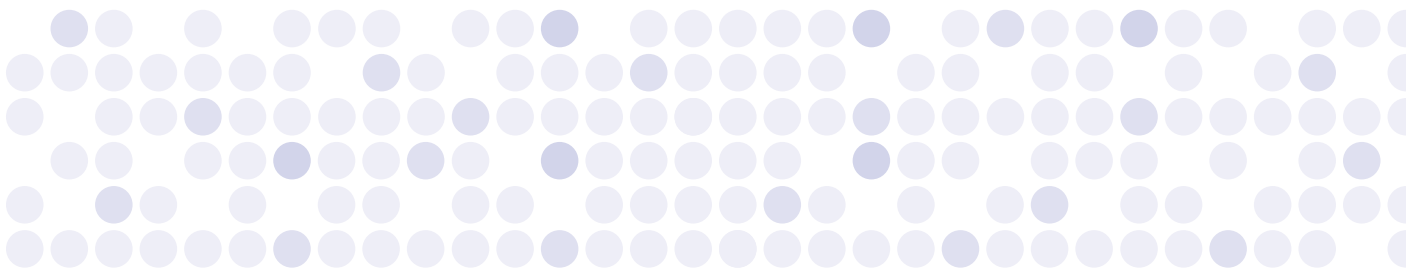


Clinical guidelines for the Queensland workers' compensation scheme

Shoulder





Contents

Before you start

Relevance to the workers' compensation sector	2
Agree appraisal.....	3
Register of clinical practice guidelines for shoulder	4

Click to the relevant guideline

Shoulder complaints	5
Shoulder (acute and chronic).....	11
The diagnosis and management of soft tissue injuries and related disorders.....	19

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Foreword

Clinical guidelines for the Queensland workers' compensation scheme is a selection of clinical guidelines or 'treatment protocols' used by other jurisdictions and medical bodies.

Q-COMP compiled this selection to create a resource for clinicians treating injured workers in Queensland.

Over the course of our research it became clear what type of guidelines are successfully applied to practice and what we should include.

They include guidelines where:

- medical providers were consulted
- nurse and allied health providers identified relevant areas to include
- medical specialty groups endorsed the guidelines
- an effective promotion program was used
- patient education brochures or fact sheets for General Practitioners to provide to their patients were developed
- an education strategy included the Continuing Professional Development (CPD) program
- frameworks for evaluating the guidelines effectiveness were developed ahead or simultaneously with the guidelines themselves.

I am looking forward to receiving your feedback on *Clinical guidelines for the Queensland workers' compensation scheme* and your support in achieving the best outcomes for injured workers in Queensland.

Elizabeth Woods
Chief Executive Officer

Relevance to the workers' compensation sector

Each item is rated on a 5-point scale ranging from 5 "Strongly Agree" to 1 "Strongly Disagree". The scale measures the extent to which a criterion (item) has been fulfilled.

	1	2	3
	Shoulder complaints	Shoulder (acute & chronic)	The diagnosis and management of soft tissue injuries and related disorders
<i>Functional restoration</i> Does the guideline consider graded increases in activity and function?	4	4	4
<i>Psychosocial factors</i> To what degree does the guideline consider psychosocial factors that may influence recovery?	1	1	3
<i>Return to work process (vocational rehabilitation)</i> To what degree does the guideline consider the return to work process (vocational rehabilitation)?	5	5	1
<i>Risk factors for recovery</i> To what degree does the guideline consider risk factors for recovery?	5	5	3
Total score	15	15	11

Rating criteria CPG 1 and CPG 2 have the highest ratings on Functional Restoration, Return to Work Process and Risk factors for recovery.



Agree appraisal

Each item is rated on a 5-point scale ranging from 5 “Strongly Agree” to 1 “Strongly Disagree”. The scale measures the extent to which a criterion (item) has been fulfilled.

The aggregate scores are then converted into a percentage scale ranging from 100% “Strongly Agree” to 1% “Strongly Disagree”.

