

SUMMARY TABLE: CLINICAL ASSESSMENT OF THE SHOULDER

History

| Inquiry | Key Features | Consider |
|-------------------------|--|--|
| Age | >35 years <35 years | Rotator cuff Instability |
| Mechanism of injury | Fall/direct trauma Fall onto point of shoulder Abduction/external rotation Head away (traction) | Clavicle fracture AC joint Rotator cuff/dislocation Brachial plexus |
| Pain location/radiation | Above shoulder joint Upper arm/deltoid Anterior upper arm Below elbow (shooting) Night pain | AC joint Rotator cuff Biceps tendonitis Nerve/neck Rotator cuff disorder |

Physical Examination

| Action | Key Features | Consider |
|------------------|--|--|
| Look | Asymmetry/deformity Wasting Bruising Scars | Dislocation/fracture/AC joint dislocation Rotator cuff tear/nerve injury Dislocation/fracture Previous injury/surgery |
| Feel | SC joint/Clavicle/AC joint Long head biceps Greater tuberosity Spine of scapula | Local tenderness/prominence Local tenderness bicipital groove Local tenderness/?fracture Local tenderness/?fracture |
| Test Active ROM | Limited active/full passive Painful arc | Rotator cuff disorder (impingement/tear) Rotator cuff disorder |
| Test Passive ROM | Limited active <i>and</i> passive Hypermobility Positive apprehension | Frozen shoulder Instability |
| Test | Weak abduction/wasting deltoid Weak abduction/external rotation Weak internal rotation | Axillary nerve injury (dislocation) Rotator cuff tear Subscapularis/pectoralis major tear |
| Special tests | There is no evidence any specific test is both valid and reliable for the diagnosis of shoulder injuries | |

Neurological Examination

| Level | Motor | Sensory | Reflex |
|----------------|--------------------------------|---------------|-----------------|
| C ₅ | Deltoid/biceps | Upper arm | Biceps |
| C ₆ | Wrist extension | Thumb | Brachioradialis |
| C ₇ | Wrist flexion/finger extension | Middle finger | Triceps |
| C ₈ | Finger grip | Fifth finger | None |
| T ₁ | Hand intrinsic | Medial elbow | None |

ABOUT THE GUIDELINE

The shoulder joint is the most mobile joint in the body. It is vulnerable to injuries from sports, falls and accidents, as well as injuries from repetitive loading. Changes in soft tissue arising from the ageing process and skeletal design can influence the outcome of an injury. Shoulder injuries are the third most common musculoskeletal injury reported in New Zealand general practice.

The purpose of this guideline is to provide the best evidence currently available to assist consumers, primary and secondary care providers in making informed decisions about the diagnosis and management of soft tissue injuries of the shoulder and related disorders.

This guideline focuses on the diagnosis and management of injuries related to trauma in the adolescent and adult population. These include rotator cuff disorders, frozen shoulder, GH instabilities (dislocation and other types of instability), AC and SC injuries.

For the purposes of this guideline, the following terms have been used together with the soft tissue injuries to which they refer.

- **Rotator cuff disorders** include impingement, subacromial bursitis, tendinosis, painful arc syndrome, partial or full thickness and massive tear of the rotator cuff, long head of biceps tendinosis or rupture and calcific tendinitis.
- **Frozen shoulder** is also known as adhesive capsulitis.
- **Instabilities** include acute and recurrent dislocation, and labral injury.
- **AC joint disorders** include stress osteolysis and dislocation.
- **SC joint disorders** include sprain and dislocation.

The guideline excludes fractures, inflammatory and degenerative arthritic conditions, endocrinological and neurological conditions, hemiplegic shoulder, and chronic pain, including occupational overuse disorders.

The guideline was developed by an independent multidisciplinary team of practitioners and consumers under the auspices of the New Zealand Guidelines Group (NZGG) and project managed by Effective Practice, Informatics and Quality Improvement (EPIQ). The guideline was funded by ACC.

