Appendix 1: Excluded studies reference and reason for exclusion

Study and year	Reason for exclusion
Allan GM, Ramji J, Perry D, Ton J, Beahm NP, Crisp N, Dockrill B, Dubin RE, Findlay T, Kirkwood J, Fleming M, Makus K, Zhu X, Korownyk C, Kolber MR, McCormack J, Nickel S, Noël G, Lindblad AJ. Simplified guideline for prescribing medical cannabinoids in primary care. Can Fam Physician. 2018 Feb;64(2):111-120.	Clinical practice guideline
Allan GM, Finley CR, Ton J, Perry D, Ramji J, Crawford K, Lindblad AJ, Korownyk C, Kolber MR. Systematic review of systematic reviews for medical cannabinoids: Pain, nausea and vomiting, spasticity, and harms. Can Fam Physician. 2018 Feb;64(2):e78-e94.	Overview of systematic reviews
Ashton CH. Biomedical benefits of cannabinoids? Addiction B iology (1999) 4, 111-126.	Not a systematic review
Attal N, Mazaltarine G, Perrouin-Verbe B, Albert T; SOFMER French Society for Physical Medicine and Rehabilitation. Chronic neuropathic pain management in spinal cord injury patients. What is the efficacy of pharmacological treatments with a general mode of administration? (oral, transdermal, intravenous). Ann Phys Rehabil Med. 2009 Mar;52(2):124-41.	Therapeutic recommendations
Bao Y, Kong X, Yang L, Liu R, Shi Z, Li W, Hua B, Hou W. Complementary and alternative medicine for cancer pain: an overview of systematic reviews.Evid Based Complement Alternat Med. 2014;2014:170396	Overview of systematic reviews
Beard S, Hunn A, Wight J. Treatments for spasticity and pain in multiple sclerosis: a systematic review. Health Technol Assess 2003;7 (40).	Excludes cannabinoids
Beaulieu P, Ware M. Reassessment of the role of cannabinoids in the management of pain. Curr Opin Anaesthesiol. 2007 Oct;20(5):473-7.	Narrative review only - no formal search
Blake A, Wan BA, Malek L, DeAngelis C, Diaz P, Lao N, Chow E, O'Hearn S. A selective review of medical cannabis in cancer pain management. Ann Palliat Med. 2017 Dec;6(Suppl 2):S215-S222.	Selective' review supported by search
Brown MRD, Farquhar-Smith WP. Cannabinoids and cancer pain: A new hope or a false dawn? Eur J Intern Med. 2018 Mar;49:30-36.	Narrative review
Burns TL, Ineck JR. Cannabinoid analgesia as a potential new therapeutic option in the treatment of chronic pain. Ann Pharmacother. 2006 Feb;40(2):251-60.	Narrative review only
Campbell G, Stockings E, Nielsen S. Understanding the evidence for medical cannabis and cannabis-based medicines for the treatment of chronic non-cancer pain. Eur Arch Psychiatry Clin Neurosci. 2019 Feb;269(1):135-144	Narrative review
Canadian Agency for Drugs and Technologies in Health. Cannabinoid Buccal Spray for Chronic Non-Cancer or Neuropathic Pain: A Review of Clinical Effectiveness, Safety, and Guidelines 21 September 2016	Therapeutic recommendations
Canadian Agency for Drugs and Technologies in Health. Cannabinoids as Co-Analgesics: Review of Clinical Effectiveness 23 July 2010	Therapeutic recommendations
Canadian Agency for Drugs and Technologies in Health. Nabilone for Chronic Pain Management: A Review of Clinical Effectiveness andGuidelines – An Update. 2 November 2018	Therapeutic recommendations
Canadian Agency for Drugs and Technologies in Health. Cannabinoids for the Management of Neuropathic Pain: Review of Clinical Effectiveness 22 June 2010	Therapeutic recommendations
Canadian Agency for Drugs and Technologies in Health. Cannabinoids for the Management of Neuropathic Pain: Review of Clinical Effectiveness 13 July 2010	Therapeutic recommendations
Cepeda MS, Berlin JA, Gao CY, Wiegand F, Wada DR. Placebo response changes depending on the neuropathic pain syndrome: results of a systematic review and meta-analysis. Pain Med. 2012 Apr;13(4):575-95.	Examination of placebo responses
De Vita MJ, Moskal D, Maisto SA, Ansell EB. Association of Cannabinoid Administration With Experimental Pain in Healthy Adults: A Systematic Review and Meta-analysis. JAMA Psychiatry. 2018 Nov 1;75(11):1118-1127	Experimental pain in healthy people
De Vries M. Tetrahydrocannabinol in Chronic Pain: Cortical Mechanisms of Pain and Analgesia. [Dissertation] Radboud University Medical Center, 2018.	Thesis, collected published papers

