

Canadian Chiropractic Guideline Initiative (CCGI) Guideline Summary

Title of guideline	Enabling recovery from common traffic injuries: a focus on the injured person – Management of shoulder pain
Author of guideline	Ontario Protocol for Traffic Injury Management (OPTIMa) Collaboration
Year of guideline publication	2015
Link to guideline	Section 6.2 (page 160): https://www.fscs.gov.on.ca/en/auto/Documents/2015-cti.pdf

1. SCOPE AND PURPOSE OF GUIDELINE

- a. Objective:** This guideline aims to promote uniform high quality care for individuals with shoulder pain. This guideline aims to:
- 1) accelerate recovery;
 - 2) reduce the intensity of symptoms;
 - 3) promote early restoration of function;
 - 4) prevent chronic pain and disability;
 - 5) improve health-related quality of life;
 - 6) reduce recurrences; and
 - 7) promote active participation of patients in their care.
- b. Target population:** Individuals with shoulder pain <6 months' duration
- c. Target users:** Healthcare professionals (e.g., medical doctors, physiotherapists, nurse practitioners, chiropractors, psychologists, and massage therapists) caring for patients with shoulder pain in primary, secondary, and tertiary health care settings
- d. Health condition:**
- Definition: Soft tissue disorders of the shoulder managed using this guideline include grades I and II sprains or strains, tendinitis, bursitis and impingement syndrome affecting the gleno-humeral and acromio-clavicular joints.
 - Duration of symptoms:
 - Recent-onset: symptoms ≤3 months' duration
 - Persistent: Symptoms >3 months' duration

2. KEY RECOMMENDATIONS

- a. Assessment**
- Rule out risk factors for serious pathologies:
 - Unexplained deformity, swelling, or erythema of the skin

- Significant weakness not due to pain
- Past history of malignancy
- Suspected malignancy (e.g., weight loss or loss of appetite)
- Fever/chills/malaise
- Significant unexplained sensory/motor deficits
- Pulmonary or vascular compromise
- Inability to perform any movements
- Pain at rest
- Conduct ongoing assessment for symptom improvement or progression during intervention and refer accordingly.
- Discharge injured person as appropriate at any point during intervention and recovery.

b. Education and self-management^a

- Offer information on nature, management, course of shoulder pain as a framework for initiation of a program of care.
- Aim to understand the patient's beliefs and expectations about shoulder pain and address any misunderstandings or apprehension through education and reassurance.
- Educate and reassure the patient about the benign and self-limited nature of shoulder pain and reinforce the importance of maintaining activities of daily living.

c. Treatment

For recent-onset shoulder pain (≤3 months' duration):

Based on shared-decision making between the patient and provider, any one of the following therapeutic interventions is recommended^b:

- Low-level laser therapy for short-term pain reduction
 - Offer low-level laser therapy for short-term pain reduction (pulsed laser, 10 sessions over 2 weeks: 1) peak power = 1 kW, average power = 6 W, maximum energy of single impulse = 150 mJ, duration of single impulse <150 ms, fluency = 760 mJ/cm², wavelength = 1064 nm; or 2) wavelength = 890 nm, time = 2 minute/point, power 2-4 j/cm² in each point).
- Spinal manipulation and mobilization as an adjunct to usual care for shoulder pain with associated pain or restricted movement of the cervico-thoracic spine
- Multimodal care that includes the combination of:
 - a. Heat/Cold
 - b. Joint mobilization
 - c. Range of motion exercise
 - Daily home range of motion exercises entail progressively loaded functional movements of the arm, incorporating free weights or elastic resistance as required. Range of movement includes: shoulder abduction, flexion, extension, horizontal flexion and extension, hand-behind-back.

