Low back pain	RECOMMENDED	NOT-RECOMMENDED	<b>NO RECOMMENDATION*</b>
Low back pain	<ul> <li>Primary guideline (1): MUST PROVIDE</li> <li>Advice and education to support self-management</li> <li>Reassurance</li> <li>Advice to keep active</li> </ul>	<ul> <li>Primary guideline (1):</li> <li>US, ES, TENS, IF</li> <li>Poor advice<sup>b</sup></li> <li>Acupuncture</li> <li>Traction</li> <li>External support<sup>c</sup></li> </ul>	<ul> <li>Secondary guideline (2):</li> <li>Superficial heat (4) (chronic low back pain)</li> <li>Cold therapy (4)</li> <li>SWD</li> <li>Systematic reviews:</li> <li>Pulse electromagnetic field</li> </ul>
	<ul> <li>Group exercise</li> <li><i>CONSIDER</i> combinations of two or more of: <ul> <li>Manual therapy<sup>a</sup></li> <li>Exercise</li> <li>Psychological therapy (with a CBT approach)</li> </ul> </li> </ul>	<ul> <li>McKenzie (acute or subacute low back pain) (3)</li> </ul>	<ul> <li>Function agriculture field therapy (5)</li> <li>Laser (6)</li> <li>Work-related interventions (7)</li> <li>Ergonomic interventions (8)</li> <li>Back schools (9, 10)</li> <li>Biofeedback (11)</li> <li>Neural mobilisation (12)</li> <li>Mulligan (13)</li> </ul>
	<ul> <li>Secondary guideline (2): SHOULD PROVIDE</li> <li>Superficial heat (acute and sub-acute low back pain)</li> <li>Systematic reviews:</li> <li>McKenzie (chronic low back pain) (3)</li> </ul>		<ul> <li>No reviews:</li> <li>Infrared or Micro current therapy</li> <li>Cyriax manual therapy</li> <li>Magnet therapy</li> <li>Electroacupuncture</li> <li>Advice on heavy lifting, long standing, sitting habits, posture, avoiding painful movements</li> </ul>

\_

	<sup>a</sup> : includes massage, mobilisation or r <sup>b</sup> : advice promoting bed rest or time or <sup>c</sup> : corsets, belts, braces, sticks or tapin	manipulation; off work ng	
Neck pain and whiplash	RECOMMENDEDAcute neck pain/whiplashPrimary guideline (14):SHOULD PROVIDE• Information on nature, management and course• Importance of maintaining activity and movementCONSIDERCONSIDER structured education in combination with:• Multimodal care <sup>a</sup> • Unsupervised range of	NOT-RECOMMENDED Acute neck pain/whiplash Primary guideline (14): • Education alone • Strain-counter strain therapy • Relaxation massage • Electroacupuncture • ES • Collar • Clinic based heat • Poor advice <sup>b</sup> • Heat therapy	NO RECOMMENDATION* <u>Acute neck pain/whiplash</u> Primary guideline (14): • Supervised combined exercise • Supervised graded strengthening • Yoga • Yoga • Strengthening alone • Clinical massage • Laser • Acupuncture • TENS, SWD • Traction
	motion/flexibility exercises Chronic neck pain/whiplash (not mentioned above) Primary guideline (14): CONSIDER structured education in combination with: • Range of motion/flexibility and strengthening exercises • Strengthening combined exercise • Yoga • Clinical massage • Laser	<ul> <li><u>Chronic neck pain/whiplash</u></li> <li>Primary guideline (14): <ul> <li>Strengthening alone</li> <li>Strain-counter strain therapy</li> <li>Relaxation massage</li> <li>Electroacupuncture</li> <li>ES, TENS, SWD</li> <li>Relaxation therapy</li> <li>Clinic based heat</li> <li>Poor advice<sup>b</sup></li> <li>Heat therapy</li> </ul> </li> <li>All neck pain/whiplash</li> </ul>	<ul> <li>Relaxation therapy</li> <li>CBT</li> <li>Chronic neck pain/whiplash Primary guideline (14): <ul> <li>Education alone</li> <li>Supervised graded strengthening</li> <li>Acupuncture</li> <li>Traction</li> <li>Collar</li> <li>CBT</li> </ul> </li> <li>All neck pain Systematic reviews:</li> </ul>

