0.38 lower to 0.4		⊕⊖⊖⊖ Very low	CRITICAL
Taradaj 2013	randomised trial	not serious	not assessable	not serious	very serious <sup>a, c</sup>	none	40	40	No SDs are reported reported a significant in favour of the inte (p=0.002)	t difference ervention		CRITICAL
Strength - Qu	uadriceps CON 6	0-90°/s (bette	r indicated by hig	jher values) – 1	2 months post-op	)						
4 Feil 2011 Hasegawa 2011 Paternostro- Sluga 1999 Snyder- Mackler 1991	randomised trials	serious	not serious I2=35%	not serious	serious <sup>a</sup>	none	64	66	SMD <b>0.51 hig</b> (0.03 higher to 1		⊕⊕⊖O Low	CRITICAL
Snyder- Mackler 1995	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	31	34	No SDs are reporter reported at least 70° of the quadriceps by after the operation addition of high-in neuromuscular e stimulation	% recovery six weeks with the ntensity lectrical	⊕⊖⊖⊖ Very low	CRITICAL
Strength - Qu	uadriceps CON 1	80-210°/s (be	tter indicated by	higher values) -	2 months post-o	р						
2 Feil 2011 Snyder- Mackler 1991	randomised trials	serious	serious I <sup>2</sup> =73%	not serious	very serious <sup>a, b</sup>	none	38	39	SMD <b>1.50 hig</b> (0.41 higher to 3.4		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Qu	uadriceps CON 6	0°/s (better in	dicated by highe	r values) – 3 mo	onths post-op							
3 Feil 2011 Hasegawa 2011 Paternostro- Sluga 1999	randomised trials	serious	not serious I <sup>2</sup> =0%	not serious	serious a	none	59	61	SMD <b>0.5 hig</b> (0.14 higher to 0.8		⊕⊕⊖⊖ <sub>Low</sub>	CRITICAL
Strength - Qu	uadriceps CON 1	80°/s (better i	indicated by high	er values) – 3 m	onths post-op							

			Certainty asses	sment			Nº of p	atients	Effect			
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	NMES	no NMES	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
1 Feil 2011	randomised trial	serious	not assessable	not serious	serious ª	none	33	34	SMD <b>0.78 hi</b> (0.29 higher to 1.3		⊕⊕⊖⊖ <sub>Low</sub>	CRITICAL
Strength - Qu	uadriceps CON 6	60°/s (better in	dicated by highe	r values) – >6 m	onths post-op							
3 Feil 2011 Paternostro- Sluga 1999 Toth 2020	randomised trials	very serious	not serious I²=0%	not serious	serious a	none	58	58	SMD <b>0.48 hi</b> (0.11 higher to 0.4		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Qu	uadriceps CON 1	180°/s (better i	indicated by high	er values) – 6 m	onths post-op			•	•			
2 Feil 2011 Toth 2020	randomised trials	very serious	not serious I²=31%	not serious	very serious <sup>a, b</sup>	none	42	41	SMD <b>0.62 hi</b> (0.01 higher to 1.3		⊕⊖⊖⊖ Very low	CRITICAL
Strength	- hamstring											
3												
Strength - Ha	amstring ISOM (b	better indicate	d by higher value	es) – 6 weeks po	ost-op							
1 Delitto 1988	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD <b>2.79 hi</b> (1.49 higher to 4.		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ha	amstring CON (b	etter indicate	d by higher value	s) – 6-8 weeks p	ost-op							
2 Paternostro- Sluga 1999 Snyder- Mackler 1991	randomised trials	serious	not serious I²=0%	not serious	very serious <sup>a, b</sup>	none	21	22	SMD <b>0.32 hi</b> (0.28 lower to 0.5		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ha	amstring CON (b	etter indicate	d by higher value	s) – 3 months p	ost-op							
1 Paternostro- Sluga 1999	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	17	SMD <b>0.05 hi</b> (0.63 lower to 0.7		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ha	amstring CON (b	etter indicate	d by higher value	s) – 1 year post-	ор			•				
1 Paternostro- Sluga 1999	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	17	SMD <b>0.04 ld</b> (0.73 lower to 0.6		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy									•			
6												
Atrophy - Qu	adriceps cross	sectional area	(better indicated	by higher value	es) – 3-6 weeks po	st-op						
2 Toth 2020 Wigerstad- Lossing 1988	randomised trials	very serious	serious I²=75%	not serious	very serious <sup>a, b</sup>	none	22	17	SMD <b>0.19 hi</b> (1.14 lower to 1.5		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Qu	adriceps cross	sectional area	(better indicated	by higher value	es) – 6 months po	st-op						
1 Toth 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	7	SMD <b>0.43 lo</b> (1.43 lower to 0.5		⊕⊖⊖⊖ Very low	CRITICAL
	-	e difference b	etween limbs (be	tter indicated b		2 months post-op			1			
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD 0.47 lo (1.25 lower to 0.3		⊕⊖⊖⊖ Very low	CRITICAL
	-	1				3 months post-op		1				
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD 0.22 lo (0.99 lower to 0.5		⊕⊖⊖⊖ Very low	CRITICAL
	-	1				5-6 months post-o			0.12.4.4			001710.41
2 Wright 2019 Ediz 2012	randomised trials	very serious	very serious I2=94%	not serious	very serious <sup>a, b</sup>	none	27	24	SMD <b>1.20 hi</b> (1.51 lower to 3.9		⊕⊖⊖⊖ Very low	CRITICAL
Taradaj 2013	randomised trial	not serious	not assessable	not serious	very serious <sup>a, c</sup>	none	40	40	No SDs are reported reported a significan in favour of the in (p=0.04)	nt difference tervention		CRITICAL
Atrophy - rec	tus femoris thic	kness (mm) u	sing ultrasound (	better indicated	by higher values	) – 4 weeks post-o	р		ł			

			Certainty asses	sment			Nºofp	patients	Effect			
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	NMES	no NMES	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
1 Hasegawa 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD <b>0.69 h</b> (0.22 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - rec	tus femoris thic	kness (mm) u	sing ultrasound (	better indicated	l by higher values	) – 3 months post-	ор					
1 Hasegawa 2011	randomised trial	serious	not assessable	not serious	very serious a, b	none	10	10	SMD <b>0.54 h</b> (0.36 lower to 1.		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - vas	tus lateralis thio	ckness (mm) u	using ultrasound	(better indicate	d by higher values	s) – 4 weeks post-	op					
1 Hasegawa 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD <b>0.41 h</b> (0.48 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - vas	tus lateralis thio	ckness (mm) u	using ultrasound	(better indicate	d by higher values	s) – 3 months post	-op					
1 Hasegawa 2011	randomised trial	serious	not assessable	not serious	very serious a, b	none	10	10	SMD <b>0.34 h</b> (0.55 lower to 1.3		⊕⊖⊖⊖ Very low	CRITICAL
Pain								•				
2												
Pain – VAS s	core (better indi	cated by lowe	er values) – 2 mor	ths post-op				1				
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD <b>0.7</b> 9 k (1.59 lower to 0.		⊕⊖⊖⊖ Very low	CRITICAL
Pain – VAS s	core (better indi	cated by lowe	er values) – 3 mor	ths post-op		,		,				•
2 Ediz 2012 Fitzgerald 2003	randomised trials	very serious	very serious I2=80%	not serious	very serious <sup>a, b</sup>	none	34	35	SMD <b>0.36</b> I (1.49 lower to 0.		⊕⊖⊖⊖ Very low	CRITICAL
Pain – VAS s	core (better indi	cated by lowe	er values) – 6 mor	ths post-op								
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD <b>0.08 h</b> (0.69 lower to 0.4		⊕⊖⊖⊖ Very low	CRITICAL
Range of	motion (RO	)M)										
2												
ROM - knee f	lexion (better in	dicated by hig	her values) – 6 m	nonths post-op	•	,		,				1
1 Toth 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	8	SMD <b>0</b> (0.93 lower to 0.4		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee e	extension deficit	(better indica	ted by lower valu	ies) – 2 months	post-op	,		,				•
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious a, b	none	13	13	SMD <b>0.32 I</b> (1.09 lower to 0.		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee e	extension deficit	(better indica	ted by lower valu	ies) – 3 months	post-op							1
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD <b>0.41 I</b> (1.19 lower to 0.3		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee e	extension (better	r indicated by	lower values) – 6	months post-o	p	r	r	T				I
2 Toth 2020 Ediz 2012	randomised trials	very serious	not serious I <sup>2</sup> =0%	not serious	very serious <sup>a, b</sup>	none	23	21	SMD <b>0.27</b> I (0.87 lower to 0.3		⊕⊖⊖⊖ Very low	IMPORTANT
Patient re	ported outo	come mea	sures (PRON	A)		•	,	•				•
5												
PROM - Lysh	olm scale (bette	er indicated by	/ higher values) –	3 months post-	ор							•
1 Feil 2011	randomised trial	very serious	not assessable	not serious	serious ª	none	33	34	SMD <b>0.19 h</b> (0.29 lower to 0.1		⊕⊖⊖⊖ Very low	CRITICAL
PROM - IKDC	scale (better in	dicated by hig	gher values) – 3 n	nonths post-op			·					
1 Ediz 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	13	13	SMD <b>0.66 h</b> (0.14 lower to 1.4		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Activ	rity of daily living	g (better indic	ated by higher va	alues) – 4 month	ns post-op							·

			Certainty asses	sment			Nº of p	atients	Effect	t		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	NMES	no NMES	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Fitzgerald 2003	randomised trial	very serious	not assessable	not serious	very serious a, b	none	21	22	SMD <b>0.64</b> h (0.03 higher to 1			CRITICAL
PROM - Lys	holm scale (bette	er indicated by	y higher values) –	6 months post-	ор							
2 Feil 2011 Hasegawa 2011	randomised trials	very serious	not serious I2=0%	not serious	serious ª	none	43	44	SMD <b>0.24 h</b> (0.18 lower to 0.		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KOO	OS Symptoms (b	etter indicated	d by higher values	s) – 6 months po	ost-op	•		•	•			•
1 Toth 2020	randomised trial	very serious	not assessable	not serious	very serious a, b	none	10	8	SMD <b>0.17 I</b> (1.11 lower to 0.		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KOO	OS stiffness (bett	er indicated b	y higher values)	- 6 months pos	t-op				•			
1 Toth 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	8	SMD <b>0.31 h</b> (0.62 lower to 1.		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KOO	OS pain (better in	dicated by hi	gher values) – 6 r	nonths post-op				-				
1 Toth 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	8	SMD <b>0.39 I</b> (1.33 lower to 0.		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KOO	OS function spor	ts (better indi	cated by higher v	alues) – 6 mont	hs post-op							
1 Toth 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	8	SMD <b>0.75 I</b> (1.72 lower to 0.		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KOO	OS ADL (better in	dicated by hi	gher values) – 6 n	nonths post-op								
1 Toth 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	8	SMD <b>0.16 h</b> (0.78 lower to 1.		⊕⊖⊖⊖ Very low	CRITICAL
PROM - IKD	C scale (better in	dicated by hi	gher values) – 6 n	nonths post-op								
1 Toth 2020	randomised trial	very serious	not assessable	not serious	very serious a, b	none	10	8	SMD <b>0.24 I</b> (1.17 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Teg	ner (better indica	ited by higher	values) – 6 mont	hs post-op								
1 Feil 2011	randomised trial	very serious	not assessable	not serious	serious a	none	33	34	SMD 0.78 h (0.28 higher to 1		⊕⊖⊖⊖ Very low	CRITICAL
Laxity			-									
2												
Laxity – laxi	ty difference bet	ween limbs –	2 months post-op	I						•		
Snyder- Mackler 1991	randomised trial	serious	not assessable	not serious	very serious <sup>a, c</sup>	none	5	5	The authors re statistically significated between the two	ant difference	⊕⊖⊖⊖ Very low	CRITICAL
Laxity – laxi	ty difference bet	ween limbs (b	etter indicated by	lower values) -	- 3 months post-o	p			ł			ł
1 Feil 2011	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	33	34	SMD 0.04 I (0.51 lower to 0.			CRITICAL
Laxity – laxi	ty difference bet	ween limbs (b	etter indicated by	lower values) -	- 6 months post-o	p						
1 Feil 2011	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	33	34	SMD 0.04 I (0.52 lower to 0.			CRITICAL
Swelling												
1												
Swelling - di	ifference betwee	n limbs (bette	r indicated by low	ver values) – 2 n	nonths post-op	,		,	L			
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD <b>1.93</b> I (2.89 lower to 0.		⊕⊖⊖⊖ Very low	IMPORTANT
Swelling - di	ifference betwee	n limbs (bette	r indicated by low	ver values) – 3 n	nonths post-op			·				- 
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious a, b	none	13	13	SMD <b>0.68 I</b> (1.48 lower to 0.		⊕⊖⊖⊖ Very low	IMPORTANT
Swelling - di	ifference betwee	n limbs (bette	r indicated by low	ver values) – 6 n	nonths post-op							
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious a, b	none	13	13	SMD <b>0.61 I</b> (1.40 lower to 0.		⊕⊖⊖⊖ Very low	IMPORTANT

68

			Certainty asses	sment			Nºofp	atients	Ef	fect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	NMES	no NMES	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Function	al activities											
4												
Functional -	stance time duri	ng gait (bette	r indicated by hig	her values) – 2 i	nonths post-op							
1 Snyder- Mackler 1991	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5		<b>59 higher</b> to 5.96 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	cadence gait (be	tter indicated	by higher values	) – 2 months po	st-op							•
1 Snyder- Mackler 1991	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5		22 higher to 5.42 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	walking velocity	(better indica	Ited by higher val	ues) – 2 months	post-op							
1 Snyder- Mackler 1991	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5		<b>91 higher</b> to 7.94 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	shuttle run (time	to cover 6.3n	n) (better indicate	d by lower valu	es) – 3 months po	ost-op						
1 Feil 2011	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	33	34		52 lower to 0.03 lower)	⊕⊕⊖⊖ Low	IMPORTANT
Functional -	single leg hop fo	or distance (be	etter indicated by	higher values)	- 3 months post-c	р		-				
1 Feil 2011	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	33	34		67 higher to 1.17 higher)	⊕⊕⊖⊖ Low	IMPORTANT
Functional -	shuttle run (time	to cover 6.3n	n) (better indicate	d by lower valu	es) – 6 months po	ost-op						
1 Feil 2011	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	33	34		<b>43 lower</b> o 0.06 higher)	⊕⊕⊖⊖ Low	IMPORTANT
Functional -	single leg hop fo	or distance (be	etter indicated by	higher values)	- 6 months post-c	р						
2 Feil 2011 Toth 2020	randomised trials	very serious	very serious I²=82%	not serious	very serious <sup>a, b</sup>	none	43	42		0 <b>1 higher</b> o 1.27 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	patients with am	bulation with	out crutches 4w					•				•
1 Fitzgerald 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	20/21 (95.2%)	18/22 (81.8%)	<b>RR 1.16</b> (0.94 to 1.45)	<b>131 more per</b> <b>1,000</b> (from 49 fewer to 368 more)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	patients with am	bulation with	out crutches 8w									•
1 Fitzgerald 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	21/21 (100.0%)	20/22 (90.9%)	<b>RR 1.10</b> (0.94 to 1.28)	<b>91 more per</b> <b>1,000</b> (from 55 fewer to 255 more)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional –	number of subje	ects achieving	progression to t	readmill runnin	g at 3 months pos	st-op						•
1 Fitzgerald 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	13/21 (61.9%)	10/22 (45.5%)	<b>RR 1.36</b> (0.77 to 2.40)	<b>164 more per</b> <b>1,000</b> (from 105 fewer to 636 more)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	number of subje	cts achieving	progression to tr	eadmill running	at 4 months pos	t-op						
1 Fitzgerald 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	18/21 (85.7%)	15/22 (68.2%)	<b>RR 1.26</b> (0.90 to 1.76)	<b>177 more per</b> <b>1,000</b> (from 68 fewer to 518 more)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	number of subje	cts achieving	progression to a	gility training at	4 months post-o	p						
1 Fitzgerald 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	13/21 (61.9%)	7/22 (31.8%)	<b>RR 1.95</b> (0.97 to 3.91)	<b>302 more per</b> <b>1,000</b> (from 10 fewer to 926 more)	⊕⊖⊖⊖ Very low	IMPORTANT
Activity	level											
		r score 0-3 6m				,		,	· · · · · · · · · · · · · · · · · · ·			

			Certainty asses	sment			Nº of pa	atients	Ef	fect			
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	NMES	no NMES	Relative (95% Cl)	Abso (95%		Certainty	Importance
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious <sup>a, d</sup>	none	2/13 (15.4%)	2/13 (15.4%)	<b>RR 1.00</b> (0.16 to 6.07)	0 fewer p 1,000 (from 129 fe to 780 mo	ewer	⊕⊖⊖⊖ Very low	CRITICAL
Tegner - pati	ents with Tegner	r score 4-6 6n	n			,	,						
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious <sup>a, d</sup>	none	9/13 (69.2%)	8/13 (61.5%)	<b>RR 1.13</b> (0.64 to 1.97)	80 more   1,000 (from 222 fo to 597 mo	ewer	⊕⊖⊖⊖ Very low	CRITICAL
Tegner - pati	ents with Tegner	r score 7-10 6	m										
1 Ediz 2012	randomised trial	serious	not assessable	not serious	very serious <sup>a, d</sup>	none	2/13 (15.4%)	3/13 (23.1%)	<b>RR 0.67</b> (0.13 to 3.35)	76 fewer 1,000 (from 201 fe to 542 mo	ewer	⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events		•						•				
Sisk 1987									None	reported			CRITICAL
Delitto 1988									None	reported			CRITICAL
Wigerstad- Lossing 1988									None	reported			CRITICAL
Snyder- Mackler 1991									None i	reported			CRITICAL
Lieber 1996									None	reported			CRITICAL
Paternostro- Sluga 1999									None	reported			CRITICAL
Fitzgerald 2003									None I	reported			CRITICAL
Hasegawa 2011									None	reported			CRITICAL
Feil 2011									None	reported			CRITICAL
Ediz 2012									None	reported			CRITICAL
Taradaj 2013									None	reported			CRITICAL
Wright 2019									None	reported			CRITICAL
Toth 2020									None	reported			CRITICAL

CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

a. b.

Total participants <800 95% C1 of an SMD extends > 0.5 points in either direction Not reporting results or SDs 95% C1 boundaries cross the arbitrary thresholds of 0.75 and 1.25 c. d.

## Functional NMES versus no functional NMES in rehabilitation after ACLR

Bibliography: Ross 2000, Labanca 2018, Moran 2019

			Certainty assess	sment			Nº of	patients	Ef	fect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Functional NMES	No functional NMES	Relative (95% CI)	Absolute (95% Cl)	Certainty	Importance
Strength												
2												
Strength - Quad	Iriceps ISOM I	LSI% (better i	ndicated by highe	er values) – 1 m	onth post-op	I					, ,	
1 Moran 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	13		<b>54 higher</b> to 2.50 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - Quad	Iriceps ISOM I	LSI% (better i	ndicated by highe	er values) – 2 m	onths post-op	1					, ,	
1 Labanca 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	17		<b>80 higher</b> to 2.06 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - Quad	Iriceps ISOM I	LSI% (better i	ndicated by highe	er values) – 6 m	onths post-op							
1 Labanca 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	17		85 higher to 1.56 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - Hams	string ISOM L	SI% (better in	dicated by higher	values) – 2 mo	nths post-op							
1 Labanca 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	17		98 higher 0.77 higher)		CRITICAL
Strength - Hams	string ISOM L	SI% (better in	dicated by higher	values) – 6 mo	nths post-op							
1 Labanca 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	17		ID <b>0</b> o 0.69 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Function	al activit	ies										
3												
Functional - gai	t speed (meas	sured using th	ne 10-m walk test	) at a self-select	ed speed (better	indicated by highe	er values) – 1 m	onth post-op				
1 Moran 2019	randomised trial	very serious	not assessable	not serious	very serious a, b	none	10	13		<b>5 higher</b> o 1.5 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	IMPORTANT
Functional - gai	t stance perce	entage of gait	cycle (better indi	cated by higher	r values) – 1 mon	th post-op						
1 Moran 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	13		<b>'8 higher</b> o 1.64 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional – pe	ak knee flexio	n during unil	ateral squat (bett	er indicated by I	higher values) –	6 weeks post-op						
1 Ross 2000	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10		9 <b>4 higher</b> o 1.23 higher)		IMPORTANT
Functional - nur	mber of repeti	tions perform	ed in a 15-s time	frame on a 0.10	-m step during a	lateral step-up tes	st (better indicat	ed by higher value	s) – 6 weeks po	st-op		
1 Ross 2000	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10		<b>52 higher</b> o 1.52 higher)		IMPORTANT
Functional - pea	ak vertical for	ces during sit	-to-stand LSI% (b	etter indicated	by higher values	) – 2 months post-	ор				T	
1 Labanca 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	17		higher to 1.73 higher)		IMPORTANT
Functional - pea	ak vertical for	ces during sit	-to-stand LSI% (b	etter indicated	by higher values	) – 6 months post-	ор				T	
1 Labanca 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	17		<b>2 higher</b> to 1.64 higher)		IMPORTANT
Laxity												
1												
Laxity - absolut	e displacemer	nt using KT-1	000 joint arthrom	eter in mm – (be	etter indicated by	v lower values) – 6	weeks post-op					
1 Ross 2000	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10		<b>06 lower</b> o 0.82 higher)		CRITICAL
Pain												
Pain - Percenta	ge of patients	reporting pai	n more than 4/10	with maximum	voluntary isome	tric contraction of	quads at 30° – 2	2 months post-op				

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

			Certainty assess	sment			Nº of	patients	E	ffect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Functional NMES	No functional NMES	Relative (95% CI)	Absolute (95% Cl)	Certainty	Importance
1 Labanca 2018	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	18/100 (18.0%)	32/100 (32.0%)	<b>RR 0.56</b> (0.34 to 0.93)	141 fewer per 1,000 (from 211 fewer to 22 fewer)		CRITICAL
Pain - Percenta	ge of patients	reporting pai	n more than 4/10	with maximum	voluntary isomet	ric contraction of	quads at 90° – 2	2 months post-op		,		
1 Labanca 2018	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	35/100 (35.0%)	53/100 (53.0%)	<b>RR 0.66</b> (0.48 to 0.91)	<b>180 fewer per</b> <b>1,000</b> (from 276 fewer to 48 fewer)	⊕⊖⊖⊖ Very low	CRITICAL
Pain - Percenta	ge of patients	reporting pai	n more than 4/10	with maximum	voluntary isomet	ric contraction of	quads at 30° – (	6 months post-op		,		
1 Labanca 2018	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	0/100 (0.0%)	18/100 (18.0%)	<b>RR 0.03</b> (0.00 to 0.44)	<b>175 fewer per</b> <b>1,000</b> (from 180 fewer to 101 fewer)	⊕⊖⊖⊖ Very low	CRITICAL
Pain - Percenta	ge of patients	reporting pai	n more than 4/10	with maximum	voluntary isomet	ric contraction of	quads at 90° – (	6 months post-op				
1 Labanca 2018	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	0/100 (0.0%)	17/100 (17.0%)	<b>RR 0.03</b> (0.00 to 0.47)	<b>165 fewer per</b> <b>1,000</b> (from 170 fewer to 90 fewer)	⊕⊖⊖⊖ Very low	CRITICAL
Atrophy							<u>.</u>					
1												
Atrophy – mid-t	high circumfe	rence differe	nce between limb	s (better indicat	ted by lower valu	es) – 2 months po	st-op					
1 Labanca 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	17		0.3 lower to 0.38 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Atrophy - mid-th	nigh circumfe	rence differer	nce between limbs	s (better indicat	ed by lower value	es) – 6 months po	st-op	,				
1 Labanca 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	17		0.4 lower to 0.29 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Balance												
1												
Balance - Anter	ior reach test	(cm) (better i	ndicated by highe	er values) – 6 we	eeks post-op						, ,	
1 Ross 2000	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10		1.07 higher to 0.95 higher)	⊕⊖⊖⊖ <sub>Very low</sub>	IMPORTANT
Adverse ev	ents											
Ross 2000									None	e reported		CRITICAL
Labanca 2018									None	e reported		CRITICAL
Moran 2019									50%), with additional sur repair.No othe	p-out rate (almost a most needing rgery for meniscal er adverse effects ioted.		CRITICAL

CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

a.

b.

Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs 95% Cl boundaries cross the arbitrary thresholds of 0.75 and 1.25 c. d.

# Electromyographic Biofeedback (EMG-BFB) versus no EMG-BFB in rehabilitation after ACLR

Bibliography: Draper 1990, Christanell 2012

			Certainty ass	essment			Nº of p	atients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Biofeedback	No biofeedback	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Strength	1											
1												
Strength - Q	uadriceps CC	N 45, 60, 90°/s	s – 3 months pos	t-op	I				I			I
1 Draper 1990	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	11	11	SDs are not re authors repor improved stre interventio	t significant ength in the	⊕⊖⊖⊖ Very low	CRITICAL
Range of	f motion (I	ROM)		<u></u>	ł				ł			ł
2												
ROM - knee	flexion – 6 we	eks post-op	•		ł				ł			ł
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	8	8	SDs are not re authors rep significant differ grou	oorted no ence between	⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee	extension def	ficit (using gor	niometer) (better i	indicated by lov	ver values) – 1 wee	ek post-op						
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	8	8	SMD <b>0.2</b> (1.25 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee	extension def	iicit (using gor	niometer) (better i	indicated by low	ver values) – 2 wee	eks post-op			•			•
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	8	8	SMD <b>0.7</b> (1.75 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee	extension def	ficit (using gor	niometer) (better i	indicated by lov	ver values) – 4 wee	eks post-op						
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	8	8	SMD 1.0 (2.13 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee	extension def	ficit (using gor	niometer) (better i	indicated by lov	ver values) – 6 wee	eks post-op	<u> </u>	<u> </u>				
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	8	8	SMD 2.7 (4.24 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee	extension def	ficit (using hig	h-heel-distance)	(better indicated	d by lower values)	– 1 week post-op						
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	8	8	SMD <b>0.1</b> (1.15 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee	extension def	ficit (using hig	h-heel-distance)	(better indicated	d by lower values)	– 2 weeks post-op	<u> </u>	<u> </u>	Į			
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	8	8	SMD <b>0.1</b> (1.08 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee	extension def	ficit (using hig	h-heel-distance)	(better indicated	d by lower values)	– 4 weeks post-op						
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	8	8	SMD <b>0.3</b> (1.34 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee	extension def	ficit (using hig	h-heel-distance)	(better indicated	d by lower values)	– 6 weeks post-op			•			•
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	8	8	SMD 1.3 (2.50 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee	extension - d	ays to full rec	overy (better indi	cated by lower	values)				F			F
1 Draper 1990	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	11	11	SMD <b>0.9</b> 4 (1.83 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Patients	reported of	outcomes	(PROM)		ł				I			I
				[		[	[	[				

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

			Certainty ass	essment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Biofeedback	No biofeedback	Relative (95% CI)	Absolute (95% Cl)	Certainty	Importance
PROM - IKE	DC – 6 weeks	post-op										
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	8	8	SDs are not re authors rep significant differe grou	orted no ence between	⊕⊖⊖⊖ Very low	CRITICAL
Pain												
1												
Pain VAS -	6 weeks post	-op										
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	8	8	SDs are not re authors rep significant differe group	orted no ence between	⊕⊖⊖⊖ Very low	CRITICAL
Swelling												
1												
Swelling – 6	6 weeks post-	op	ł		-			,	ł			
1 Christanell 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	8	8	SDs are not re authors rep significant differe group	orted no ence between	⊕⊖⊖⊖ Very low	IMPORTANT
Adverse	events											
Draper 1990									None rep	ported		CRITICAL
Christanell 2012									None rep	ported		CRITICAL

CI: confidence interval; SMD: standardised mean difference

а

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction Not reporting results or SDs b.

C.