Devinsky O, Cross JH, Wright S. Trial of Cannabidiol for Drug-Resistant Seizures in the Dravet Syndrome. N Engl J Med. 2017 Aug 17;377(7):699-700	Trial, not SR
Dosenovic S, Jelicic Kadic A, Miljanovic M, Biocic M, Boric K, Cavar M, Markovina N, Vucic K, Puljak L. Interventions for Neuropathic Pain: An Overview of Systematic Reviews. Anesth Analg. 2017 Aug;125(2):643-652.	Overview of systematic reviews
Dzierżanowski T. Prospects for the Use of Cannabinoids in Oncology and Palliative Care Practice: A Review of the Evidence. Cancers (Basel). 2019 Jan 22;11(2).	Narrative review
Fitzcharles MA, Baerwald C, Ablin J, Häuser W. Efficacy, tolerability and safety of cannabinoids in chronic pain associated with rheumatic diseases (fibromyalgia syndrome, back pain, osteoarthritis, rheumatoid arthritis): A systematic review of randomized controlled trials. Schmerz. 2016 Feb;30(1):47-61.	German version of Fitzcharles 2016a
Fitzcharles MA, Eisenberg E. Medical cannabis: A forward vision for the clinician. Eur J Pain. 2018 Mar;22(3):485-491	Narrative review
Goldenberg M, Reid MW, IsHak WW, Danovitch I. The impact of cannabis and cannabinoids for medical conditions on health-related quality of life: A systematic review and meta-analysis. Drug Alcohol Depend. 2017 May 1;174:80-90.	Outcome is quality of life
Häuser W, Fitzcharles MA, Radbruch L, Petzke F. Cannabinoids in Pain Management and Palliative Medicine. Dtsch Arztebl Int. 2017 Sep 22;114(38):627-634	Overview of systematic reviews and observational studies
Häuser W, Petzke F, Fitzcharles MA. Efficacy, tolerability and safety of cannabis-based medicines for chronic pain management - An overview of systematic reviews. Eur J Pain. 2018 Mar;22(3):455-470.	Overview of systematic reviews
Häuser W, Finn DP, Kalso E, Krcevski-Skvarc N, Kress HG, Morlion B, Perrot S, Schäfer M, Wells C, Brill S. European Pain Federation (EFIC) position paper on appropriate use of cannabis-based medicines and medical cannabis for chronic pain management. Eur J Pain. 2018 Oct;22(9):1547-1564	Position paper based largely on systematic reviews
Hill KP. Medical Marijuana for Treatment of Chronic Pain and Other Medical and Psychiatric Problems: A Clinical Review. JAMA. 2015 Jun 23-30;313(24):2474-83.	Not a systematic review
Houzé B, El-Khatib H, Arbour C. Efficacy, tolerability, and safety of non-pharmacological therapies for chronic pain: An umbrella review on various CAM approaches. Prog Neuropsychopharmacol Biol Psychiatry. 2017 Oct 3;79(Pt B):192-205.	Overview of systematic reviews
Indraccolo U, Indraccolo SR, Mignini F. Micronized palmitoylethanolamide/trans-polydatin treatment of endometriosis-related pain: a meta-analysis. Ann Ist Super Sanita. 2017 Apr-Jun;53(2):125-134.	No cannabinoid alone analysis
Jensen B, Chen J, Furnish T, Wallace M. Medical Marijuana and Chronic Pain: a Review of Basic Science and Clinical Evidence. Curr Pain Headache Rep. 2015 Oct;19(10):50	Narrative review
Kansagara D, O'Neil M, Nugent S, Freeman M, Low A, Kondo K, Elven C, Zakher B, Motu'apuaka M, Paynter R, Morasco BJ. Benefits and Harms of Cannabis in Chronic Pain or Post-traumatic Stress Disorder: A Systematic Review [Internet]. Washington (DC): Department of Veterans Affairs (US); 2017 Aug.	Duplicate publication of data in Nugent 2017
Lakhan SE, Rowland M. Whole plant cannabis extracts in the treatment of spasticity in multiple sclerosis: a systematic review. BMC Neurol. 2009 Dec 4;9:59.	Pain not involved
Lauche R, Cramer H, Häuser W, Dobos G, Langhorst J. A Systematic Overview of Reviews for Complementary and Alternative Therapies in the Treatment of the Fibromyalgia Syndrome. Evid Based Complement Alternat Med. 2015;2015:610615.	Overview of systematic reviews
Lobos Urbina D, Peña Durán J. Are cannabinoids effective for treatment of pain in patients with active cancer? Medwave 2016;16(Suppl3):e6539	Narrative review
Madden K, van der Hoek N, Chona S, George A, Dalchand T, Baldawi H, Mammen G, Bhandari M. Cannabinoids in the Management of Musculoskeletal Pain: A Critical Review of the Evidence. JBJS Rev. 2018 May;6(5):e7.	Scoping review
Meza R, Peña J, García K, Corsi O, Rada G. Are cannabinoids effective in multiple sclerosis?Medwave. 2017 Mar 10;17(Suppl1):e6865.	Narrative review
Moulin DE, Clark AJ, Gilron I, Ware MA, Watson CP, Sessle BJ, Coderre T, Morley-Forster PK, Stinson J, Boulanger A, Peng P, Finley GA, Taenzer P, Squire P, Dion D, Cholkan A, Gilani A, Gordon A, Henry J, Jovey R, Lynch M, Mailis-Gagnon A, Panju A, Rollman GB, Velly A; Canadian Pain Society. Pharmacological management of chronic neuropathic pain - consensus statement and guidelines from the Canadian Pain Society. Pain Res Manag. 2007 Spring;12(1):13-21.	Consensus statement and guidelines