### Systematic reviews:

- US (15)
- Cold therapy (15)
- Other exercise<sup>c</sup> (16)
- Manual therapy alone<sup>d</sup> (17)
- Neural mobilisation (12)
- Ergonomic interventions (8)

### <u>All whiplash</u>

# Systematic reviews:

- Other exercise<sup>c</sup> (18)
- Manual therapy alone<sup>d</sup> (19)

#### No reviews for neck pain/whiplash\*:

- Advice on posture
- McKenzie
- Biofeedback

#### No reviews for neck pain\*:

• Magnetic field therapy

#### No reviews for whiplash\*:

- Neural mobilisation
- Work-related/ergonomic interventions
- Motor control<sup>e</sup>

\*: treatments were only listed here if the included studies reported them

<sup>a</sup>: includes mobilisation or manipulation and unsupervised range of motion exercises

<sup>b</sup>: advice promoting bed rest or time off work;

<sup>c</sup>: includes any exercise not included in the above categories;

<sup>d</sup>: includes mobilisation or manipulation;

<sup>e</sup>: includes deep flexor strengthening or cervical kinaesthetic training

Subacromial pain	RECOMMENDED	NOT-RECOMMENDED	<b>NO RECOMMENDATION*</b>
syndrome or shoulder pain	Primary guideline (20):	Systematic reviews:	Primary guideline (20):

# LIKELY TO BE BENEFICIAL

- Exercise
- Manual therapy<sup>a</sup> •
- Laser

- IF (21)
- Magnetic field therapy (22)
- ES, US • Cold therapy

Shockwave

Acupuncture

### Secondary guideline (23):

• CBT

٠

•

٠

Advice to reduce activity or rest ٠

### Systematic reviews:

- SWD, TENS or microwave current (23, 24)
- Tape (25, 26)

### No reviews:

- Advice on posture
- Heat therapy ٠
- Body awareness

Knee osteoarthritis/pain	RECOMMENDED	NOT-RECOMMENDED	<b>NO RECOMMENDATION*</b>
	Primary guideline (27):	Primary guideline (27):	Primary guideline (27):
	MUST PROVIDE	• Acupuncture	• Other exercise <sup>d</sup>
	• Advice to stay active	• Poor advice <sup>c</sup>	
	• Advice on weight loss		Systematic reviews:
	Education	Secondary guideline (28):	• Balneotherapy <sup>e</sup> (30)
	Reassurance	• SWD	
	• Self-management strategies <sup>a</sup>	• IF	
	• Prescribe aerobic and	• US	
	strengthening	• Laser	
	• Offer weight loss		
	interventions	Systematic reviews:	

		• ES (29)	
	CONSIDER PROVIDING		
	• Bracing/joint		
	supports/insoles		
	• Manual therapy <sup>b</sup> /traction or		
	stretching		
	• Assistive devices (e.g. stick)		
	Advice on footwear		
	• TENS		
	<ul> <li>Heat or cold therapy</li> </ul>		
	• Heat of cold therapy		
	Secondary guideline (28):		
	CONSIDER PROVIDING		
	CBT		
	<sup>a</sup> included exercise weight loss use	of suitable footwear or pacing.	
	<sup>b</sup> : includes massage, mobilisation or	manipulation:	
	<sup>c</sup> : advice promoting bed rest or time	off work:	
	<sup>d</sup> : exercise that is neither aerobic nor	strengthening:	
	<sup>e</sup> : spa bath therapy (separate to hydro	otherapy which is included within	'other exercise')
Acute ankle sprain	RECOMMENDED	NOT-RECOMMENDED	NO RECOMMENDATION*
•	Primary guideline (31):	Primary guideline (31):	No reviews:
	SHOULD PROVIDE	• US, ES, Laser	• Advice or education
	• Exercise	• Joint mobilisation	• IF. SWD. Diadvnamic current
		• Heat or cold therapy	,,,,
	CONSIDER PROVIDING	alone	
	• Short period of		
	immobilisation		
	• Rest. ice. compression and		
	elevation		
	• External support <sup>a</sup>		
	<sup>a</sup> : includes braces, boots or taping		
	8		