# Blood flow restriction (BFR) versus no BFR in rehabilitation after ACLR

Bibliography: Ohta 2003, Iversen 2016, Hughes 2019a, Hughes 2019b, Curran 2020

	1		Certainty asse	ssment			Nº of	patients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	BFR	no BFR	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Strength -	quadricep	s										
3												
Quadriceps st	rength CON 60	)°/s (better i	ndicated by highe	r values) – 2 mo	nths post-op							
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.43 (0.38 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Quadriceps st	rength CON 15	50°/s (better	indicated by high	er values) – 2 m	onths post-op							
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious a, b	none	12	12	SMD <b>0.62</b> (0.2 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Quadriceps st	rength CON 30	0°/s (better	indicated by high	er values) – 2 m	onths post-op							ļ
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious a, b	none	12	12	SMD <b>0.76</b> (0.07 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Quadriceps st	rength (measu	red using 10	)RM at leg press (	better indicated	by higher values)	– 2 months post-op	)			,		,
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.55 (0.27 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Quadriceps st	rength ISOM 6	0 (better ind	icated by higher v	alues) – 4-5 moi	nths post-op							,
2 Ohta 2003 Curran 2020	randomised trials	very serious	very serious I <sup>2</sup> = 85%	not serious	very serious <sup>a, b</sup>	none	40	38	SMD <b>0.48</b> (0.70 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Quadriceps st	rength CON 60	)°/s (better in	ndicated by highe	r values) – 4-5 m	onths post-op							,
1 Ohta 2003 Curran 2020	randomised trials	very serious	very serious I <sup>2</sup> = 83%	not serious	very serious <sup>a, b</sup>	none	40	38	SMD 0.66 (0.49 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Quadriceps st	rength CON 18	30°/s; values	reported as LSI%	(better indicate	d by higher value	s) – 4 months post-	ор					
1 Ohta 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.91 (0.28 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Quadriceps st	rength ISOM 6	0° (better in	dicated by higher	values) – at the	time to return to a	activity, approx. 9.5	months post-c	p				
1 Curran 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	16	SMD 0.01 (0.66 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Quadriceps st	rength CON 60	)°/s (better i	ndicated by higher	r values) – at the	e time to return to	activity, approx. 9.5	o months post-	ор				
1 Curran 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	16	SMD 0.25 (0.43 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength -	hamstring											
Hamstring str	ength CON 60°	/s (better in	dicated by higher	values) – 2 mon	ths post-op							
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.96 (0.11 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Hamstring str	ength CON 150	)°/s (better i	ndicated by higher	r values) – 2 mo	nths post-op				•			
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD <b>1.26</b> (0.37 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Hamstring str	ength CON 300	)°/s (better i	ndicated by higher	values) – 2 mo	nths post-op							
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 1.37 (0.46 higher to		⊕⊖⊖⊖ Very low	CRITICAL

			Certainty asse	ssment			Nº of	patients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	BFR	no BFR	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Ohta 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.78 (0.16 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Hamstring stre	ength CON 60°	/s (better in	dicated by higher	values) – 4 mon	ths post-op							
1 Ohta 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.61 (0 to 1.21		⊕⊖⊖⊖ Very low	CRITICAL
Hamstring stre	ength CON 180	l°/s (better in	ndicated by highe	r values) – 4 mo	nths post-op							
1 Ohta 2003	randomised trial	very serious	not assessable	not serious	very serious a, b	none	22	22	SMD 0.64 (0.03 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy					,			ł				
4												
Atrophy - Knee	e extensors cr	oss-sectiona	al area (cm²) using	MRI at 40% the	femur length (be	tter indicated by hig	gher values) –	16 days post-op	1			
1 Iversen 2016	randomised trial	very serious	not assessable	not serious	very serious a, b	none	12	12	SMD <b>0.51</b> (0.3 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Knee	e extensors cr	oss-sectiona	al area (cm²) using	MRI at 50% the	femur length (be	tter indicated by hig	gher values) –	16 days post-op	•			
1 Iversen 2016	randomised trial	very serious	not assessable	not serious	very serious a, b	none	12	12	SMD 0.75 (0.08 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Vast	tus lateralis mu	uscle thickne	ess (cm) using ult	rasound at 50%	of the femur, repo	rted as difference f	rom pre-interv	ention values (be	etter indicated by	v higher value	s) – 2 months post-c	р
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.38 (1.19 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Vast	tus lateralis pe	nnation ang	le (°) using ultrase	ound at 50%of th	he femur, reported	as difference from	n pre-interventi	on values (bette	r indicated by hi	gher values) -	- 2 months post-op	
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious a, b	none	12	12	SMD 0.36 (0.45 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Vast	tus lateralis fas	cicle length	(cm) using ultras	ound at 50%of t	he femur, reporte	d as difference fron	n pre-intervent	ion values (bette	r indicated by hi	gher values)	- 2 months post-op	<u>.</u>
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious a, b	none	12	12	SMD 0.03 (0.83 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	e extensors cr	oss-sectiona	al area (cm²) using	MRI at 15cm pr	roximal to the pate	ella (better indicate	d by higher val	lues) – 4 months	post-op			<u> </u>
1 Ohta 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.77 (0.15 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Knee	e flexors+addu	ictors cross-	-sectional area (cr	m <sup>2</sup> ) using MRI at	15cm proximal to	the patella (better	indicated by h	igher values) – 4	months post-op			
1 Ohta 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.14 (0.45 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - sing	le muscle fibe	r diameter ty	pe I of Vastus late	eralis; reported a	as preoperative/p	ostoperative ratio (	%); (better indi	cated by higher	values) – 4 mont	hs post-op		
1 Ohta 2003	randomised trial	very serious	not assessable	not serious	very serious a, b	none	8	8	SMD 0.72 (0.3 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - sing	le muscle fibe	r diameter ty	pe II of Vastus lat	eralis; reported	as preoperative/p	ostoperative ratio (	%); (better ind	icated by higher	values) – 4 mon	ths post-op		
1 Ohta 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	8	8	SMD 0.63 (0.38 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Rect	tus femoris mu	iscle volume	e (cm³) using ultra	sound at 10-15c	m superior to the	patella (better indi	cated by highe	r values) – 5 mor	nths post-op			
1 Curran 2020	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	16	SMD 0.31 (0.37 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Rect	tus femoris mu	iscle volume	e (cm³) using ultra	sound at 10-15c	m superior to the	patella; (better indi	icated by highe	er values) – at the	e time to return t	o activity, ap	prox. 9.5 months pos	it-op
1 Curran 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	16	SMD 0.05 (0.62 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain												
1												
Pain - VAS sca	ale, session kn	ee pain (bet	ter indicated by lo	wer values) – 2	months post-op			•	•			
1 Hughes 2019b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD <b>1.84</b> (2.83 lower to		⊕⊖⊖⊖ Very low	CRITICAL

№ of studies Pain - VAS sca	Study							patients				
Pain - VAS sca	design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	BFR	no BFR	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
	ale, 24h post tr	aining knee	pain (better indica	ated by lower va	lues) – 2 months	post-op						
1 Hughes 2019b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 1.75 (2.72 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sca	ale, muscle pai	in (better ind	licated by lower va	alues) – 2 month	s post-op							
1 Hughes 2019b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 2.04 (1.02 higher to 3		⊕⊖⊖⊖ Very low	CRITICAL
Patient-rep	ported out	come me	asures (PRO	M)					•			
2												
IKDC reported	as difference	from pre-int	ervention values (	better indicated	by higher values	) – 2 months post-o	p					
1 Hughes 2019a	randomised trial	very serious	not assessable	not serious	very serious a, b	none	12	12	SMD 1.49 (0.57 higher to 2		⊕⊖⊖⊖ Very low	CRITICAL
LEFS (Lower e	extremity funct	tion scale) (r	eported as differe	nce from pre-int	ervention values	(better indicated by	higher values	) – 2 months po	st-op			
1 Hughes 2019a	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.89 (0.05 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Lysholm scale	reported as d	ifference fro	om pre-interventio	n values (better	indicated by high	er values) – 2 mont	hs post-op					
1 Hughes 2019a	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD <b>1.08</b> (0.21 higher to			CRITICAL
KOOS-pain rej	ported as diffe	rence from p	pre-intervention va	lues (better indi	icated by higher v	alues) – 2 months j	oost-op		•			
1 Hughes 2019a	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 1.74 (0.78 higher to 2		⊕⊖⊖⊖ Very low	CRITICAL
KOOS-sympto	oms reported a	s difference	from pre-interven	tion values (bett	er indicated by hi	igher values) – 2 mo	onths post-op		•			
1 Hughes 2019a	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.77 (0.06 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
KOOS-ADL rej	ported as diffe	rence from p	pre-intervention va	alues (better indi	icated by higher v	ralues) – 2 months j	oost-op		•			
1 Hughes 2019a	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD <b>1.16</b> (0.28 higher to 2		⊕⊖⊖⊖ Very low	CRITICAL
KOOS-QOL re	ported as diffe	erence from	pre-intervention v	alues (better ind	icated by higher v	values) – 2 months	post-op					
1 Hughes 2019a	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.65 (0.18 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
IKDC (better ir	ndicated by hig	gher values)	- 5 months post-o	p					•			
1 Curran 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	16	SMD <b>0.35</b> (1.03 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
IKDC (better in	ndicated by hig	gher values)	- at the time to re	turn to activity, a	approx. 9.5 month	is post-op			1			
1 Curran 2020	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	16	SMD <b>0.42</b> (1.1 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Range of r	notion (RC	OM)										
2												
Flexion deficit	reported as d	ifference fro	m pre-intervention	values (better i	ndicated by high	er values) – 2 monti	ns post-op					
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 2.35 (1.27 higher to 3		⊕⊖⊖⊖ Very low	IMPORTANT
Flexion - knee	flexion (better	indicated b	y higher values) –	4 months post-	op				*			
1 Ohta 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.4 (0.99 lower to		⊕⊖⊖⊖ Very low	IMPORTANT

			Certainty asse	ssment			Nº of	patients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	BFR	no BFR	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.1 (0.7 lower to (		⊕⊖⊖⊖ Very low	IMPORTANT
Extension def	icit (better indi	icated by lov	ver values) – 4 mo	nths post-op			I	1	1			1
1 Ohta 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.32 (0.92 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Balance	ļ		ļ					ł	Į			Į
2												
Balance - Star	excursion bal	ance test an	terior; reported as	difference from	pre-intervention	values (better indic	ated by highe	r values) – 2 mor	ths post-op			
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 1.78 (0.81 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Star	excursion bal	ance test po	steromedial; repo	rted as differend	ce from pre-interv	ention values (bette	er indicated by	higher values) -	- 2 months post-	op		
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD <b>1.47</b> (0.55 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Star	excursion bal	ance test po	sterolateral; repo	rted as differenc	e from pre-interve	ention values (bette	r indicated by	higher values) –	2 months post-c	p		ļ
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD <b>1.6</b> (0.66 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Laxity	1	1	<u> </u>						1			1
2												
Laxity (Knee li	igament laxity	(mm) using	the KT-1000 arthro	ometer; reported	l as difference fro	m pre-intervention	values; better	indicated by hig	her values – 2 m	onths post-op	)	
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD (0.8 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Laxity (Knee li	igament laxity	(mm) using	the KT-2000 arthro	ometer; better in	dicated by lower	values – 4 months	post-op					
1 Ohta 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD (0.59 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Swelling												
1												
Swelling - repo	orted as differe	ence from pr	e-intervention val	ues (better indic	ated by lower val	ues) – 2 months po	st-op	-	_			-
1 Hughes 2019a	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 1.56 (2.49 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Adverse e	vents											
Ohta 2003									2 patients dro because of diso dull pain in the	comfort or a		CRITICAL
lversen 2016									None rep			CRITICAL
Hughes 2018									None rep	orted		CRITICAL
Hughes 2019a									None rep	orted		CRITICAL
Hughes 2019b									None rep	orted		CRITICAL
Curran 2020									None rep	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction a. b.

#### Blood flow restriction (BFR) pre-operatively versus no BFR in rehabilitation after ACLR

Bibliography: Grapar Zargi 2016, Zargi 2018

			Certainty asse	ssment			Nº of	patients	Effec	t		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	BFR	no BFR	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Strength												
2												
Strength Quad	riceps ISOM 6	i0° (better in	dicated by higher	values) – 3 mon	ths post-op							
1 Grapar Zargi 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD <b>0.41</b> (0.21 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Muscle endura	nce - Time of	contraction	(s) – 3 months po	st-op							•	•
1 Zargi 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.14 (0.74 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy												
1												
Atrophy - Rect	us femoris mu	iscle volume	e (cm <sup>3</sup> ) using MRI	(better indicated	l by higher values	) – 1 month post-op	1		Į		ļ	ļ
1 Grapar Zargi 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD <b>1.07</b> (0.12 higher to 2		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Rect	us femoris mu	iscle volume	e (cm <sup>3</sup> ) using MRI	(better indicated	l by higher values	) – 3 months post-c	p		Į		ļ	ļ
1 Grapar Zargi 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.97 (0.03 higher to 7		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Vast	ii muscle volu	me (cm³) usi	ing MRI (better inc	licated by highe	r values) – 1 mon	th post-op			ļ		ļ	ļ
1 Grapar Zargi 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.38 (0.51 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Vast	ii muscle volu	me (cm³) usi	ing MRI (better inc	licated by highe	r values) – 3 mon	ths post-op						
1 Grapar Zargi 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD <b>0.35</b> (0.54 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Balance			,					<b></b>			ļ	ļ
1												
Balance - Star	excursion bal	ance test an	terior deficit (cm)	compared to the	e uninvolved (bett	er indicated by low	er values) – 3 i	months post-op				
1 Grapar Zargi 2016	randomised trial	very serious	not assessable	not serious	very serious a, b	none	10	10	SMD 0.23 (1.11 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse ev	/ents		μ						<u>بــــــــــــــــــــــــــــــــــــ</u>		μ	μ
Grapar Zargi 2016									None rep	orted		CRITICAL
Zargi 2018									None rep	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction a. b.

#### Kinesio-tape versus no kinesio-tape in rehabilitation after ACLR

Bibliography: Boguszewski 2013, Balki 2016, Oliveira 2016, Balki 2019, Chan 2017, Gholami 2020

			Certainty asse	ssment			Nº of p	atients	Effect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Kinesio-tape	No kinesio- tape	Relative (95% CI) Absolute (95% CI)	Certainty	Importance
Pain											
3	1										
Pain – VAS s	cale (better in	dicated by low	ver values) – 2 we	eks post-op			ļ	ļ	Į		
1 Chan 2017	randomised trial	very serious	not assessable	not serious	very serious a, b	none	30	30	SMD 0.63 lower (1.15 lower to 0.11 lower)	⊕⊖⊖⊖ Very low	CRITICAL
Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors report significant decrease in pain intensity in the intervention group.	⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS so	cale (better inc	licated by low	er values) – 4-6 v	veeks post-op					,		
1 Chan 2017	randomised trials	very serious	not assessable	not serious	very serious a, b	none	30	30	SMD 0.31 higher (0.2 lower to 0.82 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Boguszewski 2013	randomised trials	very serious	not assessable	not serious	very serious °	none	NR	NR	SDs are not reported. The authors report significant decrease in pain intensity in the intervention group.	⊕⊖⊖⊖ Very low	CRITICAL
Swelling				ł					,		
3											
Swelling - (be	etter indicated	by lower valu	es) – 2 weeks po	st-op	<u></u>		Į	Į		<u>,</u>	
1 Chan 2017	randomised trials	very serious	not assessable	not serious	serious ª	none	30	30	SMD 0.02 higher (0.49 lower to 0.52 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Balki 2016	randomised trials	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	Authors reported significant improvement in swelling in the experimental group.	⊕⊖⊖⊖ Very low	CRITICAL
Swelling - (be	etter indicated	by lower valu	es) – 4 weeks po	st-op					,		
1 Boguszewski 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	NR	NR	SDs are not reported. The authors report significant decrease in swelling in the intervention group.	⊕⊖⊖⊖ Very low	CRITICAL
Swelling - (be	etter indicated	by lower valu	es) – 6 weeks po	st-op			1	1		<b>I</b>	
1 Chan 2017	randomised trial	very serious	not assessable	not serious	serious ª	none	30	30	SMD 0.17 lower (0.67 lower to 0.34 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength				ł					,		
3											
Strength - Qu	adriceps ISO	M 30° (better i	ndicated by highe	er values) – 9 da	iys post-op				,		
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.36 higher (0.36 lower to 1.08 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Qu	adriceps ISO	M 30° (better i	ndicated by highe	er values) – 2 w	eeks post-op						
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>0.48 higher</b> (0.25 lower to 1.2 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Qu	adriceps CON	l 60°/s (better	indicated by high	ner values) – 4 n	nonths post-op						
1 Oliveira 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>0.63 lower</b> (1.36 lower to 0.11 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Qu	adriceps ECC	60°/s (better	indicated by high	ier values) – 4 m	nonths post-op		•	•			
1 Oliveira 2016	randomised trial	very serious	not assessable	not serious	very serious a, b	none	15	15	SMD <b>0.74 lower</b> (1.48 lower to 0)	⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Qu	adriceps pow	er CON 60°/s	(better indicated	by higher value	s) – 4 months pos	st-op		•	,		
1 Oliveira 2016	randomised trial	very serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.76 lower (1.5 lower to 0.02 lower)	⊕⊖⊖⊖ Very low	IMPORTANT

80

			Certainty asse	ssment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Kinesio-tape	No kinesio- tape	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
Strength - Qu	adriceps pow	ver ECC 60°/s	(better indicated I	by higher values	s) – 4 months pos	st-op				_		
1 Oliveira 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>0.7</b> (1.45 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Ha	mstring ISOM	30° (better in	dicated by higher	values) – 9 day	/s post-op		-		-			-
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.79 (0.05 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Ha	mstring ISOM	30° (better in	dicated by higher	values) – 2 wee	eks post-op		1		1			1
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 1.01 (0.24 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Hip	p flexion ISON	1 30° (better in	dicated by highe	r values) – 9 dag	ys post-op				1			
1 Balki 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD 0.58 (0.21 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Hip	p extension IS	OM 30° (bette	r indicated by hig	her values) – 9	days post-op		1		1			1
1 Balki 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD 0.55 (0.24 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Hip	p abductors IS	SOM 20° (bette	er indicated by hig	gher values) – 9	days post-op							
1 Balki 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD 0.55 (0.24 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Hip	p adductors IS	SOM 0° (better	indicated by high	ner values) – 9 d	days post-op		I	L				
1 Balki 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD 0.99 (0.17 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Hip	p flexion ISON	130° (better in	dicated by higher	values) – 2 wee	eks post-op	r	r		r			r
1 Balki 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD 0.89 (0.08 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Hip	p extension IS	OM 30° (bette	r indicated by hig	her values) – 2	weeks post-op	r	r		r			r
1 Balki 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD 0.78 (0.03 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Hip	p abductors IS	SOM 20° (bette	er indicated by hig	gher values) – 2	weeks post-op		1		1			1
1 Balki 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD 0.64 (0.15 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Hip	p adductors IS	SOM 0° (better	indicated by high	ner values) – 2 v	weeks post-op	[	1		1			1
1 Balki 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	13	13	SMD 1.17 (0.32 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Range of	motion (R	OM)										
3												
ROM - knee fl	lexion (better	indicated by h	igher values) – 9	days post-op								
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.72 (0.02 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee fl	lexion (better	indicated by h	igher values) – 2	weeks post-op								
2 Balki 2016 Chan 2017	randomised trials	very serious	very serious I <sup>2</sup> = 88%	not serious	very serious a, b	none	45	45	SMD <b>0.6</b> (0.75 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee fl	lexion (better	indicated by h	ligher values) – 4-	-6 weeks post-o	p							
1 Chan 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	30	30	SMD 0.20 (0.77 lower to		⊕⊖⊖⊖ Very low	CRITICAL
1 Boguszewski 2013	randomised trial	very serious	not assessable	not serious	very serious °	none	NR	NR	SDs are not re authors re significantly be the experimer measuremer compared to t	eported tter results in ttal group in tts 2 and 3	⊕⊖⊖⊖ Very low	CRITICAL
RUW - Knee e	accension defin	ut (petter Indi	cated by lower va	iues) – 9 days p	Just-op							

			Certainty asse	ssment			№ of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Kinesio-tape	No kinesio- tape	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.24 (0.48 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee e	xtension defic	cit (better indic	cated by lower va	lues) – 2 weeks	post-op				ł			ł
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.21 (0.51 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee e	extension – 1 n	nonth post-op										
1 Boguszewski 2013	randomised trial	very serious	not assessable	not serious	very serious °	none	NR	NR	SDs are not re authors re significantly be the experimer measuremer compared to t The full rang extension wa faster among p the experime	ported tter results in tal group in tts 2 and 3 he controls. Je of knee s regained vatients from	⊕⊖⊖⊖ Very low	CRITICAL
Patient re	ported ou	tcomes (P	ROM)									
3												
PROM - Lysh	olm (better ind	dicated by hig	her values) – 2 w	eeks post-op								
1 Chan 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	30	30	SMD 0.21 (0.3 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lysh	olm (better ind	dicated by hig	her values) – 4-6	weeks post-op					r			r
2 Balki 2016 Chan 2017	randomised trials	very serious	not serious I² = 0%	not serious	serious ª	none	45	45	SMD 0.15 (0.56 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lysh	olm (better ind	dicated by hig	her values) – 3 m	onths post-op								
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.29 (1.01 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - modi	fied Cincinnat	i (better indica	ated by higher va	lues) – 1 month	post-op							
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.61 (1.35 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - modi	fied Cincinnat	i (better indica	ated by higher va	lues) – 3 month	s post-op				1			1
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.42 (0.31 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Tegn	er (better indi	cated by highe	er values) – 1 mo	nth post-op					1			1
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.12 (0.6 lower to 0	higher ).84 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Tegn			er values) – 3 mo				-	-	1			1
1 Balki 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.17 (0.88 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Kines	siophobia-Tan	npa (better ind	icated by lower v	values) –at the t	me to return to s	port after 10min of	kinesio-tape app	lication	1			1
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.76 (1.67 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Kines	siophobia-Tan	npa (better ind	icated by lower v	values) –at the t	me to return to s	port after 2 days of	kinesio-tape app	lication				
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 1.06 (2.01 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance												
2												
Balance - pos	stural balance	anterio-poste	rior (mm) (better	indicated by lov	ver values) – 4 me	onths post-op						
1 Oliveira 2016	randomised trial	very serious	not assessable	not serious	very serious a, b	none	15	15	SMD <b>0.4</b> (1.18 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
			i		i	i	l	L				

			Certainty asse	ssment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Kinesio-tape	No kinesio- tape	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Oliveira 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>0.33</b> (1.05 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance – Y t	balance test (/	Anterior reach	) (better indicated	by higher valu	es) –at the time to	o return to sport afte	er 10min of kines	io-tape applicati	ion			
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.62 (0.28 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Y b	balance test (P	osteromedial	reach) (better ind	icated by highe	r values) –at the t	ime to return to spo	ort after 10min of	kinesio-tape ap	plication			
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious a, b	none	10	10	SMD <b>0.22</b> (1.1 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Y b	palance test (P	ostero-lateral	reach) (better ind	icated by highe	er values) –at the	time to return to spe	ort after 10min of	f kinesio-tape ap	plication			T
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.01 (0.89 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Y b	oalance test (A	Interior reach)	(better indicated	by higher value	es) –at the time to	return to sport afte	r 2 days of kines	io-tape applicati	ion			
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.01 (0.86 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Y b	balance test (P	osteromedial	reach) (better ind	icated by highe	r values) –at the t	ime to return to spo	ort after 2 days o	f kinesio-tape ar	oplication			
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD (0.88 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Y b	balance test (P	ostero-lateral	reach) (better ind	icated by highe	er values) –at the	time to return to spe	ort after 2 days o	f kinesio-tape a	oplication			
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.21 (0.67 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Atrophy												
1												
Atrophy - fem	noral measure	ment II - 10cm	above patella – ′	l month post-o	<b>)</b>				r			T
1 Boguszewski 2013	randomised trial	very serious	not assessable	not serious	very serious °	none	NR	NR	SDs are not re authors re that "patient experimen" regained their r slightly fa	ported s from the al group nuscle mass	⊕⊖⊖⊖ Very low	IMPORTANT
Functiona	al		,		,							•
1												
Functional -	single leg hop	for distance (	better indicated b	y higher values	a) –at the time to r	eturn to sport after	10min of kinesic	-tape application	n			-
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.02 (0.85 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional - s	single leg hop	for distance a	(better indicated	by higher value	es) –at the time to	return to sport afte	r 2 days of kines	io-tape applicati	ion			•
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.02 (0.86 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional - 1	10 Yard Test (	better indicate	d by higher value	s) –at the time	to return to sport	after 10min of kines	sio-tape applicat	ion				
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.42 (0.47 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional - 1	10 Yard Test (	better indicate	d by higher value	s) –at the time	to return to sport	after 2 days of kine	sio-tape applicat	ion				
1 Gholami 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.15 (0.73 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse e	events											
Boguszewski 2013									None re	ported		CRITICAL
Balki 2016									None re	ported		CRITICAL

			Certainty asse	essment			Nº of p	atients	Effec	rt		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Kinesio-tape	No kinesio- tape	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Oliveira 2016									None reported			CRITICAL
Balki 2019									None reported			CRITICAL
Chan 2017									None rep	orted		CRITICAL
Gholami 2020									None rep	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

а

Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs b. c.

### Dry needling versus no dry needling in rehabilitation after ACLR

Bibliography: Velázquez-Saornil 2017

			Certainty ass	essment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Dry needling	No dry needling	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Pain												
1												
Pain – VAS	scale (better i	indicated by lo	ower values) – 2 w	eeks post-op -	1 hour after inter	rvention						•
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD 1.37 (0.69 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS	scale (better in	ndicated by lo	wer values) – 2 w	eeks post-op –	1 day after interve	ention						
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD (0.6 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS	scale (better in	ndicated by lo	l wer values) – 3 w	eeks post-op –	1 week after inter	rvention	<u> </u>		ł			Ι
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD <b>0.34</b> (0.95 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - pain	VAS scale (be	tter indicated	by lower values) -	- 7 weeks post-	op – 5 weeks afte	er intervention						1
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD <b>0.47</b> (1.08 lower to			CRITICAL
Patient I	reported	outcom	es (PROM)		•				•			•
1	<u> </u>											[
PROM - WO	MAC (better in	ndicated by lo	wer values) – 2 w	eeks post-op –	1 hour after inter	vention						
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD 0.35 (0.26 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - WO	MAC (better in	ndicated by lo	wer values) – 2 w	eeks post-op –	1 day after interv	ention	L		1			L
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD <b>0.81</b> (1.44 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - WO	MAC (better i	ndicated by lo	l wer values) – 3 w	eeks post-op –	1 week after inter	rvention			1			
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD 0.75 (1.38 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - WO	MAC (better i	ndicated by lo	wer values) – 7 w	eeks post-op –	5 weeks after int	ervention		<u> </u>				
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD <b>1.16</b> (1.82 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Range o	f motion (	ROM)	Į	<u></u>	<u> </u>	Į		<u></u>	<b>.</b>			Į
1												
ROM - knee	flexion (bette	r indicated by	higher values) – 3	2 weeks post-o	p – 1 hour after in	tervention					L	I
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD <b>1.04</b> (0.39 higher to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee	flexion (bette	r indicated by	higher values) – 2	2 weeks post-o	p – 1 day after int	ervention		L				I
1 Velázquez- Saornil	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD 1.5 (0.81 higher to		⊕⊖⊖⊖ Very low	CRITICAL
2017									1			

85

			Certainty asse	essment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Dry needling	No dry needling	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
ROM - knee	flexion (bette	r indicated by	higher values) – 3	3 weeks post-op	o – 1 week after i	ntervention				•		
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD <b>1.5</b> (0.8 higher to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee	flexion (bette	r indicated by	higher values) –	7 weeks post-op	o – 5 weeks after	intervention	•		•			
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD <b>0.63</b> (0.01 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Balance												
1												
Balance – s	tar excursion	balance test (l	better indicated b	y higher values	) – 3 weeks post-o	p – 1 week after i	ntervention		•			
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD <b>0.0</b> (0.62 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - st	tar excursion I	balance test (b	petter indicated by	/ higher values)	– 7 weeks post-o	p – 5 weeks after	intervention					
1 Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	21	SMD <b>0.44</b> (0.17 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse	events											
Velázquez- Saornil 2017	randomised trial	very serious	not assessable	not serious	very serious a, d	none	3/22 (13.6%)	0/22 (0.0%)	<b>RR 7.00</b> (0.38 to 128.02)	NA °	⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events											
Velázquez- Saornil 2017									Three patien hemorrhage a one of which follow-up bec adverse Nevertheless, o the adverse eff groups did statistical sig (P=.0	fter TrP-DN, was lost to ause of this effect. differences in ects between not reach gnificance		CRITICAL

CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

WOMAC: Western Ontario and McMaster Universities Osteoarthritis Index

а

b.

c. d.

Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs 95% Cl boundaries cross the arbitrary thresholds of 0.75 and 1.25 Due to zero events in the comparator arm, an absolute risk reduction was not estimable. e.

