Author	Year	Design	Methods	Results	Method. quality
			1) Preoperative predictors for postoperative outcome		
De Valk[40]	2013	SR	Reviewing articles about prognostic patient and injury factors for successful rehabilitation. *Included the following studies: 42,44,47,48.*	Better functional outcomes for men, patients younger than 30 years, patients with ACLR within 3 months after injury and high baseline activity level. Smoking, high BMI, quadriceps strength deficits and ROM deficits guaranteed worse functional outcomes.	A2
Shaarani[41]	2013	RCT	Six weeks of preoperative rehabilitation versus no preoperative rehabilitation before ACLR with BPTB. Follow-up until 12 weeks postoperative. N=39	No differences for isokinetic concentric quadriceps and hamstring strength. The preoperative rehabilitation group had a better self-reported knee function (Cincinnati Knee Score) and function (hop for distance).	B
Eitzen[42]	2009	PC	Identifying preoperative factors for knee function after ACLR with BPTB. Follow-up 2 years. N=73	Isokinetic quadriceps strength, meniscus injury and de SF-36 Bodily Pain subscore were identified as predictors for self-reported knee function (Cincinnati Knee Score) after ACL reconstruction. An isokinetic preoperative quadriceps strength deficit above 20% predicts persistent strength deficits after 2 years.	B
Grindem[43]	2015	PC	Investigating the difference between a combined preoperative and postoperative rehabilitation and a usual care rehabilitation after ACLR with BPTB or HS. Follow-up 2 years. N=84 resp. 2690	The combined group had better preoperative and postoperative self-reported knee function (KOOS).	C
Heijne[44]	2009	PC	Identifying preoperative factors for knee function after ACLR with BPTB or HS. Follow-up 12-16 months. N=64	A low degree of anterior knee pain is the most important predictor for good self-reported knee function (KOOS).	A2
Lepley[45]	2015	PC	Identifying if preoperative quadriceps activation or strength predict postoperative quadriceps activation or strength after ACLR with BPTB. Follow-up 7.2 months (moment of return to sports). N=54	Preoperative quadriceps activation was positively related to postoperative quadriceps activation, but not to postoperative isometric quadriceps strength (90°). Preoperative isometric quadriceps strength was positively related to postoperative strength.	B
Månsson[46]	2013	PC	Identifying preoperative factors for knee function after ACLR with HS. Follow-up 22 to 36 months. N=73	Preoperative activity level (Tegner) is an important predictor of self-reported knee function (KOOS, SF-36).	C
McHugh[47]	1998	PC	Determining what degree of motion loss represents a risk for postoperative motion problems and if preoperative weakness affects return of strength following ACLR with BPTB. Follow-up 6 months. N=102	The magnitude of preoperative extension loss is no risk factor. It is the presence of absence of full extension (left=right) that predicts risk for postoperative extension problems. Preoperative concentric isokinetic strength was not a good predictor of residual weakness.	B
McHugh[48]	2002	PC	Determining if preoperative electromyographic analysis can predict residual muscle weakness after ACLR with BPTB. Follow-up 6 months. N=37	A combination of the preoperative median frequency deficit and the 5-week postoperative isometric strength deficit is the best predictor of residual weakness.	B

Quelard[49]	2010	PC	Determining preoperative factors associated with prolonged range of motion deficit after ACLR with BPTB. Follow-up 3 months. N=217	Preoperative limited range of motion and combined bone bruises of the lateral femoral condyle and tibia plateau are risk factors for a limited range of motion.	B
			2) Effectiveness of physical therapy		
Coppola[50]	2009	SR	Reviewing RCT's about recovery following knee surgery, comparing supervised physical therapy to an unsupervised home exercise program. *Included none of the studies below.*	Many studies had designs that biased the home exercise group, providing similar results to that provided by supervised physical therapy. There is a lack of evidence regarding complicated knee surgical procedures as ACLR.	A1