Plantar fascitis	RECOMMENDED	NOT-RECOMMENDED Primary guideline (32):	NO RECOMMENDATION* Primary guideline (32):		
	<b>Primary guideline(32):</b> SHOULD PROVIDE				
		Acupuncture	Shockwave		
	• Stretching	• US, ES			
	• Night splints		<ul> <li>No reviews:</li> <li>Heat or cold therapy</li> <li>Other exercise<sup>b</sup></li> <li>Other advice<sup>c</sup></li> <li>Prefabricated or custom orthotics</li> </ul>		
	• Manual therapy <sup>a</sup>				
	• Taping	d			
	MAY PROVIDE • Laser				
	<ul> <li>Strengthening exercises and</li> </ul>				
	<ul> <li>movement training</li> <li>Education and counselling for weight loss</li> <li>Rocker-bottom show and</li> </ul>				
	shoe rotation during the				
	week				
	<sup>a</sup> : includes massage, mobilisation or manipulation; <sup>b</sup> : includes any exercise not included in the above categories;				
	<sup>c</sup> : includes advice on self-manageme	ent, pacing, ergonomics, etc.			
Total knee arthroplasty	RECOMMENDED	<b>NOT-RECOMMENDED</b>	<b>NO RECOMMENDATION*</b>		
	Systematic reviews:	Systematic reviews:	Systematic reviews:		
	• Exercise (33-35)	• Passive range of motion	• TENS (38)		
		(36)	• Electrotherapy (39)		
		• Cold therapy (37)	• Acupuncture (39)		
			No reviews:		
			• Manual therapy <sup>a</sup>		
			Advice or education		
			Biofeedback		
	<sup>a</sup> : includes massage or mobilisation				

\*: treatments that have not been mentioned in a clinical practice guideline or investigated in a systematic review do not have a citation. CBT: cognitive behavioural therapy; ES: electrical stimulation; IF: interferential current; NSAIDs: non-steroidal anti-inflammatory drugs; SWD: short wave diathermy; TENS: transcutaneous electrical nerve stimulation; US: Ultrasound.

# References

1. National Institute for Health and Care Excellence (NICE) Guidelines. Low back pain and sciatica in over 16s: assessment and management. November 2016. <u>https://www.nice.org.uk/guidance/ng59</u>. Accessed 18th March 2019.

2. Chou R, Deyo R, Friedly J, Skelly A, Hashimoto R, Weimer M, et al. Nonpharmacologic Therapies for Low Back Pain: A Systematic Review for an American College of Physicians Clinical Practice Guideline. Ann Intern Med. 2017;166(7):493-505.

3. Lam OT, Strenger DM, Chan-Fee M, Pham PT, Preuss RA, Robbins SM. Effectiveness of the McKenzie Method of Mechanical Diagnosis and Therapy for Treating Low Back Pain: Literature Review With Meta-analysis. J Orthop Sports Phys Ther. 2018;48(6):476-90.

4. French SD, Cameron M, Walker BF, Reggars JW, Esterman AJ. A Cochrane review of superficial heat or cold for low back pain. Spine (Phila Pa 1976). 2006;31(9):998-1006.

5. Andrade R, Duarte H, Pereira R, Lopes I, Pereira H, Rocha R, et al. Pulsed electromagnetic field therapy effectiveness in low back pain: A systematic review of randomized controlled trials. Porto Biomed J. 2016;1(5):156-63.

6. Yousefi-Nooraie R, Schonstein E, Heidari K, Rashidian A, Pennick V, Akbari-Kamrani M, et al. Low level laser therapy for nonspecific low-back pain. Cochrane Database Syst Rev. 2008(2).

7. Schaafsma FG, Whelan K, van der Beek AJ, van der Es-Lambeek LC, Ojajarvi A, Verbeek JH. Physical conditioning as part of a return to work strategy to reduce sickness absence for workers with back pain. Cochrane Database Syst Rev. 2013(8):Cd001822.