# Whole-body vibration (WBV) versus usual care in rehabilitation after ACLR

Bibliography: Salvarani 2003, Moezy 2008, Fu 2013, Berschin 2014, Pistone 2016, Costantino 2018, da Costa 2019

			Certainty ass	essment			Nº of p	atients	Effec	xt		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whole-body vibration	Usual care	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Strength	ı											
6												
Strength - C	Quadriceps IS(	OM 25-60° (be	tter indicated by I	nigher values) –	5-6 weeks post-op	I						
2 Berschin 2014 Salvarani 2003	randomised trials	very serious	not serious I²=37%	not serious	very serious <sup>a, b</sup>	none	30	30	SMD 0.32 (0.36 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps IS	OM 25-90° (be	tter indicated by I	nigher values) –	2 months post-op	•			,			
3 Berschin 2014 Pistone 2016 Salvarani 2003	randomised trials	very serious	serious I²=42%	not serious	very serious <sup>a, b</sup>	none	47	47	SMD 0.15 (0.4 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	N 60°/s (bette	er indicated by hig	her values) – 2	months post-op				•			
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD 0.05 (0.67 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps IS	OM 60-90°/s (b	etter indicated by	/ higher values)	– 3 months post-o	p						
2 Berschin 2014 Pistone 2016	randomised trials	serious	very serious I <sup>2</sup> =89%	not serious	very serious <sup>a, b</sup>	none	37	37	SMD <b>0.14</b> (1.59 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	Quadriceps CC	ON 60°/s (bette	er indicated by hig	her values) – 3	months post-op				<b>I</b>			
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.27 (0.35 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	Quadriceps CC	) N 300°/s (beti	ter indicated by h	igher values) – 3	3 months post-op			L				
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	24	SMD 0.34 (0.23 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps Wo	ork (better ind	icated by higher v	values) – 4 mont	hs post-op							
1 da Costa 2019	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.59 (1.2 lower to 0			CRITICAL
Strength - C	Quadriceps CC	0N 60°/s (bette	er indicated by hig	jher values) – 4-	6 months post-op				ļ			
3 Costantino 2018 da Costa 2019 Fu 2013	randomised trials	serious	very serious I <sup>2</sup> =92%	serious	very serious <sup>a, b</sup>	none	65	66	SMD <b>0.66</b> (0.69 lower to 2		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps po	wer CON 60°/	s (better indicated	l by higher valu	es) – 5 months pos	t-op						
1 Costantino 2018	randomised trial	serious	not assessable	not serious	very serious a, b	none	19	20	SMD 1.57 (0.84 higher to 2		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps po	wer CON 180°	/s (better indicate	d by higher val	ues) – 5 months po	st-op			,			
1 Costantino 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	19	20	SMD <b>3.29</b> (2.3 higher to 4		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	ON 180°/s (beti	ter indicated by h	igher values) – :	5-6 months post-op	)						
2 Costantino 2018 Fu 2013	randomised trials	serious	very serious I <sup>2</sup> =85%	not serious	very serious a, b	none	43	44	SMD 0.98 (0.21 lower to 2		⊕⊖⊖⊖ Very low	CRITICAL

87

			Certainty ass	essment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whole-body vibration	Usual care	Relative (95% CI)	Absolute (95% Cl)	Certainty	Importance
			ter indicated by hi	igher values) – I	6 months post-op	Considerations	TIDIULION		(007001)			
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	24	24	SMD 0.44 (0.14 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - I	Hamstring ISOI	M 60° (better i	indicated by highe	er values) – 5 w	eeks post-op						vory ion	
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD (0.62 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - I	Hamstring ISO	VI 60-90° (bett	ter indicated by hi	gher values) – 2	2 months post-op							
2 Berschin 2014 Pistone 2016	randomised trials	serious	not serious I²=0%	not serious	serious ª	none	37	37	SMD 0.34 (0.12 lower to			CRITICAL
Strength - I	Hamstring CON	l 60°/s (better	indicated by high	ner values) – 2 r	nonths post-op							
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.13 (0.75 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	Hamstring ISO	VI 60-90° (bett	er indicated by hi	gher values) – 3	8 months post-op							
2 Berschin 2014 Pistone 2016	randomised trials	serious	serious I²=48%	not serious	very serious <sup>a, b</sup>	none	37	37	SMD 0.43 (0.22 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - I	Hamstring CON	l 60°/s (better	indicated by high	ner values) – 3 r	nonths post-op							
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.36 (0.27 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - I	Hamstring CON	l 300°/s (bette	er indicated by hig	her values) – 3	months post-op							
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	24	SMD <b>0.39</b> (0.18 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - I	Hamstring pow	er CON 60°/s	(better indicated	by higher value	s) – 5 months post-	ор			1			
1 Costantino 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	19	20	SMD 4.4 (3.2 higher to 5		⊕⊖⊖⊖ Very low	CRITICAL
Strength - I	Hamstring pow	er CON180°/s	better indicated	by higher value	es) – 5 months post	t-op						
1 Costantino 2018	randomised trial	serious	not assessable	not serious	very serious a, b	none	19	20	SMD 5.22 (3.85 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - I	Hamstring CON	l 60°/s (better	indicated by high	ner values) – 5-6	o months post-op							
2 Costantino 2018 Fu 2013	randomised trials	serious	very serious I <sup>2</sup> =94%	not serious	very serious <sup>a, b</sup>	none	43	44	SMD <b>1.32</b> (0.84 lower to 3		⊕⊖⊖⊖ Very low	CRITICAL
Strength - I	Hamstring CON	l 180°/s (bette	er indicated by hig	her values) – 5	-6 months post-op							
2 Costantino 2018 Fu 2013	randomised trials	serious	very serious I <sup>2</sup> =95%	not serious	very serious <sup>a, b</sup>	none	43	44	SMD <b>1.39</b> (0.87 lower to 3		⊕⊖⊖⊖ Very low	CRITICAL
Strength - I	Hamstring CON	l 300°/s (bette	er indicated by hig	her values) – 6	months post-op							
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	24	SMD 0.43 (0.14 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Proprior	ception											
2												
Propriocep	tion - Angular	error 30° (bet	ter indicated by lo	wer values) – 3	-4 months post-op							
2 Fu 2013 Moezy 2008	randomised trials	serious	very serious I <sup>2</sup> =87%	not serious	very serious <sup>a, b</sup>	none	34	34	SMD 0.80 (2.46 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Propriocep	tion - Angular	error 60° (bet	ter indicated by lo	wer values) – 3	-4 months post-op			-	,			

			Certainty ass	essment			Nº of p	atients	Effe	ct		
Nº of	Study	Risk of	Inconsistency	Indirectness	Imprecision	Other	Whole-body	Usual care	Relative	Absolute	Certainty	Importance
studies	design	bias	-			considerations	vibration		(95% CI)	(95% CI)		
2 Fu 2013 Moezy 2008	randomised trials	serious	not serious I²=28%	not serious	very serious <sup>a, b</sup>	none	34	34	SMD 0.25 (0.85 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Propriocept	tion - Angular	error 30° (bett	ter indicated by lo	wer values) – 6	months post-op							
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	24	SMD 0.27 (0.84 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Propriocept	tion - Angular	error 60° (bett	ter indicated by lo	wer values) – 6	months post-op	r		r	r			
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	24	SMD 0.27 (0.84 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance												
5												
Balance – o	pen eyes stab	ility index (be	tter indicated by I	ower values) –	5 weeks post-op							
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD <b>0.51</b> (1.14 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - o	pen eyes stabi	lity index (bet	tter indicated by le	ower values) – 2	2 months post-op		-					
2 Pistone 2016 Berschin 2014	randomised trials	serious	not serious I²=32%	not serious	very serious <sup>a, b</sup>	none	37	37	SMD 0.5 (1.07 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - o	pen eyes stabi	lity index (bet	tter indicated by le	ower values) – 3	3-4 months post-op		<u></u>	<u> </u>	Į			
4 Fu 2013 Moezy 2008 Pistone 2016 Berschin 2014	randomised trials	serious	serious I²=74%	not serious	very serious <sup>a, b</sup>	none	71	71	SMD 1.03 (1.75 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - O	pen eyes ante	rior-posterior	stability index (be	etter indicated b	oy lower values) – 3	-4 months post-op	)		I			
2 Fu 2013 Moezy 2008	randomised trials	serious	serious I²=60%	not serious	very serious a, b	none	34	34	SMD 0.52 (1.38 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - O	pen eyes med	ial-lateral stat	bility index (better	indicated by lo	wer values) – 3-4 m	onths post-op			ļ			
2 Fu 2013 Moezy 2008	randomised trials	serious	very serious I <sup>2</sup> =82%	not serious	very serious <sup>a, b</sup>	none	34	34	SMD <b>1.22</b> (2.72 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - C	losed eyes sta	bility index (b	better indicated by	lower values)	- 3-4 months post-o	ор		•	•			
3 Fu 2013 Moezy 2008 Pistone 2016	randomised trials	serious	serious I²=50%	not serious	very serious <sup>a, b</sup>	none	51	51	SMD <b>0.9</b> 7 (1.59 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - C	losed eyes an	terior-posterio	or stability index (	better indicated	l by lower values) –	3-4 months post-	op					
2 Fu 2013 Moezy 2008	randomised trials	serious	serious I²=70%	not serious	very serious <sup>a, b</sup>	none	34	34	SMD 1.36 (2.51 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - C	losed eye med	lial-lateral sta	bility index (bette	r indicated by lo	ower values) – 3-4 n	nonths post-op			•			
2 Fu 2013 Moezy 2008	randomised trials	serious	not serious l²=0%	not serious	serious ª	none	34	34	SMD <b>0.79</b> (1.29 lower to			CRITICAL
Balance - ar	nterior-posteri	or velocity (be	etter indicated by	lower values) –	4 months post-op	·		•	•			
1 da Costa 2019	randomised trial	not serious	not assessable	not serious	very serious a, b	none	22	22	SMD 1.13 (0.49 higher to			CRITICAL
Balance - m	edial-lateral v	elocity (better	indicated by low	er values) – 4 m	onths post-op	,		•	ł			

			Certainty ass	essment			Nº of p	atients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whole-body vibration	Usual care	Relative (95% CI)	Absolute (95% Cl)	Certainty	Importance
1 da Costa 2019	randomised trial	not serious	not assessable	not serious	very serious a, b	none	22	22	SMD 1.76 (2.47 lower to			CRITICAL
Balance - O	pen eyes over	rall stability (be	etter indicated by	lower values) -	6 months post-op							
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	24	24	SMD 0.49 (1.06 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - O	pen eyes ante	rior-posterior	stability index (be	etter indicated b	y lower values) – 6	months post-op						
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	24	SMD 0.05 (0.62 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - O	)pen eye media	al-lateral stabi	lity index (better i	ndicated by low	ver values) – 6 mon	ths post-op						
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	24	SMD 0.46 (1.03 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - C	losed eyes ov	erall stability (	better indicated b	y lower values]	– 6 months post-o	p						
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	24	SMD 0.19 (0.75 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - C	losed eyes an	terior-posterio	or stability index (	better indicated	l by lower values) –	6 months post-op						
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	24	24	SMD 0.51 (1.09 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - C	losed eye med	lial-lateral stat	bility index (bette	r indicated by lo	ower values) – 6 mc	onths post-op						
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	24	24	SMD 0.47 (1.04 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Patient r	reported or	utcome me	easures (PRO	OM)						·		
2												
PROM - Lys	sholm (better i	ndicated by hi	gher values) – 1 r	nonth post-op						,		ł
Berschin 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	20	20	SDs are not re authors rep statistically s difference betw grou	, orted no significant veen the two	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lys	sholm (better i	ndicated by hi	gher values) – 2 r	nonths post-op					Į	,		Į
1 Pistone 2016	randomised trial	very serious	not assessable	not serious	very serious a, b	none	17	17	SMD <b>1.6</b> (0.81 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Berschin 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	20	20	SDs are not re authors rep statistically s difference betw grou	, orted no significant veen the two	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lys	sholm (better i	ndicated by hi	gher values) – 3 r	nonths post-op		ļ		<u> </u>				ł
1 Pistone 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	17	SMD 2.22 (1.34 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Berschin 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	20	20	SDs are not re authors rep statistically s difference betw group	, orted no significant veen the two	⊕⊖⊖⊖ Very low	CRITICAL
Function				<u> </u>		ļ			grou			
	nal activitie	5		[	<b></b>	1		[				
1		- for 1'- 1	(hatta indiate	hu hir har t		ļ						
Functional 1 Fu 2013	<ul> <li>single leg ho</li> <li>randomised</li> <li>trial</li> </ul>	p for distance serious	(better indicated not assessable	by higher value not serious	es) - 6 months post	none	24	24	SMD 0.33 (0.24 lower to		<b>0</b> 000	IMPORTANT
		distance (h. f	for indicated by t	ighor veloce)	6 months acet a					,	Very low	
1 Fu 2013	randomised	serious	not assessable	not serious	6 months post-op very serious a, b	none	24	24	SMD 0.29 (0.28 lower to		<b>0</b> 000	IMPORTANT
					1	1				J. J. J.	Very low	1

			Certainty ass	essment			Nº of p	atients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whole-body vibration	Usual care	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	24	24	SMD 0.3 (0.87 lower to 0	lower	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	carioca (bette	er indicated by	y higher values) –	6 months post-	ор				•			
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	24	SMD <b>0.1</b> (0.67 lower to (		⊕⊖⊖⊖ Very low	IMPORTANT
Range of	f motion (I	ROM)										
1												
ROM - flexio	n deficit (bett	er indicated b	y lower values) –	5 weeks post-o	р	r			1			r
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD 0.22 (0.84 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - flexio	n deficit (bett	er indicated b	y lower values) –	2 months post-	op				,			
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.2 (0.82 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - flexio	on deficit (bett	er indicated b	y lower values) –	3 months post-	ор							
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD <b>0.24</b> (0.86 lower to (		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - exten	ision deficit (b	etter indicate	d by lower values	s) – 5 weeks pos	t-op	•						•
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD <b>0.5</b> (1.13 lower to (		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - exten	ision deficit (b	etter indicate	d by lower values	s) – 2 months po	st-op							
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD 0.18 (0.8 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - exten	ision deficit (b	etter indicate	d by lower values	s) – 3 months po	st-op							
1 Berschin 2014	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD <b>0.44</b> (1.07 lower to (		⊕⊖⊖⊖ Very low	IMPORTANT
Laxity												
2												
Laxity – laxi	ty difference I	oetween limbs	better indicated	by lower value	s) – 3 months post	ор						
2 Berschin 2014 Fu 2013	randomised trials	serious	not serious I2=0%	not serious	serious ª	none	44	44	SMD 0.06 (0.48 lower to 0			CRITICAL
Laxity - laxit	y difference b	etween limbs	(better indicated	by lower values	s) – 6 months post-	op			<b>,</b>			1
1 Fu 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	24	24	SMD (0.57 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events											
Salvarani 2003									None rep	ported		CRITICAL
Moezy 2008									None rep	oorted		CRITICAL
Fu 2013									None rep			CRITICAL
Berschin 2014									Minor complicat pain or swellin after muscle occurred in 12/ the WBV group (70%) in the co- up to the 6t	g during or exercise 20 (60%) in o and 14/20 ontrol group		CRITICAL
Pistone 2016									None rep	ported		CRITICAL
Costantino 2018									None rep	oorted		CRITICAL

91

			Certainty ass	essment			Nº of p	atients	Effec	rt		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whole-body vibration	Usual care	Relative (95% CI)	Absolute (95% CI)		Importance
da Costa 2019									None reported			CRITICAL

CI: confidence interval; SMD: standardised mean difference

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction Not reporting results or SDs a. b. c.

### Local vibration versus no local vibration in rehabilitation after ACLR

Bibliography: Brunetti 2006, Park 2019, Coulondre 2022

Nº of												
studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Local vibration	No local vibration	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Balance												
1												
Balance - o	pen eyes cent	er of pressure	e speed– 4 month	s post-op				•				
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors statistically s improvement in the interventi	ignificant balance in	⊕⊖⊖⊖ Very low	CRITICAL
Balance - o	pen eyes cent	er of pressure	e speed – 10 mon	ths post-op					•			
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors statistically s improvement in the interventi	ignificant balance in	⊕⊖⊖⊖ Very low	CRITICAL
balance - cl	losed eyes cer	nter of pressu	re speed – 4 mon	ths post-op		I		,	1			
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors statistically s improvement in the interventi	ignificant balance in	⊕⊖⊖⊖ Very low	CRITICAL
Balance - c	losed eyes cer	nter of pressu	ire speed 10 mon	ths post-op								
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors statistically s improvement in the interventi	ignificant balance in	⊕⊖⊖⊖ Very low	CRITICAL
Balance - o	open eyes ellipt	tic area – 4 m	onths post-op									
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors statistically s improvement in the interventi	ignificant balance in	⊕⊖⊖⊖ Very low	CRITICAL
Balance - o	open eyes ellipt	tic area 10 mo	onths post-op			LI			1			
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors statistically s improvement in the interventi	ignificant balance in	⊕⊖⊖⊖ Very low	CRITICAL
Balance - c	losed eyes elli	ptic area – 4	months post-op					•				
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors statistically s improvement in the interventi	ignificant balance in	⊕⊖⊖⊖ Very low	CRITICAL
Balance - c	losed eyes elli	ptic area 10 n	nonths post-op					*	•			
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors statistically s improvement in the interventi	ignificant balance in	⊕⊖⊖⊖ Very low	CRITICAL
Strength	h											
3												
Strength - C	Quadriceps CC	N 60°/s (bett	er indicated by hi	gher values) – 4	weeks post-op							
1 Park 2019	randomised trial	serious	not assessable	not serious	very serious a, b	none	11	13	SMD 0.64 (0.18 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	N 60°/s (bett	er indicated by hi	gher values) – 8	weeks post-op							
1 Park 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	11	13	SMD 1.51 (0.58 higher to 2		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps ISC	OM 90° (bette	r indicated by hig	her values) – 10	weeks post-op			1	1			
1 Coulondre 2022	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	11	12	SMD 1.13 (0.24 higher to 2		⊕⊖⊖⊖ Very low	CRITICAL

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

			Certainty asse	essment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Local vibration	No local vibration	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 3.8 (2.54 higher to			CRITICAL
Strength - C	Quadriceps CC	0N 60°/s (bette	er indicated by hi	gher values) – 1	10 months post-op	0			•			
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious a, b	none	15	15	SMD 3.11 (2 higher to 4		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	N 60°/s (better	r indicated by hig	her values) – 4	weeks post-op							
1 Park 2019	randomised trial	serious	not assessable	not serious	very serious a, b	none	11	13	SMD <b>1.58</b> (0.64 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	N 60°/s (better	r indicated by hig	her values) – 8	weeks post-op			1	1			
1 Park 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	11	13	SMD 1.08 (0.21 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Patient r	reported or	utcome m	easures (PR	OM)				-				
2					ļ							
PROM - IKE	)C 4m				I	[]		I	I			
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors rep scores in the i grou	ntervention	⊕⊖⊖⊖ Very low	CRITICAL
PROM - IKE	OC 10m											
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors rep scores in the i grou	ntervention	⊕⊖⊖⊖ Very low	CRITICAL
PROM – SF	-36 4m										,	
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors rep scores in the i grou	ntervention	⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF	-36 10m								•			
1 Brunetti 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors rep scores in the i grou	ntervention	⊕⊖⊖⊖ Very low	CRITICAL
PROM - and	ciety (VAS) (be	tter indicated	by lower values)	– 8 weeks post	t-op				4			
1 Park 2019	randomised trial	very serious	not assessable	not serious	very serious a, b	none	11	11	SMD 0.59 (1.45 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
PROM - syr	nptoms (VAS)	(better indica	ted by lower valu	es) – 8 weeks p	oost-op			1	1			
1 Park 2019	randomised trial	very serious	not assessable	not serious	very serious a, b	none	11	11	SMD 1.48 (2.44 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Function	nal activitie	es						ļ	<u> </u>			
1												
Functional	- Timed Up and	d Go test (s) (	better indicated b	y lower values	) – 10 weeks post	ор		·				
1 Coulondre 2022	randomised trial	very serious	not assessable	not serious	very serious a, b	none	11	12	SMD 0.24 (1.06 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	– Six Minute W	/alk Test (m) (	(better indicated I	by higher value	s) – 10 weeks pos	it-op		• • • • • • • • • • • • • • • • • • • •	•			
1 Coulondre 2022	randomised trial	very serious	not assessable	not serious	very serious a, b	none	11	12	SMD 0.2 (1.02 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Range o	f motion (I	ROM)										
1												
ROM - knee	range of moti	on (better ind	licated by higher	values) – 4 wee	ks post-op							
1 Park 2019	randomised trial	serious	not assessable	not serious	very serious a, b	none	11	13	SMD <b>1.92</b> (0.92 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee	e range of mot	ion (better ind	dicated by higher	values) – 8 wee	eks post-op		-					

			Certainty asso	essment			Nº of p	atients	Effec	:t		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Local vibration	No local vibration	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Park 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	11	13	SMD 1.55 (0.61 higher to 2		⊕⊖⊖⊖ Very low	IMPORTANT
Pain												
1												
Pain - pain (	(VAS) (better i	ndicated by lo	ower values) – 8 v	weeks post-op								
1 Park 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	11	11	SMD 2.04 (3.11 lower to (		⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
Adverse	events								ł			
Brunetti 2006									"Patients receive did not report a discomfort de treatment and, 20 subje	ny signs of uring the in 16 out of		CRITICAL
Park 2019									None rep	orted		CRITICAL
Coulondre 2022									None rep	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

Inconsistency I<sup>2</sup> >75% serious

а

Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs b. c.

### Early mobilisation versus delayed mobilisation in rehabilitation after ACLR

Bibliography: Haggmark 1979, Henriksson 2002, Hiemstra 2009, Ito 2007, Noyes 1987, Isberg 2006, Vadala 2007, Christensen 2013

			Certainty assess	sment			Nº of p	atients	Effect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early mobilisation	Delayed mobilisation	Relative (95% CI) Absolute (95% CI)	Certainty	Importance
Range of I	motion (RC	DM)									
7											
ROM - flexion	(better indicate	ed by higher va	lues) – 1 week po	ost-op							
1 Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	9	SMD 0.37 higher (0.57 lower to 1.3 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexion	(better indicate	ed by higher va	lues) – 2 weeks p	oost-op		1		r	1	T	
1 Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	9	SMD 0.72 higher (0.24 lower to 1.68 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexion	(better indicate	ed by higher va	lues) – 3 weeks p	oost-op		1		1	r	1	
2 Noyes 1987 Hiemstra 2009	randomised trials	very serious	very serious I <sup>2</sup> =85%	not serious	very serious <sup>a, b</sup>	none	49	51	SMD 0.34 higher (1.09 lower to 1.77 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - flexion	(better indicate	ed by higher va	lues) – 1 month r	oost-op						•	
1 Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	9	SMD 0.93 higher (0.05 lower to 1.92 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee fle	exion differenc	e between limb	os (better indicate	d by lower valu	es) – 3 months po	ost-op					
1 Christensen 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	16	SMD 0.08 lower (0.76 lower to 0.6 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee fle	exion differenc	e between limb	s (better indicate	d by lower valu	es) – 6 months po	ost-op		1		1	<u> </u>
1 Christensen 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	16	SMD 0.01 higher (0.67 lower to 0.7 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Henriksson 2002	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	24	24	The authors reported no statistically significant difference between the two groups.	⊕⊖⊖⊖ Very low	CRITICAL
Isberg 2006	randomised trial	very serious	not assessable	not serious	very serious a. c	none	11	11	The authors reported no statistically significant difference between the two groups.	⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee fle	exion – 1 year j	oost-op	,							,	
Haggmark 1979	randomised trial	very serious	not assessable	not serious	very serious a.c	none	8	8	"Patients with a movable cast brace regained full range of motion of the knee joint faster than did the group with a cylinder cast. The group with a cylinder cast regained full range of motion at a slower pace. On an average, it took 16 weeks for this group to achieve the same range of motion as the group with a cast brace had obtained within 8 weeks."	⊕⊖⊖⊖ Very low	CRITICAL
Henriksson 2002	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	23	24	The authors reported no statistically significant difference between the two groups.	⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee fle	exion – 2 years	post-op						· · · · · · · · · · · · · · · · · · ·			
Henriksson 2002	randomised trial	very serious	not assessable	not serious	very serious a. c	none	22	23	The authors reported no statistically significant difference between the two groups.	⊕⊖⊖⊖ Very low	CRITICAL

studies         rat           Isberg 2006         rat           ROM - extension (I         rat           Noyes 1987         rat           Noyes 1987         rat	(better indic andomised trial (better indic trial (better indic trial (better indic trial (better indic trial	very serious ated by lower very serious ated by lower very serious	not assessable values) – 2 weeks not assessable values) – 3 weeks not assessable values) – 1 month	not serious s post-op not serious	Imprecision very serious a. c very serious a. b very serious a. b very serious a. b	Other considerations none none	Early mobilisation 11 9 9	Delayed mobilisation 11 9 9	difference bei grou	significant ween the two ups. <b>18 lower</b> <b>0</b> 0.55 higher) <b>18 lower</b>	Certainty $\bigoplus \bigcirc \bigcirc \bigcirc \bigcirc$ Very low $\bigvee$ Very low $\bigoplus \bigcirc \bigcirc \bigcirc$ Very low	CRITICAL CRITICAL CRITICAL
ROM - extension (i         1         Noyes 1987	trial (better indic indomised trial (better indic indomised trial (better indic indomised trial (better indic indomised trial (better indic indomised trial	ated by lower very serious ated by lower very serious ated by lower very serious ated by lower	values) – 1 week not assessable values) – 2 weeks not assessable values) – 3 weeks not assessable	post-op not serious s post-op not serious s post-op	very serious a. b very serious a. b	none	9	9	statistically difference bel grou SMD 0.2 (1.31 lower to SMD 1.1	significant ween the two ups. <b>18 lower</b> <b>0</b> 0.55 higher) <b>18 lower</b>	Very low Very low Output	CRITICAL
1     rar       Noyes 1987     rar       ROM - extension (I     rar       ROM - extension (I     rar       Noyes 1987     rar       ROM - extension (I     rar       Noyes 1987     rar	(better indic trial (better indic undomised trial (better indic trial (better indic trial (better indic trial (better indic trial undomised trial (better indic	very serious ated by lower very serious ated by lower very serious ated by lower	not assessable values) – 2 weeks not assessable values) – 3 weeks not assessable values) – 1 month	not serious s post-op not serious s post-op	very serious <sup>a, b</sup>				(1.31 lower to SMD 1.1	0.55 higher)		
Noyes 1987           ROM - extension (I           Noyes 1987	trial (better indic indomised trial (better indic indomised trial (better indic indomised trial indomised tria	ated by lower very serious ated by lower very serious ated by lower	values) – 2 weeks not assessable values) – 3 weeks not assessable values) – 1 month	s post-op not serious s post-op	very serious <sup>a, b</sup>				(1.31 lower to SMD 1.1	0.55 higher)		
1     rar       Noyes 1987     rar       ROM - extension (I     rar       Noyes 1987     rar       ROM - extension (I     rar       Noyes 1987     rar       ROM - extension (I     rar       ROM - extension (I     rar       Noyes 1987     rar	(better indic trial (better indic andomised trial (better indic undomised trial	very serious ated by lower very serious ated by lower	not assessable values) – 3 weeks not assessable values) – 1 month	not serious s post-op		none	9	9				CRITICAL
Noyes 1987 ROM - extension (I 1 rar Noyes 1987 ROM - extension (I 1 rar Noyes 1987 ROM - knee extension	trial (better indic andomised trial (better indic andomised trial asion differen	ated by lower very serious ated by lower	values) – 3 weeks not assessable values) – 1 monti	s post-op		none	9	9				CRITICAL
1     rar       Noyes 1987     rar       ROM - extension (I     rar       Noyes 1987     rar       ROM - knee extense     rar	Indomised trial (better indic andomised trial	very serious	not assessable values) – 1 monti		very serious <sup>a, b</sup>				1	0.16 lower)	Very low	ł
Noyes 1987 ROM - extension (I Noyes 1987 ROM - knee extens	trial (better indic andomised trial ssion differen	ated by lower	values) – 1 monti	not serious	very serious <sup>a, b</sup>							
1 rar Noyes 1987 ROM - knee extens	andomised trial	-	-			none	9	9	SMD <b>0.</b> (1.44 lower to	5 lower o 0.44 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Noyes 1987 ROM - knee extens	trial	very serious		h post-op								
			not assessable	not serious	very serious a, b	none	9	9	SMD 0.3 (1.28 lower to	<b>4 lower</b> 0 0.59 higher)	⊕⊖⊖⊖ Very low	CRITICAL
	andomised	nce between li	mbs (better indic	ated by lower v	alues) – 3 months	s post-op						
1 rar Christensen 2013	trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	16	SMD 0.5 (1.22 lower to	<b>53 lower</b> 0 0.17 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee extens	sion differe	nce between li	mbs (better indic	ated by lower v	alues) – 6 months	s post-op			Į			
1 rar Christensen 2013	andomised trial	very serious	not assessable	not serious	very serious a, b	none	17	16		<b>6 lower</b> 0.13 higher)	⊕⊖⊖⊖ Very low	CRITICAL
	andomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	23	24	statistically difference bet	ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Isberg 2006 rar	andomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	11	11		reported no significant ween the two		CRITICAL
ROM-flexion	achiova	d full flowig	n at 10m			ļ			groi	ups.		L
	adomised	very serious	not assessable	not serious	serious a	none	17/18 (94.4%)	21/23 (91.3%)	RR 1.03	27 more	<b>A</b> 000	CRITICAL
Vadala 2007	trial	very serious	101 8336338816	not actiona	3611003 -	none	1710 (34.476)	21/20 (01.076)	(0.87 to 1.22)	per 1,000 (from 119 fewer to 201 more)	⊕⊖⊖⊖ Very low	ONTIONE
ROM - knee extens	nsion – 1 yea	ar post-op		I	,							
Henriksson rar 2002	andomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	23	24			⊕⊖⊖⊖ Very low	CRITICAL
ROM - knee extens	nsion – 2 yea	ars post-op		I	,							
Henriksson rar 2002	andomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	33	34	statistically	reported no significant tween the two	⊕⊖⊖⊖ Very low	CRITICAL
Isberg 2006 rar	andomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	11	11	The authors	reported no significant tween the two	⊕⊖⊖⊖ Very low	CRITICAL
Pain				1	ļ	1						
2												
Pain - VAS scale (I	(better indica	ated by lower	values) – 1 hour p	post-op	I	I			1			
1 rar Hiemstra 2009	andomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD 0.0 (0.4 lower to	<b>4 higher</b> 0.47 higher)	⊕⊖⊖⊖ Very low	CRITICAL

			Certainty assess	sment			№ of p	atients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early mobilisation	Delayed mobilisation	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD <b>0.07</b> (0.37 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sc	ale (better indic	cated by lower	values) – 24 hour	rs post-op					•			
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD 0.2 (0.65 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sc	ale (better indic	cated by lower	values) – 36 hour	rs post-op				<u> </u>	<b></b>			
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD 0.16 (0.28 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sc	ale (better indic	cated by lower	values) – 2 days	post-op								
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD <b>0.2</b> (0.67 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sc	ale (better indic	cated by lower	values) – 2.5 day	s post-op								
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	42	42	SMD 0.12 (0.31 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sc	ale (better indic	cated by lower	values) – 7 days	post-op					,			-
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD 0.0 (0.52 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - VAS sc	ale (better indic	cated by lower	values) – 2 weeks	s post-op				ł				
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD 0.08 (0.36 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medica	tion used oral o	opioids (better	indicated by lowe	er values) – 12 h	our post-op							
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD <b>0.0</b> (0.49 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medica	tion used oral a	anti-inflammato	ory (better indicat	ed by lower valu	ues) – 12 hour po	st-op						
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious a	none	40	42	SMD <b>0.1</b> (0.55 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medica	tion used oral o	opioids (better	indicated by lowe	er values) – 1 da	y post-op			Į	<u>,</u>			
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD <b>0.4</b> (0.85 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medica	tion used oral a	anti-inflammato	ory (better indicat	ed by lower valu	ues) – 1 day post-	ор		Į	<u>,</u>			
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD <b>0.1</b> (0.55 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medica	tion used Tyler	nol (better indic	ated by lower val	lues) – 1 day po	st-op	•		•				
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD 0.21 (0.22 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medica	tion used oral o	opioids (better	indicated by lowe	er values) – 2 da	ys post-op	· · · · · ·		• • • • • • • • • • • • • • • • • • • •				
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious a	none	40	42	SMD 0.2 (0.66 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medica	tion used oral a	anti-inflammato	ory (better indicat	ed by lower valu	ues) – 2 days pos	t-op	- 	·	·			-
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious a	none	40	42	SMD <b>0.0</b> (0.49 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medica	tion used Tyler	nol (better indic	ated by lower va	lues) – 2 days p	ost-op							
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious ª	none	40	42	SMD 0.22 (0.21 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Dain modica	tion used – free	uency of pain	medication durin	g hospital stay	(3d)	•		,	,			

