

Supplementary File 2: Description of included studies

Study	Sample Size and Sex	Age Mean (SD)	Pain area and inclusion criteria	Group intervention	Individual intervention	Frequency & duration	Outcome Measure and follow-up times
Carr et al (2005)	N=237 (G=118; I=119) G=69F/49M I=74F/45M	G=42 (10.61) I=42.5 (11.18)	Low back LBP >6 wks	A CBT approach underpinned this intervention. <ul style="list-style-type: none"> Exercise (aerobics, strengthening, stretching) Other (relaxation) 	Choice of treatment varied and was at discretion of physio. <ul style="list-style-type: none"> Exercise (Mc Kenzie -68%; strengthening -15%; stretching -18%; stabilisation -11%; other exercises -12%) Education (unspecified) Manual therapy (manipulation -2%; mobilisations -39%), Modalities (traction -9%; SWD -11%; US -5%; IFT -17%; TENS -6%). 	G: 8 x 1 hour each. I: At discretion of physio	RMDQ (0-24) 3 mths 12 mths
Cecchi et al (2010)	N=210* (G=70; I=70) G=49F/21M I=43F/27M	G=57.9 (15.1) I=60.5 (15.8)	Low back LBP >6 mths	<ul style="list-style-type: none"> Exercises (postural, respiratory, and individually tailored back exercises). Education (ergonomics, pathophysiology, benign character of LBP). Other (relaxation). 	Choice of treatment varied and was at discretion of physio. <ul style="list-style-type: none"> Exercise (passive and assisted mobilization, active exercise, PNF). Education (posture, ergonomics, pathophysiology, anatomy). Manual therapy (massage/ treatment of the soft tissues). 	G: 15 x 1 hour sessions, 5 days a week. I: 15 x 1 hour sessions, 5 times a week, for 3 consecutive wks.	RMDQ (0-24) NRS (0-6) 3 mths 6 mths 12 mths
Chown et al (2008)	N=239* (G=80; I=80) G=44F/36M I=50F/30M	G=42.5 (11.9) I=44.3 (12.3)	Low back LBP >3 mths	<ul style="list-style-type: none"> Exercise (HEP of stretching, basic postural setting (transversus abdominus multifidus), circuits). Education (pathophysiology/ anatomy/ biomechanics). 	Choice of treatment varied and was at discretion of physio. <ul style="list-style-type: none"> Exercise (McKenzie, neural tension, muscle imbalance, postural correction, isometric stabilisation exercises, global exercise for mobility). Education (unspecified). Manual therapy (traction, joint and soft tissue mobilisation). Modalities (electrotherapy). 	G: 5 x 30 minute sessions. I: 5 x 30 minute sessions.	ODI (0-100) VAS (0-100) 6 wks 12 mths (ODI only)

Critchley et al (2007)	N=212* (G=69;I=71) G=43F/M I=42F/M	G=44 (12) I=45 (12)	Low back LBP >12 wks	<ul style="list-style-type: none"> Exercise (strengthening, stretching and aerobic). Education (self-management, graded return to activities with goal-setting, positive coping strategies, pacing). 	Choice of treatment varied and was at discretion of physio. <ul style="list-style-type: none"> Exercise (specific trunk muscle retraining, stretches, and general spinal mobility) Education (back-care advice). Manual therapy (joint mobilizations, joint manipulation and massage). 	G: 8 x 90 minute sessions. I: Up to 12 x 30 minute sessions.	RMDQ (0-24) NRS (0-100) 6 mths 12 mths 18 mths
Eadie et al (2013)	N=60* (G=20; I=20) G=12F/8M I=13F/7M	G= 41.3 (11.9) I= 47.1 (14.3)	Low back LBP >3 mths	<ul style="list-style-type: none"> Exercise (aerobic, stretching and strengthening) Goal setting (according to their individual goal and exercise capabilities). 	<ul style="list-style-type: none"> Exercise (100%) Education (100%) Manual therapy (manipulation- 66.7%) 	G:8 sessions I: Attended a mean (SD) of 3.5 (2.2) sessions	ODI (0-100) NRS (0-10) 3 mths 6 mths
Fransen et al (2001)	N=126* (G=40; I=43) G=31F/9M I=32F/11M	G=65.3 (7.1) I=68.5 (8.7)	Knee Knee pain on most of the days of the past month	<ul style="list-style-type: none"> Exercise (aerobic, stretching and strengthening). 	<ul style="list-style-type: none"> Exercise (strengthening) Manual therapy Modalities (heat, US, IFT or laser). 	G: Twice a week, one-hour each, for 8 wks. I: Mean of 7 x 30 minute sessions.	WOMAC function (0-100) WOMAC pain (0-100) 2 mths
Gustavsson et al (2010)	N=156 (G=77; I=79) G=69F/8M I=70F/9M	G=45.7 (11.15) I=45.7 (11.6)	Neck NP >3 mths	<ul style="list-style-type: none"> Exercise (body awareness). Education Other (relaxation). 	<ul style="list-style-type: none"> Exercise (individually tailored: home-exercise-65%, gym-based- 26%, water-based- 16%). Education (relaxation- only a few received this). Manual therapy (spinal manipulation/mobilization techniques, e.g. cervical traction- 51%, acupuncture- 38%). Modalities (heat-20%, TENS-20%, US-5%). 	G: 7 x 1.5 hour sessions, and additional booster session at 20 weeks. I: Mean of 11 sessions (range 1– 52)	NDI (0-100) NRS (0-10) 10 wks 20 wks