8. Driessen MT, Proper KI, van Tulder MW, Anema JR, Bongers PM, van der Beek AJ. The effectiveness of physical and organisational ergonomic interventions on low back pain and neck pain: a systematic review. Occup Environ Med. 2010;67(4):277-85.

9. Parreira P, Heymans MW, van Tulder MW, Esmail R, Koes BW, Poquet N, et al. Back Schools for chronic non-specific low back pain. Cochrane Database Syst Rev. 2017;8:Cd011674.

10. Poquet N, Lin CW, Heymans MW, van Tulder MW, Esmail R, Koes BW, et al. Back schools for acute and subacute non-specific low-back pain. Cochrane Database Syst Rev. 2016;4:Cd008325.

11. Ribeiro DC, Sole G, Abbott JH, Milosavljevic S. Extrinsic feedback and management of low back pain: A critical review of the literature. Man Ther. 2011;16(3):231-9.

12. Basson A, Olivier B, Ellis R, Coppieters M, Stewart A, Mudzi W. The Effectiveness of Neural Mobilization for Neuromusculoskeletal Conditions: A Systematic Review and Meta-analysis. J Orthop Sports Phys Ther. 2017;47(9):593-615.

13. Pourahmadi MR, Mohsenifar H, Dariush M, Aftabi A, Amiri A. Effectiveness of mobilization with movement (Mulligan concept techniques) on low back pain: a systematic review. Clin Rehabil. 2018:269215518778321.

14. Cote P, Wong JJ, Sutton D, Shearer HM, Mior S, Randhawa K, et al. Management of neck pain and associated disorders: A clinical practice guideline from the Ontario Protocol for Traffic Injury Management (OPTIMa) Collaboration. Eur Spine J. 2016;25(7):2000-22.

15. Wong JJ, Shearer HM, Mior S, Jacobs C, Cote P, Randhawa K, et al. Are manual therapies, passive physical modalities, or acupuncture effective for the management of patients with whiplash-associated disorders or neck pain and associated disorders? An update of the Bone and Joint Decade Task Force on Neck Pain and Its Associated Disorders by the OPTIMa collaboration. Spine J. 2016;16(12):1598-630.

16. Gross A, Kay TM, Paquin J-P, Blanchette S, Lalonde P, Christie T, et al. Exercises for mechanical neck disorders. Cochrane Database Syst Rev. 2015(1).

17. Gross A, Langevin P, Burnie SJ, Bedard-Brochu MS, Empey B, Dugas E, et al. Manipulation and mobilisation for neck pain contrasted against an inactive control or another active treatment. Cochrane Database Syst Rev. 2015(9):Cd004249.

18. Griffin A, Leaver A, Moloney N. General Exercise Does Not Improve Long-Term Pain and Disability in Individuals With Whiplash-Associated Disorders: A Systematic Review. J Orthop Sports Phys Ther. 2017;47(7):472-80.

19. Sterling M. Physiotherapy management of whiplash-associated disorders (WAD). J Physiother. 2014;60(1):5-12.

20. Kulkarni RN, Gibson JA, Brownson P, Thomas M, Rangan A, Carr AJ, Rees JL. Subacromial shoulder pain BESS / BOA Patient Care Pathways. Shoulder Elbow. 2015:0(0);1–9.

21. Yu H, Cote P, Shearer HM, Wong JJ, Sutton DA, Randhawa KA, et al. Effectiveness of passive physical modalities for shoulder pain: systematic review by the Ontario protocol for traffic injury management collaboration. Phys Ther. 2015;95(3):306-18.

22. Page MJ, Green S, Mrocki MA, Surace SJ, Deitch J, McBain B, et al. Electrotherapy modalities for rotator cuff disease. Cochrane Database Syst Rev. 2016(6).

23. Diercks R, Bron C, Dorrestijn O, Meskers C, Naber R, de Ruiter T, et al. Guideline for diagnosis and treatment of subacromial pain syndrome: a multidisciplinary review by the Dutch Orthopaedic Association. Acta Orthop. 2014;85(3):314-22.