			Certainty assess	sment			Nºofp	atients	Effe	ct		
Nº of	Study	Risk of	-			Other	Early	Delayed	Relative	Absolute	Certainty	Importance
studies	design	bias	Inconsistency	Indirectness	Imprecision	considerations	mobilisation	mobilisation	(95% CI)	(95% CI)		
Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious <sup>a. c</sup>	none	9	9	SDs are not re authors rep statistically difference betw grou	orted no significant ween the two		CRITICAL
Pain - medicat	tion used oral o	opioids (better	indicated by lowe	er values) – 1 we	eek post-op							
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious a	none	40	42	SMD 0.19 (0.24 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medicat	tion used oral a	anti-inflammato	ory (better indicat	ed by lower value	ues) – 1 week pos	t-op						
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	40	42	SMD (0.43 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medicat	tion used Tyler	ol (better indic	ated by lower va	lues) – 1 week p	ost-op							•
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	40	42	SMD 0.29 (0.72 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medicat	tion used oral o	opioids (better	indicated by lowe	er values) – 2 we	eeks post-op							
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious <sup>b</sup>	none	40	42	SMD 0.07 (0.37 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medicat	tion used oral a	anti-inflammato	ory (better indicat	ed by lower value	ues) – 2 weeks po	st-op						
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious a	none	40	42	SMD 0.16 (0.6 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Pain - medicat	tion used Tyler	ol (better indic	ated by lower va	lues) – 2 weeks	post-op							
1 Hiemstra 2009	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	40	42	SMD 0.36 (0.80 lower to			CRITICAL
Laxity												
7												
Laxity - laxity	(better indicate	d by lower val	ues) – 3 months p	oost-op				ļ	μ			<u>.</u>
2 Christensen 2013 Ito 2007	randomised trials	very serious	not serious I²=0%	not serious	serious ª	none	32	31	SMD 0.29 (0.21 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	9	9	SDs are not re authors rep statistically difference betw grou	oorted no significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - (better	r indicated by I	ower values) –	6 months post-o	p								
3 Henriksson 2002 Isberg 2006 Ito 2007	randomised trials	very serious	very serious I <sup>2</sup> =83%	not serious	very serious <sup>a, b</sup>	none	50	50	SMD 0.23 (1.28 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	using radioste	reometric anal	ysis (better indic	ated by lower va	alues) – 6 months	post-op	<u> </u>	l	1			l
Isberg 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	11	11	SMD 0.50 (0.35 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Laxity - laxity	(better indicate	d by lower val	ues) – 1 year pos	t-op					•			•
2 Henriksson 2002 Ito 2007	randomised trials	very serious	not serious I <sup>2</sup> =2%	not serious	serious <sup>a</sup>	none	38	39	SMD <b>0.37</b> (0.09 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	9	9	SDs are not re authors rep statistically difference betw grou	oorted no significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Stability - stab	bility O'Donogh	ue – 9-12 mont	ths post-op	I		I		I				Į

			Certainty assess	sment			Nº of p	atients	Effe	ect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early mobilisation	Delayed mobilisation	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Haggmark 1979	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	8	8	SMD 0.10 (0.82 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Laxity - laxity	(better indicate	ed by lower val	ues) – 2 years po	st-op								
2 Henriksson 2002 Isberg 2006	randomised trials	very serious	not serious l2=4%	not serious	serious <sup>a</sup>	none	33	34	SMD 0.3 (0.18 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Laxity - laxity	using radioste	reometric analy	ysis (better indica	ited by lower va	lues) – 2 years po	ost-op						
Isberg 2006	randomised trial	very serious	not assessable	not serious	very serious a, b	none	11	11	SMD 0.23 (0.61 lower to		⊕⊖⊖⊖ Very low	CRITICAL
axity - laxity f	emoral tunnel	diameter (bette	er indicated by low	ver values) – 10	months post-op							•
1 Vadala 2007	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	23	SMD 0.8 (0.17 higher to		⊕⊖⊖⊖ Very low	CRITICAL
axity - laxity t	ibial tunnel dia	imeter (better i	ndicated by lower	values) – 10 m	onths post-op			,	,			•
1 Vadala 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	23	SMD 0.7 (0.13 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Patient rep	ported out	comes (PR	OM)									
4												
PROM – Lysh	olm scale – 3 n	nonths post-op	•					•				•
1 Ito 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors statistically difference bet grou	significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lysho	olm scale – 3 m	onths post-op							1			
1 Ito 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors statistically difference bet grou	significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
PROM - IKDC	scale (better in	dicated by hig	her values) – 3 m	onths post-op								
1 Christensen 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	16	SMD <b>0.9</b> (0.25 higher t		⊕⊖⊖⊖ Very low	CRITICAL
	scale (better in	dicated by hig	her values) – 6 m	onths post-op				ļ	1			
1 Christensen 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	16	SMD 0.7 (0.01 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lysho	olm scale (bette	er indicated by	higher values) –	1 year post-op								
1 Henriksson 2002	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	23	24	SMD 0.1 (0.4 lower to		⊕⊖⊖⊖ Very low	CRITICAL
lto 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors statistically difference bet grou	significant ween the two		CRITICAL
PROM - Tegne	er scale (better	indicated by h	igher values) – 1	year post-op								
1 Henriksson 2002	randomised trial	very serious	not assessable	not serious	very serious a, b	none	23	24	SMD 0.3 (0.26 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lysho	olm scale (bette	er indicated by	higher values) –	2 years post-op								
2 Henriksson 2002 Isberg 2006	randomised trials	very serious	serious I²=71%	not serious	very serious a, b	none	33	34	SMD 0.12 (0.83 lower to		⊕⊖⊖⊖ Very low	CRITICAL
-	er scale (better	I r indicated by h	ligher values) – 2	vears post-on				l	I			
2 Henriksson 2002 Isberg 2006	randomised trials	very serious	not serious I²=25%	not serious	very serious <sup>a, b</sup>	none	33	34	SMD 0.0 (0.65 lower to		⊕⊖⊖⊖ Very low	CRITICAL
-	l	I	ļ	L				ļ	I			l
Swelling												

			Certainty assess	ement			No.of n	atients	Effe	oct		
Nº of	Study	Risk of	-	sinen		Other	Early	Delayed	Relative	Absolute	Certainty	Importance
studies	design	bias	Inconsistency	Indirectness	Imprecision	considerations	mobilisation	mobilisation	(95% CI)	(95% CI)		
1												
	r		) – 1 week post-o	: 		[						
1 Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	9	SMD 0.07 (0.86 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Swelling - (bet	tter indicated b	y lower values	) – 2 weeks post-	ор				1	T			-
1 Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	9	SMD 0.2 (1.22 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Swelling - (bet	tter indicated b	y lower values	) – 3 weeks post-	ор								
1 Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	9	SMD 0.52 (1.47 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Swelling - (bet	ter indicated b	y lower values	) – 4 weeks post-	ор		<u> </u>		1	1			
1 Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious a, b	none	9	9	SMD 0.5 (1.51 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy								ļ	<b>_</b>			
2												
	n circumferenc	e difference 15	cm above patella	(better indicate	d by lower values	s) – 1 week post-or	<u> </u>	ļ	ļ			
1 Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious a, b	none	9	9	SMD 0.21 (0.72 lower to			IMPORTANT
atrophy - thigh	n circumferenc	e difference 15	cm above patella	(better indicate	d by lower values	s) – 2 weeks post-o	op				,	
1 Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious a, b	none	9	9	SMD 0.37 (0.56 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
atrophy - thigh	n circumferenc	e difference 15	icm above patella	(better indicate	d by lower values	s) – 3 weeks post-c	op	1				
1 Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious a, b	none	9	9	SMD 0.3 (0.63 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
atrophy - thigh	n circumferenc	e difference 15	cm above patella	(better indicate	d by lower values	s) – 4 weeks post-o	op	Į	J		<u> </u>	
1 Noyes 1987	randomised trial	very serious	not assessable	not serious	very serious a, b	none	9	9	SMD 0.36 (0.58 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
atrophy - vast	us lateralis cro	ss-sectional ar	rea difference (be	tter indicated by	/ lower values) – {	5 weeks post-op		1				
1 Haggmark 1979	randomised trial	very serious	not assessable	not serious	very serious a, b	none	8	8	SMD 1.5 (2.68 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength	<u> </u>	,	ļ	Į			<u> </u>	J	J			
3									1			
	press isometri	c test differenc	e between limbs	(better indicate	d by higher value	s) – 3 months post	-op		I		<u></u>	<u> </u>
1 Christensen 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	16	SMD <b>0.64</b> (0.06 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
	adriceps CON	60°/s (better in	dicated by higher	l r values) – 6 mo	nths post-op	ļ						
2 Henriksson 2002	randomised trials	very serious	not serious I <sup>2</sup> =0%	not serious	serious a	none	39	39	SMD 0.23 (0.22 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Ito 2007		ļ						ļ	ļ			
-	-	-	dicated by higher						1			
2 Henriksson 2002 Ito 2007	randomised trials	very serious	not serious I2=0%	not serious	serious ª	none	38	39	SMD 0.08 (0.37 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Qua	adriceps CON (	60°/s (better ind	dicated by higher	values) – 2 yea	rs post-op							
1 Henriksson 2002	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	23	SMD 0.13 (0.45 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
	nstring CON 60	)°/s (better indi	icated by higher v	l values) – 6 mont	ths post-op	ļ	<u> </u>	I			<u></u>	

			Certainty assess	sment			N⊵ofp	atients	Effe	ect		
Nº of	Study	Risk of				Other	Early	Delayed	Relative	Absolute	Certainty	Importance
studies	design	bias	Inconsistency	Indirectness	Imprecision	considerations	mobilisation	mobilisation	(95% CI)	(95% CI)		
2 Henriksson 2002 Ito 2007	randomised trials	very serious	not serious I²=0%	not serious	serious <sup>a</sup>	none	39	39	SMD 0.09 (0.35 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Han	nstring CON 60	0°/s (better indi	icated by higher v	values) – 1 year	post-op	,						
2 Henriksson 2002 Ito 2007	randomised trials	very serious	not serious I²=0%	not serious	serious <sup>a</sup>	none	38	39	SMD 0.02 (0.46 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength - Han	mstring CON 60	0°/s (better ind	icated by higher v	values) – 2 years	s post-op	•			•			
1 Henriksson 2002	randomised trial	very serious	not assessable	not serious	very serious a, b	none	22	23	SMD <b>0.14</b> (0.45 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functiona	l activities		,			,						
1												
Functional - si	ingle leg hop fo	or distance (be	tter indicated by I	higher values) –	2 years post-op	,		•	•			
1 Isberg 2006	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	11	11	SMD 0.16 (0.68 lower t		⊕⊖⊖⊖ Very low	IMPORTANT
Proprioce	ption											
1									ļ			
Proprioception	n – joint positio	on sense – 3 m	onths post-op					1	1			1
1 Ito 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors is statistically difference between group	significant ween the two	⊕⊖⊖⊖ Very low	IMPORTANT
Proprioception	n - joint positio	on sense – 6 mo	onths post-op									
1 Ito 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors of statistically difference betw grou	significant ween the two	⊕⊖⊖⊖ Very low	IMPORTANT
Proprioception	n - joint positio	on sense (bette	r indicated by low	ver values) – 1 y	ear post-op	,		ł				ł
1 Ito 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.08 (0.64 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse ev	ents											
Hiemstra 2009									Six patients ( documer experier complic postoperati patients (4 im nonimmobilize by an emerge physician with celluilisi/peri were trea antibiotics wit of their symp patient (nonim presente hematoma at site that resolv	nted as icing a sation vely. Five imobilizer, 1 r) were seen incy of family in diagnosed iostitis and ted with h resolution otoms. One mmobilizer) d with a the harvest		CRITICAL
Haggmark 1979									None re	ported		CRITICAL
Henriksson 2002									None re	ported		CRITICAL
lto 2007									None re	ported		CRITICAL
Noyes 1987									None re	ported		CRITICAL
Isberg 2006									None re	ported		CRITICAL
Vadala 2007									None re			CRITICAL
Christensen 2013									None re	ported		CRITICAL

CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

- а
- b.
- Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs 95% Cl boundaries cross the arbitrary thresholds of 0.75 and 1.25 c. d.

#### Immediate weight-bearing versus delayed weight-bearing in rehabilitation after ACLR

Bibliography: Tyler 1998

			Certainty asso	essment			Nº of p	atients	E	ffect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Immediate weight- bearing	Delayed weight- bearing	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
ROM						I					l	
1												
ROM - flexio	n loss at follo	w-up (better in	ndicated by lower	values) – 1 yea	r post-op							
1 Tyler 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	25	20		1.12 lower to 0.47 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - numb	er of patients	with knee ext	ension deficit >5°	' at 2 weeks pos	st-op		•					
1 Tyler 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	10/27 (37.0%)	17/22 (77.3%)	<b>RR 0.48</b> (0.28 to 0.82)	<b>402 fewer per</b> <b>1,000</b> (from 556 fewer to 139 fewer)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - numb	er of patients	with knee ext	ension deficit at	l year post-op		,					,	
1 Tyler 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	5/25 (20%)	3/20 (15%)	<b>RR 1.33</b> (0.36 to 4.92)	<b>50 more per</b> <b>1,000</b> (from 96 fewer to 588 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity												
1												
Laxity – laxi	ty difference I	oetween limbs	measured by KT	-1000 (better ind	dicated by lower va	lues) – 1 year pos	t-op	•			•	
1 Tyler 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	25	20		<b>.03 higher</b> to 0.62 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Lachman – o	clinical exami	nation at follow	w-up – 1 year pos	t-op								
Tyler 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	25	20	authors report significant dif	t reported. The ted no statistically ference between vo groups	⊕⊖⊖⊖ Very low	CRITICAL
Pivot shift -	clinical exam	ination at follo	ow-up – 1 year po	st-op		ļ	ļ	Į	<u>.</u>		ļ	
Tyler 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	25	20	authors report significant dif	t reported. The ted no statistically ference between ro groups	⊕⊖⊖⊖ Very low	CRITICAL
Patient	reported	d outcom	nes (PROM)			,	,					
1												
PROM – Lys	holm scale (b	etter indicated	d by higher values	s) – 1 year post-	ор							
1 Tyler 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	25	20		.31 higher to 0.90 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Teg	ner (better inc	licated by high	ner values) – 1 ye	ar post-op								
1 Tyler 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	25	20		<b>.49 lower</b> to 0.11 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Anterior	knee pain	– number	of patients t	hat reporte	d knee pain a	t 1 year post-	ор					
Tyler 1998	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	2/25 (8.0%)	7/20 (35%)	<b>RR 0.23</b> (0.05 to 0.98)	<b>269 fewer per</b> <b>1,000</b> (from 332 fewer to 7 fewer)	⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events							•				
Tyler 1998									None	reported		CRITICAL

CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

a.

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction b.

Not reporting results or SDs 95% CI boundaries cross the arbitrary thresholds of 0.75 and 1.25 c. d.

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

# Early start of OKC versus delayed start of OKC exercises in rehabilitation after ACLR

Bibliography: Heijne 2007, Fukuda 2013

			Certainty asses	ssment			Nº of p	atients	Effe	ect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early start of OKC	Late start of OKC	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Strength												
2												
Strength – Qu	adriceps ISO	M 60° (better in	dicated by higher	r values) – 3 mo	nths post-op		-					
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	17	SMD 0.0 (0.69 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Qu	adriceps CON	l 90°/s (better i	ndicated by high	er values) – 3 m	onths post-op							
1 Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious a, b	none	34	28	SMD <b>0.4</b> (0.97 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Qu	adriceps ISO	M 60° (better in	dicated by higher	r values) – 5 mo	nths post-op			-				
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD 0.37 (0.30 lower to		⊕⊖⊖⊖ Very low	CRITICAL
itrength – Qu	I adriceps CON	l 90°/s (better i	ndicated by highe	er values) – 5 m	onths post-op		I				I	
1 Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious a, b	none	29	26	SMD <b>0.1</b> (0.71 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Qu	adriceps ISO	M 60° (better in	dicated by higher	r values) – 7 mo	nths post-op							
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD 0.39 (0.28 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Qu	adriceps CON	l 90°/s (better i	ndicated by highe	er values) – 7 m	onths post-op						ļļ	
1 Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious a, b	none	27	27	SMD 0.05 (0.48 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Qu	adriceps ISOI	M 60° (better in	dicated by higher	r values) – 17 m	onths post-op							
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD <b>0.46</b> (0.21 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Ha	mstring ISOM	60° (better ind	licated by higher	values) – 3 mon	ths post-op							
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD 0.2 (0.92 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Ha	mstring CON	90°/s (better in	dicated by higher	values) – 3 mo	nths post-op		1				·	
1 Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious a, b	none	34	28	SMD <b>0.1</b> 1 (0.39 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Ha	mstring ISOM	60° (better ind	licated by higher	values) – 5 mon	ths post-op							
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	17	SMD <b>0.3</b> (1.04 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Ha	mstring CON	90°/s (better in	dicated by higher	values) – 5 mo	nths post-op							
1 Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious a, b	none	29	26	SMD 0.12 (0.41 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Ha	mstring ISOM	60° (better ind	licated by higher	values) – 7 mon	ths post-op							
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD 0.1 (0.85 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Ha	mstring CON	90°/s (better in	dicated by higher	values) – 7 mo	nths post-op							
1 Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	27	27	SMD 0.16 (0.38 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength – Ha	mstring ISOM	60° (better ind	licated by higher	values) – 17 mo	nths post-op							
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD <b>0.4</b> (1.17 lower to		⊕⊖⊖⊖ Very low	CRITICAL
axity												

			Certainty asse	ssment			Nº of p	atients	Eff	ect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early start of OKC	Late start of OKC	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
2									. ,	. ,		
Laxity - laxity	difference bet	tween limbs me	easured by KT-10	00 (better indica	ated by lower valu	es) – 3 months pos	it-op	Į				
2 Fukuda 2013 Heijne 2007	randomised trials	very serious	not serious I2=0%	not serious	serious ª	none	52	45	SMD <b>0.2</b> (0.11 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Laxity - laxity	difference bet	tween limbs me	easured by KT-10	00 (better indica	ated by lower valu	es) – 5 months pos	it-op					
2 Fukuda 2013 Heijne 2007	randomised trials	very serious	not serious I <sup>2</sup> =0%	not serious	serious ª	none	47	43	SMD <b>0.3</b> (0.05 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Laxity - laxity	difference bet	tween limbs me	easured by KT-10	00 (better indica	ated by lower valu	es) – 7 months pos	it-op					
2 Fukuda 2013 Heijne 2007	randomised trials	very serious	not serious I2=0%	not serious	serious ª	none	45	44	SMD <b>0.2</b> (0.18 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Laxity - laxity	difference bet	tween limbs me	easured by KT-10	00 (better indica	ated by lower valu	es) – 17 months po	st-op					
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD <b>0.4</b> (1.16 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain												
2												
Pain VAS scal	e (better indic	ated by lower	values) – 3 monti	ns post-op								
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	17	SMD <b>0.8</b> (1.5 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	34	28	The authors statistically difference bet grou	significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Pain VAS scal	e (better indic	ated by lower	values) – 5 monti	ns post-op				1				
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD 0.2 (0.92 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	34	28	The authors statistically difference bet grou	significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Pain VAS scal	e (better indic	cated by lower	values) – 7 monti	ns post-op			I					
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD <b>0.2</b> (0.38 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	34	28	The authors statistically difference bet grou	significant ween the two	⊕⊖⊖⊖ Very low	CRITICAL
Pain VAS scal	e (better indic	ated by lower	values) – 17 mon	ths post-op			1	1				
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD <b>0.3</b> (0.34 lower		⊕⊖⊖⊖ Very low	CRITICAL
Patient r	eported	outcome	s (PROM)									
1												
PROM - Lysho	olm scale (bet	ter indicated by	y higher values) -	- 3 months post-	ор			1				
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	17	SMD <b>0.1</b> (0.78 lower to		⊕⊖⊖⊖ Very low	CRITICAL
-	1	-	y higher values) -	-	-							05.510
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD 0.1 (0.54 lower to			CRITICAL
-	1	-	y higher values) -	-	-		40	47	0110.4	C hisher		ODITION
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	17	SMD 0.1 (0.51 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lysho	olm scale (bet	ter indicated by	y higher values) -	- 17 months pos	t-op							

1 Fukuda 2013 <b>Functional - cr</b> 1 Fukuda 2013		Risk of bias very serious	Inconsistency not assessable	Indirectness	Imprecision	Other	Early start	Late start	Relative	Absolute	Certainty	Importance
Fukuda 2013 Functional - si Functional - si Fukuda 2013 Functional - cr 1 Fukuda 2013	trial <b>activitio</b> ngle leg hop t		not assessable			considerations	of OKC	of OKC	(95% CI)	(95% CI)		
1 Functional - si 1 Fukuda 2013 Functional - cr 1 Fukuda 2013	ngle leg hop	es		not serious	very serious a, b	none	18	17	SMD <b>0.5</b> (1.19 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Functional - si 1 Fukuda 2013 Functional - cr 1 Fukuda 2013												
1 Fukuda 2013 <b>Functional - cr</b> 1 Fukuda 2013												
Fukuda 2013 Functional - cr 1 Fukuda 2013	randomised	for distance sc	ale (better indica	ted by higher va	lues) – 3 months	post-op						
1 Fukuda 2013	trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD 0.2 (0.46 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Fukuda 2013	ossover hop	scale (better in	dicated by highe	r values) – 3 mo	onths post-op			1	1			
Functional - si	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	17	SMD 0.2 (0.47 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
	ngle leg hop	for distance sc	ale (better indica	ted by higher va	llues) – 5 months	post-op						
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD 0.06 (0.6 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional - cr	ossover hop	scale (better in	dicated by highe	r values) – 5 mo	onths post-op							
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD <b>0.33</b> (0.33 lower t		⊕⊖⊖⊖ Very low	IMPORTANT
Functional - si	ngle leg hop i	for distance sc	ale (better indica	ted by higher va	lues) – 7 months	post-op						
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD <b>0.3</b> (1.01 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional - cr	ossover hop	scale (better in	dicated by highe	r values) – 7 mo	onths post-op							
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD <b>0.2</b> 1 (0.46 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional - si	ngle leg hop t	for distance sc	ale (better indica	ted by higher va	lues) – 17 month	s post-op						
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD 0.22 (0.45 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional - cr	ossover hop	scale (better in	dicated by highe	r values) – 17 m	onths post-op	r — — — — — — — — — — — — — — — — — — —		r	r			
1 Fukuda 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	18	17	SMD 0.34 (0.33 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance												
1												
Balance – pos	tural sway	– 3 months po	st-op					1	1			
Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	34	28	The authors statistically difference betw grou	significant veen the two	⊕⊖⊖⊖ Very low	IMPORTANT
Balance - pos	tural sway	– 5 months pos	st-op									
Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	29	26	The authors statistically difference betw grou	significant veen the two	⊕⊖⊖⊖ Very low	IMPORTANT
Balance - pos	tural sway	– 7 months pos	st-op		ļ	ļ		1	I			
Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27	The authors statistically difference betw grou	significant veen the two	⊕⊖⊖⊖ Very low	IMPORTANT
ROM		l			[	<u> </u>		1	grou	p.g.		
1												
Knee flexion a	nd extension							•				
Heijne 2007	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	27	27	No significa differences w terms of knee e knee flexion months poste	ere found in extension and 3, 5 and 7	⊕⊖⊖⊖ Very low	CRITICAL
Adverse ev	vents											

			Certainty asses	ssment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early start of OKC	Late start of OKC	Relative Absolute (95% CI) (95% CI)		Certainty	Importance
Heijne 2007									None reported			CRITICAL
Fukuda 2013									None reported			CRITICAL

CI: confidence interval; SMD: standardised mean difference

a.

b.

Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs 95% Cl boundaries cross the arbitrary thresholds of 0.75 and 1.25 c. d.

## Early isometric strengthening versus usual care in rehabilitation after ACLR

Bibliography: Shaw 2005

			Certainty ass	essment			Nº of pa	tients	Effe	ect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early isometric strengthening	Usual care	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
Strength												
1												
Strength - Q	uadriceps CC	N 60°/s (bette	r indicated by hig	ıher values) – 6	months post-op							
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD 0.1 (0.52 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps EC	C 60°/s (bette	r indicated by hig	her values) – 6	months post-op		1	1				
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD 0.1 (0.54 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Laxity												
Laxity – KT1	000 mean dif	ference – 3 mo	onths post-op					,				
Shaw 2005	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	55	48	Authors reporte difference bet		⊕⊖⊖⊖ Very low	CRITICAL
Laxity – KT1	000 mean dif	ference – 6 mo	onths post-op									-
Shaw 2005	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	55	48	Authors rep significantly grea subjects in the " exercise group abnormal laxity	ter proportion of no quadriceps" demonstrated	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - KT1	000 15lb - sut	jects who dis	played abnormal	laxity >3mm dif	ference between l	imbs – 6 months p	ost-op	μ				<u> </u>
Shaw 2005	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	3/47 (6.4%)	12/44 (27.3%)	<b>RR 0.23</b> (0.07 to 0.77)	210 fewer per 1,000 (from 254 fewer to 63 fewer)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - KT1	000 15lb - sub	jects who dis	played abnormal	laxity >5mm dif	ference between l	imbs – 6 months p	ost-op		· · · · · ·			
Shaw 2005	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	0/47 (0.0%)	2/44 (4.5%)	<b>RR 0.19</b> (0.01 to 3.80)	<b>37 fewer per</b> <b>1,000</b> (from 45 fewer to 127 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - KT1	000 20lb - sub	jects who dis	played abnormal	laxity >3mm dif	ference between l	imbs – 6 months p	ost-op					
Shaw 2005	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	10/47 (21.3%)	13/44 (29.5%)	<b>RR 0.72</b> (0.35 to 1.47)	83 fewer per 1,000 (from 192 fewer to 139 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - KT1	000 20lb - sut	jects who dis	played abnormal	laxity >5mm dif	ference between l	imbs – 6 months p	ost-op	ļ	Į			<u>.</u>
Shaw 2005	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	1/47 (2.1%)	7/44 (15.9%)	<b>RR 0.13</b> (0.02 to 1.04)	<b>138 fewer per</b> <b>1,000</b> (from 156 fewer to 6 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - KT1	000 max man	ual - subjects	who displayed at	onormal laxity >	3mm difference be	etween limbs – 6 m	onths post-op	ļ				<u> </u>
Shaw 2005	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	17/47 (36.2%)	16/44 (36.4%)	<b>RR 0.99</b> (0.58 to 1.72)	4 fewer per 1,000 (from 153 fewer to 262 more)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - KT1	000 max man	ual - subiects	who displayed at	normal laxity >	5mm difference be	etween limbs – 6 m	onths post-op	1		(0 E0E 11010)		
Shaw 2005	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	1/47 (2.1%)	9/44 (20.5%)	<b>RR 0.10</b> (0.01 to 0.79)	<b>184 fewer per</b> <b>1,000</b> (from 203 fewer to 43 fewer)	⊕⊖⊖⊖ Very low	CRITICAL
ROM												L
			1								[	

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

			Certainty ass	essment			Nº of pa	tients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early isometric strengthening	Usual care	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD 0.2 (0.19 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - activ	e knee flexior	n (better indica	ted by higher val	ues) – 1 month	post-op							
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD <b>0.43</b> (0.04 higher to			CRITICAL
ROM - activ	e knee flexior	n (better indica	ted by higher val	ues) – 3 months	s post-op							
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD 0.12 (0.51 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
ROM - activ	e knee flexior	n (better indica	ted by higher val	ues) – 6 months	s post-op	I	1				1	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD 0.14 (0.52 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - activ	e knee extens	ion (better ind	icated by lower v	alues) – 2 week	s post-op	T	1	1			T	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD <b>0.44</b> (0.05 higher to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - pass	ive knee exte		ndicated by lower	values) – 2 wee	eks post-op	1	1	1			1	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD (0.39 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	1	-	icated by lower v		· · ·	1					1	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD 0.48 (0.09 higher to		⊕○○○ Very low	CRITICAL
ROM - pass	r		ndicated by lower			1					1	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD 0.26 (0.13 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - activ	1	1	icated by lower v		· · ·		1	1			1	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD 0.07 (0.32 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	r	1	ndicated by lower	-		1	1				1	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD 0.12 (0.5 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
	r		icated by lower v			[		40				001710.41
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD 0.19 (0.58 lower to		⊕⊖⊖⊖ Very low	CRITICAL
ROM - pass	ive knee exte	nsion (better ir	ndicated by lower	values) – 6 mo	nths post-op	•	•				•	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD 0.24 (0.63 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Patient r	reported o	utcomes (I	PROM)									
1												
PROM - Cin	cinnati sympt	oms (better in	dicated by higher	values) – 1 mo	nth post-op	T	1				1	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD 0.1 (0.29 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	1	1	d by higher value			T	1				1	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD <b>0.31</b> (0.08 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	r	1	dicated by higher	r		T					1	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD 0.09 (0.47 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	cinnati ADL (I	better indicate	d by higher value	s) – 3 months p	ost-op	1						
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD 0.22 (0.17 lower to		⊕⊖⊖⊖ Very low	CRITICAL

			Certainty ass	essment			Nº of pa	tients	Effe	ct		l
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early isometric strengthening	Usual care	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
PROM - Cin	cinnati sympt	oms (better in	dicated by higher	values) – 6 mo	nths post-op							
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD <b>0.6</b> (0.21 higher t		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cine	cinnati ADL (b	etter indicate	d by higher value	s) – 6 months p	ost-op	•					•	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD <b>0.29</b> (0.1 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Pain												
1												
Pain - pain a	at rest (better	indicated by lo	ower values) – 2 v	veeks post-op			J	<u>ا</u> ــــــــــــــــــــــــــــــــــــ			Į	
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious a	none	55	48	SMD 0.17 (0.22 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - pain v	with exercise	(better indicate	ed by lower value	s) – 2 weeks po	st-op	,						
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD 0.35 (0.04 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - pain a	at rest (better	indicated by lo	ower values) – 1 r	nonth post-op								
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious a	none	55	48	SMD (0.39 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - pain v	with exercise	(better indicate	ed by lower value	s) – 1 month po	st-op							
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD 0.23 (0.62 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - pain a	at rest (better	indicated by lo	ower values) – 3 r	nonths post-op								
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD <b>0.14</b> (0.53 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - pain v	with exercise	(better indicate	ed by lower value	s) – 3 months p	ost-op							
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD <b>0.15</b> (0.24 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - pain a	at rest (better	indicated by lo	ower values) – 6 r	nonths post-op								
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD (0.39 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - pain v	with exercise	(better indicate	ed by lower value	s) – 6 months p	ost-op							
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious ª	none	55	48	SMD 0.05 (0.44 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Function	nal											
1												
Functional -	single leg ho	p for distance	(better indicated	by higher value	s) – 6 months pos	st-op						
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD <b>0.18</b> (0.2 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	triple hop for	distance (bet	ter indicated by h	igher values) –	6 months post-op							
1 Shaw 2005	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	55	48	SMD <b>0.15</b> (0.24 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse	events											
Shaw 2005									None rep	ported		CRITICAL

CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

а.

Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs 95% Cl boundaries cross the arbitrary thresholds of 0.75 and 1.25 b. c. d.