Hudson et al (2010)	N=12 (G=6; I=6) G=5F/1 M I=3F/3M	G=42.3 (19.8) I=42.7 (16.1)	Neck NP >3 mths	<ul style="list-style-type: none"> Exercise (progressive cervicothoracic stability training, postural control, proprioceptive training). Education (neck anatomy and pathology, pain management, benefits of exercise and pacing, posture, ergonomics, and relaxation). Other (relaxation). 	Choice of treatment varied and was at discretion of physio. <ul style="list-style-type: none"> Exercise Education Manual therapy (mobilisations, massage, acupuncture) Other (relaxation) 	G: 5-6 x 1 hour sessions, once a week for 6 wks and initial 40 minute assessment I: 6-7 x 20 minute sessions and initial 40 minute assessment	NDI (0-100) NRS (0-10) Discharge
Ko et al (2013)	N=249* (G=84; I=85) G=N/S I= N/S	G= N/S I= N/S	Knee >2 wks post TKR	<ul style="list-style-type: none"> Exercise (stairs and balance retraining, specific muscle group exercises (knee flexion, mini-squats, step-ups, and upper-limb weights), and aerobic activities (arm ergometry in standing and stationary cycling). 	<ul style="list-style-type: none"> Exercise (VMO retraining or ITB stretches). Manual therapy (joint mobilization or massage). Modalities (cryotherapy, IFT, taping, or prescription of orthotics). 	G: 12 sessions I: 12 sessions	OKS (0-60) WOMAC pain and function (0-100) 10 wks 12 mths
Lansinger et al (2013)	N=122 (G=60; I=62) G=44F/1 6M I=42F/20 M	G=44.9 (12.3) I=42.8 (1.4)	Neck NP >3 mths	<ul style="list-style-type: none"> Exercise (qigong) Relaxation (qigong) 	<ul style="list-style-type: none"> Exercise (active neck movements, endurance and strength. The amount of load was individualized, modified and progressed where appropriate. 	G: 10-12 x 1 hour sessions I: 10-12 x 1 hour sessions.	SF-36 (0-100) VAS (0-100) 12 mths
Mannion et al (2001)	N=148* (G=50; I=49) G=27F/2 3M I= 29F/20M	G=45.2 (9.7) G=43.7 (10.1) I= 46.3 (10.1)	Low back LBP >3 mths	<p>Group intervention 1</p> <ul style="list-style-type: none"> Exercise (trunk and leg strengthening, stretching) Other (relaxation). <p>Group intervention 2</p> <ul style="list-style-type: none"> Exercise (strengthening on machines, stretching) Other (relaxation) 	<ul style="list-style-type: none"> Exercise (strengthening, coordination, HEP). Education (ergonomics). 	G: 1 hour sessions. I: 30 minute sessions.	RMDQ (0-24) VAS (0-10) 6 mths 12 mths