Moulin D, Boulanger A, Clark AJ, Clarke H, Dao T, Finley GA, Furlan A, Gilron I, Gordon A, Morley-Forster PK, Sessle BJ, Squire P, Stinson J, Taenzer P, Velly A, Ware MA, Weinberg EL, Williamson OD; Canadian Pain Society. Pharmacological management of chronic neuropathic pain: revised consensus statement from the Canadian Pain Society. Pain Res Manag. 2014 Nov-Dec;19(6):328-35.	Consensus statement and guidelines
Mu A, Weinberg E, Moulin DE, Clarke H. Pharmacologic management of chronic neuropathic pain: Review of the Canadian Pain Society consensus statement. Can Fam Physician. 2017 Nov;63(11):844-852.	Review of consensus statement
Mücke M, Carter C, Cuhls H, Prüß M, Radbruch L, Häuser W. [Cannabinoids in palliative care: Systematic review and meta-analysis of efficacy, tolerability and safety]. Schmerz. 2016 Feb;30(1):25-36.	Updated in Mucke 2018
Nielsen S, Germanos R, Weier M, Pollard J, Degenhardt L, Hall W, Buckley N, Farrell M. The Use of Cannabis and Cannabinoids in Treating Symptoms of Multiple Sclerosis: a Systematic Review of Reviews. Curr Neurol Neurosci Rep. 2018 Feb 13;18(2):8.	Overview of systematic reviews
Richer L, Billinghurst L, Linsdell MA, Russell K, Vandermeer B, Crumley ET, Durec T, Klassen TP, Hartling L. Drugs for the acute treatment ofmigraine in children and adolescents. Cochrane Database of Systematic Reviews 2016, Issue 4. Art. No.: CD005220.	Cannabis not mentioned
Teasell RW, Mehta S, Aubut JL, Foulon B, Wolfe DL, Hsieh JTC, Townson AF, Short C, the Spinal Cord Injury Rehabilitation Evidence Research Team. A systematic review of pharmacologic treatments of pain after spinal cord injury. Arch Phys Med Rehabil. 2010 May; 91(5): 816–831.	Updated in Mehta 2016
Van den Elsen G. Tetrahydrocannabinol in the treatment of neuropsychiatric symptoms in dementia [Dissertation] Radboud University Medical Center, 2016. ISBN: 978-90-9029499-5	Thesis chapter with no information about pain in older people and published version: no pain (Ageing Research reviews
Wang T, Collet JP, Shapiro S, Ware MA. Adverse effects of medical cannabinoids: a systematic review. CMAJ. 2008 Jun 17;178(13):1669-78	Review of adverse events
Wilkie G, Sakr B, Rizack T. Medical Marijuana Use in Oncology: A Review. JAMA Oncol. 2016 May 1;2(5):670-675	Narrative review
Yadav V, Bever C Jr, Bowen J, Bowling A, Weinstock-Guttman B, Cameron M, Bourdette D, Gronseth GS, Narayanaswami P. Summary of evidence-based guideline: complementary and alternative medicine in multiple sclerosis: report of the guideline development subcommittee of the American Academy of Neurology. Neurology. 2014 Mar 25;82(12):1083-92.	Clinical practice guideline

Appendix 2: Condition, year of publication, type of cannabis-based medicine, route of administration, and abstract conclusion