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

#### Early leg press strengthening versus usual care in rehabilitation after ACLR

Bibliography: Kinikli 2014

			Certainty ass	essment			№ of pa	atients	Effec	:t		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early CON/ECC strengthening	Usual care	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
Strengtł	h											
1												
Strength - (	Quadriceps CC	N 60°/s (bette	r indicated by high	her values) – 4	months post-op							
1 Kinikli 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	17	SMD <b>0.03</b> (0.71 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Strength - (	Quadriceps CC	N 180°/s (bett	er indicated by h	igher values) –	4 months post-op							
1 Kinikli 2014	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	17	SMD 0.53 (0.17 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Strength - I	Hamstring COI	l 60°/s (better	indicated by high	ner values) – 4 r	nonths post-op				•			
1 Kinikli 2014	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	17	SMD <b>0.45</b> (0.24 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Strength - I	Hamstring COI	l 180°/s (bette	r indicated by hig	her values) – 4	months post-op		,,		,			
1 Kinikli 2014	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	17	SMD <b>0.46</b> (0.23 lower to 1		⊕⊖⊖⊖ Very low	CRITICAL
Patient I	reported o	utcomes (	PROM)		<u> </u>		<u> </u>		<u> </u>			
1												
PROM - Lvs	sholm scale (b	etter indicated	l by higher values	a) – 4 months p	ost-op		<u> </u>					
1 Kinikli 2014	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	17	SMD <b>1.14</b> (0.4 higher to 1		⊕⊖⊖⊖ Very low	CRITICAL
PROM - AC	L-QOL (better	indicated by h	l nigher values) – 4	months post-o	p		II		I			
1 Kinikli 2014	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	17	SMD 1.61 (0.81 higher to :		⊕⊖⊖⊖ Very low	CRITICAL
Functio	nal activiti	es	<u> </u>		<u> </u>	<u> </u>	<u> </u>		<u> </u>			
			1		1							
1												
1	- Single leg ho	p for distance	(better indicated	by higher value	es) – 4 months pos	st-op			I			
1	- Single leg ho randomised trial	p for distance	o (better indicated	by higher value not serious	es) – 4 months pos very serious <sup>a, b</sup>	none	16	17	SMD <b>0.8 I</b> (0.09 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
1 Functional 1 Kinikli 2014	randomised trial	very serious	-	not serious	very serious <sup>a, b</sup>	-	16	17				IMPORTANT
1 Functional 1 Kinikli 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	-	16	17		1.51 higher) higher		IMPORTANT
1 Functional 1 Kinikli 2014 Functional 1 Kinikli	randomised trial - vertical hop randomised trial	very serious better indicate	not assessable ed by higher valu	not serious es) – 4 months	very serious <sup>a, b</sup>	none			(0.09 higher to SMD <b>0.9 I</b>	1.51 higher) higher		

CI: confidence interval; SMD: standardised mean difference

a. b.

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction

# Early hamstring isokinetic training versus late strengthening in rehabilitation after ACLR

Bibliography: Sekir 2010

			Certainty ass	essment			Nº of p	atients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early H/S isokinetic training	Late H/S isokinetic training	Relative (95% CI)	Absolute (95% Cl)	Certainty	Importance
Strength	ı											
1												
Strength - C	Quadriceps ISC	OM 60° (better	indicated by high	ner values) – 1 r	nonth post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.2 (0.77 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps ISC	OM 60° (better	indicated by high	ner values) – 2 r	nonths post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.06 (0.63 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	N 60°/s (bette	r indicated by hig	her values) – 2	months post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.19 (0.76 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	N 180°/s (bett	er indicated by hi	igher values) – 3	2 months post-op		-		r			
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.23 (0.8 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	N 60°/s (bette	r indicated by hig	her values) – 3	months post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.34 (0.92 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	N 180°/s (bett	er indicated by hi	igher values) – 🤅	3 months post-op				1			
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.34 (0.91 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	N 60°/s (bette	r indicated by hig	her values) – 4	months post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.45 (1.02 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - G	Quadriceps CC	N 180°/s (bett	er indicated by h	igher values) –	4 months post-op				-			
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD <b>0.42</b> (1 lower to 0.		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	N 60°/s (bette	r indicated by hig	her values) – 1	year post-op				-			
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	14	SMD <b>0.54</b> (1.33 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	N 180°/s (bett	er indicated by h	igher values) –	1 year post-op		-		r			
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	14	SMD 0.67 (1.47 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
strength - H	lamstring ISOI	VI 30° (better i	ndicated by highe	er values) – 1 m	onth post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.6 (0.02 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring ISO	M 30° (better i	ndicated by highe	er values) – 2 m	onths post-op				1			
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.77 (0.18 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	l 60°/s (better	indicated by high	ner values) – 2 r	nonths post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD <b>0.58</b> (0 to 1.16		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	l 180°/s (bette	r indicated by hig	her values) – 2	months post-op		[		I			
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.16 (0.41 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
trength - H	lamstring CON	1 60°/s (better	indicated by high	ner values) – 3 r	nonths post-op							

			Certainty ass	essment			Nºofp	atients	Effe	xt		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early H/S isokinetic training	Late H/S isokinetic training	Relative (95% CI)	Absolute (95% Cl)	Certainty	Importance
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.66 (0.08 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	l 180°/s (bette	r indicated by hig	her values) – 3	months post-op	4			<u>.</u>			
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.45 (0.13 lower to 7		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	l 60°/s (better	indicated by high	ner values) – 4 r	nonths post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.55 (0.03 lower to 7		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	l 180°/s (bette	r indicated by hig	her values) – 4	months post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.39 (0.18 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	l 60°/s (better	indicated by high	ner values) – 1 y	vear post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	14	SMD <b>0.9 I</b> (0.08 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	l 180°/s (bette	r indicated by hig	her values) – 1	year post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	14	SMD 0.05 (0.72 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Patient r	eported or	utcomes (I	PROM)									
1												
PROM - Cin	cinnati sympto	oms (better ind	dicated by higher	values) – 1 mo	nth post-op	•			•			
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD <b>1.2</b> I (0.58 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cine	cinnati ADL (b	etter indicated	d by higher value	s) – 1 month po	st-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 1.19 (0.57 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	cinnati sympto	oms (better ind	dicated by higher	values) – 2 mo	nths post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 1.08 (0.47 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cine	cinnati ADL (b	etter indicated	d by higher value	s) – 2 months p	ost-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 1.08 (0.47 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	cinnati sympt	oms (better ind	dicated by higher	values) – 3 mo	nths post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 1.14 (0.52 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	cinnati ADL (b	etter indicated	d by higher value	s) – 3 months p	ost-op	1		1	T			
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 1.22 (0.59 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	cinnati sympt	oms (better ind	dicated by higher	values) – 4 mo	nths post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 0.53 (0.05 lower to 7			CRITICAL
PROM - Cin	cinnati ADL (b	etter indicated	d by higher value	s) – 4 months p	ost-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	26	22	SMD 1.54 (0.88 higher to	<b>higher</b> 2.19 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	cinnati sympt	oms (better ind	dicated by higher	values) – 1 yea	ir post-op							
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious a, b	none	12	14	SMD 0.93 (0.12 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	cinnati ADL (b	etter indicated	d by higher value	s) – 1 year post	-op	·		·	•			
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	14	SMD 0.95 (0.13 higher to	<b>higher</b> 1.77 higher)	⊕⊖⊖⊖ Very low	CRITICAL

			Certainty ass	essment			Nº of p	atients	Effec	:t			
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early H/S isokinetic training	Late H/S isokinetic training	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance	
PROM - Lys	PROM - Lysholm (better indicated by higher values) – 1 year post-op												
1 Sekir 2010	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD (0.62 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL	
Adverse	events		•						•				
Sekir 2010									None rep	orted		CRITICAL	

CI: confidence interval; SMD: standardised mean difference

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction a. b.

#### Early eccentric training versus usual care in rehabilitation after ACLR

Bibliography: Gerber 2007a, Gerber 2007b, Gerber 2009

			Certainty asses	ssment			Nº of p	atients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early eccentric training	Usual care	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Strength												
3												
Strength - Qua	driceps CON	60°/s (better i	ndicated by highe	er values) – 4 m	onths post-op			•				
1 Gerber 2007b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD <b>0.74</b> (0.1 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Qua	driceps CON	60°/s (better i	ndicated by highe	er values) – 6 m	onths post-op				1			1
1 Gerber 2007a	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	16	SMD 0.51 (0.2 lower to 1			CRITICAL
Strength - Qua	driceps CON	60°/s (better i	ndicated by highe	er values) – 1 ye	ar post-op	-			1			1
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.68 (0.04 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ham	string CON 6	0°/s (better in	dicated by higher	r values) – 4 mo	nths post-op			-				
1 Gerber 2007b	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.24 (0.38 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ham	string CON 6	0°/s (better in	dicated by higher	r values) – 1 yea	ir post-op							-
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD <b>0.52</b> (0.11 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy												
2												
Atrophy - Quad	lriceps muscl	e volume cha	nge (better indica	ated by higher v	alues) – 4 months	post-op		•	1			1
1 Gerber 2007b	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 1.25 (0.56 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Glute	eus maximus	muscle volum	ne change (better	indicated by high	gher values) – 4 m	onths post-op			•			•
1 Gerber 2007b	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 1.35 (0.66 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Hams	string muscle	volume chan	ge (better indicat	ed by higher va	lues) – 4 months	post-op		•	•			
1 Gerber 2007b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD 0.14 (0.76 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Grac	ilis muscle vo	olume change	(better indicated	by higher value	s) – 4 months po	st-op		-				
1 Gerber 2007b	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.1 (0.52 lower to			CRITICAL
Atrophy - Quad	lriceps muscl	e volume (bet	ter indicated by I	nigher values) –	1 year post-op							
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.49 (0.14 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Quad	lriceps muscl	e volume cha	nge (better indica	ated by higher v	alues) – 1 year po	st-op			T			T
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD 0.79 (0.14 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Glute	eus Maximus	muscle volum	ne (better indicate	d by higher valu	ues) – 1 year post	-op						
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD 0.14 (0.48 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Glute	eus Maximus	muscle volum	ne change (better	indicated by hig	gher values) – 1 y	ear post-op		1	T			T
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD 0.75 (0.11 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - Hams	string muscle	volume chan	ge (better indicat	ed by higher va	lues) – 1 year pos	it-op						
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.14 (0.48 lower to		⊕⊖⊖⊖ Very low	CRITICAL

116

			Certainty asses	ssment			Nº of p	atients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early eccentric training	Usual care	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
Atrophy - Grac	ilis muscle vo	olume change	(better indicated	by higher value	s) – 1 year post-o	p			r			T
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD 0.09 (0.53 lower to 0			CRITICAL
Patient rep	orted out	comes (Pl	ROM)									
3												
PROM - ADLS-	KOOS (better	indicated by	higher values) – 4	4 months post-o	p							•
1 Gerber 2007b	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD 0.2 (0.82 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lysho	lm (better indi	icated by high	ier values) – 4 mo	onths post-op								•
1 Gerber 2007b	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD (0.62 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
PROM - ADLS	KOOS (better	indicated by	higher values) – (	6 months post-o	p							•
1 Gerber 2007a	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	16	SMD 0.18 (0.52 lower to 0		⊕⊖⊖⊖ <sub>Very low</sub>	CRITICAL
PROM - ADLS	KOOS (better	indicated by	higher values) – '	1 year post-op					•	•		•
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD (0.62 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lysho	Im scale (bett	er indicated b	y higher values) -	– 1 year post-op	I							•
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20	SMD (0.62 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Laxity		-										
3												
laxity - laxity d	ifference betw	veen limbs me	easured by KT-10	00 (better indica	ited by lower valu	es) – 4 months pos	st-op					1
1 Gerber 2007b	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.07 (0.69 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
laxity - laxity d	ifference betv	veen limbs me	easured by KT-10	00 (better indica	ted by lower valu	es) – 6 months pos	st-op	<u> </u>	<u> </u>			1
1 Gerber 2007a	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	16	SMD 0.07 (0.76 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
laxity - laxity d	ifference betw	veen limbs me	easured by KT-10	00 (better indica	ited by lower valu	es) – 1 year post-o	p	•	ł			1
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.15 (0.77 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Pain			,	<u>ا</u> ــــــــــــــــــــــــــــــــــــ					1	Į		1
1		[										
Pain - knee pa	in (better indic	cated by lowe	r values) – 4 mon	ths post-op								1
1 Gerber 2007a	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	16	SMD 0.07 (0.77 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Pain - thigh pa	in (better indi	cated by lowe	r values) – 4 mon	ths post-op								,
1 Gerber 2007a	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	16	SMD 0.03 (0.66 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Swelling	· · · · · · · · · · · · · · · · · · ·		, 	,					•	I		•
1	ļ											
	1		1	1	ower values) – 4 n		40	40	0112.4			05/7/01
1 Gerber 2007a	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	16	16	SMD 0.19 (0.51 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
-	1			-	ower values) – 6 n							
1 Gerber 2007a	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	16	SMD 0.08 (0.77 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
	l activities											

			Certainty asses	sment			Nº of p	atients	Effec	:t		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early eccentric training	Usual care	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
3												
Functional - Si	ngle leg hop f	or distance (b	etter indicated b	/ higher values)	- 4 months post-	ор						
1 Gerber 2007b	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.53 (0.1 lower to 1		⊕⊖⊖⊖ Very low	IMPORTANT
Functional - si	ngle leg hop f	or distance (b	etter indicated by	v higher values)	- 6 months post-	ор						
1 Gerber 2007a	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	16	SMD 0.43 (0.27 lower to 1		⊕⊖⊖⊖ Very low	IMPORTANT
Functional - si	ngle leg hop f	or distance (b	etter indicated by	/ higher values)	– 1 year post-op							
1 Gerber 2009	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	20	SMD 0.72 (0.08 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse events												
Gerber 2007a									None rep	orted		CRITICAL
Gerber 2007b									None rep	orted		CRITICAL
Gerber 2009									None rep	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction a. b.

#### Open Kinetic Chain versus Close Kinetic Chain in rehabilitation after ACLR

Bibliography: Bynum 1995, Morrissey 2000, Mikkelsen 2000, Hooper 2001, Morrissey 2002, Perry 2005, Kang 2012, Chrzan 2013, Ucar 2014

			Certainty ass	essment			Nº of p	atients	Effect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Open Kinetic Chain	Close Kinetic Chain	Relative Absolute (95% CI) (95% CI)	Certainty	Importance
Strength	ı										
3											
Strength - C	Quadriceps ISC	OM 60° (better	indicated by high	ner values) – 6 v	veeks post-op						
1 Morrissey 2002	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.14 lower (0.74 lower to 0.46 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	ON 30-60°/s (be	etter indicated by	higher values)	– 6 months post-o	p	,	,			
2 Mikkelsen 2000 Kang 2012	randomised trials	very serious	not serious I <sup>2</sup> = 0%	not serious	serious ª	none	40	40	SMD <b>0.52 higher</b> (0.07 higher to 0.97 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps EC	C 30°/s (bette	r indicated by hig	her values) – 6	months post-op				<u>,</u>	ļ	
1 Mikkelsen 2000	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD <b>0.27 higher</b> (0.33 lower to 0.86 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	ON 120-180°/s	(better indicated I	by higher values	s) – 6 months post	-op					
2 Mikkelsen 2000 Kang 2012	randomised trials	very serious	not serious I² = 14%	not serious	serious <sup>a</sup>	none	40	40	SMD <b>0.48 higher</b> (0.00 lower to 0.96 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - G	Quadriceps EC	C 120°/s (bett	er indicated by hi	gher values) – 6	6 months post-op		<u> </u>	<u> </u>		I	<u> </u>
1 Mikkelsen 2000	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD <b>0.2 higher</b> (0.4 lower to 0.79 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CC	) N 240°/s (bett	ter indicated by hi	igher values) – (	6 months post-op		ļ	ļ		1	I
1 Mikkelsen 2000	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD <b>0.12 higher</b> (0.47 lower to 0.71 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	Quadriceps EC	C 240°/s (bett	er indicated by hi	gher values) – 6	6 months post-op		I	I			I
1 Mikkelsen 2000	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD <b>0.15 higher</b> (0.44 lower to 0.74 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	N 60°/s (better	indicated by high	ner values) – 6 n	nonths post-op		I	I	<u>,                                     </u>	<u> </u>	<u> </u>
1 Kang 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	18	SMD <b>0.57 higher</b> (0.09 lower to 1.24 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Mikkelsen 2000	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	22	22	SDs are not reported. The authors reported no statistically significant difference between the two groups.	⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring ECC	60°/s (better	indicated by high	er values) – 6 n	nonths post-op						
Mikkelsen 2000	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	22	22	SDs are not reported. The authors reported no statistically significant difference between the two groups.	⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	N 180°/s (bette	r indicated by hig	her values) – 6	months post-op						
1 Kang 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	18	SMD <b>0.66 higher</b> (0.01 lower to 1.33 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - 1	RM squat leg	press (better i	ndicated by high	er values) – 6 m	onths post-op						
1 Kang 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	18	SMD <b>0.42 higher</b> (0.24 lower to 1.08 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity											
4											
Laxity – 6 w	veeks post-op		•								

			Certainty asse	essment			Nº of p	atients	Eff	fect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Open Kinetic Chain	Close Kinetic Chain	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Morrissey 2000	randomised trial	serious	not assessable	not serious	very serious <sup>a, c</sup>	none	18	18	authors reporte significant diffe	reported. The d no statistically erence between groups.	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - (bet	ter indicated	by lower value	s) – 3 months pos	st-op								
1 Perry 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	23	24		ID <b>0</b> 0 0.57 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - (bet	ter indicated	by lower value	s) – 6 months pos	st-op		•	•	•	•			
1 Mikkelsen 2000	randomised trial	very serious	not assessable	not serious	very serious a, b	none	22	22		<b>21 lower</b> o 0.38 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - laxit	ty 90N – more	than 1 year po	ost-op			ł	J	ļ	J			
Bynum 1995	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	32	32	authors reporte significant diffe	reported. The d no statistically erence between groups.	⊕⊖⊖⊖ Very low	CRITICAL
Laxity - laxit	ty max – more	than 1 year p	ost-op									
Bynum 1995	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	32	32	authors reporte significant diffe	reported. The d no statistically erence between groups.		CRITICAL
Pain	•					•			•			
3												
Pain VAS so	ale (better ind	dicated by low	er values) – 6 wee	eks post-op								
1 Morrissey 2002	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21		<b>18 lower</b> o 0.41 higher)	⊕⊖⊖⊖ Very low	CRITICAL
	ale (better ind	dicated by low	er values) – 3 mo	nths post-op			I	I	I			
1 Ucar 2014	randomised trial	very serious	not assessable	not serious	very serious a, b	none	30	30		<b>i8 higher</b> to 1.1 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Pain VAS so	ale (better inc	dicated by low	er values) – 6 mo	nths post-op			1		1			
1 Ucar 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	28	28		<b>9 higher</b> o 1.03 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Patellofemo	ral pain – nun	nber of patient	s with patellofem	oral pain – mor	e than 1 year post	-op						
1 Bynum 1995	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	10/41 (24.4%)	8/44 (18.2%)	<b>RR 1.34</b> (0.59 to 3.07)	62 more per 1,000 (from 75 fewer to 376 more)	⊕⊖⊖⊖ Very low	CRITICAL
Patient r	eported o	utcomes (I	PROM)			ł	J	ļ	Į	J		
6												
	I Ihston Clinic (	Questionnaire	(better indicated	by higher value	es) – 6 weeks post	-op		l				
1 Hooper 2001	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	18	18		ID <b>0</b> o 0.65 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Hug	hston Clinic	Questionnaire	Question 1 (bette	r indicated by I	nigher values) – 6	weeks post-op	,					
1 Morrissey 2002	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21		<b>31 lower</b> o 0.29 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Hug	hston Clinic	Questionnaire	Question 2 (bette	r indicated by I	nigher values) – 6	weeks post-op						
1 Morrissey 2002	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21		<b>47 lower</b> o 0.14 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - Hug	hston Clinic	Questionnaire	Question 25 (bet	ter indicated by	higher values) – 6	è weeks post-op						
1 Morrissey 2002	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21		<b>16 lower</b> o 0.44 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - IKD	C (better indic	cated by highe	r values) – 2 mon	ths post-op		ł		μ				

Nº of studies			Certainty ass	essment			Nº of p	atients	Eff	ect		
	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Open Kinetic Chain	Close Kinetic Chain	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Chrzan 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	20		5 higher o 2.21 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - Lysh	nolm (better in	ndicated by hi	gher values) – 2-3	3 months post-o	op	<u> </u>	1	<u> </u>	<u> </u>			<u> </u>
2 Chrzan 2013 Ucar 2014	randomised trials	very serious	serious I²=0%	not serious	very serious <sup>a, b</sup>	none	50	50		<b>4 higher</b> o 1.02 higher)		CRITICAL
ROM - Hugh	hston Clinic (	Questionnaire	(better indicated	by higher value	es) – 3 months pos	it-op						
1 Perry 2005	randomised trial	serious	not assessable	not serious	very serious a, b	none	24	25		23 lower o 0.33 higher)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - Lysh	nolm (better in	ndicated by hi	gher values) – 6 r	nonths post-op								
1 Ucar 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	28	28		1 lower o 0.53 lower)	⊕⊖⊖⊖ Very low	CRITICAL
ROM - Lysh	nolm scale – r	nore than 1 ye	ear post-op		•	•		,	,			•
Bynum 1995	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	41	44	authors reporte significant diffe	reported. The d no statistically rence between groups.	⊕⊖⊖⊖ Very low	CRITICAL
ROM - Tegn	ner – more tha	an 1 year post	юр									
Bynum 1995	randomised trial	very serious	not assessable	not serious	very serious a. c	none	41	44	authors reporte significant diffe	reported. The d no statistically erence between groups.		CRITICAL
ROM - Over	rall patient as	sessment rati	ing – more than 1	year post-op	ł	ł		,	,			ł
Bynum 1995	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	41	44	authors reporte	reported. The d no statistically erence between groups.	⊕⊖⊖⊖ Very low	CRITICAL
Atrophy												
1												
Atrophy- thig	gh circumfere	nce difference	e (better indicated	d by lower value	es) – 3 months pos	st-op						
1 Ucar 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	30	30		<b>5 higher</b> o 0.97 higher)	⊕⊖⊖⊖ Very low	CRITICAL
trophy - thic	gh circumfer	ence differenc	e (better indicate	d by lower valu	es) – 6 months po	st-op						
1 Ucar 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	28	28		<b>2 higher</b> o 0.73 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Range of	motion (I	ROM)										
2												
OM - knee fl	flexion (bette	r indicated by	higher values) –	3 months post-	ор							
1 Ucar 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	30	30		57 lower o 0.05 lower)	⊕⊖⊖⊖ Very low	IMPORTANT
COM - knee fl	flexion (bette	r indicated by	higher values) –	6 months post-	ор							
1 Ucar 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	28	28		38 lower o 0.15 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
			5deg –1 year pos	-	[			[	[	[]		[
1 Bynum 1995	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	1/32 (3.1%)	2/32 (6.3%)	RR 0.50 (0.05 to 5.24)	<b>31 fewer per</b> <b>1,000</b> (from 59 fewer to 265 more)	⊕⊖⊖⊖ Very low	IMPORTANT
ROM - patien	nts with flexio	n deficit >10d	eg – 1 year post-o	ор	l	l		ļ	l	, ,		l
1 Bynum 1995	randomised trial	very serious	not assessable	not serious	very serious <sup>a, d</sup>	none	0/32 (0.0%)	2/32 (6.3%)	<b>RR 0.20</b> (0.01 to 4.01)	<b>50 fewer per</b> <b>1,000</b> (from 62 fewer to 188 more)	⊕⊖⊖⊖ Very low	IMPORTANT
Function	al activitie	es					,	,		,		

			Certainty ass	essment			Nº of p	atients	E	ffect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Open Kinetic Chain	Close Kinetic Chain	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
2												
Functional -	- knee flexion	at heel-strike o	during walking (b	etter indicated I	oy higher values) -	- 6 weeks post-op						
1 Hooper 2001	randomised trial	serious	not assessable	not serious	very serious a, b	none	17	18		31 higher to 0.97 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	- Midstance ex	cursion angle	during walking (	better indicated	by higher values)	– 6 weeks post-op						
1 Hooper 2001	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	18		.49 lower to 0.19 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	- Knee flexion	at toe-off duri	ng walking (bette	r indicated by h	igher values) – 6 v	veeks post-op						
1 Hooper 2001	randomised trial	serious	not assessable	not serious	very serious a, b	none	17	18		24 higher to 0.91 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	- Flexor impul	se during walk	king (better indica	ted by higher v	alues) – 6 weeks p	ost-op	ļ					
Hooper 2001	randomised trial	serious	not assessable	not serious	very serious a, b	none	17	18		54 higher to 1.21 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	- Extensor imp	oulse during w	alking (better ind	icated by highe	r values) – 6 week	s post-op						
1 Hooper 2001	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	18		.29 lower to 0.38 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	- Eccentric en	ergy during wa	alking (better indi	cated by higher	values) – 6 weeks	s post-op						
1 Hooper 2001	randomised trial	serious	not assessable	not serious	very serious a, b	none	17	18		.55 lower to 0.13 higher)		IMPORTANT
Functional -	- Concentric e	nergy during v	valking (better in	dicated by high	er values) – 6 weel	ks post-op						
1 Hooper 2001	randomised trial	serious	not assessable	not serious	very serious a, b	none	17	18		MD <b>0</b> to 0.66 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	- single leg ho	p for distance	(better indicated	by higher value	es) – 3 months pos	t-op						
1 Perry 2005	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15		18 higher to 0.91 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	- single leg ve	rtical jump (be	tter indicated by	higher values) -	- 3 months post-o	p						
1 Perry 2005	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15		.22 lower to 0.5 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
			-		s) – 3 months post	-	[				<b></b>	
1 Perry 2005	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	9	8		.09 lower to 0.86 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
	1	-	ascent and desc									
Hooper 2001	randomised trial	serious	not assessable	not serious	very serious <sup>a, c</sup>	none	17	18	statistical difference b	rs reported no ly significant etween the two oups.	⊕⊖⊖⊖ Very low	IMPORTANT
Time to	return to s	port (better	indicated by lowe	r values)								
1 Mikkelsen 2000	randomised trial	very serious	not assessable	not serious	very serious a, b	none	12	5		.07 lower to 0.05 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Number	of patient	s that retu	rned to spor	t at the sam	e level							
1 Mikkelsen 2000	randomised trial	very serious	not assessable	not serious	serious <sup>a</sup>	none	12/22 (54.5%)	5/22 (22.7%)	<b>RR 2.40</b> (1.02 to 5.67)	<b>318 more per</b> <b>1,000</b> (from 5 more to 1,000 more)	⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events									.,		
Bynum 1995									had early g occurred as several weel the cause	the OKC group raft failure, one a result of a fall is after surgery, of the other is snown.		CRITICAL

			Certainty ass	essment			Nº of p	atients	Eff	ect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Open Kinetic Chain	Close Kinetic Chain	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Morrissey 2000									None r	eported		CRITICAL
Mikkelsen 2000									None r	eported		CRITICAL
Hooper 2001									None r	eported		CRITICAL
Morrissey 2002									None r	eported		CRITICAL
Perry 2005									None re	eported		CRITICAL
Kang 2012									None r	eported		CRITICAL
Chrzan 2013									None r	eported		CRITICAL
Ucar 2014									None re	eported		CRITICAL

#### CI: confidence interval; SMD: standardised mean difference; RR: risk ratio

a. b. c. d.

Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs 95% Cl boundaries cross the arbitrary thresholds of 0.75 and 1.25

### Eccentric training versus usual care in rehabilitation after ACLR

Bibliography: Friedmann-bette 2018, Milandri 2021, Kasmi 2021

			Certainty ass	essment			Nº of p	atients	Effect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Eccentric training	Usual care	Relative Absolute (95% Cl) (95% Cl)	Certainty	Importance
Strength	I										
2											
Strength - C	Quadriceps CO	N 60°/s (bette	r indicated by hig	her values) – 5-	6 months post-op						
2 Friedmann- bette 2018 Milandri 2021	randomised trials	very serious	not serious I²=0%	not serious	very serious <sup>a, b</sup>	none	33	26	SMD 0.08 lower (0.6 lower to 0.43 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CO	N 60°/s LSI%	(better indicated	by higher value	s) – 5-6 months po	ost-op					
2 Friedmann- bette 2018 Milandri 2021	randomised trials	very serious	not serious I²=0%	not serious	very serious <sup>a, b</sup>	none	33	26	SMD 0.22 lower (0.74 lower to 0.29 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CO	N 180°/s (bett	er indicated by hi	gher values) – 5	5-6 months post-o	p					
2 Friedmann- bette 2018 Milandri 2021	randomised trials	very serious	not serious I²=0%	not serious	very serious <sup>a, b</sup>	none	33	26	SMD 0.04 lower (0.56 lower to 0.47 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps CO	N 180°/s LSI%	6 (better indicated	l by higher valu	es) – 5-6 months p	iost-op					
2 Friedmann- bette 2018 Milandri 2021	randomised trials	very serious	not serious I²=0%	not serious	very serious <sup>a, b</sup>	none	33	26	SMD 0.13 lower (0.65 lower to 0.38 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps EC	C 60°/s LSI%	(better indicated	by higher values	s) – 5 months post	-ор					•
1 Milandri 2021	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD 0.1 lower (0.94 lower to 0.74 higher)		CRITICAL
Strength - C	Quadriceps EC	C 120°/s LSI%	6 (better indicated	by higher value	es) – 5 months po	st-op			•		
1 Milandri 2021	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD <b>0.21 lower</b> (1.06 lower to 0.63 higher)		CRITICAL
Strength - H	lamstring CON	l 60°/s LSI% (l	better indicated b	y higher values	) – 5 months post-	ор					
1 Milandri 2021	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD <b>0.17 higher</b> (0.67 lower to 1.01 higher)		CRITICAL
Strength - H	lamstring CON	l 120°/s LSI%	(better indicated	by higher value	s) – 5 months pos	t-op					
1 Milandri 2021	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD <b>0.26 lower</b> (1.11 lower to 0.58 higher)		CRITICAL
Strength - H	lamstring ECC	60°/s LSI% (t	better indicated b	y higher values)	- 5 months post-	ор			1		
1 Milandri 2021	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD <b>0.1 lower</b> (0.94 lower to 0.74 higher)		CRITICAL
Strength - H	lamstring ECC	120°/s LSI%	(better indicated	by higher values	s) – 5 months post	-op					
1 Milandri 2021	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD <b>0.01 higher</b> (0.83 lower to 0.85 higher)		CRITICAL
Atrophy											
2											
Atrophy - le	an thigh volur	ne LSI% (bette	er indicated by high	gher values) – 5	months post-op						
1 Milandri 2021	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD <b>0.53 lower</b> (1.39 lower to 0.33 higher)		CRITICAL

124

			Certainty ass	essment			N⊵ofp	oatients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Eccentric training	Usual care	Relative (95% CI)	Absolute (95% Cl)	Certainty	Importance
1 Friedmann- bette 2018	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	21	16	SMD 0.47 (0.19 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Patient r	eported or	utcomes (I	PROM)									
2												
PROM - Lys	holm (better i	ndicated by hi	gher values) – 4 r	nonths post-op								
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.59 (0.31 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - ACL	L-RSI (better in	ndicated by hi	gher values) – 4 r	nonths post-op				•	•			
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 1.23 (0.26 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - IKD	C (better indic	ated by highe	r values) – 5 mon	ths post-op					- -			
1 Milandri 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD 0.14 (0.98 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS pain (bette	r indicated by	higher values) –	5 months post-	ор			1				
1 Milandri 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD 0.19 (1.03 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS symptoms	(better indica	ted by higher val	ues) – 5 months	post-op				-			
1 Milandri 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD 0.16 (0.68 lower t		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS ADL (bette	r indicated by	higher values) –	5 months post-	ор	1		,	•			
1 Milandri 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD 0.20 (1.1 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS Sport (bett	er indicated b	y higher values) -	- 5 months post	i-op							
1 Milandri 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD <b>0.2</b> (1.05 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - KO	OS QOL (bette	er indicated by	higher values) –	5 months post-	ор	•		•	•			
1 Milandri 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD 0.2 (1.04 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-	36 PCL (better	r indicated by	higher values) –	5 months post-o	ор							
1 Milandri 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD <b>0.1</b> (0.94 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-	36 MCS (bette	r indicated by	higher values) –	5 months post-	ор	•						
1 Milandri 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	10	SMD 0.09 (0.75 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Function	nal activitie	es	•									
1												
Functional -	single leg ho	p for distance	(better indicated	by higher value	es) – 4 months pos	st-op		1	1			
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 5.93 (3.7 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	single leg ho	p for distance	without hands (b	etter indicated	by higher values)	– 4 months post-op						
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 4.96 (3.03 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	triple hop (be	tter indicated	by higher values	) – 4 months po	st-op							
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 4.82 (2.94 higher to		⊕⊖⊖⊖ Very low	IMPORTANT

			Certainty ass	essment			Nº of p	atients	Effec	rt		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Eccentric training	Usual care	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Functional -	crossover ho	p (better indic	ated by higher va	alues) – 4 month	ns post-op							
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 5.4 H (3.34 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	6m-timed hor	o (better indica	ated by higher va	lues) – 4 month	s post-op							
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 5.15 (3.17 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance												
1												
Balance - Y	balance test (	better indicate	ed by higher value	es) – 4 months p	oost-op							
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD (0.88 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse	events											
Friedmann- bette 2018									None rep	orted		CRITICAL
Milandri 2021									None rep	orted		CRITICAL
Kasmi 2021									None rep	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

а.