	1	2	3
	Shoulder complaints	Shoulder (acute & chronic)	The diagnosis and management of soft tissue injuries and related disorders
Scope and purpose	61%	67%	72%
Stakeholder involvement	58%	33%	67%
Rigour of development	33%	55%	71%
Clarity and presentation	92%	100%	96%
Applicability	6%	6%	0%
Editorial independence	17%	17%	25%

Register of clinical practice guidelines for shoulder

CPG	Name	Source	Developed by
1	Shoulder complaints	National Guideline Clearinghouse www.guideline.gov	Shoulder complaints .Elk Grove Village (IL); American College of Occupational and Environmental Medicine (ACOEM);2004.31p.[68 references]
2	Shoulder (acute & chronic)	National Guideline Clearinghouse www.guideline.gov	Work Loss Data Institute. Shoulder (acute & chronic). Corpus Christi (TX): Work Loss Data Institute; 2006. 153 p. [185 references]
3	The diagnosis and management of soft tissue injuries and related disorders.	National Guideline Clearinghouse www.guideline.gov	New Zealand Guidelines Group (NZGG). The diagnosis and management of soft tissue shoulder injuries and related disorders. Wellington (NZ): New Zealand Guidelines Group (NZGG);2004.66p.[102 references]



Shoulder complaints

Contents

1. Developed by	6
2. Guideline status	6
3. Where located/how accessed	6
4. Description/scope	6
5. Outcomes considered	7
6. Agree appraisal.....	7
7. Relevance/appropriateness of use in workers' compensation sector.....	7
a) Functional progression	7
b) Physical/psychiatric rehabilitation.....	10
c) Risk factor/recovery	10
d) Return to work.....	10
8. Priority for Q-COMP.....	10



1. Developed by

Shoulder complaints .Elk Grove Village (IL); American College of Occupational and Environmental Medicine (ACOEM); 2004.31p.[68 references]

2. Guideline status

This is the current release of the guideline.

This guideline updates a previous version: Harris,J.ed. *Occupational Medicine Practice Guidelines: American College of Occupational and Environmental Medicine*. Beverly Farms,MA:OEM Press;1997

3. Where located/how accessed

Print copies are available form ACOEM, 25 Northwest Point Boulevard, Suite 700, Elk grove Village, IL 60007: Phone 847-818-1800 x 399. To order a subscription to the online version, call 800-441-9647 or visit <http://www.acoempracguides.org/>.

4. Description/scope

Disease/condition(s)

- Shoulder complaints

Guideline category

- Diagnosis
- Evaluation
- Management
- Treatment

Clinical speciality

- Family Practice
- Internal Medicine
- Orthopaedic Surgery
- Physical Medicine and Rehabilitation
- Preventative Medicine
- Surgery

Intended users

- Advanced Practice Nurses
- Physicians Assistants
- Physicians
- Utilization Management

Guideline objectives

- To provide information and guidance on generally accepted elements of quality care in occupational and environmental medicine
- To improve the efficiency with which the diagnostic process is conducted, the specificity of each diagnostic test performed, and the effectiveness of each treatment in relieving symptoms and achieving cure
- To present recommendations on assessing and treating adults with potentially work-related shoulder complaints



Target population

Adults with potentially work-related shoulder complaints seen in primary care settings

Intervention and practices considered

Note from the National Guideline Clearinghouse (NGC): The following general clinical measures were considered. Refer to the original guideline document for information regarding which specific interventions and practices under these general heading are recommended, optional, or not recommended by the American College of Occupational and Environmental Medicine.

1. History and physical exam
2. Patient education
3. Medication
4. Physical treatment methods, activities and exercise
5. Injections
6. Rest and immobilization
7. Detection of physiological abnormalities
8. Radiography
9. Other imaging procedures
10. Surgical considerations

5. Outcomes considered

Missed work days

6. Agree appraisal

- Scope and Purpose 61%
- Stakeholder Involvement 58%
- Rigour of Development 33%
- Clarity and Presentation 92%
- Applicability 6%
- Editorial Independence 17%

7. Relevance/appropriateness of use in workers' compensation sector

a) Functional progression

The following clinical algorithms are provided in the original guideline document:

- American College of Occupational and Environmental Medicine Guidelines for care of acute and subacute occupational shoulder complaints
- Initial evaluation of occupational shoulder complaints
- Initial and follow-up management of occupational shoulder complaints
- Evaluation of slow-to-recover patients with occupational shoulder complaints (symptoms >4 weeks)
- Surgical considerations for patients with anatomic and physiologic evidence of shoulder instability, complete rotator cuff tear, or impingement syndrome coupled with persistent complaints
- Further management of occupational shoulder complaints