Interventions that are not recommended include:

- Diacutaneous fibrolysis
- Ultrasound
- Interferential current therapy

For persistent shoulder pain (3-6 months' duration):

Based on shared-decision making between the patient and provider, any one of the following therapeutic interventions is recommended^b:

- Low-level laser therapy for short-term pain reduction
 - Offer low-level laser therapy for short-term pain reduction (pulsed laser, 10 sessions over 2 weeks: 1) peak power = 1 kW, average power = 6W, maximum energy of single impulse = 150mJ, duration of single impulse <150 ms, fluency = 760 mJ/cm², wavelength = 1064 nm; or 2), wavelength = 890 nm, time - 2 minute/point, power 2-4 j/cm² in each point).
 - The long-term effectiveness of low-level laser therapy is unknown for sub-acromial impingement syndrome.
- Strengthening and stretching exercises
 - Offer strengthening and stretching exercises (home-based strengthening and stretching of the rotator cuff and scapulohumeral muscles, supervised weekly for 5 weeks).
- Usual GP care (information, recommendation, and pain contingent medical or pharmaceutical therapy)
- Spinal manipulation and mobilization as an adjunct to usual care for shoulder pain with associated pain or restricted movement of the cervico-thoracic spine
- Supervised combined strengthening and stretching exercises
 - For low-grade non-specific shoulder pain, consider supervised combined strengthening and stretching exercises (8 repetitions of progressive shoulder flexion/extension/medial rotation/ lateral rotation strengthening, 2 sets, twice a week for 8 weeks; or home-based 5 repetitions of stretching of pectoralis minor and posterior shoulder per day, 10-20 repetitions of progressive strengthening for rotator cuff and serratus anterior, 3 sets per week for 8 weeks).
- Multimodal care that includes the combination of (if not previously given in 1st 3 months of care):
 - a. Heat/Cold
 - b. Joint mobilization
 - c. Range of motion exercise

Interventions that are not recommended include:

- Diacutaneous fibrolysis
- Shock-wave therapy
- Cervical mobilizations (alone)
- Multimodal care that includes the combination of exercise, mobilization, taping, psychological interventions and massage^c
- Ultrasound

- Interferential current therapy

For recent-onset shoulder pain with calcific tendinitis (≤3 months' duration):

Based on shared-decision making between the patient and provider, the following therapeutic interventions is recommended:

- Shock-wave therapy with an amplitude ranging from 0.08mJ/mm²-0.06mJ/mm²

d. Referrals and collaborations

- Patients with worsening of symptoms and those who develop new physical, mental or psychological symptoms should be referred to a physician for further evaluation at any time point during their care.
- Patients who have not significantly improved or recovered should be referred to the physician for further evaluation.

3. METHODS OF GUIDELINE DEVELOPMENT

- a. **Methods:** This guideline was based on recent systematic reviews of high-quality studies. A multidisciplinary expert panel considered the evidence of effectiveness, safety, cost-effectiveness, societal and ethical values, and patient experiences (obtained from qualitative research) when formulating recommendations.
- b. **Links to learn more:**
- Systematic review on exercise: <https://www.ncbi.nlm.nih.gov/pubmed/25920340>
 - Systematic review on manual therapy: <https://www.ncbi.nlm.nih.gov/pubmed/26512315>
 - Systematic review on multimodal care: <https://www.ncbi.nlm.nih.gov/pubmed/26976375>
 - Systematic review on passive physical modalities: <https://www.ncbi.nlm.nih.gov/pubmed/25394425>

4. CCGI COMMENTS

- The CCGI recommends the use of this guideline, based on its quality and reporting as per the Appraisal of Guidelines Research and Evaluation (AGREE) II tool (available upon request).
- This guideline targets shoulder injuries caused or exacerbated by traffic collisions, but was informed by studies conducted in adults with traumatic, non-traumatic, or work-related shoulder pain.
- ^aSample script when educating patients with grade I shoulder sprain/strains: "In general, there is no major pathology underlying your shoulder condition, and your shoulder pain will improve over time. The goal of the care plan is to provide clinical treatment that helps resolve symptoms and restore function, to allow you to perform your normal daily activities. It is helpful to remain active, continue moving the shoulder region, and perform your normal daily activities within tolerance throughout your program of care."
- ^bThis refers to the consideration of any one of these interventions in isolation. Clinicians should reassess the patient at every visit and adjust the treatment plan accordingly.

- This refers to a specific multimodal program of care that includes the combination of exercise, mobilization, taping, psychological interventions and massage. Although the multimodal care (including range of motion exercise, joint mobilization and heat/cold) is recommended, the evidence suggests that there are no additional benefits to add other interventions (i.e., taping, psychological interventions, and massage).