Reference	Year	Cannabinoid	Route of administration	Abstract conclusion
Acute pain				
Stevens 2017	2017	Cannabinoids	Any	Cannabinoids have no role in the management of acute pain.
Chronic non-cancer				
Boychuk 2015	2015	Cannabinoids	Not defined	Cannabis-based medicinal extracts used in different populations of chronic nonmalignant neuropathic pain patients may provide effective analgesia in conditions that are refractory to other treatments.
Deshpande 2015	2015	Medical Marijuana	Smoked or vaporised	There is evidence for the use of low-dose medical marijuana in refractory neuropathic pain in conjunction with traditional analgesics.
Lynch 2011	2011	Cannabinoids	Not defined	There is evidence that cannabinoids are safe and modestly effective in neuropathic pain with preliminary evidence of efficacy in fibromyalgia and rheumatoid arthritis
Lynch 2015 (only additional studies to Lynch 2011)	2015	Cannabinoids	Not defined	Currently available cannabinoids are safe, modestly effective analgesics that provide a reasonable therapeutic option in the management of chronic non-cancer pain.
Martin-Sanchez 2009	2009	Any cannabis preparation	Not defined	Currently available evidence suggests that cannabis treatment is moderately efficacious for treatment of chronic pain
Nugent 2017	2017	Plant-based cannabis preparations	Not defined	Limited evidence suggests that cannabis may alleviate neuropathic pain in some patients, but insufficient evidence exists for other types of chronic pain
Paladini 2016	2016	Palmatidylethanolamine	Oral	These results confirm that PEA might represent an exciting, new therapeutic strategy to manage chronic and neuropathic pain associated with neuroinflammation
Stocking 2018	2018	Cannabis and cannabinoids	Any	Evidence for effectiveness of cannabinoids in CNCP is limited

Fibromyalgia				
Nascimento 2013	2013	Medicinal plants	Any	No abstract
Walitt 2016	2016	Cannabinoids	Any	No convincing, unbiased, high quality evidence suggesting that nabilone is of value in treating people with fibromyalgia.
GI				
Volz 2016	2016	Cannabinoids	Not defined	Cannabis may be useful for symptom relief in Crohn's disease
HIV				
Phillips 2010	2010	Any	Not defined	Smoked cannabis cannot be recommended as routine therapy
Leg cramps				
Baldinger 2012	2012	THC	Not defined	There is no evidence to support the use of any intervention for muscle cramps in ALS/MND.
MS				
Basinski 2015	2015	Cannabinoids	Not defined	There is evidence for dronabinol to be effective in treating neurogenic disorders pain in MS
da Rovere 2017	2017	Cannabinoids	Not defined	None relating to pain
Iskedihan 2007	2007	Cannabis-based treatments	Not defined	Cannabinoids including the cannabidiol/THC buccal spray are effective in treating neuropathic pain in MS.
Jawahar 2013	2013	Cannabinoids	Not defined	More trials with rigorous design and reporting are needed
Torres-Moreno 2018	2018	Medicinal cannabinoids	Oral or oromucosal	Limited efficacy of cannabinoids for the treatment of pain in patients with MS.
Neurology (other)				
Brettschneider 2013	2013	Any	Any	None relating to cannabinoid
Koppel 2014	2014	Medical Marijuana	Not defined	Oral cannabis extract is effective; THC and nabiximols are probably effective for painful spasms
Qureshi 2019	2019	Cannabinoids	Not defined	Cannabinoids and opioids combined

Neuropathic				
Alessa 2018	2018	Cannabinoids	Not defined	Cannabis and cannabinoids provide an interesting treatment choice for PDN.
Andreae 2015	2015	Cannabis Sativa	Inhaled	Inhaled cannabis results in short term benefits for chronic neuropathic pain
Finnerup 2015	2015	Cannabinoids	Any	Weak recommendations against use
Hou 2018	2018	Cannabinoid	Not defined	None relating to cannabinoid
Meng 2017	2017	Dronabinol, nabilone, naboximols	Any	Selective cannabinoids provide a small analgesic benefit in patients with chronic NP
Mucke 2018	2018	Cannabis-based medicines	Any	The potential benefits of cannabis-based medicine in chronic neuropathic pain might be outweighed by their potential harms.
Pittler 2008	2008	Cannabinoids	Not defined	The evidence can be classified as encouraging and warrants further study for cannabis extract
Snecdor 2014a PHN	2014	Cannabinoids	Not defined	None relating to cannabinoid
Snecdor 2014b PDN	2014	Cannabinoids	Not defined	None relating to cannabinoid
Watson 2010	2010	Cannabinoids	Not defined	None relating to cannabinoid
Phantom				
Alviar 2016	2016	Cannabinoids	Not defined	None relating to cannabinoid
Rheumatic				
Fitchcharles 2016a	2016	Cannabinoids	Not defined	Currently insufficient evidence to recommend cannabinoid treatments for management of rheumatic diseases
Macfarlane 2011	2011	Cannabinoids	Oral, topical	The available evidence does not support current use in the management of RA.
Oltean 2014	2014	Cannabis	Oral, topical	None relating to cannabinoid
Richards 2012	2012	Cannabinoids	Not defined	(There is) weak evidence that oromucosal cannabis is superior to placebo in reducing pain
SCI only				
Mehta 2016	2016		Not defined	None relating to cannabinoid
Snecdor 2013	2013	Cannabinoids	Not defined	None relating to cannabinoid