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction b.

## Isokinetic training versus isotonic training in rehabilitation after ACLR

Bibliography: Tsaklis 2002, Vidmar 2020

			Certainty ass	essment			Nº of p	atients	Effe	ect	0.1.1.1	1
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	lsokinetic training	Isotonic training	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Strengtl	h											
2												
Strength -	Quadriceps IS(	OM 60° (better	indicated by high	ner values) – 3 r	nonths post-op			•	•		•	
1 Vidmar 2020	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 1.2 (0.41 higher to		⊕⊕⊖⊖ Low	CRITICAL
Tsaklis 2002	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	Isotonic train significant b compared to train	etter results b isokinetic		CRITICAL
Strength -	Quadriceps CC	ON 60°/s (bette	er indicated by hig	jher values) – 3	months post-op	۱۱		ļ	4		<u> </u>	
1 Vidmar 2020	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.0 (0.71 lower to		€⊕⊖⊖ Low	CRITICAL
Tsaklis 2002	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	Isokinetic trai significant b compared to iso	etter results		CRITICAL
Strength -	Quadriceps EC	C 60°/s (bette	r indicated by hig	her values) – 3	months post-op	J		ļ	-		<u> </u>	
1 Vidmar 2020	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>0.9</b> (0.17 higher to		⊕⊕⊖⊖ Low	CRITICAL
Strength -	H/Q ratio CON	60°/s – 3 mon	ths post-op	ļ	ļ	۱۱		ļ	4		<u> </u>	
Tsaklis 2002	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	Isokinetic trai significant b compared to iso	etter results	⊕⊖⊖⊖ Very low	CRITICAL
Strenath -	1RM of quadric	ceps – 3 monti	hs post-op							Ū		
Tsaklis 2002	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	Combination of isokinetic trai significant of compared to the	ning showed lifferences	⊕⊖⊖⊖ Very low	CRITICAL
Atrophy	, ,	ļ	ļ	ļ	ļ	ļļ		ļ	<u> </u>		I	
2												
	raatua lataralia	araaa aaatiar	al area (am <sup>2</sup> ) (hat	tor indicated by	higher values) – 3	months next on						
1 Vidmar 2020	randomised trial	not serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.4 (1.21 lower to			CRITICAL
	/astus intermed	dius cross-sec	tional area (cm <sup>2</sup> )	(better indicate	d by higher values	– 3 months post-c	a					
1 Vidmar 2020	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.1 (0.89 lower to			CRITICAL
	vastus medialis	cross-section	nal area (cm²) (be	tter indicated by	y higher values) – 3	months post-op		I	I			
1 Vidmar 2020	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.3 (1.03 lower to			CRITICAL
	ectus femoris	cross-section	l al area (cm²) (bett	er indicated by	higher values) – 3	months post-op		l	1			
1 Vidmar 2020	randomised trial	not serious	not assessable	not serious	very serious a, b	none	15	15	SMI (0.72 lower to			CRITICAL
	uadriceps cros	ss-sectional a	ı rea (cm²) (better i	ndicated by hig	her values) – 3 mo	nths post-op			1			
Atrophy - c												

			Certainty ass	essment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	lsokinetic training	Isotonic training	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Tsaklis 2002	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	15	15	The authors difference betw Combination o isokinetic train significant thigh increase compa training method	veen groups. f isotonic and hing showed circumference ired to the two	⊕⊖⊖⊖ Very low	CRITICAL
Patient r	eported o	utcomes (I	PROM)									
1												
PROM – Lys	sholm scale (b	etter indicate	d by higher value	s) – 3 months p	ost-op				•			
1 Vidmar 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 1.05 (0.28 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Function	nal activitie	es										
1												
Functional -	single leg ho	p for distance	(better indicated	by higher value	s) – 3 months post	t-op			•			
1 Vidmar 2020	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.16 (0.56 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse	events								•			
Tsaklis 2002									None re	ported		CRITICAL
Vidmar 2020									None re	ported		CRITICAL

CI: confidence interval; SMD: standardised mean difference

a. b.

Total participants <800 95% Cl of an SMD extends > 0.5 points in either direction Not reporting results or SDs C.

#### Low intensity versus high intensity resistance training in rehabilitation after ACLR

Bibliography: Bieler 2014

			Certainty asse	essment			Nº of p	atients	Effect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Low intensity	High intensity	Relative Absol (95% CI) (95%		Importance
Strength											
1											
Strength - Q	uadriceps pov	wer using leg e	extensor power ri	g (better indicat	ed by higher value	s) – 5 months pos	t-op				
1 Bieler 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	18	SMD 0 (0.64 lower to 0.64 high	er) $\bigoplus_{Very \ low}$	CRITICAL
Patient re	eported ou	utcomes (F	PROM)								
1											
PROM - Tegi	ner Activity So	cale (better inc	dicated by higher	values) – 5 mor	iths post-op						
1 Bieler 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	18	SMD <b>1.15 lower</b> (1.84 lower to 0.46 lower	er) $\bigoplus_{Very low} \bigcirc$	CRITICAL
PROM - Lyst	nolm Score (b	etter indicated	l by higher values	s) – 5 months po	ost-op						
1 Bieler 2014	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	18	SMD <b>0.66 higher</b> (0 to 1.32 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM - KOC	S Pain (bette	r indicated by	higher values) –	5 months post-o	р				·		
1 Bieler 2014	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	18	SMD 0.27 higher (0.37 lower to 0.91 high	er) $\bigoplus_{Very low}$	CRITICAL
PROM - KOC	S Symptoms	(better indicat	ted by higher valu	ues) – 5 months	post-op		,	ł			,
1 Bieler 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	18	SMD <b>0.9 lower</b> (1.57 lower to 0.23 lower	er) $\bigoplus_{Very low}$	CRITICAL
PROM - KOC	S ADL (bette	r indicated by	higher values) – :	5 months post-c	op	•					
1 Bieler 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	18	SMD 0.79 higher (0.13 higher to 1.45 high	her) $\bigoplus_{Very low}$	CRITICAL
PROM - KOC	S Sport (bette	er indicated by	y higher values) –	5 months post	-ор		,	ł	,	<b>!</b>	,
1 Bieler 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	18	SMD 0.37 lower (1.02 lower to 0.27 high	er) $\bigoplus_{Very low}$	CRITICAL
PROM - KOC	S QOL (bette	r indicated by	higher values) –	5 months post-o	op	•	•	•	,		•
1 Bieler 2014	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	18	SMD 0.28 higher (0.36 lower to 0.92 high	er) $\bigoplus_{Very low}$	CRITICAL
Function	al activitie	es					,	ł			,
1											
Functional -	Single leg ho	p for distance	(better indicated	by higher value	s) – 5 months post	-op					
1 Bieler 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	18	SMD 0.17 lower (0.81 lower to 0.46 high	er) $\bigoplus_{Very low}$	IMPORTANT
Functional -	Triple hop (be	etter indicated	by higher values	) – 5 months po	st-op	I	l	I	ļ	<b>I</b>	l
1 Bieler 2014	randomised trial	very serious	not assessable	not serious	very serious a, b	none	20	18	SMD <b>0.42 lower</b> (1.06 lower to 0.23 high	er) $\bigoplus_{Very low}^{OOO}$	IMPORTANT
Laxity									I	I	
1											
Laxity - laxit	y (better indic	ated by lower	values) – 5 montl	hs post-op		1					
1 Bieler 2014	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	20	18	SMD 0.22 lower (0.86 lower to 0.41 high	er) $\bigoplus_{Very \ low} \bigcirc$	CRITICAL
Adverse	events										
Bieler 2014									None reported		CRITICAL

CI: confidence interval; SMD: standardised mean difference

- Total participants <800 95% CI of an SMD extends > 0.5 points in either direction a. b.

## Motor control training versus usual care in rehabilitation after ACLR

Bibliography: Cappellino 2012, Cho 2013, Kaya 2019, Shen 2021, Hajouj 2021, Baltaci 2013, Bartels 2016

Ne of Study Rick of			Certainty asse	ssment			№ of pa	tients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motor control training	Usual care	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Proprioce	eption											
5												
Proprioceptio	on - Angle rep	roduction tes	t 20° (better indic	ated by lower v	alues) – 4 weeks p	oost-op			1			
1 Shen 2021	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 1.97 (3.08 lower to			CRITICAL
Proprioceptio	on - Angle rep	roduction tes	t 50° (better indic	ated by lower v	alues) – 4 weeks p	oost-op						
1 Shen 2021	randomised trial	very serious	not assessable	not serious	very serious a, b	none	10	10	SMD 2.16 (3.31 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Proprioceptio	on - Angle rep	roduction tes	t 80° (better indic	ated by lower v	alues) – 4 weeks p	oost-op			•			
1 Shen 2021	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 1.77 (2.84 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Proprioceptio	on - Passive m	notion percep	tion test 20° (bett	er indicated by	lower values) – 4	weeks post-op			•			
1 Shen 2021	randomised trial	very serious	not assessable	not serious	very serious a, b	none	10	10	SMD 2.11 (3.25 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Proprioceptio	on - Passive m	notion percep	tion test 50° (bett	er indicated by	lower values) – 4	weeks post-op			•	·		
1 Shen 2021	randomised trial	very serious	not assessable	not serious	very serious a, b	none	10	10	SMD 2.16 (3.31 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Proprioceptio	on - Passive m	notion percep	tion test 80° (bett	er indicated by	lower values) – 4	weeks post-op						
1 Shen 2021	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	very serious a	10	10	SMD 1.5 (2.52 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Proprioceptio	on - first move	ment deviation	on difference betw	veen limbs (beti	ter indicated by lo	wer values) – 2 mo	nths post-op		•			
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.23 (0.95 lower to 0			CRITICAL
Proprioceptic	on - first move	ment deviation	I on difference betw	veen limbs (beti	ter indicated by lo	wer values) – 3 mo	nths post-op		1			
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>0.06</b> (0.65 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
	on - second m	ovement devi	iation difference I	oetween limbs (	better indicated by	/ lower values) – 2	months post-op		ļ			
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.52 (1.25 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
I	on - second m	ovement devi	iation difference I	netween limbs (	better indicated by	/ lower values) – 3	months post-on					
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>0.38</b> (0.34 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	on - joint posit	tion sense 45	P - Absolute error	(better indicate	ed by lower values	) – 15 weeks post-	op	<u> </u>	1			
1 Hajouj 2021	randomised trial	very serious	not assessable	not serious	very serious a, b	none	15	15	SMD 2.41 (3.38 lower to		⊕⊖⊖⊖ Very low	CRITICAL
proprioceptic	on - joint posit	ion sense 45'	• - Variable error	(better indicated	d by lower values)	– 15 weeks post-o	p		1			
1 Hajouj 2021	randomised trial	very serious	not assessable	not serious	very serious a, b	none	15	15	SMD 2.58 (3.58 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Proprioceptic	on - joint posit	tion sense 45	° - Constant error	(better indicate	ed by lower values	) – 15 weeks post-	op					
1 Hajouj 2021	randomised trial	very serious	not assessable	not serious	very serious a, b	none	15	15	SMD <b>0.1</b> (0.61 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Proprioceptic	on - joint posit	ion sense at	15° (better indica	ted by lower val	lues) post interver	ntion; duration of p	rogram was 6 wee	ks				
1 Cho 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	14	14	SMD 0.12 (0.62 lower to 0			CRITICAL

			Certainty asse	ssment			Nº of pa	tients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motor control training	Usual care	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Cho 2013	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	14	SMD 0.6 (1.36 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Propriocepti	on - joint posi	tion sense 15	° (better indicated	d by lower value	es), 2 years after s	urgery						
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	15	SMD <b>0.5</b> 9 (1.3 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Propriocepti	on - joint posi	tion sense 45	° (better indicated	d by lower value	es), 2 years after s	urgery						
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious a. b	none	17	15	SMD 0.3 (1.05 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Propriocepti	on - joint posi	tion sense 75	° (better indicated	d by lower value	es), 2 years after s	urgery			0			
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	15	SMD 0.4 (1.16 lower to			CRITICAL
Balance												
2 Balance – sta	ar excursion b	alance test a	nterior direction,	difference betw	een limbs (better i	ndicated by lower	values) – 2 months	s post-op				
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.08 (0.64 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance – st	ar excursion b	alance test a	nterior direction,	difference betw	een limbs (better i	ndicated by lower	values) – 3 months	post-op				
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.28 (1 lower to 0			CRITICAL
Balance - sta	ar excursion b	alance test po	osteromedial dire	ction, difference	e between limbs (b	etter indicated by	lower values) – 2 n	nonths post-op				
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.54 (1.27 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - sta	ar excursion b	alance test po	osteromedial dire	ction, difference	e between limbs (b	etter indicated by	lower values) – 3 n	nonths post-op	I			
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD <b>0.3</b> (1.1 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Balance - sta	ar excursion b	alance test po	osterolateral direc	tion, difference	between limbs (b	etter indicated by I	ower values) – 2 m	onths post-op	I			
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.5 (1.28 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - sta	ar excursion b	alance test po	osterolateral direc	tion, difference	between limbs (b	etter indicated by I	ower values) – 3 m	onths post-op	I			
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.72 (1.47 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - Sta	atic baropodo	netric test (di	fference in loadin	g between limb	s) (better indicate	d by lower values)	- 3 months post-o	p				
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 0.63 (0.45 lower to	<b>higher</b> 1.72 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Balance - Sta	atic baropodo	metric test (di	fference in loadin	g between limb	s) (better indicate	d by lower values)	– 6 months post-o	p	•			
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 1.08 (2.22 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - Dy	namic baropo	dometric test	(difference in loa	ding between li	mbs) (better indic	ated by lower value	es) – 3 months pos	t-op				
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 0.16 (0.89 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Balance - Dy	namic baropo	dometric test	(difference in loa	ding between li	mbs) (better indic	ated by lower value	es) – 6 months pos	t-op				
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD <b>0.5</b> (1.64 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Coordina	tion								I			
1												
Coordination	n - concentric	deviation diffe	erence between li	mbs (better ind	icated by lower va	lues) – 2 months p	ost-op					

			Certainty asse	ssment			№ of pa	tients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motor control training	Usual care	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD <b>0.2</b> 8 (1 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Coordinatio	n - coordinatio	n concentric	deviation differen	ce between lim	bs (better indicate	d by lower values)	– 3 months post-o	p				
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.21 (0.51 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Coordinatio	n - eccentric de	eviation defic	it difference betw	een limbs (bette	er indicated by low	ver values) – 2 mor	ths post-op		1			1
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.04 (0.68 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Coordinatio	n - eccentric de	eviation defic	it difference betw	een limbs (bette	er indicated by low	ver values) – 3 mor	ths post-op		ł	,		,
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.38 (1.1 lower to 0			CRITICAL
Reactivit	у											
2												
Reactivity - I	response label	time to finish	h difference betwe	en limbs (bette	r indicated by low	er values) – 2 mon	ths post-op		ł	,		,
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.07 (0.64 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Reactivity - I	response label	time to finish	h difference betwe	en limbs (bette	r indicated by low	er values) – 3 mon	ths post-op		ł	,		,
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.2 (0.97 lower to			CRITICAL
Reactivity - I	response time	difference be	etween limbs (bett	er indicated by	lower values) – 2	months post-op						
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.2 (0.52 lower to			CRITICAL
Reactivity - I	response time	difference be	etween limbs (bett	er indicated by	lower values) – 3	months post-op		<u></u>				
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.2 (0.97 lower to			CRITICAL
Reactivity -	ground contac	t time during	a reaction test (b	etter indicated I	oy lower values) –	6 months post-op			ł	,		,
1 Bartels 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	28	22	SMD 0.30 (0.92 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Reactivity - I	reaction time (	better indicat	ed by lower value	s) – 6 months p	ost-op				-			
1 Bartels 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	28	22	SMD <b>1.2</b> (1.82 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Patient re	eported ou	tcome me	easures (PRC	DM)								
3												
PROM - SF-3	36 Physical act	ivity (better i	ndicated by highe	r values) – 3 mo	onths post-op							
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD 1.73 (0.44 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-3	36 Physical act	ivity (better i	ndicated by highe	r values) – 6 m	onths post-op							
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 0.71 (0.38 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-3	36 Physical rol	e (better indic	cated by higher va	alues) – 3 montl	ns post-op							
1 Cappellino	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 0.73 (1.83 lower to		⊕⊖⊖⊖ Very low	CRITICAL

			Certainty asse	ssment			Nº of pa	tients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motor control training	Usual care	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD 0.3 (0.75 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-	36 Bodily pain	(better indica	ted by higher val	ues) – 3 months	post-op							
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD 0.49 (0.58 lower to			CRITICAL
PROM - SF-	36 Bodily pain	(better indica	ted by higher val	ues) – 6 months	post-op							
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD <b>0.42</b> (0.64 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-	36 General hea	lth (better inc	licated by higher	values) – 3 mor	iths post-op	•						
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD (1.05 lower to			CRITICAL
PROM - SF-	36 General hea	lth (better inc	licated by higher	values) – 6 mor	ths post-op							
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD <b>0.6</b> (1.68 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-	36 Vitality (bett	er indicated I	by higher values)	– 3 months pos	t-op				4			
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 0.73 (1.82 lower to 0			CRITICAL
PROM - SF-	36 Vitality (bet	er indicated I	by higher values)	– 6 months pos	t-op			I				L
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD 0.26 (1.32 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-	36 Social activ	ity (better ind	icated by higher v	values) – 3 mon	ths post-op				Į			
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 0.2 (0.85 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-	36 Social activ	ity (better ind	icated by higher v	ralues) – 6 mon	ths post-op				•	,		,
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD <b>0.48</b> (0.59 lower to 7			CRITICAL
PROM - SF-	36 Emotional r	ole (better inc	licated by higher	values) – 3 mor	iths post-op				4			,
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD <b>0.48</b> (0.59 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - SF-	36 Emotional r	ole (better inc	licated by higher	values) – 6 mor	iths post-op				4			
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD (1.05 lower to			CRITICAL
PROM - SF-	36 Mental heal	h (better indi	cated by higher v	alues) – 3 mont	hs post-op				4	,		
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 0.21 (1.27 lower to 0			CRITICAL
PROM - SF-	36 Mental heal	h (better indi	cated by higher v	alues) – 6 mont	hs post-op							
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 0.13 (0.92 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lys	holm (better in	dicated by hi	gher values) post	intervention; d	uration program is	6 weeks						
1 Cho 2013	randomised trial	very serious	not assessable	not serious	very serious a, b	none	14	14	SMD 0.08 (0.82 lower to 0			CRITICAL
PROM - IKD	C (better indica	ated by highe	r values) – 15 wee	eks post-op		I		I	1			
1 Hajouj 2021	randomised trial	very serious	not assessable	not serious	very serious a, b	none	15	15	SMD <b>1.65</b> (0.81 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Function	nal activitie	s										
3												

			Certainty asse	ssment			Nº of pa	tients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motor control training	Usual care	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
Functional -	Walking Spee	d (better indic	cated by higher va	alues) – 3 montl	ns post-op							
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD <b>0.4</b> (1.47 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	Stride length (	better indicat	ted by higher valu	es) – 3 months	post-op			•				•
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD 0.09 (0.96 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	Cadence (stric	les/min) (bett	er indicated by hi	gher values) – 3	3 months post-op			•				
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD 1.14 (2.3 lower to (		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	Step Width (be	etter indicated	d by lower values	) – 3 months po	st-op							
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 0.34 (0.72 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	Walking Spee	d (better indic	cated by higher va	alues) – 6 month	ns post-op				1			
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 0.60 (1.75 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	Stride length (	better indicat	ted by higher valu	es) – 6 months	post-op			1	T			ſ
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD 0.1 (0.95 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	Cadence (stric	les/min) (bett	er indicated by hi	gher values) – (	6 months post-op							
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 2.39 (3.87 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	Step Width (be	etter indicated	d by lower values	) – 6 months po	st-op			1	1			
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 1.0 <sup>4</sup> (2.14 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	one leg vertica	al jump heigh	t (better indicated	l by higher valu	es) – 6 months po	st-op		1	T			ſ
1 Bartels 2016	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	28	22	SMD 0.11 (0.44 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	Single leg hop	for distance	(cm) (better indic	ated by higher	values), 2 years po	ost-op						
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	15	SMD 0.18 (0.87 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Strength	1		I						I			
2												
-			T		s) – 3 months post	-	[					
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious a, b	none	15	15	SMD 0.04 (0.76 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps CO	180°/s LSI%	b (better indicated	by higher value	es) – 3 months pos	st-op						
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.68 (0.06 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps CO	N 30°/s (bette	r indicated by hig	her values), 2 y	ears post-op				T			
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	15	SME (0.69 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps COI	1 60°/s (better	r indicated by hig	her values), 2 y	ears post-op							
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	15	SMD 0.22 (0.48 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps CO	180°/s (bette	er indicated by hi	gher values), 2	years post-op							

			Certainty asse	ssment			Nº of pa	tients	Effe	ect		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motor control training	Usual care	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	15	SMD 0.18 (0.88 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps CON	N 330°/s (bette	er indicated by hi	gher values), 2	years post-op							
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	15	SMD 0.3 (1 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	amstring CON	60°/s LSI% (b	petter indicated by	/ higher values)	– 3 months post-	op			-			
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 0.56 (0.17 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	amstring CON	180°/s LSI% (	(better indicated b	by higher values	s) – 3 months pos	t-op						
1 Baltaci 2013	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	15	15	SMD 1.1 (1.87 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	amstring CON	30°/s (better	indicated by high	er values) – 2 y	ears post-op	Į		Į	Į			ļ
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious a, b	none	17	15	SMD 0.08 (0.61 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	amstring CON	60°/s (better	indicated by high	er values) – 2 y	ears post-op							
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	15	SMD 0.3 (0.4 lower to 0			CRITICAL
Strength - H	amstring CON	180°/s (better	r indicated by hig	her values) – 2	years post-op	I		I	I			
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious a, b	none	17	15	SMD 0.01 (0.68 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	amstring CON	330°/s (better	r indicated by hig		years post-op							
1 Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	17	15	SMD 0.17 (0.87 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy												
2												
Atrophy - thi	igh circumfere	nce differenc	e between limbs (	cm) (better indi	cated by lower va	lues) – 3 months p	-	1	1			[
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious °	none	7	7	SMD 0.4 <sup>4</sup> (0.65 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy - thi	igh circumfere	nce differenc	e between limbs (	cm) (better indi	cated by lower va	lues) – 6 months p	ost-op					
2 Cappellino 2012 Bartels 2016	randomised trials	very serious	not serious I²=36%	not serious	very serious <sup>a, b</sup>	none	35	29	SMD <b>0.5</b> <sup>*</sup> (1.22 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Atrophy – ca	alf circumferen	ce 10cm belo	ow knee (cm) (bett	er indicated by	lower values) – 6	months post-op						
1 Bartels 2016	randomised trial	very serious	not assessable	not serious	very serious a, b	none	28	22	SMD 0.52 (1.09 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain												
2												
Pain - pain (	VAS) (better in	dicated by lo	wer values) – 3-4	months post-or	)	•		• • • • • • • • • • • • • • • • • • • •	•			
2 Cappellino 2012 Hajouj 2021	randomised trials	very serious	very serious I <sup>2</sup> =82%	not serious	very serious <sup>a, b</sup>	none	22	22	SMD <b>0.3</b> (1.93 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Pain - pain (	VAS) (better in	dicated by lov	wer values) – 6 m	onths post-op	-							
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD 0.3 (1.36 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Range of	motion (R	OM)	•			•						
2												
ROM - flexio	n (better indica	ated by highe	er values) – 3 mon	ths post-op								

			Certainty asse	esmont			Nº of pa	tionte	Effec	.4		
Nº of	Study	Risk of	Certainty asse	ssment		Other	Motor control	luents	Relative	Absolute	Certainty	Importance
studies	design	bias	Inconsistency	Indirectness	Imprecision	considerations	training	Usual care	(95% CI)	(95% CI)		
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	7	7	SMD <b>1.26</b> (0.07 higher to 2			IMPORTANT
ROM - flexio	on (better indic	ated by highe	er values) – 6 mon	ths post-op								
2 Cappellino 2012 Bartels 2016	randomised trials	very serious	not serious I2=31%	not serious	very serious <sup>a, b</sup>	none	35	29	SMD <b>0.50</b> (0.1 lower to 1	<b>higher</b> .2 higher)	⊕⊖⊖⊖ Very low	IMPORTANT
ROM - exten	nsion (better in	dicated by lov	wer values) – 3 m	onths post-op					•			
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD <b>0.66</b> (1.75 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - exten	sion (better in	dicated by lov	wer values) – 6 m	onths post-op		•	•	•	•			•
2 Cappellino 2012 Bartels 2016	randomised trials	very serious	not serious I2=0%	not serious	serious ª	none	35	29	SMD <b>0.37</b> (0.87 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Swelling	•					•	•	•				•
1												
Swelling - m	id-patella knee	joint circum	ference (cm) usin	g measuring tap	pe; difference betv	veen limbs (better	indicated by lower	values) – 3 mor	nths post-op			<u>.</u>
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD 1.85 (3.18 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Swelling - m	id-patella knee	joint circum	ference (cm) usin	g measuring tap	pe; difference betw	veen limbs (better	indicated by lower	values) – 6 mor	nths post-op			•
1 Cappellino 2012	randomised trial	very serious	not assessable	not serious	very serious a, b	none	7	7	SMD <b>0.37</b> (1.43 lower to 0			IMPORTANT
Laxity (p	ivot shift, a	anterior d	rawer, and va	algus stress	s tests)							
Kaya 2019	randomised trial	very serious	not assessable	not serious	very serious a, c	none	17	15	No significant o were rep		⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events					,	,					,
Cappellino 2012									"1 subject of unable to return sport previously while three sub could not return it."	to amateur carried out, jects of CG		CRITICAL
Cho 2013									None rep	orted		CRITICAL
Kaya 2019									None rep	orted		CRITICAL
Shen 2021									None rep	orted		CRITICAL
Hajouj 2021									None rep	orted		CRITICAL
Baltaci 2013									None rep	orted		CRITICAL
Bartels 2016									None rep	orted		CRITICAL

#### CI: confidence interval; SMD: standardised mean difference

a. b.