van Grinsven[51]	2010	SR	Reviewing articles to develop an optimal evidence-based rehabilitation protocol after ACLR. *Included the following studies: 54,67-69,85,90.*	An accelerated rehabilitation protocol without postoperative bracing, in which reduction of pain, swelling and inflammation, regaining ROM, strength and neuromuscular control are the most important aims, has important advantages and does not lead to stability problems.	B
Wright[52]	2008	SR	Reviewing RCT's about home-based rehabilitation after ACLR. *Included the following study: 53.*	A minimally supervised physical therapy program can result in successful ACL rehabilitation.	A1
Beard[53]	1998	RCT	Home program plus supervised rehabilitation versus home program alone from weeks 4-16 after ACLR with BPTB. Follow-up 24 weeks. N=26	No differences in self-reported knee function (Lysholm, IKDC), laxity and concentric isokinetic quadriceps and hamstring strength.	B
Beynnon[54]	2005	RCT	Accelerated (19 weeks) versus nonaccelerated (32 weeks) rehabilitation after ACLR with BPTB. Follow-up 2 years. N= 22	No differences in self-reported knee function (IKDC, Tegner, KOOS), laxity, ROM, single-leg hop for distance or biomarkers of articular cartilage metabolism.	B
Beynnon[55]	2011	RCT	Accelerated (19 weeks) versus nonaccelarated (32 weeks) rehabilitation after ACLR with BPTB. Follow-up 2 years. N=42	No differences between groups on laxity, self-reported knee function (IKDC, Tegner, KOOS), single-leg hop for distance, proprioception or isokinetic concentric quadriceps strength.	A2
Grant[56]	2010	RCT	Physical therapy supervised rehabilitation (17 sessions) versus home-based rehabilitation (4 sessions) during the first 3 months after ACLR with BPTB. Follow-up 2-4 years. N=88	Better self-reported knee function (ACL-QOL) for the home-based group. No differences in ROM, laxity and isokinetic concentric quadriceps and hamstring strength.	B
Hohmann[57]	2011	RCT	Physical therapy supervised rehabilitation (19 sessions) versus home-based rehabilitation (4 sessions) after ACLR with BPTB. Follow-up 1 year. N=40	No differences in self-reported knee function (Lysholm, Tegner), function (hop for distance, timed hop and vertical jump) or isometric and isokinetic concentric and eccentric quadriceps and hamstring strength.	B
Dragicevic-Cvjetjovic[58]	2014	PC	Investigating the difference between postoperative rehabilitation for 20 weeks and no rehabilitation at all after ACLR with HS. Follow-up 1 year. N=70	The rehabilitation group had a greater improvement self-reported knee function (Tegner, Lysholm) and in thigh muscle circumference.	C
Muneta[59]	1998	PC	Determining the effect of aggressive early rehabilitation after ACLR with BPTB or HS. Mean follow-up 20 months. N=103	No differences between patients operated with BPTB or HS and between men and women for laxity, ROM, self-reported knee function (Lysholm, Tegner), patellofemoral grinding or	B

				isokinetic concentric quadriceps and hamstring strength.	
			3) Open versus closed kinetic chain quadriceps exercises		
Andersson[60]	2009	SR	Reviewing RCT's about rehabilitations aspects after ACLR. *Included the following studies: 64,67-69.*	CKC exercises produce less pain, less risk of increased laxity and better self-reported knee function after ACL reconstruction with BPTB. Further studies are needed for ACLR with HS.	A1
Glass[61]	2010	SR	Reviewing RCT's about the effects of CKC and OKC quadriceps exercises on the knees of patients after ACLR. *Included the following studies: 67-69.*	Both CKC and OKC are beneficial for this patient population. An optimal time for initiation of OKC exercises is at least 6 weeks after ACL reconstruction.	A1
Lobb[62]	2012	SR	Evaluating systematic reviews on interventions after ACLR. *Included the following study: 60.*	There is moderate evidence that there are no differences between CKC and OKC for pain, laxity and function. There is limited evidence that a combination of CKC and OKC results in better strength and return to sports than CKC alone.	A1
Wright[63]	2008	SR	Reviewing RCT's about the effects of CKC versus OKC exercises. *Included the following studies: 64,67,68.*	Until further studies are performed, only CKC exercises should be used in the first 6 weeks after ACLR.	A1
Bynum[64]	1995	RCT	OKC versus CKC quadriceps exercises starting at week 1 after ACLR with BPTB. Follow-up 3 years. N=85	No differences in laxity, ROM, activity level (Tegner) or self-reported knee function (Lysholm).	B