Cancer only				
Boland 2019	2019	Cannabinoids	Any	Studies with a low risk of bias showed that for adults with advanced cancer, the addition of cannabinoids to opioids did not reduce cancer pain.
Darkovska 2018	2018	Cannabinoids	Not defined	The target dose for relieving pain in patients with malignant diseases is most likely about 10 actuations per day (of Sativex)
Harrison 2015	2015	Cannabis phytochemicals	Not defined	None relating to cannabinoid
Hauser 2019	2019	Cannabis-based medicine	Any	Very low quality evidence suggests that oromucosal nabiximols and THC have no effect on pain
Mucke 2018	2018	Cannabinoids	Any	No significant differences between cannabinoids and placebo for ≥30% reduction in pain
Tateo 2017	2017	Cannabinoids	Any	There is evidence that cannabinoids are effective adjuvants for cancer pain not completely relieved by opioid therapy, but there is a dearth of high-quality studies to support a stronger conclusion. Cannabinoids appear to be safe in low and medium doses. Methodological limitations of the trials limited the ability to make sound conclusions.
van den Beuken 2017	2017	Cannabinoids	Not defined	The quality of currently available evidence on the effectiveness of adjuvant analgesics in the treatment of cancer pain is low.

All pain				
Amato 2017	2017	Cannabis	Any	Evidence is insufficient and of low or very low quality/reliability, so cannot give conclusive answers on the efficacy and safety of cannabis.
Artukoglu 2017	2017	Palmitoylethanolamide	Not defined	PEA may be a useful treatment for pain
Aviram 2017	2017	Cannabis-based medicines	Any	CBMs might be effective for chronic pain treatment, based on limited evidence, primarily for neuropathic pain patients
Ben Amar 2006	2006	Cannabinoids	Not defined	Cannabinoids present an interesting therapeutic potential
Campbell 2001	2001	Cannabinoids	Any	No more effective than codeine in controlling pain
NICE 2019	2019	Cannabinoids	Not defined	Do not offer [nabilone, dronabinol, THC, a combination of cannabidiol (CBD) with THC] to manage chronic pain in adults
Tsang 2016	2016	Nabilone	Not defined	Optimal role of nabilone in the management of pain is yet to be determined
Whiting 2015	2015	Cannabinoids	Not defined	Moderate-quality evidence to support the use of cannabinoids for the treatment of chronic pain
Yanes 2019	2019	Cannabinoids	Not defined	These outcomes suggest that cannabinoid-based pharmacotherapies may serve as effective replacement/adjunctive options regarding pain
Zhornitzky 2012	2012	Cannabidiol	Not defined	No conclusion about pain in abstract
Children (all pain)				
Wong 2017	2017	Cannabinoids	Not defined	Additional research is needed

Appendix 3: Cannabis-based medicine examined in reviews, by pain condition

Type of pain	Number of reviews	Cannabinoid	Any cannabis preparation	Plant based cannabis preparation	Nabilone dronabinol naboximils	Palmatidyl-ethanolamide	Cannabis sativa	THC	Cannabidiol
Acute pain	1	1							
Chronic non-cancer	8	4	1	2		1			
Fibromyalgia	2	1		1					
GI	1	1							
HIV	1		1						
Leg cramps	1							1	
MS	5	4	1						
Neurology (other)	3	1	2						
Neuropathic	10	7	1		1		1		
Phantom	1	1							
Rheumatic	4	3		1					
SCI only	2	2							
Cancer only	7	5	1	1					
All pain	10	5	1	1	1	1			1
Children (all pain)	1	1							
	57	36	8	6	2	2	1	1	1

Appendix 4: Route of administration of cannabis-based medicine examined in reviews, by pain condition