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction

## Motor control training versus strength training in rehabilitation after ACLR

Bibliography: Liu-ambrose 2003, Cooper 2005

			Certainty ass	essment			Nº of pa	tients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motor control training	Strength training	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
Strength	ı											
1												
Strength - C	Quadriceps CC	0N 45°/s (bette	er indicated by hi	gher values) – 1	year post-op	<u> </u>		<u> </u>		I		Į
1 Liu- ambrose 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD <b>1.56</b> (0.04 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - C	Quadriceps EC	C 45°/s (bette	er indicated by high	gher values) – 1	year post-op	L			1	I		ļ
1 Liu- ambrose 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD <b>0.91</b> (0.43 lower to 3		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring COI	N 45°/s (better	r indicated by hig	her values) – 1	year post-op							
1 Liu- ambrose 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD <b>0.35</b> (0.91 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring ECC	2 45°/s (better	indicated by hig	her values) – 1 y	/ear post-op	<b>r</b>						1
1 Liu- ambrose 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD <b>0.99</b> (0.37 lower to 3		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring Pea	k torque time	(better indicated	by lower values	s) – 1 year post-op	)				•		
1 Liu- ambrose 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD <b>0.46</b> (1.73 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Patient r	eported o	utcome m	easures (PR	OM)								
2												
PROM – Pa	tient Specific	Functional Sc	ale (PSFS) activit	y 1 (better indic	ated by higher va	lues) – 3 months p	ost-op		*			•
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious a, b	none	14	15	SMD 0.36 (0.38 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM – Pa	tient Specific	Functional Sc	ale (PSFS) activit	y 2 (better indic	ated by higher va	lues) – 3 months p	ost-op					
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15	SMD 0.1 (0.83 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM – Pa	tient Specific	Functional Sc	ale (PSFS) activit	y 3 (better indic	ated by higher va	lues) – 3 months p	ost-op		•			
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15	SMD 0.18 (0.91 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	cinnati knee r	ating scale - p	oain (better indica	ted by higher v	alues) – 3 months	post-op			•			•
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15	SMD 0.28 (0.45 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	cinnati knee r	ating scale - s	welling (better in	dicated by high	er values) – 3 mo	nths post-op			•			
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious a, b	none	14	15	SMD 0.24 (0.97 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	cinnati knee r	ating scale - o	overall condition (	(better indicated	l by higher values	) – 3 months post-	ор					
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious a, b	none	14	15	SMD 0.29 (1.02 lower to		⊕⊖⊖⊖ Very low	CRITICAL

			Certainty ass	essment			Nº of pa	tients	Effe	ct		
Nº of	Study	Risk of	Inconsistency	Indirectness	Imprecision	Other	Motor control	Strength	Relative	Absolute	Certainty	Importance
studies	design	bias			•	considerations	training	training	(95% CI)	(95% CI)		
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15	SME (0.73 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cir	ncinnati knee r	ating scale - s	stairs (better indic	ated by higher	values) – 3 month	is post-op	1					1
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15	SME (0.73 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cir	ncinnati knee r	ating scale - s	squatting/kneeling	g (better indicat	ed by higher value	es) – 3 months pos	t-op					
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15	SME (0.73 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lys	sholm (better i	ndicated by h	igher values) – 1	year post-op		•						•
1 Liu- ambrose 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD <b>0.07</b> (1.17 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Teg	gner (better in	dicated by hig	jher values) – 1 ye	ear post-op								
1 Liu- ambrose 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD <b>0.34</b> (0.91 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Function	nal activiti	es										
2												
Functional	- single leg ho	p for distance	e (m) (better indic	ated by higher v	values) – 3 month	s post-op			•	•		
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15	SMD <b>0.6</b> (0.15 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- Triple crosso	over hop LSI%	b (better indicated	by higher value	es) – 3 months po	st-op	r		1			r
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15	SMD 0.04 (0.77 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- Timed 6m LS	il% (better ind	licated by higher	values) – 3 mon	ths post-op	L	1					1
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15	SMD <b>0.3</b> (0.43 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- single leg ho	p for distance	e (m) (better indic	ated by higher v	values) – 1 year po	ost-op						
1 Liu- ambrose 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD <b>0.13</b> (1.37 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional	- Timed 6m LS	I% (better ind	licated by higher	values) – 1 year	post-op							
1 Liu- ambrose 2003	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD 0.18 (1.43 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Range o	of motion (	ROM)	•			•						•
1												
ROM - knee	e flexion (°) (be	etter indicated	l by higher values	s) – 3 months po	ost-op	•			•			
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15	SMD 0.72 (0.03 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
ROM - knee	e extension de	ficit (cm) (bet	ter indicated by lo	ower values) – 3	months post-op							
1 Cooper 2005	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	15	SMD <b>0.11</b> (0.61 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse	events											
Liu- ambrose 2003									None re	ported		CRITICAL

			Certainty ass			Nº of pa	tients	Effec	rt			
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motor control training	Strength training	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Coope 2005									None rep	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

a. b.

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction

## Plyometric and agility training versus usual care in rehabilitation after ACLR

Bibliography: Risberg 2007, Risberg 2009, Souissi 2011, Kasmi 2021

			Certainty ass	essment			№ of pa	tients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Plyometric + agility training	Usual care	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Strength	า											
1												
	Quadriceps wo	rk CON 60°/s	(better indicated	by higher value	s) – 6 months po	st-op	ļ	ļ	ļ	[		ļ
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	34	31	SMD 0.17 (0.32 lower to			CRITICAL
Strength - (	Quadriceps wo	rk CON 240°/	s (better indicate	d by higher valu	es) – 6 months p	ost-op	ļ	ļ.	Į			l
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	34	31	SMD 0.06 (0.43 lower to			CRITICAL
strength - C	Quadriceps wo	rk CON 60°/s	(better indicated	by higher value	s) – 1 year post-o	p	ļ	ļ	ļ	I		Į
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious a	none	36	33	SMD 0.09 (0.38 lower to			CRITICAL
Strength - (	Quadriceps wo	rk CON 240°/	s (better indicate	d by higher valu	es) – 1 year post-	ор						
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	36	33	SMD 0.12 (0.35 lower to			CRITICAL
Strength - (	Quadriceps wo	rk CON 60°/s	(better indicated	by higher value	s) – 2 years post-	ор						
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	36	33	SMD 0.11 (0.36 lower to			CRITICAL
Strength - 0	Quadriceps wo	rk CON 240°/	s (better indicate	d by higher valu	es) – 2 years pos	t-op						•
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious a	none	36	33	SMD 0.16 (0.63 lower to			CRITICAL
Strength - I	Hamstring worl	k CON 60°/s (	better indicated b	y higher values	) – 6 months pos	t-op						
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious a	none	34	31	SMD 0.14 (0.63 lower to		⊕⊕⊖⊖ Low	CRITICAL
Strength - I	Hamstring worl	k CON 240°/s	(better indicated	by higher value	s) – 6 months po	st-op						
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	34	31	SMD 0.2 (0.69 lower to			CRITICAL
Strength - I	Hamstring worl	k CON 60°/s (	better indicated b	y higher values	) – 1 year post-op	)	•					,
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	36	33	SMD 0.09 (0.56 lower to			CRITICAL
Strength - I	Hamstring worl	k CON 240°/s	(better indicated	by higher value	s) – 1 year post-c	q						
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious a	none	36	33	SMD 0.57 (0.99 lower to			CRITICAL
Strength - I	Hamstring worl	k CON 60°/s (	better indicated b	oy higher values	) – 2 years post-c	p	•	•	•			•
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious a	none	36	33	SMD 0.22 (0.25 lower to			CRITICAL
Strength - I	Hamstring worl	k CON 240°/s	(better indicated	by higher value	s) – 2 years post	ор	·	·				
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	36	33	SMD 0.74 (1.23 lower to			CRITICAL
Balance	·		•			•	•					
2												
	lalance index	etatic moac	I red on instrument	ed unetable play	form (KAT2000)	better indicated by	lower values) 2	monthe nact on	,			

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

			Certainty ass	essment			Nº of pa	atients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Plyometric + agility training	Usual care	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Risberg 2007	randomised trial	serious	not assessable	not serious	serious ª	none	36	31	SMD <b>0.4</b> (0.89 lower to			IMPORTANT
Balance - B	alance index,	dynamic mea	sured on instrum	ented unstable	platform (KAT200	0) (better indicated	l by lower values) -	- 3 months post-	ор			
1 Risberg 2007	randomised trial	serious	not assessable	not serious	serious a	none	36	31	SMD 0.19 (0.67 lower to			IMPORTANT
Balance - Y	balance test	better indicat	ted by higher valu	es) – 4 months	post-op							•
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 5.43 (3.36 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - B	alance index,	static measu	red on instrument	ed unstable pla	tform (KAT2000) (	better indicated by	v lower values) – 6	months post-op				
1 Risberg 2007	randomised trial	serious	not assessable	not serious	serious ª	none	34	31	SMD 0.08 (0.57 lower to		⊕⊕⊖⊖ Low	IMPORTANT
Balance - B	alance index,	dynamic mea	sured on instrum	ented unstable	platform (KAT200	0) (better indicated	I by lower values) -	- 6 months post-	ор	•		
1 Risberg 2007	randomised trial	serious	not assessable	not serious	serious a	none	34	31	SMD 0.46 (0.95 lower to		⊕⊕⊖⊖ Low	IMPORTANT
Propriod	ception											
1												
Propriocep	tion – thresho	ld to detectio	n of passive motion	on (better indica	ated by lower valu	es) – 3 months pos	st-op			1		
1 Risberg 2007	randomised trial	serious	not assessable	not serious	serious ª	none	36	31	SMD 0.33 (0.85 lower to			IMPORTANT
Propriocep	tion - threshol	d to detection	n of passive motic	on (better indica	ted by lower value	es) – 6 months pos	t-op	μ	J			
1 Risberg 2007	randomised trial	serious	not assessable	not serious	serious ª	none	34	31	SMD <b>0.03</b> (0.52 lower to			IMPORTANT
	reported o	utcome m	ieasures (PR	OM)		r I						
3					[		[					
	r		(better indicated b			-						1
1 Risberg 2007	randomised trial	serious	not assessable	not serious	serious ª	none	31	31	SMD 0.48 (0.03 lower to			CRITICAL
PROM - Lys	sholm (better i	ndicated by h	nigher values) – 4	months post-or	<b>)</b>	r	r	r	r			r
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 0.80 (0.12 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - AC	L-RSI (better i	ndicated by h	igher values) – 4	months post-op	)	-						
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 3.29 (1.85 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Cin	icinnati knee r	ating scale - (	(better indicated b	y higher values	s) – 6 months post	-op						
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	34	31	SMD 0.63 (0.13 higher to			CRITICAL
PROM - Cin	icinnati knee r	ating scale - (	better indicated b	y higher values	s) – 1 year post-op							
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	36	33	SMD <b>0.43</b> (0.05 lower to			CRITICAL
PROM - Cin	icinnati knee r	ating scale - (	(better indicated b	y higher values	s) – 2 years post-o	p		T	T			
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious a	none	36	33	SMD 0.32 (0.15 lower to			CRITICAL
Function	nal activiti	es										
3												
Functional	- single leg ho	p for distanc	e (better indicated	l by higher valu	es) – 4 months po	st-op		•	•			•
												1.45

			Certainty ass	essment			Nº of pa	tients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Plyometric + agility training	Usual care	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 9.8 (6.3 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Functional -	- single leg ho	p for distance	e without hands (I	better indicated	by higher values)	– 4 months post-c	р					
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD <b>8.58</b> (5.49 highe high	r to 11.68	⊕⊖⊖⊖ Very low	CRITICAL
Functional -	- triple hop (be	etter indicated	d by higher values	s) – 4 months po	ost-op		-	-	_			
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD <b>8.01</b> (5.11 highe high	r to 10.92	⊕⊖⊖⊖ Very low	CRITICAL
Functional -	- crossover ho	op (better indi	cated by higher v	alues) – 4 mont	hs post-op							
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 9.68 (6.22 highe high	r to 13.14	⊕⊖⊖⊖ Very low	CRITICAL
Functional -	- 6m-timed hoj	p (better indic	cated by higher va	alues) – 4 month	ns post-op							
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 8.83 (5.65 highe high	r to 12.00	⊕⊖⊖⊖ Very low	CRITICAL
Functional -	single leg ho	p for distance	e (m) (better indic	ated by higher	values) – 6 month	s post-op			•			
2 Risberg 2009 Souissi 2011	randomised trials	serious	serious I2=58%	not serious	very serious <sup>a, b</sup>	none	42	39	SMD 0.60 (0.29 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	- triple hop for	distance (m)	(better indicated	by higher value	es) – 6 months pos	st-op						
2 Risberg 2009 Souissi 2011	randomised trials	serious	not serious l²=0%	not serious	serious <sup>a</sup>	none	42	39	SMD 0.46 (0.02 higher to			CRITICAL
	- stairs hop te	st (m) (better	indicated by high	er values) – 6 m	onths post-op		ļ	ļ	ļ			
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious a	none	34	31	SME (0.49 lower to			CRITICAL
Functional -	– five jump tes	st distance (m	) (better indicated	d by higher valu	ies) – 6 months po	ost-op						
Souissi 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	8	8	SMD 0.69 (0.33 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Functional -	– agility t-test	(s) reported a	as improvement (l	better indicated	by higher values)	- 6 months post-o	p		1			
Souissi 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	8	8	SMD 0.49 (0.51 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Functional -	– squat jump h	neight (cm) (b	etter indicated by	higher values)	- 6 months post-	op						
Souissi 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	8	8	SMD 0.53 (0.47 lower to		⊕⊖⊖⊖ Very low	CRITICAL
-	1		- · · ·	-	gher values) – 6 n		1	[	1			
Souissi 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	8	8	SMD 0.15 (0.83 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	1	-	T		·	– 6 months post-o		-				
Souissi 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	8	8	SMD 0.75 (0.27 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Functional -	- single leg co	ountermovem	ent jump height (d	cm) (better indic	cated by higher va	lues) – 6 months p	-		1			
Souissi 2011	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	8	8	SMD 1.05 (0.02 lower to		⊕⊖⊖⊖ Very low	CRITICAL
	5 5	-	T		values) – 1 year po	ost-op	1	1				
1 Risberg 2009	randomised trials	serious	not assessable	not serious	serious ª	none	36	33	SMD 0.16 (0.31 lower to			CRITICAL
Functional -	- single leg ho	p for distance	e (m) (better indic	ated by higher	values) – 1 year po	ost-op						

			Certainty ass	essment			Nº of pa	tients	Effe	ct		l.
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Plyometric + agility training	Usual care	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	36	33	SMD 0.01 (0.46 lower to			CRITICAL
Functional	- triple hop for	distance (m)	(better indicated	by higher value	s) – 1 year post-o	p		-				
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	36	33	SMD <b>0.07</b> (0.4 lower to 0			CRITICAL
Functional	- stairs hop te	st (better indi	cated by higher v	alues) – 1 year p	oost-op							
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	36	33	SMD 0.11 (0.37 lower to			CRITICAL
functional -	triple hop for	distance (m)	better indicated	by higher values	s) – 2 years post-o	op						
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	36	33	SMD 0.02 (0.45 lower to			CRITICAL
Functional -	- stairs hop te	st (better indi	cated by higher v	alues) – 2 year p	oost-op	•						
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious ª	none	36	33	SMD 0.08 (0.56 lower to			CRITICAL
Pain												
2												
Pain - pain	VAS (better in	dicated by low	ver values) – 3 m	onths post-op		•				•		
1 Risberg 2007	randomised trial	very serious	not assessable	not serious	serious ª	none	36	31	SMD <b>0.28</b> (0.2 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Pain - pain	VAS (better in	dicated by low	ver values) – 6 m	onths post-op		•	•		•	•		
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	36	33	SMD 0.19 (0.66 lower to			CRITICAL
Pain - pain	VAS (better in	dicated by low	ver values) – 1 ye	ar post-op								
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	36	33	SMD 0.52 (1 lower to 0			CRITICAL
Pain - pain	VAS (better in	dicated by lov	ver values) – 2 ye	ars post-op		Į	ļ		ļ	I		
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious a	none	36	33	SMD 0.33 (0.81 lower to			CRITICAL
Laxity	1		L			I	L	L	1			
2												
	ference betwe	en limbs (mm	) (better indicated	d by lower value	s) – 3 months pos	st-op						
1 Risberg 2007	randomised trial	serious	not assessable	not serious	serious a	none	36	31	SMD 0.1 (0.38 lower to			CRITICAL
Laxity - diff	erence betwee	en limbs (mm)	(better indicated	by lower values	s) – 6 months pos	it-op						
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	34	31	SMD 0.14 (0.34 lower to			CRITICAL
Laxity - diff	erence betwee	en limbs (mm)	(better indicated	by lower values	s) – 1 year post-oj	p						
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious a	none	36	33	SMD 0.18 (0.29 lower to			CRITICAL
Laxity - diff	erence betwee	en limbs (mm)	(better indicated	by lower values	s) – 2 years post-o	op	•		•			
1 Risberg 2009	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	36	33	SMD 0.35 (0.12 lower to			CRITICAL
Adverse	events					•	•		•			
Risberg 2007									None rep	ported		CRITICAL

			Certainty ass	essment			№ of pa	tients	Effec	:t		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Plyometric + agility training	Usual care	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Risberg 2009									None reported			CRITICAL
Souissi 2011									None rep	orted		CRITICAL
Kasmi 2021									None rep	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

а

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction b.

#### Plyometric and eccentric training versus usual care in rehabilitation after ACLR

Bibliography: ,Kasmi 2021

			Certainty asse	ssment			№ of pat	ients	Effect	t		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Plyometric + eccentric training	Usual care	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Balance												
1												
Balance - Y	balance test (b	etter indicate	ed by higher value	s) – 4 months p	iost-op							
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious a, b	none	10	10	SMD 7.41 h (4.70 higher to 10		⊕⊖⊖⊖ Very low	IMPORTANT
Patient re	eported ou	tcome me	easures (PRC	DM)								
1												
PROM - Lysl	holm (better in	dicated by hi	gher values) – 4 n	nonths post-op								
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD 2.50 h (1.27 higher to 3		⊕⊖⊖⊖ Very low	CRITICAL
PROM - ACL	-RSI (better in	dicated by hi	gher values) – 4 n	nonths post-op								
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious a, b	none	10	10	SMD 6.68 h (4.21 higher to 9		⊕⊖⊖⊖ Very low	CRITICAL
Function	al activitie	s										
1												
Functional -	single leg hop	for distance	(better indicated	by higher value	s) – 4 months pos	t-op						
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious a, b	none	10	10	SMD <b>12.67</b> (8.20 higher to 17		⊕⊖⊖⊖ Very low	CRITICAL
Functional -	single leg hop	for distance	without hands (b	etter indicated I	y higher values) -	- 4 months post-op	)					
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD <b>11.96</b> (7.73 higher to 16		⊕⊖⊖⊖ Very low	CRITICAL
Functional -	triple hop for	distance (bet	ter indicated by hi	gher values) –	4 months post-op							
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious a, b	none	10	10	SMD <b>10.79</b> (6.96 higher to 14		⊕⊖⊖⊖ Very low	CRITICAL
Functional -	crossover hop	) (better indic	ated by higher va	lues) – 4 month	s post-op							
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	10	SMD <b>13.41</b> (8.69 higher to 18		⊕⊖⊖⊖ Very low	CRITICAL
Functional -	6m-timed hop	(better indica	ated by higher val	ues) – 4 months	s post-op							
1 Kasmi 2021	randomised trial	serious	not assessable	not serious	very serious a, b	none	10	10	SMD <b>11.59</b> (7.49 higher to 15		⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events		1									
Kasmi 2021									None repo	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

а

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction b.

#### Low intensity versus high intensity plyometric training in rehabilitation after ACLR

Bibliography: Chmielewski 2016

			Certainty asse	essment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Low intensity	High intensity	Relative (95% CI)	Absolute (95% Cl)	Certainty	Importance
Strength			I			I						
1												
Strength - Q	uadriceps CO	N 60°/s LSI% o	change (better ind	icated by highe	er values) – 5 montl	ns post-op						
1 Chmielewski 2016	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.2 (0.6 lower to			CRITICAL
Patient re	eported ou	tcomes (F	ROM)			1						
1												
PROM - IKDO	C (better indica	ated by higher	r values) – 5 mont	hs post-op								
1 Chmielewski 2016	randomised trial	serious	not assessable	not serious	very serious a, b	none	12	12	SMD <b>0.46</b> (0.35 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM – Tam	npa scale of ki	nesiophobia (	TSK-11) Score (b	etter indicated b	oy lower values) – 5	months post-op						
1 Chmielewski 2016	randomised trial	serious	not assessable	not serious	very serious a, b	none	12	12	SMD 0.07 (0.73 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
PROM – kne	e activity self-	efficacy score	better indicated	by higher value	es) – 5 months pos	t-op		•	•			
1 Chmielewski 2016	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.47 (1.28 lower to )			CRITICAL
PROM – pair	n catastrophizi	ing scale (bett	er indicated by lo	wer values) – 5	months post-op			Į	<b>_</b>			
1 Chmielewski 2016	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.32 (0.49 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Function	al activitie	s	ł			1						
1												
Functional -	Single leg hop	o for distance	(better indicated	by higher value	s) – 5 months post-	•ор		Į	<u>I</u>			
1 Chmielewski 2016	randomised trial	not serious	not assessable	not serious	very serious a, b	none	12	12	SMD 0.46 (0.36 lower to			CRITICAL
Laxity	-	-										
1												
Laxity - laxity	y (better indic	ated by lower	values) – 5 month	is post-op				•				
1 Chmielewski 2016	randomised trial	not serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.35 (0.46 lower to			CRITICAL
Pain			•			•						
1												
Pain - pain (b	better indicate	d by lower val	lues) – 5 months j	oost-op								
1 Chmielewski 2016	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	12	12	SMD 0.17 (0.98 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events											
Chmielewski 2016									None rep	ported		CRITICAL

CI: confidence interval; SMD: standardised mean difference

a. Total participants <800 b. 95% Cl of an SMD extends > 0.5 points in either direction

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

## Cross-education (contralateral leg strength training) versus usual care in rehabilitation after ACLR

Bibliography: Papandreou 2007, Papandreou 2009, Papandreou 2013, Zult 2018, Zult 2019, Harput 2019, Minshull 2021

			Certainty asse	ssment			Nº of p	oatients	Effe	st		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Cross- education	Usual care	Relative (95% CI)	Absolute (95% CI)	Certainty	Importance
Strength	I											
5												
Strength - Q	uadriceps ISO	M 60-65° (be	tter indicated by I	nigher values) -	5-8 weeks post-	ор		•	•			
2 Papandreou 2013 Zult 2019	randomised trials	serious	very serious I <sup>2</sup> =91%	not serious	very serious <sup>a, b</sup>	none	36	35	SMD 0.10 (1.61 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps ISO	M 45° (better	r indicated by hig	ner values) – 2 i	months post-op						L L	
1 Papandreou 2007	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	14	SMD <b>0.94</b> (0.15 higher to		⊕⊖⊖⊖ Very low	CRITICAL
	uadriceps ISO	M 90° (better	r indicated by high	ner values) – 2 i	nonths post-op			ļ	1		LI	
1 Papandreou 2007	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	14	SMD <b>1.19</b> (0.37 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps ISO	M 30-65° (be	tter indicated by I	nigher values) –	3 months post-o	p		1	1		I	
3 Zult 2019 Harput 2019 Minshull 2021	randomised trials	very serious	very serious I <sup>2=</sup> 91%	not serious	very serious <sup>a, b</sup>	none	60	59	SMD <b>0.48</b> (0.83 lower to 7		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps CO	N 60°/s (bette	er indicated by hig	her values) – 3	months post-op			μ	J		μμ	
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.64 (1.25 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps CO	N 120°/s (bet	ter indicated by h	igher values) –	3 months post-op	)			•			
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.05 (0.55 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps CO	N 180°/s (beti	ter indicated by h	igher values) –	3 months post-op	)						
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.06 (0.54 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps ISO	M 30-65° (be	tter indicated by I	nigher values) –	6 months post-o	р						
3 Zult 2019 Harput 2019 Minshull 2021	randomised trials	very serious	not serious I²=0%	not serious	serious ª	none	60	59	SMD <b>0.06</b> (0.42 lower to			CRITICAL
Strength - Q	uadriceps CO	N 60°/s (bette	er indicated by hig	her values) – 6	months post-op							
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.3 (0.9 lower to (	<b>lower</b> ).3 higher)	⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps CO	N 120°/s (bet	ter indicated by h	igher values) –	6 months post-op	)						
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21	SMD 0.17 (0.42 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps CO	N 180°/s (beti	ter indicated by h	igher values) –	6 months post-op	)						
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.18 (0.42 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	uadriceps EC	C 60°/s (bette	r indicated by hig	her values) – 6	months post-op							
1	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21	SMD 0.08 (0.68 lower to (		<b>0</b> 000	CRITICAL

			Certainty asse	ssment			N⊵ofr	atients	Effe	at		
Nº of	Study	Risk of		Indirectness	Imprecision	Other	Cross-	Usual care	Relative	Absolute	Certainty	Importance
studies	design	bias	Inconsistency	mairectness	Imprecision	considerations	education		(95% CI)	(95% CI)		
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.1 (0.69 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ha	amstring ISON	l 30-65° (bett	er indicated by hi	gher values) – 3	3 months post-op			1				
2 Zult 2019 Minshull 2021	randomised trials	serious	not serious I²=0%	not serious	serious <sup>a</sup>	none	44	44	SMD <b>0.09</b> (0.33 lower to			CRITICAL
Strength - Ha	amstring CON	60°/s (better	indicated by high	ier values) – 3 r	nonths post-op							
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.62 (1.22 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ha	amstring CON	120°/s (bette	r indicated by hig	her values) – 3	months post-op						<b>F</b>	
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.41 (1.01 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ha	amstring CON	180°/s (bette	r indicated by hig	her values) – 3	months post-op							
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.15 (0.75 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ha	amstring ISON	1 30-65° (bett	er indicated by hi	gher values) – (	6 months post-op							
2 Zult 2019 Minshull 2021	randomised trials	serious	not serious I²=0%	not serious	very serious <sup>a, b</sup>	none	44	44	SMD <b>0.1</b> (0.52 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ha	amstring CON	60°/s (better	indicated by high	ier values) – 6 r	nonths post-op							
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.25 (0.84 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ha	amstring CON	120°/s (bette	r indicated by hig	her values) – 6	months post-op							
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD 0.18 (0.77 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ha	amstring CON	180°/s (bette	r indicated by hig	her values) – 6	months post-op							
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD <b>0.46</b> (0.14 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Ha	amstring ECC	60°/s (better	indicated by high	er values) – 6 n	nonths post-op							
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	22	SMD (0.59 lower to (		⊕⊖⊖⊖ Very low	CRITICAL
Patient re	eported ou	itcomes (	PROM)									
4												
PROM - Hug		-	etter indicated by									
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.89 (0.26 higher to	higher 1.52 higher)	⊕⊖⊖⊖ Very low	CRITICAL
PROM – Lys	holm score (b	etter indicate	d by higher value	s) – 2 months p	ost-op			r	r		1	
1 Papandreou 2009	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	14	14	SMD 1.26 (0.44 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Hug	hston Clinic K	inee score (b	etter indicated by	lower values) -	3 months post-o	p					I	
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21	SMD 0.5 (0.11 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Hug	hston Clinic K	inee score (b	etter indicated by	lower values) -	- 6 months post-o	p		· 	· 			
1 Zult 2019	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21	SMD 0.12 (0.48 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
PROM - IKDO	C score (better	r indicated by	higher values) –	6 months post	ор							
1 Harput 2019	randomised trial	very serious	not assessable	not serious	very serious a, b	none	16	16	SMD 0.28 (0.42 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL

			Certainty asse	ssment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Cross- education	Usual care	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Minshull 2021	randomised trial	serious	not assessable	not serious	very serious <sup>a, c</sup>	none	22	22	Results are no Authors re significant d between g	port no ifference	⊕⊖⊖⊖ Very low	CRITICAL
Function	nal activitie	s	Į		<u> </u>	ļ			1		II	
3												
Functional -	single leg hop	o for distance	(better indicated	by higher value	es) – 6 months po	st-op						
3 Zult 2019 Harput 2019 Minshull 2021	randomised trials	very serious	not serious I2=0%	not serious	serious ®	none	56	54	SMD 0.12 (0.49 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Proprioc	eption		•		•	•			•			
1												
Propriocept	tion - knee join	t repositionin	ng error 15° (bette	r indicated by l	ower values) – 5 v	weeks post-op						
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD (0.6 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Propriocept	tion - knee join	t repositionin	ng error 30° (bette	r indicated by l	ower values) – 5 v	weeks post-op		I	I		ſ	
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.56 (0.05 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Propriocept	tion - knee join	t repositionin	ng error 45° (bette	r indicated by l	ower values) – 5 v	weeks post-op	1	1	1			
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.25 (0.85 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Propriocept	tion - knee join	t repositionin	ng error 60° (bette	r indicated by l	ower values) – 5 v	weeks post-op		I	1			
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD (0.6 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Propriocept	T	t repositionin	ng error 15° (bette	r indicated by l	ower values) – 3 i	months post-op	-	1	1			
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21	SMD (0.6 lower to			IMPORTANT
Propriocept	1	-	ng error 30° (bette		ower values) – 3 i	months post-op	-	1	1		[]	
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21	SMD 0.56 (0.05 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Propriocept	tion - knee join	t repositionin	ng error 45° (bette	r indicated by l	ower values) – 3 i	months post-op			1			
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21	SMD 0.25 (0.85 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
	T	r	ig error 60° (bette	r	1	months post-op	-	1	1		[]	
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD (0.6 lower to			IMPORTANT
	1	-	ig error 15° (bette						I			
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21	SMD 0.28 (0.32 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Propriocept	tion - knee join	t repositionin	ng error 30° (bette		ower values) – 6 i	months post-op		1			I	
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.56 (0.05 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Propriocept	tion - knee join	t repositionin	ng error 45° (bette	r indicated by l	ower values) – 6 i	months post-op			1		· · · · · · · · · · · · · · · · · · ·	
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.25 (0.85 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Propriocept	tion - knee join	t repositionin	ng error 60° (bette	r indicated by l	ower values) – 6 i	months post-op		I	1		[]	
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21	SMD 0.33 (0.93 lower to		⊕⊖⊖⊖ Very low	IMPORTANT
Balance												

			Certainty asse	ssment			Nºofp	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Cross- education	Usual care	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
1												
Balance - Or	ne-leg standin	g balance, ey	es open (better in	dicated by high	ner values) – 5 we	eks post-op						
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD <b>0.43</b> (1.04 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Or	ne-leg standin	g balance, ey	es closed (better	indicated by hi	gher values) – 5 v	veeks post-op						
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.35 (0.25 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - St	ar-excursion b	alance test, o	composite score (	% leg length) (l	better indicated b	y higher values) –	5 weeks post-op		•			
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.33 (0.93 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Or	ne-leg standin	g balance, ey	es open (better in	dicated by high	ner values) – 3 mo	onths post-op		•				
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD (0.6 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Or	ne-leg standin	g balance, ey	es closed (better	indicated by high	gher values) – 3 r	nonths post-op						
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious a, b	none	22	21	SMD 0.15 (0.44 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - St	ar-excursion b	alance test, o	composite score (	% leg length) (l	better indicated b	y higher values) – :	3 months post-o	P				
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.49 (1.1 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Or	ne-leg standin	g balance, ey	es open (better in	dicated by high	ner values) – 6 mo	onths post-op		,	•			
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD (0.6 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - Or	ne-leg standin	g balance, ey	es closed (better	indicated by high	gher values) – 6 r	nonths post-op		,				
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.05 (0.55 lower to 0		⊕⊖⊖⊖ Very low	IMPORTANT
Balance - St	ar-excursion b	alance test, o	composite score (	% leg length) (I	better indicated b	y higher values) – (	6 months post-o	p	•			
1 Zult 2018	randomised trial	serious	not assessable	not serious	very serious <sup>a, b</sup>	none	22	21	SMD 0.33 (0.93 lower to (		⊕⊖⊖⊖ Very low	IMPORTANT
Adverse	events											
Papandreou 2007									None rep	orted		CRITICAL
Papandreou 2009									None rep	orted		CRITICAL
Papandreou 2013									None rep	orted		CRITICAL
Zult 2018									None rep	orted		CRITICAL
Zult 2019									None rep	orted		CRITICAL
Harput 2019									None rep			CRITICAL
Minshull 2021									None rep	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

a. b.