Fukuda[65]	2013	RCT	OKC quadriceps exercises starting at 4 weeks in a restricted ROM versus OKC quadriceps exercises starting at 12 weeks after ACLR with HS. Follow-up 17 months. N=35	No differences in laxity, pain or function (hop for distance, crossover hop, Lysholm). Starting OKC exercises at 4 weeks results in a faster recovery of isometric quadriceps strength than starting OKC at 12 weeks.	B
Heijne[66]	2007	RCT	OKC quadriceps exercises starting 4 weeks after ACL reconstruction versus OKC quadriceps exercises starting 12 weeks after ACLR. Comparing BPTB with HS. Follow-up 7 months. N=52.	More laxity for HS starting at 4 weeks compared to HS starting at 12 weeks and BPTB starting at 4 or 12 weeks. Starting OKC at 4 weeks had no additional benefit for isokinetic concentric and eccentric quadriceps strength compared to starting OKC at 12 weeks.	B
Mikkelsen[67]	2000	RCT	CKC versus combined OKC and CKC quadriceps exercises starting 6 weeks after ACLR with BPTB. Follow-up at 6 months. N=44	The addition of OKC results in a higher isokinetic concentric and eccentric quadriceps strength and a higher number of athletes returning to their preinjury sport level. There are no differences on laxity or hamstring strength.	B
Morrissey[68]	2002	RCT	CKC versus OKC quadriceps exercises from weeks 2-6 after ACLR with BPTB. Follow-up at week 6. N=43	No differences in anterior knee pain.	B
Perry[69]	2005	RCT	CKC versus OKC quadriceps exercises from weeks 8-14 after ACLR with BPTB or HS. Follow-up at week 14. N=49	No differences in laxity, self-reported knee function (VAS) or function (vertical hop, hop for distance, triple crossover hop).	B
Uçar[70]	2014	RCT	CKC versus OKC quadriceps exercises after ACLR with HS. Follow-up 6 months. N=58	Both groups improved in self-reported knee function (VAS, Lysholm) and knee flexion angle. There were no differences in thigh circumference. There were no differences between groups.	B

			4) Strength training and neuromuscular training		
Augustsson[71]	2012	SR	Reviewing RCT's about strength training during rehabilitation after ACLR. *Included the following studies: 67,68,78,85,87.*	ACLR strength training protocols should be further developed, including documentation about training frequency, intensity, volume, progression and duration.	A1
Gokeler[72]	2013	SR	Reviewing RCT's about the most effective practices for quadriceps strengthening after ACLR. *Included the following studies: 66,80,82,85,87-90.*	Eccentric training may be most effective to restore quadriceps strength, but neuromuscular training should be added to optimize outcome measurements.	A1
Kruse[73]	2012	SR	Reviewing RCT's about strength training and neuromuscular training during rehabilitation after ACLR. *Included the following studies: 80-83,89,90.*	Eccentric quadriceps strengthening can be safely incorporated 3 weeks after ACLR. Neuromuscular exercises should be added to strengthening exercises.	A1
Baltaci[74]	2013	RCT	Wii Fit versus conventional rehabilitation (combined strength and neuromuscular training) from weeks 1-12 after ACLR with HS. Follow-up at 12 weeks. N=30	No differences in isokinetic concentric quadriceps and hamstring strength, dynamic balance, proprioception or coordination.	B
Berschin[75]	2014	RCT	Strength training versus whole-body vibration during 10 weeks starting 2 weeks after ACLR with BPTB. Follow-up at week 11. N=40	The group with whole-body vibration training had better postural control. No differences in self-reported knee function (Lysholm), flexion and extension ROM, laxity, isometric quadriceps and hamstring strength.	B
Bieler[76]	2014	RCT	High-resistance training versus low-resistance training from week 8 after ACLR with BPTB or HS. Follow-up 20 weeks. N=38	The high-resistance training group had a higher increase in quadriceps power. No differences in laxity, self-reported knee function (KOOS) and function (hop for distance and triple hop for distance).	B
Cappellino[77]	2012	RCT	Neurocognitive rehabilitation versus conventional rehabilitation (strength) after ACLR with BPTB. Follow-up 6 months. N=14	No differences in static or dynamic baropodometry, pain, effusion, self-reported knee function (SF-36) and isometric quadriceps and hamstring strength.	B