Type of pain	Number of reviews	Not defined	Any route	Oral or topical only	Smoked or inhaled only
Acute pain	1		1		
Chronic non-cancer	8	5	1	1	1
Fibromyalgia	2		2		
GI	1	1			
HIV	1	1			
Leg cramps	1	1			
MS	5	4		1	
Neurology (other)	3	2	1		
Neuropathic	10	6	3		1
Phantom	1	1			
Rheumatic	4	2		2	
SCI only	2	2			
Cancer only	7	3	4		
All pain	10	7	3		
Children (all pain)	1	1			
	57	36	15	4	2
	Percent	63	26	7	4

Appendix 5: Pain outcome used in reviews, by pain condition

Type of pain	Number of reviews	Not defined	>30% or >50% pain intensity reduction	Not available	SMD or MD	Effect size	Other
Acute pain	1	1					
Chronic non-cancer	8	4	3			1	
Fibromyalgia	2	1	1				
GI	1	1					
HIV	1		1				
Leg cramps	1						1
MS	5	1		1	2	1	
Neurology (other)	3	3					
Neuropathic	10	1	2	5	1		1
Phantom	1				1		
Rheumatic	4	1			3		
SCI only	2	1	1				
Cancer only	7	3	3		1		
All pain	10		3	4	2	1	
Children (all pain)	1			1			
	57	17	14	11	10	3	2
	Percent	30	25	19	18	5	4

Note: SMD: standardised mean difference; MD: mean difference

Appendix 6: Individual AMSTAR-2 and critical pain assessments for each review

	1	2	3	4	5	6	7
Systematic Review	**PICO**	**Protocol established before review**	**Study design explanation**	**Comprehensive literature search**	**Study selection in duplicate**	**Data extraction in duplicate**	**List of exclusions + justification**
Alessa 2018	0	0	0	2	1	0	0
Alviar 2016	1	1	0	2	1	1	1
Amato 2017	0	0	0	2	1	1	1
Andreae 2015	0	1	0	2	1	1	1
Artukoglu 2017	0	0	0	2	1	1	1
Aviram 2017	0	0	0	2	0	1	0
Baldinger 2012	1	1	0	2	0	0	1
Basinski 2015	0	0	0	2	0	0	0
Ben Amar 2006	0	0	0	0	0	0	0
Boychuk 2015	0	0	0	2	1	0	1
Brettschneider 2013	1	1	0	2	1	1	1
Campbell 2001	1	0	0	2	1	1	1
da Rovere	0	0	0	2	1	1	0
Darkovska 2018	0	0	0	2	0	0	0
Deshpande 2015	0	0	0	0	0	0	0
Finnerup 2015	1	0	0	2	1	1	1
Fitchcharles 2016	1	0	0	2	0	1	1
Harrison 2015	0	0	0	2	1	0	0
Hauser 2019	0	1	0	2	1	1	1
Hou 2018	0	0	0	2	1	1	0
Iskedihan 2007	0	0	0	2	1	1	1
Jawahar 2013	0	0	0	2	1	0	0
Koppel 2014	0	0	0	2	0	0	0
Lynch 2011	0	0	0	2	0	0	1

Lynch 2015	0	0	0	2	0	0	0
Macfarlane 2011	0	0	0	2	1	1	0
Martin-Sanchez 2009	0	0	0	2	0	0	0
Mehta 2016	0	0	0	2	1	1	0
Meng 2017	1	1	0	2	1	1	0
Mucke 2018	1	1	0	2	1	1	1
Mucke 2018	0	0	0	2	1	1	1
Nascimento 2013	0	0	0	2	1	1	0
Nugent 2017	0	1	0	2	1	1	0
Oltean 2014	1	1	0	2	1	1	0
Paladini 2016	0	0	0	2	0	0	0
Phillips 2010	0	0	0	2	1	0	1
Pittler 2008	0	0	0	2	0	0	0
Qureshi 2019	0	0	0	2	1	0	0
Richards 2012	1	1	0	2	1	1	1
Snecdor 2013	0	0	0	2	1	1	1
Snecdor 2014a PHN	0	0	0	2	1	1	0
Snecdor 2014b PDN	0	0	0	2	1	1	0
Stevens 2017	1	1	0	2	1	1	0
Stocking 2018	0	1	0	2	1	1	1
Tateo 2017	0	0	0	2	0	0	0
Torres-Moreno 2018	0	1	0	2	1	1	1
Tsang 2016	0	0	0	2	0	0	0
van den Beuken 2017	0	0	0	2	1	0	0
Volz 2016	0	0	0	2	0	0	3
Walitt 2016	0	1	0	2	1	1	1
Watson 2010	0	0	0	2	0	0	0
Whiting 2015	0	1	0	2	1	1	0
Wong 2017	0	0	0	2	0	0	0
Zhornitzky 2012	0	0	0	2	0	0	0
NICE 2019	1	1	0	2	0	1	1
Boland 2019	1	1	0	3	1	1	1