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction

### Core stability training versus no core stability training in rehabilitation after ACLR

Bibliography: Panchal 2017, Li 2019

			Certainty ass	essment			Nº of p	atients	Effe	ct		
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Core stability	No core stability	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Range o	f motion (l	ROM)										
2												
ROM (total ı	range of motic	on improveme	nt (°) measured b	y mobile applic	ation; better indica	ated by higher valu	es) – 4 weeks po	st-op				
1 Panchal 2017	randomised trial	serious	not assessable	not serious	very serious a, b	none	30	30	SMD <b>0.48</b> (0.99 lower to			IMPORTAN
ROM - activ	e knee flexion	(better indica	ted by higher val	ues) – 6 months	post-op	ł			1			
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	37	37	SMD <b>4.33</b> (3.48 higher to		⊕⊖⊖⊖ Very low	IMPORTAN
ROM - pass	ive knee flexio	on (better indic	ated by higher va	alues) – 6 monti	hs post-op							
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	37	37	SMD <b>4.34</b> (3.49 higher to		⊕⊖⊖⊖ Very low	IMPORTAN
Patient r	eported o	utcomes (I	PROM)									
2												
PROM - Lys	sholm score (b	etter indicated	l by higher value	s) – 4 weeks po	st-op							
1 Panchal 2017	randomised trial	very serious	not assessable	not serious	very serious a, b	none	30	30	SMD <b>0.76</b> (0.23 higher to			CRITICAL
PROM - Teg	gner level (bett	er indicated b	y higher values) -	- 4 weeks post-	ор	<u>I</u>	I		4	I		
1 Panchal 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	30	30	SME (0.51 lower to		⊕⊖⊖⊖ Very low	CRITICAL
PROM - Lys	sholm score (b	etter indicated	l by higher value	s) – 6 months p	ost-op	L			1	I		L
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	37	37	SMD <b>1.68</b> (1.14 higher to		⊕⊖⊖⊖ Very low	CRITICAL
Functior	nal activit	ies										
1												
Functional -	- cadence (bet	ter indicated b	y higher values)	– 6 months pos	t-op				1			
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious a, b	none	37	37	SMD 2.28 (1.68 higher to		⊕⊖⊖⊖ Very low	IMPORTAN
Functional -	- stride Length	(better indica	ted by higher val	ues) – 6 months	s post-op				*			
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	37	37	SMD 1.38 (0.87 higher to		⊕⊖⊖⊖ Very low	IMPORTAN
Functional -	- stride width (	better indicate	ed by lower value	s) – 6 months p	ost-op				T			
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	37	37	SMD 1.48 (2 lower to 0		⊕⊖⊖⊖ Very low	IMPORTAN
		1	l by higher values		-				1			-
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	37	37	SMD 1.89 (1.33 higher to		⊕⊖⊖⊖ Very low	IMPORTAN
		[	by lower values)	-								
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	37	37	SMD 1.05 (1.54 lower to		⊕⊖⊖⊖ Very low	IMPORTAN
	r – – – – – – – – – – – – – – – – – – –		1	r	er values) – 6 mon	· · · · · · · · · · · · · · · · · · ·						
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	37	37	SMD 1.14 (1.63 lower to		⊕⊖⊖⊖ Very low	IMPORTAN

			Certainty ass	essment			Nº of p	atients	Effe	rt		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Core stability	No core stability	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	37	37	SMD 0.9 I (0.42 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	hip peak read	ction force (be	tter indicated by	higher values) -	- 6 months post-or	)			1			
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious a, b	none	37	37	SMD 0.71 (0.24 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	knee peak re	action force (b	etter indicated by	y higher values	– 6 months post-	op						
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious a, b	none	37	37	SMD 0.6 I (0.13 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Functional -	ankle peak re	eaction force (I	better indicated b	y higher values	) – 6 months post-	ор						
1 Li 2019	randomised trial	very serious	not assessable	not serious	very serious a, b	none	37	37	SMD 1.54 (1.02 higher to		⊕⊖⊖⊖ Very low	IMPORTANT
Pain												
1												
Pain – impro	ovement in pa	in score VAS (	(better indicated	by higher value	s) – 4 weeks post-	ор			1			
1 Panchal 2017	randomised trial	serious	not assessable	not serious	very serious a, b	none	30	30	SMD 0.21 (0.29 lower to 0		⊕⊖⊖⊖ Very low	CRITICAL
Adverse	events											
Panchal 2017									None rep	orted		CRITICAL
Li 2019									None rep	orted		CRITICAL

CI: confidence interval; SMD: standardised mean difference

Total participants <800 95% CI of an SMD extends > 0.5 points in either direction a. b.

#### Aquatic therapy versus no aquatic therapy in rehabilitation after ACLR

Bibliography: Tovin 1994, Zamarioli 2008, Peultier-Celli 2017

			Certainty asse	essment			Nº of p	oatients	Effe	ct		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Aquatic therapy	No aquatic therapy	Relative (95% Cl)	Absolute (95% CI)	Certainty	Importance
Strength	1											
1												
Strength - Q	Quadriceps ISC	OM 85° LSI% (k	petter indicated by	/ higher values	) – 2 months post	-ор		•	•			
1 Tovin 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	9	SMD 0.02 (0.92 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - Q	Quadriceps CO	N 90°/s LSI% (	(better indicated b	by higher values	s) – 2 months pos	t-op						
1 Tovin 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	9	SMD 0.28 (1.19 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring ISOI	M 85° LSI% (be	etter indicated by	higher values)	- 2 months post-o	р						
1 Tovin 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	9	SMD 0.13 (1.04 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Strength - H	lamstring CON	l 90°/s LSI% (b	better indicated by	/ higher values)	) – 2 months post-	ор						
1 Tovin 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	9	SMD 1.14 (2.13 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Range o	of motio	n (ROM)										
3												
ROM - knee	flexion (bette	r indicated by	higher values) – 2	months post-c	p							
1 Zamarioli 2008	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD 0.09 (1.33 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Tovin 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	10	10	The authors r statistically s difference betw group	ignificant veen the two		CRITICAL
Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	very serious <sup>a, c</sup>	none	32	35	The authors r statistically s difference betw group	ignificant veen the two		CRITICAL
ROM - knee	extension (be	tter indicated	by lower values) -	- 2 months pos	t-op			ļ				
1 Zamarioli 2008	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD 0.8 (0.52 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Tovin 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	10	10	The authors r statistically s difference betw group	ignificant veen the two	⊕⊖⊖⊖ Very low	CRITICAL
Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	very serious <sup>a, c</sup>	none	32	35	The authors r statistically s difference betw group	ignificant veen the two	⊕⊖⊖⊖ Very low	CRITICAL
Patient	reported	d outcom	nes (PROM)									
2												
PROM – Lys	sholm scale (b	etter indicated	l by higher values	i) – 2 months po	ost-op							
1 Tovin 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	10	9	SMD <b>1.04</b> (0.06 higher to		⊕⊖⊖⊖ Very low	CRITICAL
PROM – Lys	sholm scale –	6 months post	-ор									
Peultier- Celli 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	32	35	The authors r statistically s difference betw group	ignificant veen the two	⊕⊖⊖⊖ Very low	CRITICAL

			Certainty asso	accmont			No of r	oatients	Effe	ot		
Nº of	Study	Risk of	Certainty asso	essment		Other		No aquatic	Relative	Absolute	Certainty	Importance
studies	Study design	bias	Inconsistency	Indirectness	Imprecision	considerations	Aquatic therapy	therapy	(95% CI)	(95% CI)		
Peultier- Celli 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	32	35	The authors r statistically difference betw grou	significant veen the two	⊕⊖⊖⊖ Very low	CRITICAL
PROM – KO	OS scale – 6 n	nonths post-o	p			1	-	T	T			I.
Peultier- Celli 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	32	35	The authors i statistically difference betw grou	significant veen the two	⊕⊖⊖⊖ Very low	CRITICAL
Function	al activitie	s										
1												
Functional -	6 minutes' wa	lk test (better	indicated by high	ner values) – 1 r	nonth post-op							
1 Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	32	35	SMD 0.56 (0.07 higher to			IMPORTANT
Functional -	6 minutes' wa	lk test– 6 mor	nth post-op									
Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	very serious <sup>a, c</sup>	none	32	35	The authors i statistically difference betw grou	significant veen the two	⊕⊖⊖⊖ Very low	IMPORTANT
Laxity												
1												
Laxity - laxit	y – 2 months	post-op	<u> </u>	<u>.                                    </u>	<u> </u>	<u> </u>	<u>.                                    </u>		<u>1</u>			<u> </u>
1 Tovin 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	10	10	The authors i statistically difference betw grou	significant veen the two	⊕⊖⊖⊖ Very low	CRITICAL
Proprioc	eption		•			•		•	<b>,</b>			•
Propriocepti	ion – repositio	ning error – 2	months post-op			•		•	<b>,</b>			•
Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	very serious <sup>a, c</sup>	none	32	35	The authors in statistically difference betw grou	significant veen the two	⊕⊖⊖⊖ Very low	IMPORTANT
Pain	J		,									
1												
pain – pain V	AS (better ind	dicated by low	ver values) – 2 mo	onths post-op	<u></u>			<u>,</u>	<u>I</u>			
1 Zamarioli 2008	randomised trial	very serious	not assessable	not serious	very serious a, b	none	5	5	SMD 0.9 (2.31 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Peultier- Celli 2017	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	32	35	The authors in statistically difference betw grou	significant veen the two	⊕⊖⊖⊖ Very low	CRITICAL
Balance						•						•
1												
Balance - ba	lance (sway p	ath) (better in	dicated by lower	values) – 2 mon	ths post-op							
1 Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	serious ª	none	32	35	SMD 0.2 (0.28 lower to			IMPORTANT
Balance - ba	lance (sway p	ath) (better in	dicated by lower	values) – 6 mon	ths post-op							
1 Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	serious ª	none	32	35	SMD 0.23 (0.25 lower to			IMPORTANT
Balance - ba	lance (area) (l	oetter indicate	d by lower values	s) – 2 months po	ost-op							
1 Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	serious ª	none	32	35	SMD 0.13 (0.61 lower to			IMPORTANT

			Certainty asso	essment			N⊵ofp	atients	Effe	ct		
Nº of	Study	Risk of	-			Other	Aquatic	No aquatic	Relative	Absolute	Certainty	Importance
studies	design	bias	Inconsistency	Indirectness	Imprecision	considerations	therapy	therapy	(95% CI)	(95% CI)		
Balance - ba	lance (area) (l	oetter indicate	d by lower values	s) – 6 months po	ost-op		-	1	-			
1 Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	serious ª	none	32	35	SMD 0.12 (0.6 lower to 0			IMPORTANT
Balance - so	matosensory	contribution (	better indicated b	y lower values)	- 2 months post-	ор	-					
1 Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	serious ª	none	32	35	SMD 0.22 (0.7 lower to 0			IMPORTANT
Balance - so	matosensory	contribution (	better indicated b	y lower values)	- 6 months post-	ор		•				•
1 Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	serious <sup>a</sup>	none	32	35	SMD <b>0.66</b> (1.15 lower to			IMPORTANT
balance - vis	sual contributi	on (better indi	icated by lower va	alues) – 2 month	ns post-op							
1 Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	serious ª	none	32	35	SMD 0.21 (0.69 lower to			IMPORTANT
Balance - vis	sual contributi	ion (better ind	icated by lower v	alues) – 6 montl	hs post-op			•		,		
1 Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	serious ª	none	32	35	SMD 0.43 (0.92 lower to			IMPORTANT
Balance - ve	stibular contri	ibution (better	indicated by low	er values) – 2 m	onths post-op			•				•
1 Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	serious ª	none	32	35	SMD 0.04 (0.52 lower to			IMPORTANT
Balance - ve	stibular contri	ibution (better	indicated by low	er values) – 6 m	onths post-op			•				•
1 Peultier- Celli 2017	randomised trial	serious	not assessable	not serious	serious ª	none	32	35	SMD 0.25 (0.73 lower to			IMPORTANT
Atrophy												,
2												
Atrophy - thi	igh circumfere	ence (better in	dicated by higher	r values) – 2 mo	nths post-op							
1 Zamarioli 2008	randomised trial	very serious	not assessable	not serious	very serious <sup>a, b</sup>	none	5	5	SMD 0.68 (1.98 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Tovin 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	10	10	The authors r statistically s difference betw group	ignificant veen the two	⊕⊖⊖⊖ Very low	CRITICAL
Swelling			,									,
2												
Swelling - m	id-patella circ	umference (be	etter indicated by	lower values) –	2 months post-op	)		•				
1 Zamarioli 2008	randomised trial	very serious	not assessable	not serious	very serious a, b	none	5	5	SMD <b>0.12</b> (1.36 lower to		⊕⊖⊖⊖ Very low	CRITICAL
Tovin 1994	randomised trial	very serious	not assessable	not serious	very serious <sup>a, c</sup>	none	10	10	The authors r statistically s difference betw group	ignificant veen the two		CRITICAL
Adverse	events											
Tovin 1994									None rep	ported		CRITICAL
Zamarioli 2008									None rep	ported		CRITICAL
Peultier- Celli 2017									None rep	ported		CRITICAL

CI: confidence interval; SMD: standardised mean difference

VAS: Visual Analog Scale;

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

- Total participants <800 95% CI of an SMD extends > 0.5 points in either direction Not reporting results or SDs a. b. c.

# **Recommendations level of agreement**

Scoring sheet Aspetar ACL rehabilitation guideline.

Rate each statement with a whole number out of 7. Write any comments in the dedicated box only if you want. All statements need a score unless you feel it isn't appropriate for you to answer (check the "I have no opinion" box in that case).

	Recommendation	Score 0-100% Mean (95% Cl)	Comments
1	<b>Pre-operative</b> rehabilitation might improve post- operative quadriceps strength, knee range of motion, and may decrease the time to return to sport. We recommend at least one visit to ensure that there is adequate voluntary muscle activation and no flexion contracture that may require further pre-operative visits, and to educate the patient regarding the post- operative rehabilitation course.	96.06 (92.53 to 99.59)	Agree, develop good strength capacity baseline as tolerated, with biased exercises to focused on existing hip, foot and ankle motor and strength deficits. Education on the key accessary exercises that can be started immediately post op may help exercise quality and patterning.
2	<b>Unsupervised exercise</b> execution might be followed by patients after ACLR who cannot afford supervised rehabilitation, have reduced access to physiotherapy, or have high motivation and are compliant to perform their rehabilitation independently. Irrespective, patients should have their programs individually prescribed and be monitored regarding the execution of the rehabilitation protocol and to ensure the progression without adverse events.	<b>84.69</b> (76.87 to 92.52)	I think unsupervised exercise execution (UEE) can benefit depends on the patients. Patients who have experience in exercising on daily base with high body awareness can be considered UEE, however those who are not can be very dangerous for them. So, I would not recommend UEE in general unless they are educated well in exercising. Agree, if affordable, if not videos and clear explanations required with a focus on key exercises or main deficit to be targeted. This is a rehabilitation expertise guidance and strategic decision, cannot comment on this as a surgeon since I have no literature knowledge or benchmark data on this topic. I feel that if this is the case, non-operative treatment should be considered the best treatment option (non-compliant).
3	The <b>duration of the rehabilitation</b> protocol is individual-specific and depends on the patient demonstrating their ability to safely return to their pre-injury activity level (criteria-based). Accelerated timelines under the right conditions can be used	<b>97.04</b> (94.80 to 99.28)	The biological component for graft maturation should be a priority. Afterwards, the dynamic component can be used for progression.

Aspetar clinical practice guideline on rehabilitation after ACLR: Supplementary file

		1	
	without adverse events. Specific criteria should be		
	used to progress rehabilitation mindful of minimum		
	time requirements for graft protection and healing.		
4	There is no additional benefit for pain, range of motion, or swelling in using <b>continuous passive</b> <b>motion</b> compared to active motion exercises. We recommend against using it in the rehabilitation protocol as it is time-consuming and costly.	<b>75.51</b> (64.97 to 86.05)	You may be right that it may be costly. However, sometimes we need this controlled early motion, and the patient is not able due to preoperative nerve block. So sometimes and if we rely only on immediate active motion we may lose the beneficial effects of (any kind of) motion due to inability of patients to actively move immediately. And in addition to NMES that you suggest to avoid atrophy (and I agree), the motion also offers additional advantage (except from the avoidance of atrophy) to the whole nutrition of the joint and cartilage due to diffusion. Finally, motion may help to avoid DVT (to be honest I am not aware for any evidence regarding correlation of CPM to avoid DVT). In general, we don't like immobilized patients post op but sometimes it happens due to nerve block as anesthesia. As long as CPM does not force to exceed one's ROM limit, I would definitely use it. From an ROM perspective, in some cases, I feel it can be beneficial for
			patients that are very guarded/ protective. Graded CPM can help / develop trust in knee movement i.e Flexion / Extension. In turn may help with desensitization.
			For isolated ACL, agree. However, in case of combined cartilage work, CPM is welcomed while active exercises can be initially contra-indicated.
			Should be used in exceptional circumstances.
			It may be beneficial in the very early stages, in the first day or so post-op. However, active motion exercises should be initiated as soon as pain allows.
			I have no experience.
			Somewhat disagree just because of previous emphasis on early CPM. No real clinical justification for the selection.
			I think it has a role in the immediate postoperative period (0-72 hours).
5	Cryotherapy can be applied inexpensively, it is easy to	97.04 (94.80 to 99.28)	
	use, has a high level of patient satisfaction, and is		
	rarely associated with adverse events, therefore it is		
	justified in the early phase of postoperative		

	management after ACLR. However, patients should be		
	educated on safe ice application to avoid injury.		
	Compressive cryotherapy, if available, might be more		
	effective than cryotherapy alone.		
6	We recommend the use of Neuromuscular Electrical	93.37 (90.55 to 96.18)	Can be useful for some functional activities once timing of movement
	Stimulation (NMES) in the very early phase after		execution and stimulus is correct.
	surgery to stimulate muscle activation or minimize the		
	expected disuse atrophy. At the early phase, NMES		
	might be used during functional activities to further		
	facilitate strength gains.		
7	Low load blood flow restriction training might be used	92.61 (88.60 to 96.62)	But timeline - wise, I might have some reservations to start BFR before 4
	in addition to standard care in the early phase of		weeks postoperatively for DVT risk reasons.
	rehabilitation to improve quadriceps and hamstring		
	strength, particularly when patients have increased		Studies show that is a safe intervention with very low rates of complications
	knee pain or cannot tolerate high knee joint loads.		and if any, very mild in nature.
	However, clinicians should be aware of the		
	contraindications (e.g., cardiovascular disease,		
	extensive swelling, skin irritation, etc.).		
8	We don't recommend the use of vastus medialis	67.62% (52.53 to 82.71)	and risk of infection ( it has happened before )
	trigger point dry needling in the very early		
	rehabilitation phase due to increased risk of		Due to lack of evidence
	haemorrhage.		
			Also I would not recommend it for the following reason: the uncertainty regarding the possible benefit what could be achieved with dry needling.
			regarding the possible benefit what could be achieved with dry needing.
			Very low risk of haemorrhage with dry needling
1			
			risks outweigh reward
9	Whole-body vibration might be used as an additional	<b>83.23</b> (75.19 to 91.27)	risks outweigh reward I have no experience at all with this.
9	intervention to improve quadriceps strength and static	<b>83.23</b> (75.19 to 91.27)	I have no experience at all with this.
9		<b>83.23</b> (75.19 to 91.27)	
9	intervention to improve quadriceps strength and static balance but cannot replace conventional rehabilitation. Given the additional cost, and the	<b>83.23</b> (75.19 to 91.27)	I have no experience at all with this.
9	intervention to improve quadriceps strength and static balance but cannot replace conventional	<b>83.23</b> (75.19 to 91.27)	I have no experience at all with this.
9	intervention to improve quadriceps strength and static balance but cannot replace conventional rehabilitation. Given the additional cost, and the	<b>83.23</b> (75.19 to 91.27)	I have no experience at all with this.
9	intervention to improve quadriceps strength and static balance but cannot replace conventional rehabilitation. Given the additional cost, and the reported complications (pain or swelling) when using	<b>83.23</b> (75.19 to 91.27)	I have no experience at all with this. what is conventional rehabilitation and why can it not replace it?
9	intervention to improve quadriceps strength and static balance but cannot replace conventional rehabilitation. Given the additional cost, and the reported complications (pain or swelling) when using this intervention, we suggest not including this in the	83.23 (75.19 to 91.27) 97.04 (94.80 to 99.28)	I have no experience at all with this. what is conventional rehabilitation and why can it not replace it? Agree but only in isolated ACL cases. This can differ in case of combined
	intervention to improve quadriceps strength and static balance but cannot replace conventional rehabilitation. Given the additional cost, and the reported complications (pain or swelling) when using this intervention, we suggest not including this in the rehabilitation protocol.		I have no experience at all with this. what is conventional rehabilitation and why can it not replace it?

	Immobilization does not decrease pain and can lead to		Within surgical precautions.
	muscle atrophy which slows the recovery of function.		Unless there is some underlying condition that the operated limb has to be immobilized as per surgeon restricted order.
11	<b>Early weight-bearing</b> (first week) should be done in a progressive, controlled manner, as tolerated by each patient, mindful of any surgical instructions.	<b>95.57</b> (90.31 to 100)	In isolated ACL rupture. Again, if there are some restricted order from the surgeon we have to noticed it as well.
12	Patient may <b>start open kinetic chain</b> exercises in limited range of motion (90°-45° of knee flexion) from	88.78 (84.16 to 93.39)	May be an idea to have a subsection in the protocols on dealing with anterior knee pain and how to progress.
	the 4th week after surgery without compromising knee stability. Clinicians and patients should monitor		Yes, for hamstring ACL's. No for BTB or Quad ACL's
	for anterior knee pain and adjust the knee load and the progression of strengthening accordingly.		Iso from 3 weeks 90, 70, 60. Arc 90-60 from 6 weeks. Full ROM from 8-10 weeks
13	<b>Isometric quadriceps</b> exercises including static quadriceps contractions and straight leg raises might have a small effect on faster knee flexion recovery, but not on quadriceps strength. They may be prescribed	<b>84.69</b> (76.17 to 93.21)	I would let my rehab expert guide me on that. How would knee extension exercises increase speed of knee flexion recovery?
	during the first 2 weeks after surgery without compromising the graft integrity.		Including NMES, ROM dependent Strongly agree for latter statement.
14	<b>Leg press</b> may be initiated as early as 3 weeks after surgery in patients with hamstring graft, using a functional pattern similar to a half squat (0°-45°) to improve quadriceps and hamstring strength, functional activities and subjective function. Anterior knee pain should be monitored, with load progressed accordingly.	<b>88.27</b> (84.26 to 92.27)	Agree, with correct tibia angles on the press. Yes, if gracilis and semiT were harvested during the surgical graft preparation. No if only the semiT was taken. Start isometrically first.
15	<b>Early quadriceps eccentric</b> strengthening, using eccentric cycle or stepper ergometer, between 20°-60° of knee flexion, may be initiated at 3 weeks after surgery in patients with patellar tendon or hamstring autograft to improve quadriceps strength and hypertrophy without compromising graft integrity.	<b>82.74</b> (75.63 to 89.85)	<ul> <li>Are there any evidence about any effect of early quad strengthening on PF pain and donor site in cases of BPTB autograft?</li> <li>I would be cautious of eccentric work on BTB to avoid anterior knee pain at week 3 and somewhat graft / site integrity. Although, ACL load may be low at those ranges I may consider another exercise to isolate quads that may achieve more with less risk and allow for better ranges.</li> <li>Starting at day 15 postop is too early for BTB.</li> </ul>

			Could be even earlier if pain allows.
16	A combination of <b>closed and open kinetic chain</b> exercise may lead to significantly better quadriceps strength and earlier return to sports, without any increase in laxity, compared to closed chain alone.	<b>91.33</b> (85.82 to 96.83)	Agree, with exercises programmed at the correct rehabilitation timelines and overall load is calculated through the week to avoid anterior knee pain. Depends on the time that these exercises start.
	Monitor for anterior knee pain during open kinetic chain exercises and adjust loading accordingly.		
17	We suggest using <b>eccentric training</b> in combination with concentric training to elicit improved strength	<b>91.84</b> (88.01 to 95.66)	Isokinetic eccentric training could potentially be utilized in our protocols as applicable to the patient.
	and functional outcomes after ACL surgery.		What is the progression to eccentric strengthening?
			I would let my rehab expert guide me on that. The surgical input can be beneficial on the time decision to start this training.
18	The exclusive use of <b>isokinetic training</b> for muscle strengthening after ACL surgery is not suggested. The combination of isotonic and isokinetic training appears to improve muscle strength more than these interventions in isolation.	<b>90.48</b> (85.28 to 95.67)	I would be in favour of isokinetic training but the patient has to meet the right criteria for its use and mainly used towards end stage if required to clear quadriceps deficit. Can easily be overloaded between both gym work and isokinetic training. Clear structuring through the week is integral if being used.
			That's hard to generalize. Some patients tend to respond more to one or the other (or combined). But I would let my rehab expert guide me on that. Individual monitoring is key and needs to guide un on how to progress depending on the biofeedback data and athlete response.
			Time constraints make this very difficult.
19	<b>Motor control</b> and strength training are both integral parts of the rehabilitation and should be combined in the rehabilitation protocol to improve outcomes.	<b>98.52</b> (96.84 to 100)	It should always be part of the training exercises.
20	<b>Plyometric and agility training</b> may further improve subjective function and functional activities compared to usual care, without any increase in laxity or pain.	<b>80%</b> (70.70 to 89.30)	In the proper phase Depends on what your doing the exercise for. If it is to increase confidence subjectively may get better results as long as baseline strength is there to support Coupled with Motor control and break down of the plyo movement will then help functional activities. May increase pain
			If done at the appropriate stage of healing and at the correct level of intensity

21	There are conflicting results on the effect of <b>cross-education</b> training program on quadriceps strength. However, we do not suggest the implementation of an exaggerated cross-education training program for strength gains in the injured leg. The uninvolved limb's strength should be monitored and restored to baseline/optimal levels as indicated.	<b>83.74</b> (76.67 to 90.82)	The uninjured leg should naturally increase in strength through the program. The rehab can focus on the uninjured leg towards mid-end stage due to the higher risk of opposite ACL occurrence in return to play post ACLR. Combining the patient's BW/ strength and power for their level of sport is important to ensure the all metrics are adequate. That's where my rehab expert needs to guide the patient on that based upon the player's pre-operative testing results. This looks very individual to me and hard to generalize. What is an exaggerated program?
22	<b>Core stability</b> exercises might improve functional outcomes and subjective knee function and can be used as an addition to the rehabilitation protocol.	<b>92.61</b> (88.87 to 96.35)	With particular focus on upper extremity sway during lower limb tasks. Making sure the core exercises is being completed because of a deficit or combined to improve a functional task. But obviously also gluteal exercises as a link
23	Aquatic therapy may be used in addition to the usual care during the early phase of rehabilitation to improve subjective knee function. We recommend that is it initiated 3-4 weeks postoperative, once the wound has completely healed.	<b>96.06</b> (93.19 to 98.93)	Once controlled and patient aware of knee flexion loads underwater. Big Fan. Possibly earlier?
24	We recommend that a patient does not attempt to drive before they can safely activate the brake in a simulated emergency. Typically, this will be at approximately 4 to 6 weeks after right-sided ACLR and approximately 2 to 3 weeks after left-sided ACLR.	<b>92.06</b> (87.28 to 96.85)	Depends on the patient and their function at that stage. Functional test can be added x squat in x seconds
25	Despite an absence of research findings, we feel it is warranted to suggest criteria for <b>return to running</b> (where running has a volume and intensity to achieve cardiovascular adaptation): 95% knee flexion ROM Full extension ROM No effusion/trace of effusion LSI>80% for quadriceps strength LSI>80% eccentric impulse during Countermovement Jump Pain-free aqua jogging and Alter G running Pain-free repeated single leg hopping ("pogos")	<b>87.76</b> (83.06 to 92.45)	What is the progression in aqua and alter g prior to running?

	Absence of pelvic drop/trunk sway in mid stance running on ACLR side stance.		
26	No pain or swelling Knee full ROM Stable Knee (pivot-shift, Lachman, instrumented laxity evaluation) Normalised subjective knee function and psychological readiness using patient-reported outcomes (most commonly IKDC, ACL-RSI and Tampa Scale of Kinesiophobia) Isokinetic quadriceps and hamstring peak torque at 60°/s should display 100% symmetry for return to high demand pivoting sports. Restore (as a minimum) preoperative absolute values (if available) and normative values according to the sport and level of activity. Countermovement Jump and Drop Jump >90% symmetry of jump height and concentric and eccentric impulse. Reactive strength index (height/time) > 1.3 for double leg and 0.5 for single leg for field sport athletes (higher for track and field) Jumping biomechanics – normalise absolute and symmetry values for moments, angles, and work in vertical and horizontal jumps especially in sagittal and frontal plane at hip, knee, and ankle. Running mechanics – restoration of >90% symmetry of vertical ground reaction forces and knee biomechanics during stance during high-speed running and change of direction. Complete a sports specific training program.	<b>88.78</b> (83.48 to 94.08)	Does the core stability and control include sth more that hip and pelvis? Should we test also this? Especially for athletes that use their upper limb, eg overhead athletes. The core is extremely important and sometimes we (the surgeons) forget about this. eg a scenario, there may be an overhead athlete that went ACL reconstruction. Should we test his core kinetic chain before going back to sport? But also for any other athlete. Thank you for the suggestions. They were all great!! Difficult to define return to sport criteria There is a lot there, but it is important to know progression and the other factors such as the state of the knee prior to reconstruction. All these criteria make sense, when considering them individually. If all patients should meet all the criteria before discharge, I think the probability is low.