Cooper[78]	2005	RCT	Strength training versus proprioceptive and balance training during 6 weeks starting 45-50 days after ACLR with BPTB or HS. Follow-up after 6 weeks of training. N=29	The strength training group has more improvement on self-reported knee function (Cincinnati Knee Score). No differences in ROM, pain or function (hop for distance, timed hop, triple crossover hop).	B
Fu[79]	2013	RCT	Conventional rehabilitation versus conventional training plus whole-body vibration therapy during 8 weeks starting 1 month after ACLR. Follow-up 6 months. N = 48	The group with the whole-body vibration has better postural control, hop for distance, shuttle run test and isokinetic concentric quadriceps and hamstring strength. No differences in ROM, laxity, joint position sense, triple hop test and carioca test.	B
Gerber[80]	2007	RCT	Conventional training versus eccentric training during 12 weeks starting 3 weeks after ACLR with BPTB or HS. Follow-up 26 weeks. N=32	Isokinetic concentric quadriceps strength and hop for distance improved more and activity level decreased less in the eccentric training group. No differences in pain, effusion or laxity.	B
Gerber[81]	2007	RCT	Conventional training versus eccentric training during 12	The volume and cross-sectional area of the quadriceps and	B

			weeks starting 3 weeks after ACLR with BPTB or HS. Follow-up after 12 weeks. N=40	gluteus maximus improved more in the eccentric training group. Also concentric isokinetic quadriceps strength improved more in the eccentric training group. No differences in laxity, hop for distance, hamstring volume and cross-sectional area or self-reported knee function (Lysholm).	
Gerber[82]	2009	RCT	Conventional training versus eccentric training during 12 weeks starting 3 weeks after ACLR with BPTB or HS. Follow-up 1 year. N=32 (exactly the same population as Gerber 2007-01)	The volume of the quadriceps and gluteus maximus, hop for distance and concentric isokinetic quadriceps strength improved more in the eccentric training group. No differences in laxity, hamstring volume or self-reported knee function (Lysholm, Tegner).	B
Isberg[83]	2006	RCT	Active knee extension versus no active knee extension during the first 4 postoperative weeks after ACLR with BPTB. Follow-up 2 years. N=22	No differences in laxity, ROM, self-reported knee function (Lysholm, Tegner, IKDC) or single-leg hop for distance.	B
Kinikli[84]	2014	RCT	Conventional training versus conventional training plus progressive eccentric and concentric quadriceps and hamstring training during 12 weeks starting 3 weeks after ACLR with HS. Follow-up 16 weeks. N=33	The progressive training group had higher increases in self-reported knee function (Lysholm, ACL-QOL) and function (vertical jump and hop for distance). No differences in isokinetic quadriceps and hamstring strength.	B
Liu-Ambrose[85]	2003	RCT	Strength training versus proprioceptive training during 12 weeks after ACLR with HS. Follow-up after 12 weeks. N=10	The proprioceptive training group had more improvement on concentric isokinetic quadriceps and eccentric isokinetic hamstring strength. No differences in self-reported knee function (Lysholm), hop for distance and timed hop.	B
Moezy[86]	2008	RCT	Conventional training versus whole body vibration training during 1 month starting 12 weeks after ACLR with BPTB. Follow-up after 1 month of training. N=20	Postural stability and joint reposition sense improved more in the whole body vibration group.	B
Risberg[87]	2007	RCT	Neuromuscular training versus traditional strength training during 6 months after ACLR with BPTB. Follow-up 6 months. N=65	The neuromuscular group had a better self-reported knee function (Cincinnati Knee Score and VAS for global knee function). No differences in pain, concentric isokinetic quadriceps and hamstring strength, static and dynamic balance, proprioception and hop performance (hop for distance, triple hop, stair hop).	B
Risberg[88]	2009	RCT	Neuromuscular training versus traditional strength training during 6 months after ACLR with BPTB. Follow-up 2 years. N=60	The neuromuscular group had less pain and a better VAS for global knee function. The strength group improved more on concentric isokinetic hamstring strength. No differences in Cincinnati Knee Score, hop performance (hop for distance, triple hop, stair hop) or concentric isokinetic	B

				quadriceps strength.	