Mc Lean et al (2013)	N=151 (G=75; I=76) G=44F/3 1M I=46F/30 M	G=54.2 (13.8) I=53.5 (15.1)	Neck Subacute or chronic NP	<ul style="list-style-type: none"> Exercise (range of movement exercises for neck, trunk and upper limb, endurance training for the upper limb, trunk and lower limbs). Exercise was modified individualized, and progressed where appropriate. 	<p>Choice of treatment varied and was at discretion of physio.</p> <ul style="list-style-type: none"> Exercise (McKenzie n=31, Stretches n=25, cervical stabilisation n=24, upper limb strengthening n=4, specific exercises n=33, general exercise n=3). Education (ergonomics n=1) Manual therapy (mobilization n=42, neural biased n=4, muscle biased=20, massage n=1) Modalities (traction n=3, SWD n=7, US=3, TENS N=2, ice/heat n=15, acupuncture n=4, collar n=1, taping n=1). 	G: 6-12 x 30-60 minute sessions over 6 wks. I: Average 6 sessions. Initial assessment between 40- 60 minutes and follow-up sessions between 20-30 minutes.	NPQ (0-100) DASH (0-100) VAS (0-100) 6 wks 6 mths 12 mths
Russell et al (2014)	N=75* (G=25; I=24) Female to-male ratio was 1:1.14.	G=51.1 (12.3) I=51.1 (12)	Shoulder Shoulder pain with marked loss of active and passive ROM > 3 mths	<ul style="list-style-type: none"> Exercise (range of motion exercises for the shoulder and thoracic spine. Stick, pulley, and ball techniques, scapula setting, trunk rotation, side flexion exercises and HEP). Education (pathophysiology, treatment options, “good” sitting posture). 	<p>Choice of treatment varied and was at discretion of physio.</p> <ul style="list-style-type: none"> Exercise (HEP of neck, shoulder and thoracic ROM exercises and stretches). Education (pathophysiology, treatment options, “good” sitting posture). Manual therapy (Maitland mobilizations, soft tissue massage, myofascial trigger point release) Modalities (heat) 	G: 12 x50 minute sessions, twice a week for 6 wks. I: 12 sessions, twice a week, for 6 wks.	Constant Score (0-100) OSS (0-60) 6 wks 6 mths 12 mths
Unsgaard-Tondel et al (2010)	N=109 (G=37; I=36; I=36) G=24F/1 3M I=29F/7 M I=23F/13 M	G=36 (10.3) I=40.9 (11.5) I=43.4 (10.2)	Low back LBP >3 mths	<ul style="list-style-type: none"> Exercise (general trunk strengthening involving trunk flexion, extension and rotation with resistance and stretching of trunk and extremity muscles). 	<p>Individual intervention 1</p> <ul style="list-style-type: none"> Exercise (Motor control): Isolated control and activity of the transversus abdominus, multifidus and obliques during the ADIM. Exercises were progressed where appropriate. <p>Individual intervention 2</p> <ul style="list-style-type: none"> Exercise (Sling exercise): Unloading elastic bands were attached to the pelvis to help participants maintain the neutral 	G: 8 x 1 hour sessions, once a week for 8 wks. I: Both had 8 x 40 minute sessions, once a week, for 8 wks.	ODI (0-100) NRS (0-10) 8 wks 12 mths

					spine position through a range of leg and arm positions and movements. Exercise progression was achieved by gradually reducing the elastic band support.		
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* = Remainder of sample size allocated to an inactive/non-exercise control group

G-Group; I-Individual; mths-months; LBP-low back pain; NP-neck pain; TKR-total knee replacement; RMDQ-Roland Morris Disability Questionnaire; ODI-Oswestry Disability Index; NRS-Numerical Rating Scale; VAS-Visual Analogue Scale; DASH-Disabilities of the Arm, Shoulder and Hand; NPQ-The Northwick Park Neck Pain Questionnaire; NDI-Neck Disability Index; WOMAC-Western Ontario and McMaster Universities Arthritis Index; OKS-Oxford Knee Score; OSS-Oxford Shoulder Score; SF-36-Short Form Health Survey; ADIM-Abdominal drawing-in maneuver; IFT-Interferential therapy; SWD-Short wave diathermy; VMO-vastus medialis oblique; US-Ultrasound; TENS-Transcutaneous electrical nerve stimulation; CBT-cognitive behavioural therapy; HEP-home exercise programme; ITB-iliotibial band; N/S-not stated.