Yanes 2019	0	0	0	2	0	1	0

Amstar scoring: item not present - 0; item present - 1; item partially fulfilled - 2; not applicable - 3
Pain criteria scoring: item not present - 0; item present - 1

AMSTAR 2 Questions							
8	9	10	11	12	13	14	15
Included studies in detail	**RoB assessment satisfactory**	**Sources of funding for studies**	**Appropriate meta/analysis**	**Impact of RoB on result**	**Impactof RoB in discussion/interpretation**	**Heterogeneity investigated discussed**	**Publication bias (Small study bias)**
1	1	0	3	1	0	0	0
1	1	0	1	3	1	3	1
1	1	0	0	1	1	1	0
1	1	1	1	1	1	1	1
1	0	0	0	0	0	1	0
1	2	0	1	0	0	1	0
1	1	0	1	1	1	1	0
0	0	0	0	0	0	0	0
1	0	0	3	0	0	0	0
0	2	0	3	3	0	0	3
1	1	3	3	3	3	3	3
1	2	0	3	3	1	1	0
1	1	0	1	0	1	0	0
1	0	0	3	3	0	0	0
1	2	0	3	3	0	1	0
1	2	0	1	1	0	1	1
1	1	0	3	3	1	1	3
1	1	0	3	0	1	0	0
1	1	1	1	1	1	1	1
1	1	0	3	0	0	0	0
0	0	0	1	0	0	0	1
1	1	1	3	3	0	0	0
1	0	0	3	0	0	0	0
1	2	0	3	3	0	0	0

1	2	0	3	3	0	0	0
1	2	0	3	0	1	0	0
1	2	0	0	0	0	1	0
0	2	0	3	0	0	0	0
1	1	0	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	0	1	0	0	1	0
1	2	0	3	0	0	0	0
1	1	0	0	0	0	0	0
1	1	0	3	3	3	3	0
0	0	0	0	0	0	0	0
1	2	0	1	1	1	1	0
0	0	0	3	0	0	0	0
1	1	0	1	1	1	1	1
1	1	0	1	1	1	3	0
1	2	0	3	3	1	1	0
1	2	0	1	1	0	1	1
1	2	0	1	1	0	1	1
1	1	0	3	3	1	1	3
1	1	0	1	1	1	0	1
1	2	0	3	0	0	0	0
1	1	1	0	1	1	1	1
1	0	0	3	0	0	0	0
0	0	0	3	0	0	0	0
1	1	0	3	1	3	3	3
1	1	1	3	3	1	3	3
1	2	0	3	3	3	3	3
1	1	0	1	0	1	0	0
1	0	0	3	0	0	0	0
0	0	0	3	0	0	0	0
1	1	1	1	0	0	0	0
1	1	0	1	1	1	0	1

0 0 0 0 0 0 1 1

		Use of criteria designed to					
16		23	24	17	18	20	21
CoI of review authors reported	**AMSTAR confidence**	**Studies properly randomised**	**Studies properly double blind**	**Defined diagnostic pain criterion**	**Patient reported pain only**	**Study size: sensitivity analysis for small studies**	**Susceptibility to publication bias**
0	Critically low	0	0	1	0	0	0
1	Moderate	1	1	1	0	1	0
1	Critically low	1	1	0	0	0	0
1	Moderate	1	1	1	1	1	0
1	Critically low	0	0	0	0	0	0
1	Critically low	1	1	0	0	0	0
1	Low	0	0	1	1	0	0
0	Critically low	0	0	1	0	0	0
0	Critically low	0	0	0	0	0	0
1	Critically low	1	1	0	0	0	0
1	High	0	0	1	0	0	0
1	Critically low	1	1	0	0	0	0
1	Critically low	0	0	1	0	0	0
1	Critically low	1	1	0	0	0	0
1	Critically low	1	1	0	0	0	0
1	Critically low	1	1	1	0	1	1
0	Low	1	1	0	0	1	0
1	Critically low	0	0	1	0	0	0
1	Moderate	1	1	1	1	0	1
1	Critically low	0	0	0	0	0	0
1	Critically low	0	0	0	0	0	0
1	Critically low	1	1	0	1	0	0
1	Critically low	0	0	1	0	0	0
1	Critically low	1	1	0	0	0	0