24. Fuentes JP, Armijo Olivo S, Magee DJ, Gross DP. Effectiveness of Interferential Current Therapy in the Management of Musculoskeletal Pain: A Systematic Review and Meta-Analysis. Phys Ther. 2010;90(9):1219-38.

25. Desjardins-Charbonneau A, Roy JS, Dionne CE, Desmeules F. The efficacy of taping for rotator cuff tendinopathy: a systematic review and meta-analysis. Int J Sports Phys Ther. 2015;10(4):420-33.

26. Lim ECW, Tay MGX. Kinesio taping in musculoskeletal pain and disability that lasts for more than 4 weeks: is it time to peel off the tape and throw it out with the sweat? A systematic review with meta-analysis focused on pain and also methods of tape application. Br J Sports Med. 2015;49(24):1558-66.

27. National Institute for Health and Care Excellence (NICE) Guidelines. Osteoarthritis: care and management. Februrary 2014. https://www.nice.org.uk/guidance/cg177. Accessed 18th March 2019.

28. The Royal Australian College of General Practitioners. Guideline for the management of knee and hip osteoarthritis. 2nd edn. East Melbourne, Vic: RACGP, 2018.

29. Zeng C, Li H, Yang T, Deng ZH, Yang Y, Zhang Y, et al. Electrical stimulation for pain relief in knee osteoarthritis: systematic review and network meta-analysis. Osteoarthritis Cartilage. 2015;23(2):189-202.

30. Verhagen AP, Bierma-Zeinstra SMA, Boers M, Cardoso JR, Lambeck J, de Bie R, et al. Balneotherapy for osteoarthritis. Cochrane Database Syst Rev 2007, Issue 4. Art. No.: CD006864.

31. Kerkhoffs GM, van den Bekerom M, Elders LAM, van Beek PA, Hullegie WAM, Bloemers GMFM, et al. Diagnosis, treatment and prevention of ankle sprains: an evidence-based clinical guideline. Br J Sports Med. 2012;46(12):854-60.

32. Martin RL, Davenport TE, Reischl SF, McPoil TG, Matheson JW, Wukich DK, et al. Heel Pain—Plantar Fasciitis: Revision 2014. J Orthop Sports Phys Ther. 2014;44(11):A1-A33.

33. Artz N, Elvers KT, Lowe CM, Sackley C, Jepson P, Beswick AD. Effectiveness of physiotherapy exercise following total knee replacement: systematic review and meta-analysis. BMC Musculoskelet Disord. 2015;16:15.

34. Florez-Garcia M, Garcia-Perez F, Curbelo R, Perez-Porta I, Nishishinya B, Rosario Lozano MP, et al. Efficacy and safety of home-based exercises versus individualized supervised outpatient physical therapy programs after total knee arthroplasty: a systematic review and metaanalysis. Knee Surg Sports Traumatol Arthrosc. 2017;25(11):3340-53.

35. Li D, Yang Z, Kang P, Xie X. Home-Based Compared with Hospital-Based Rehabilitation Program for Patients Undergoing Total Knee Arthroplasty for Osteoarthritis: A Systematic Review and Meta-analysis of Randomized Controlled Trials. Am J Phys Med Rehabil. 2017;96(6):440-7.

36. Harvey LA, Brosseau L, Herbert RD. Continuous passive motion following total knee arthroplasty in people with arthritis. Cochrane Database Syst Rev. 2014(2):Cd004260.

37. Adie S, Naylor JM, Harris IA. Cryotherapy after total knee arthroplasty a systematic review and meta-analysis of randomized controlled trials. J Arthroplasty. 2010;25(5):709-15.

38. Zhu Y, Feng Y, Peng L. Effect of transcutaneous electrical nerve stimulation for pain control after total knee arthroplasty: A systematic review and meta-analysis. J Rehabil Med. 2017;49(9):700-4.

39. Tedesco D, Gori D, Desai KR, Asch S, Carroll IR, Curtin C, et al. Drug-Free Interventions to Reduce Pain or Opioid Consumption After Total Knee Arthroplasty: A Systematic Review and Meta-analysis. JAMA Surg. 2017;152(10):e172872.