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This guideline has been endorsed by:

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THE DIAGNOSIS AND MANAGEMENT OF SOFT TISSUE SHOULDER INJURIES AND RELATED DISORDERS

KEY MESSAGES

INITIAL DIAGNOSIS AND MANAGEMENT

- Refer people with red flags **immediately** for specialist evaluation.
- Refer people with displaced and/or unstable fractures, massive tears of the rotator cuff, severe dislocations and failed attempts at reduction **urgently** for specialist evaluation.
- If a significant rotator cuff tear is suspected, refer for diagnostic ultrasound.
- If there is a suspected fracture, or a dislocation in a person aged >40 years, arrange an x-ray.

ROTATOR CUFF TENDINOSIS, PARTIAL AND FULL THICKNESS TEARS

- Use NSAIDs with caution. Simple analgesics may be sufficient.
- Use subacromial corticosteroid injection with caution (provides short-term symptomatic relief for people with tendinosis and partial thickness tears, but may suppress healing).
- A referral for a trial of supervised exercise is usually beneficial.
- If a full thickness rotator cuff tear has not improved with non-operative management by 4 – 6 weeks, refer the person to an orthopaedic specialist.
- Refer those with tendinosis and partial thickness tears at 6 months if there is no improvement with non-operative management.

FROZEN SHOULDER

- Typically presentation is pain and significant functional limitation in women aged 40 – 60 years.
- Treat in the painful stage with an intra-articular steroid injection performed by a competent clinician. People with diabetes require blood sugar monitoring for 24 – 48 hours.
- Initiate a gentle home exercise programme when the acute pain has settled.
- Avoid aggressive mobilisation in the painful phase as this is likely to aggravate symptoms.

GLENOHUMERAL INSTABILITIES AND DISLOCATIONS

- Attempt reduction of anterior and posterior dislocations, providing there is appropriate expertise and adequate analgesia.
- If reduction is successful, take x-rays in all those with an acute first-time dislocation (to confirm reduction and assess for bony injury) and check neurovascular function.
- Refer to an orthopaedic specialist if there is insufficient expertise, 2 failed reduction attempts, 2 or more traumatic dislocations or multidirectional instability.

ACROMIOLAVICULAR JOINT DISLOCATION

- Grade I and II dislocations can be managed with a sling and analgesia. Heavy lifting and contact sports should be avoided for 8 – 12 weeks.
- Grade III dislocations are mostly managed conservatively but more severe dislocations may require surgical management and should be referred early for evaluation.

STERNOCLAVICULAR (SC) JOINT DISLOCATION

- Complete dislocation of the SC joint requires urgent referral to an orthopaedic specialist.
- Consider pulmonary or vascular compromise in posterior dislocations.
- X-rays of the SC joint can be difficult to interpret and CT may be preferred.

Diagnostic and Management Algorithm

NOTE 1: INDICES FOR REFERRAL

Red Flags

- Unexplained deformity or swelling
- Significant weakness not due to pain
- Suspected malignancy
- Fever/chills/malaise
- Significant/unexplained sensory/motor deficit
- Pulmonary or vascular compromise

Indications for urgent referral

- Displaced or unstable fracture
- Failed attempted (>2) reduction of dislocated shoulder
- Massive tear of the rotator cuff (>5 cm)
- Severe dislocation GH, AC or SC joint
- Undiagnosed severe shoulder pain

Indications for early referral

- Full thickness tear of the rotator cuff after 4 – 6 weeks if no improvement
- 2 or more traumatic dislocations
- Recurrent posterior/other instabilities
- Uncertain diagnosis
- Failure to recover within expected timeframe

NOTE 2: EXTRINSIC CAUSES

- Cervical spine disorders
- Nerve disorders
 - Nerve root irritation
 - Nerve compression/entrapment
 - Brachial plexus injuries
 - Neuralgia amyotrophy
- Inflammatory disorders
 - Rheumatoid arthritis
 - Polymyalgia rheumatica
- Complex regional pain syndrome
- Myofascial pain syndrome
- Scapulo-thoracic articulation
- Thoracic and rib injuries
- Visceral disorders

NOTE 3: IMAGING

| Modality | Indications |
|-----------------------|--|
| X-rays | <ul style="list-style-type: none"> • Strong suspicion of fracture • Dislocation in those aged <40 years • Consideration of surgery as a management option (films best ordered by orthopaedic specialist) |
| Diagnostic ultrasound | <ul style="list-style-type: none"> • Suspected significant rotator cuff damage |