1	Critically low	1	1	0	0	0	0
1	Critically low	0	0	1	0	0	0
1	Critically low	1	1	0	0	0	0
0	Critically low	0	0	1	0	0	0
1	Low	1	1	0	0	0	0
1	High	1	1	1	1	1	1
1	Critically low	1	1	0	0	0	0
1	Critically low	1	0	1	0	0	0
1	Critically low	1	1	0	0	0	0
1	Low	0	0	1	0	0	0
1	Critically low	0	0	0	0	0	0
1	Critically low	1	1	1	0	0	0
0	Critically low	0	0	0	0	0	0
1	Critically low	0	0	1	0	0	0
1	Low	0	0	1	0	0	0
1	Critically low	1	1	0	0	0	0
1	Critically low	1	1	1	0	0	0
1	Critically low	1	1	1	0	0	0
1	Low	1	1	0	0	0	0
1	Moderate	1	1	0	0	1	0
0	Critically low	0	0	0	0	0	0
1	Low	1	0	1	0	0	0
0	Critically low	0	0	0	0	0	0
0	Critically low	0	0	0	0	0	0
1	Low	1	1	1	0	0	0
1	Moderate	1	1	1	1	0	0
1	Critically low	1	1	0	0	0	0
1	Critically low	1	1	0	0	0	0
1	Critically low	0	0	0	0	0	0
0	Critically low	0	0	0	0	0	0
0	Critically low	1	1	1	1	0	0
1	Moderate	1	1	1	0	0	0

0	Critically low	0	0	0	0	0	0
	Total	33	31	26	7	6	3
	Percent	58	54	46	12	11	5

19	22	
Defined minimum pain intensity	**Missing data - LOCF/Not mentioned or BOCF**	**score**
0	0	1
0	0	4
0	0	2
0	0	5
0	0	0
0	0	2
0	0	2
0	0	1
0	0	0
0	0	2
0	0	1
0	0	2
0	0	1
0	0	2
0	0	2
0	1	6
0	0	3
0	0	1
0	0	5
0	0	0
0	0	0
0	0	3
0	0	1
0	0	2

0	0	2
0	0	1
0	0	2
0	0	1
1	0	3
0	0	6
0	0	2
0	0	2
0	0	2
0	0	1
1	0	1
0	0	3
0	0	0
0	0	1
0	0	1
0	0	2
0	0	3
0	0	3
0	0	2
0	0	3
0	0	0
0	0	2
0	0	0
0	0	0
0	0	3
0	0	4
0	0	2
0	0	2
0	0	0
0	0	0
0	0	4
0	0	3

0	0	0
2	1	
4	2	

Appendix 7: AMSTAR evaluation of confidence in review results, by pain condition

Type of pain	Number of reviews	AMSTAR GRADE			
		Critically low	Low	Moderate	High
Acute pain	1	0	1	0	0
Chronic non-cancer	8	7	0	1	0
Fibromyalgia	2	1	0	1	0
GI	1	0	1	0	0
HIV	1	1	0	0	0
Leg cramps	1	0	1	0	0
MS	5	4	1	0	0
Neurology (other)	3	2	0	0	1
Neuropathic	10	7	1	1	1
Phantom	1	0	0	1	0
Rheumatic	4	1	3	0	0
SCI only	2	2	0	0	0
Cancer only	7	5	0	2	0
All pain	10	10	0	0	0
Children (all pain)	1	1	0	0	0
	57	41	8	6	2
	Percent	72	14	11	4

Appendix 8: Use of criteria designed to minimise bias in analgesic studies, by pain condition

Type of pain	Number of reviews	Studies properly randomised	Studies properly double blind	Defined diagnostic pain criterion	Patient reported pain only	Study size: sensitivity analysis for small studies	Susceptibility to publication bias	Defined minimum pain intensity	Missing data - LOCF/Not mentioned or BOCF
Acute pain	1	1	1	0	0	0	0	0	0
Chronic non-cancer	8	7	7	0		1	0	1	0
Fibromyalgia	2	2	1	2	1	0	0	0	0
GI	1	1	1	1	0	0	0	0	0
HIV	1	1	1	1	0	0	0	0	0
Leg cramps	1	0	0	1	1	0	0	0	0
MS	5	2	1	3	1	0	0	0	0
Neurology (other)	3	0	0	3	0	0	0	0	0
Neuropathic	10	7	7	6	2	3	2	1	1
Phantom	1	1	1	1	0	1	0	0	0
Rheumatic	4	1	1	3	0	1	0	0	0
SCI only	2	1	1	1	0	0	0	0	0
Cancer only	7	4	4	3	1	0	1	0	0
All pain	10	5	5	1	1	0	0	0	0
Children (all pain)	1	0	0	0	0	0	0	0	0
	57	33	31	26	7	6	3	2	1
Percent	100	58	54	46	12	11	5	4	2