



Search Strategy and Study Selection Chronic Pain Disorder Medical Treatment Guideline 2017 Revision

This document outlines the search strategy, study selection, and search results for the Colorado Division of Workers' Compensation Chronic Pain Disorder Medical Treatment Guideline. It also describes how articles were selected for critique.

Search strategy

Database: PubMed, Cochrane Library

Dates when the search was done: May 2016 to December 2016

Search terms and time periods:

Time period covered by the searches for the search terms listed below: January 2011 through December 2016

Biofeedback Pain
Acupuncture Pain
Opioid chronic pain
Psychological treatment & chronic pain
Cognitive behavioral therapy & chronic pain
Transcranial stimulation & chronic pain
Cannabinoids & chronic pain
Marijuana & chronic pain
Functional capacity evaluation & chronic pain
Prolotherapy & chronic pain
Epiduroscopy & chronic pain
Botulinum Toxin injection & chronic pain
Trigger point injection & chronic pain
Complementary alternative medicine & chronic pain
Interdisciplinary rehabilitation & chronic pain
Topical medication & chronic pain
Spinal cord stimulator & chronic pain
Ketamine & chronic pain
Aquatic Therapy & chronic pain
Neuromuscular reeducation & chronic pain
Therapeutic exercise & chronic pain
Work conditioning & chronic pain
Work stimulation & chronic pain
Iontophoresis & chronic pain
Percutaneous electrical nerve stimulation & chronic pain
Transcutaneous electrical nerve stimulation & chronic pain



Ultrasound phonophoresis & chronic pain
Sleep disorder & chronic pain
Infrared therapy & chronic pain
Peripheral nerve stimulator & chronic pain
Alpha-Lipoic Acid & Pain
Topical Amitriptyline
Topical Ketamine
Topical Baclofen
Massage
Topical Capsaicin
Topical Non-steroidal anti-inflammatories
Topical Salicylate
Topical Lidocaine
Topical Tetracaine

Time period covered by the searches for the search terms listed below: January 2014 through December 2016

Medial branch blocks injection & chronic pain
Transforaminal injection & chronic pain
Zygapophysial blocks or facet blocks & chronic pain
Atlantoaxial or atlantooccipital injection & chronic pain
Sacroiliac injection & chronic pain
Facet rhizotomy & chronic pain
Dorsal nerve root ganglion radio frequency & chronic pain

Time period covered by the searches for the search terms listed below: January (see year listed after each set of search terms below) through December 2016

Carbamazepine & Chronic & neuropathic pain (2013)
Lamotrigine & chronic & neuropathic pain (2012)
Milnacipran & chronic & neuropathic pain (2014)
Desipramine & chronic & neuropathic pain (2013)
Methadone & chronic pain (2011)
Levetiracetam & chronic & neuropathic pain (2013)
Venlafaxine & chronic & neuropathic pain (2014)
Amitriptyline & chronic & neuropathic pain (2014)
Valproic sodium valproate & chronic & neuropathic pain (2010)
Nortriptyline & chronic & neuropathic pain (2014)
Zonisamide & chronic & neuropathic pain (2014)
Topiramate & chronic & neuropathic pain (2012)



Lacosamide & chronic & neuropathic pain (2011)
Gabapentin & chronic & neuropathic pain (2010)
Buprenorphine & chronic & neuropathic pain (2011)

Study selection

Inclusion criteria: Studies in English; human; adults; RCT, systematic review, or meta-analysis

Exclusion criteria: Article titles containing an obvious mismatch with search criteria and search terms were eliminated (e.g., pediatric population, wrong condition). Abstracts were reviewed to exclude articles based on the following criteria.

- Lack of relevancy to workers' compensation population
- Major obvious errors in study protocol (e.g., lack of control group even though study was listed as an RCT)
- Study was included in a meta-analysis reviewed by Division staff (e.g., Cochrane Collaboration, BMJ Clinical Evidence)
- Study was published outside of time frame
- Cadaverous studies
- Preliminary results
- Healthy volunteers
- Studies not applicable to conditions covered by the Division's treatment guidelines (e.g., tumor studies were excluded)
- Studies too technical in nature to meet the objective of the guideline (e.g., study comparing types of screws used in surgery).

Search results

Number of *articles identified* by database search: 1447

Number of *articles included* for review after exclusion criteria were applied to database search results (see criteria above): 1007

Other literature was included in addition to sources identified by searches in the electronic databases. Some references were carried over from earlier versions of the guideline. Other articles were selected by hand searches of published literature. Articles submitted by the public and from volunteer advisory bodies to the Colorado Division of Workers' Compensation were also reviewed. All reviewed articles were included in the full Bibliography (included in this submission), but not all references qualified to be cited in the guideline. In total, 1577 references were included in the full bibliography.



Included studies were reviewed for quality and relevancy. Some articles were excluded based on a “second tier” of exclusion criteria:

- Sample size too small <20 per group
- Animal study
- No outcomes of interest
- Population too old/young (<18 or >70)
- Study protocol and not an RCT
- Pilot study
- Surgical technique
- Included in a meta-analysis, systematic review, or Cochrane
- Review includes only one relevant RCT (RCT critiqued instead)
- No RCTs included (for a systematic review)
- Lack of assessor blinding (mainly drug studies)
- Inclusion criteria: ≥ 3 months of pain
- Not actually an RCT (lack of randomization)
- Narrative review
- Editorial
- Uninformative
- Not relevant or of interest
- Follow-up too short (<12 weeks)
- Study is too old (2010 or older)
- Article unobtainable or not in English
- Superseded by a more recent review
- No primary outcome
- Critiqued in previous version of our guideline.

Remaining studies qualified for critique using the Division’s *Literature Critique Criteria*. Studies assessed as “adequate” or “high quality” were used for evidence statements. Three levels (“some,” “good,” and “strong”) were then used to describe strength of evidence for recommendations based on the amount and quality of the supporting literature. For more information regarding literature assessment and resulting evidence statements, see *Chronic Pain Disorder* on the Division’s website for (a) *Literature Critique Criteria*, which are under “Assessment Criteria for Critiques” on the website, (b) the *Evidence Summary/Table*, and (c) *Critiques* for individual articles:

<https://www.colorado.gov/pacific/cdle/medical-treatment-guidelines>.

Number of *articles used to support evidence statements*: 161