Sekir[89]	2010	RCT	Early (3 weeks) versus late (9 weeks) start of isokinetic hamstring strengthening exercise after ACLR with BPTB. Follow-up 1 year. N=26	The early group had a better Cincinnati Knee Score and a more improved isokinetic concentric hamstring strength. No differences in IKDC or isokinetic concentric quadriceps strength.	B
Shaw[90]	2005	RCT	Isometric quadriceps exercises versus no quadriceps exercises during the first 2 weeks after ACLR with BPTB or HS. Follow-up 6 months. N=91	No differences in pain, laxity, self-reported knee function (Cincinnati Knee Score), concentric and eccentric isokinetic quadriceps strength or hop performance (hop for distance, triple hop).	B
Tyler[91]	1998	RCT	Immediate weight bearing versus non-weight bearing during the first 2 postoperative weeks after ACLR with BPTB. Follow-up 1 year. N=49	The immediate weight bearing group had less anterior knee pain. No differences in laxity, ROM and isometric vastus medialis EMG.	B
			5) Electrostimulation and electromyographic feedback		
Imoto[93]	2011	SR	Reviewing RCT's about electrostimulation of the quadriceps after soft tissue injuries of the knee. *Included the following studies: 99,100.*	Electrostimulation, in combination with conventional rehabilitation, might be more effective for improving muscle strength and function for up to 2 months after ACLR than conventional rehabilitation alone.	A1
Kim[94]	2010	SR	Reviewing RCT's about electrostimulation of the quadriceps after ACLR. *Included the following studies: 99,100.*	Electrostimulation combined with exercise may be more effective in improving quadriceps strength than exercise alone, but its effect on functional performance and self-reported knee function is inconclusive.	A1
Wasielewski[95]	2011	SR	Reviewing RCT's about electromyographic biofeedback of the quadriceps after various knee conditions. *Included none of the studies below.*	Electromyographic feedback appeared to benefit short-term postsurgical pain and quadriceps strength after ACLR.	A1
Wright[63]	2008	SR	Reviewing RCT's about the effect of electrostimulation after ACLR. *Included the following studies: 99,100.*	Electrostimulation must be applied in a high-intensity setting early in the postoperative period. It may help achieve improved quadriceps strength but does not appear to be a requirement for successful rehabilitation.	A1
Christanell[96]	2012	RCT	Conventional rehabilitation versus conventional rehabilitation added with electromyographic biofeedback during the first 6 postoperative weeks after ACLR with BPTB. Follow-up 6 weeks. N=16	The biofeedback group had a better passive knee extension and a higher integrated EMG of the vastus medialis. There were no differences in passive knee flexion, pain, effusion or giving way.	B
Ediz[97]	2012	RCT	Conventional rehabilitation versus conventional rehabilitation added with electrostimulation of the quadriceps, hamstrings, tibialis anterior and triceps surae from the 4th postoperative day during 6 weeks after ACLR with HS. Follow-up 6 months. N=26 Electrostimulation: Intelect Advanced Therapy Stim, 30 Hz,	There are no differences between groups on effusion or pain.	B

			65-100 mA, puls width 300 μs, duty cycle 10s on and 20s off, 20 minutes per session, 5 days a week.		
