



## **Search Strategy and Study Selection** **Cumulative Trauma Conditions Medical Treatment Guideline 2017 Revision**

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

### **Search strategy**

*Database:* PubMed, Cochrane Library

*Date(s) when the search was done:* August 2015 to October 2015

*Time period covered by the search:* January 2010 through December 2016

### *Search terms:*

Carpal Tunnel

Epicondylitis

Epicondylagia

Wrist osteoarthritis

Carpometacarpal arthritis

Scaphotrapezio or trapezoid arthritis

Trapeziectomy

De Quervain's or De Quervain's disease

Wrist extensor tendon

Wrist flexor tendon

Triangular fibrocartilage complex tear

Trigger finger

Carpal tunnel release

Cubital tunnel syndrome

Guyon's Canal

Ulnar neuropathy



Posterior interosseous nerve entrapment  
Pronator syndrome  
Radial tunnel  
Autologous whole blood injection  
Platelet rich plasma injection  
Extracorporeal shock wave treatment  
Iontophoresis  
Low level laser therapy

### **Study selection**

*Inclusion criteria:* Studies in English; human; RCT, systematic reviews, 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 treatment guidelines conditions (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: 431

Number of *articles included* for review after exclusion criteria were applied to database search results (see criteria above): 377



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 guidelines. 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, 599 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:  $\geq 3$  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



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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 *Cumulative Trauma Conditions* 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*: 110