Feil[98]	2011	RCT	Conventional rehabilitation versus conventional rehabilitation added with 2 different kinds of electrostimulation of the quadriceps with voluntary active contraction during 12 weeks after ACLR with HS. Follow-up 6 months. N=96 Electrostimulation: Polystim, 50 Hz, max 70 mA, duty cycle 10s on and 20s off, 1.5s ramp-up and 1s ramp-down; Kneehab, 50 Hz, max 70 mA, duty cycle 5s on and 10s off, 2s ramp-up and 1s ramp-down. 20 minutes per session, 3 times a day , 5 days a week.	The Kneehab group had a higher increase in self-reported knee function (Lysholm), isokinetic concentric quadriceps strength and hop performance (hop for distance) than both the control group and the Polystim group. There were no differences in activity level (Tegner).	B
Fitzgerald[99]	2003	RCT	Conventional rehabilitation versus conventional rehabilitation added with electrostimulation of the quadriceps without voluntary active contraction after ACLR. Follow-up 16 weeks. N=43 Electrostimulation: VeraStim, 2500 Hz (alternating current), duty cycle 10s on and 50s off, 2s ramp-up and 2s ramp-down, 10 minutes per session, 2 times a week.	A greater proportion of the electrostimulation group achieved clinical criteria for advancing to agility training.	B
Paternostro-Sluga[100]	1999	RCT	Conventional rehabilitation versus conventional rehabilitation added with electrostimulation of the quadriceps and hamstrings during 6 weeks after ACLR with BPTB. Follow-up 1 year. N=49 Electrostimulation: Stiwell, 4 times set 1 (30 Hz, 5s on and 15s off, 12 reps) and 2 times set 2 (50 Hz, 10s on and 50s off, 12 reps), 30 minutes per session, 7 times a week.	There were no differences on isometric quadriceps strength and isokinetic concentric quadriceps and hamstring strength.	A2
Taradaj[101]	2013	RCT	Conventional rehabilitation versus conventional training added with electrostimulation of the quadriceps during 1 month after ACLR with HS. Follow-up 3 months. N=80 Electrostimulation: Ionoson, 2500 Hz, max 67mA, duty cycle 10s on and 50s off, 30 minutes per session, 3 times a day, 5 times a week.	The electrostimulation group had a higher increase in thigh circumference and isometric quadriceps strength.	B
Lepley[102]	2015	PC	Electrostimulation plus eccentric training versus electrostimulation or eccentric training alone during 12 weeks after ACLR with BPTB or HS. Follow-up >3 months. N=36 Electrostimulation: Intelect Legend XT, 2500 Hz, duty cycle 10s on and 50s off, 2s ramp-up, 10 minutes per session, 2 times a week.	No differences in ROM and knee extension and flexion moments.	C

			6) Cryotherapy		
Martimbianco[103]	2014	MA	Reviewing RCT's about cryotherapy after ACLR. N=573 *Included the following study: 106.*	Cryotherapy reduced postoperative pain up to 48 hours after surgery and did not increase the risk of adverse events.	A1
Raynor[104]	2005	MA	Reviewing RCT's about cryotherapy after ACLR. N=551 *Included none of the studies below.*	Cryotherapy is associated with lower postoperative pain, but has no effect on postoperative drainage or range of motion.	A1
Hubbard[105]	2004	SR	Reviewing RCT's about cryotherapy in patients recovering from acute soft tissue or orthopedic surgical interventions. *Included none of the studies below.*	Cryotherapy seems to be effective in decreasing pain immediately after application to 1 week post-surgery after ACL reconstruction.	A1
Edwards[106]	1996	RCT	Ice water cryotherapy versus room temperature water cryotherapy versus no cryotherapy during the first 36 postoperative hours after ACLR with BPTB. Follow-up 48 hours postoperative. N=71	No differences in pain or ROM between the 3 groups.	A2
Glenn[107]	2004	PC	Determining the effect cryotherapy in the first postoperative hour versus cryotherapy in the second postoperative hour on intraarticular temperature after ACLR with BPTB. Follow-up 2 hours postoperative. N= 16	Both groups had a decline in intraarticular temperature in the suprapatellar pouch but not in the lateral gutter.	C
			7) Measurements of functional performance		
Barber-Westin[27]	2011	SR	Reviewing articles about objective criteria used to determine the moment of return to sports and reinjury rates (>2 years) after ACLR. *Included the following study: 83.*	Few objective criteria are used to determine return to sports. A more extensive test battery for quantity of movement is recommended. Graft re-rupture ranged from 0%-24%. Contralateral ACL injury ranged from 2%-15%.	B
Barber-Westin[28]	2011	SR	Reviewing articles about objective criteria used to determine the moment of return to sports (>1 years) after ACLR. *Included none of the studies below.*	There is a lack of objective criteria to determine return to sports. A more extensive test battery for quantity of movement is recommended.	
Czuppon[108]	2014	SR	Reviewing articles about parameters associated with return to sports (>6 months) after ACLR. *Included the following studies: 18,44,67,115.*	There is only weak evidence for several factors associated with a higher chance of return to sport: less effusion, less pain, higher quadriceps strength, greater tibial rotation, higher Marx Scale score, higher athletic confidence, higher preoperative knee self-efficacy, lower kinesiophobia and higher preoperative self-motivation.	A2
Engelen-van Melick[32]	2013	SR	Reviewing articles about clinimetrics for long-term follow-up (> 2 years) of functional performance after ACLR. *Included none of the studies below.*	Only concentric strength measurements and a single-leg hop for distance were used as clinimetrics. There were no measurements of quality of movement. An extensive test battery for quantity and quality of movement is recommended.	B
Harris[109]	2014	SR	Reviewing RCT's about self-reported and objective criteria used to determine the moment of return to sports after ACLR. *Included none of the studies below.*	90% of included studies failed to use objective criteria for determining the moment of return to sports.	
Narducci[110]	2011	SR	Reviewing articles about clinimetrics used prior to return to	No study identified a single test or test battery that has	B

			sports (<1 year) after ACL reconstruction. *Included none of the studies below.*	construct or predictive validity for return to sports.	
Müller[111]	2015	PC	Defining parameters that can predict successful return to preinjury sport 6 months after ACLR with HS. Follow-up 6 months. N=40	Patients that return to sport had better scores on the ACL-RSI and IKDC self-reported knee evaluation form and better function (hop for distance, triple hop and crossover hop). No differences in isometric quadriceps and hamstring strength or TSK-11.	B
Thomeé[112]	2012	PC	Describing leg muscle power and hop performance after ACL reconstruction with BPTB or HS. Follow-up 2 years. N=82	The non-operated leg had a better hop performance (vertical jump, hop for distance, side hop) than the operated leg. No differences in quadriceps and hamstring power between the operated and non-operated leg. When using an LSI of >90%, >95% or >100% on all 6 tests as a criterion, results are poor, because respectively 23%, 10% and 0% passes this criterion.	B
			8) Return to play		
Ardern[13]	2014	MA	Reviewing articles about return to play outcomes after ACLR. N=7556 *Included the following studies:10,13,18,67,115.*	The rate of return to preinjury sport level was 65%. Men were 1.4 times more likely to return to their preinjury sport level than women. BPTB was 1.2 times more likely to return to preinjury sport level than HS.	A2
Ardern[14]	2011	MA	Reviewing articles about return to play outcomes after ACLR. N=5770 *Included the following studies:18,67,115.*	The rate of return to preinjury sport level was 62% for studies with a follow-up of more than 2 years. Fear of reinjury was the most common reason for a reduction in or cessation of sports participation.	A2
Everhart[113]	2015	SR	Reviewing articles about psychological factors that affect return to play after ACLR. *Included the following studies:18,115.*	A higher self-efficacy is positively associated with return to sports, while stress is negatively associated.	A2
te Wierike[114]	2013	SR	Reviewing articles about psychosocial factors that affect recovery after ACL injury and reconstruction. *Included the following studies:18,115,117.*	There were several psychosocial factors that facilitated the rehabilitation process: high internal locus of control, high self-efficacy, and low level of fear of reinjury.	B
Brophy[17]	2012	PC	Determining the rate of return to soccer and the risk for future ACL injury after ACLR with BPTB. Mean follow-up 7.2 years. N=100	After 12.2 months 72% returned to soccer, of whom 85% played at the same or a higher level. After 7.2 years only 36% were still playing soccer, of whom 46% at the same or a higher level. There were 9% contralateral ACL injuries and 3% graft re-ruptures. ACLR on the nondominant limb potentially places the dominant limb at risk for future ACL injury.	A2
Gobbi[115]	2006	PC	Determining the rate of return to play and contributing factors after ACLR with BPTB or HS. Follow-up 2 years. N=100	65% returned to the preinjury sport level, 24% returned to the same sport at a lower level and 11% were unable to return to their preinjury sport. There are no differences between BPTB	B

				and HS. Athletes returning to preinjury sport obtrained better scores with the Marx Scale and the Psychovitality Scale. There were no differences between athletes who returned to their preinjury sport and those who did not return when using the IKDC, Lysholm, Noyes and Tegner questionnaires.	
Laboute[116]	2010	PC	Determining the rate of return to play and contributing factors and the risk for future ACL injury after ACLR with BPTB or HS. Mean follow-up 3.5 years. N=298	65.7% returned to the preinjury sportlevel. There were no differences between BPTB and HS in terms of graft rerupture (6.1% and 12.7% respectively). Soccer had the highest reinjury rate (20.8%). Athletes returning to competition within 7 months of surgery had a greater risk of reinjury than those returning after this time point (15.3% and 5.2% respectively).	C
Langford[22]	2009	PC	Determining the influence of psychological changes on the rate of return to play after ACLR with HS. Follow-up 1 year. N=87	51% returned to competitive sport. Athletes who did return scored higher on the ACL-RSI scale.	C
Thomeé[117]	2007	PC	Determining patients' self-efficacy after ACLR. Follow-up 1 year. N=33	The K-SES had good responsiveness and there was increased self-efficacy during the rehabilitation. Young athletes with male gender and a high physical activity level scored higher on the K-SES.	B
Zaffagnini[118]	2014	PC	Determining the rate of return to play for professional soccer players after ACLR with HS. Follow-up 4 years. N=21	The mean duration of rehabilitation was 157 days and return to the first match was 186 days. One soccer player achieved a reinjury. After 4 years 71% was still playing soccer. Those that did not, the main reason was not related to knee status.	B
			9) Risk of reinjuries		
Swärd[119]	2010	SR	Reviewing articles about the risk factors associated with a contralateral ACL injury (>2 years) after ACLR. *Included the following study:25.*	The risk of sustaining a contralateral ACL injury was greater than the risk of a first time ACL injury. Return to a high activity level after ACLR was the most important risk factor of a contralateral ACL injury. There was no inconclusive evidence of the relevance of factors such as gender, family history and narrow intercondylar notch. It was most likely that risk factors acquired secondary to the ACL injury (altered neuromuscular function and biomechanics) increase the risk of a contralateral ACL injury.	B
Wright[120]	2011	SR	Reviewing articles about re-rupture of the graft or contralateral ACL injury (>5 years) after ACLR. *Included none of the studies below.*	The risk of a contralateral ACL injury was double the risk of re-rupture of the graft: 11.8% versus 5.8%.	B
Hewett[35]	2005	PC	Determining risk factors for ACL injury in healthy female athletes.	There were 9 ACL injuries (4.4%). Predictors of an ACL injury were increased dynamic knee	B

			Follow-up 2 seasons. N=205	valgus and high abduction loads when landing.	
Paterno[36]	2010	PC	Determining risk factors for graft re-rupture or contralateral ACL injury after ACLR with BPTB or HS. Follow-up 1 year. N=56	There were 10 contralateral (17.8%) ACL injuries and 3 graft re-ruptures (5.3%). Predictors of a second ACL injury were less hip external rotator moment, an increase in knee valgus movement, greater asymmetry in internal knee extensor moment at initial contact and a deficit in single-leg postural stability of the involved limb.	B
Wright[29]	2007	PC	Determining the risk of graft re-rupture and contralateral rupture after ACLR with BPTB or STG. Follow-up 2 years. N=235	The risk of a contralateral ACL injury was similar (7 patients; 3.0%) to the risk of graft re-rupture (7 patients; 3.0%).	B

ACL-QOL=ACL Quality Of Life, ACLR=anterior cruciate ligament reconstruction, ACL-RSI=ACL Return to Sport after Injury, BMI=Body Mass Index, BPTB=bone-patellar tendon-bone graft, CKC=closed kinetic chain, HS=hamstring graft, IKDC=International Knee Documentation Committee, K-SES=Knee Self-Efficacy Scale, KOOS= Knee Injury and Osteoarthritis Outcome Score, MA=meta-analysis, OKC=open kinetic chain, PC= prospective cohort study, RCT=randomized controlled trial, ROM=range of motion, SF-36=Short-Form 36, SR=systematic review, VAS=visual analogue scale.