Clinical measure	Recommended	Optional	Not recommended
History and physical exam	<p>Focused history and exam</p> <p>Search for red flags (e.g., for tumor, infection, angina)</p>		
Patient education	Patient education regarding condition or disorder, expectations of treatment, side effects, etc.		
Medication (See Chapter 3 in the original guideline document)	<p>Acetaminophen</p> <p>Non-steroidal anti-inflammatory drugs (NSAIDs)</p>	Opioids, short course	<p>Use of opioids for more than 2 weeks</p> <p>Muscle relaxants</p>
Physical treatment methods, activities and exercise	<p>Maintain activities of other parts of body while recovering</p> <p>Maintain passive range of motion of the shoulder with pendulum exercises and wall crawl</p> <p>Treat initially with strengthening or stabilization exercises for impingement syndrome, rotator cuff tear, instability, and recurrent dislocation</p>	<p>At-home applications of heat or cold packs to aid exercises</p> <p>Short course of supervised exercise instruction by a therapist</p>	Passive modalities by therapist (unless accompanied by teaching the patient exercises to be carried out at home)
Injections	<p>Two or three sub-acromial injections of local anaesthetic and cortisone preparation over an extended period as part of an exercise rehabilitation program to treat rotator cuff inflammation, impingement syndrome, or small tears)</p> <p>Diagnostic lidocaine injections to distinguish pain sources in the shoulder area (e.g., impingement).</p>		Prolonged or frequent use of cortisone injections into the sub-acromial space or the shoulder joint
Rest and immobilization	<p>Brief use of a sling for severe shoulder pain (1 to 2 days), with pendulum exercises to prevent stiffness in cases of rotator cuff conditions</p> <p>Three weeks use, or less, of a sling after an initial shoulder dislocation and reduction</p> <p>Same for acromioclavicular (AC) separations or severe sprains</p>		Prolonged use of a sling only for symptom control
Detection of physiologic abnormalities	Rarely, nerve conduction time of the suprascapular nerve for cases of severe cuff weakness unaccompanied by signs of a rotator cuff tear		Electromyography (EMG) or nerve conduction velocity (NCV) studies as part of a shoulder evaluation for usual diagnoses



Clinical measure	Recommended	Optional	Not recommended
Radiography		For acute AC joint separations, stress films (views of both shoulders, with and without patient holding 15-lb weights)	Routine radiographs for shoulder complaints before 4 to 6 weeks of conservative treatment Stress films for instability (D)
Other imaging procedures	Magnetic resonance imaging (MRI) for preoperative evaluation of partial-thickness or large full-thickness rotator cuff tears	Arthrography for preoperative evaluation of small full thickness tears Bone scan for detection of AC joint arthritis	Routine MRI or arthrography for evaluation without surgical indications Ultrasonography for evaluation of rotator cuff
Surgical considerations	<p>Anterior repair for recurrent dislocation after 2 to 3 dislocations</p> <p>Resection of outer clavicle for chronic disabling AC joint pain after conservative care of acute separation</p> <p>Rotator cuff repair after firm diagnosis is made and rehabilitation efforts have failed</p> <p>Capsular shift surgery for disabling instability</p> <p>Subacromial decompression after failure of non-operative care</p>		<p>Anterior repair for initial shoulder dislocation</p> <p>Acute repair of AC separation</p> <p>Acute repair of rotator cuff tears, except for massive acute tears</p> <p>Surgery for recurrent dislocation of instability before rehabilitation efforts</p>

b) Physical/psychiatric rehabilitation

As above:

Physical treatment methods, activities and exercise

- Maintain activities of other parts of body while recovering
- Maintain passive range of motion of the shoulder with pendulum exercises and wall crawl
- Treat initially with strengthening or stabilization exercises for impingement syndrome, rotator cuff tear, instability, and recurrent dislocation

Rest and immobilization

- Brief use of a sling for severe shoulder pain (1 to 2 days), with pendulum exercises to prevent stiffness in cases of rotator cuff conditions
- Three weeks use, or less, of a sling after an initial shoulder dislocation and reduction
- Same for acromioclavicular (AC) separations or severe sprains

c) Risk factor/recovery

- False-positive or false-negative diagnostic tests
- Risks and complications of surgical procedures and imaging studies (e.g., infection, radiation)

d) Return to work

Not mentioned.

8. Priority for Q-COMP

Rating criteria

Functional restoration Does the guideline consider graded increases in activity and function?	4
Psychosocial factors To what degree does the guideline consider psychosocial factors that may influence recovery?	1
Return to work process (vocational rehabilitation) To what degree does the guideline consider the return to work process (vocational rehabilitation)?	5
Risk factors for recovery To what degree does the guideline consider risk factors for recovery?	5
Total rating	15



Shoulder (acute & chronic)

Contents

1. Developed by	12
2. Guideline status	12
3. Where located/how accessed	12
4. Description/scope	12
5. Outcomes considered	14
6. Agree appraisal.....	14
7. Relevance/appropriateness of use in workers' compensation sector.....	15
a) Functional progression	15
b) Physical/psychiatric rehabilitation.....	16
c) Risk factor/recovery	17
d) Return to work.....	18
8. Priority for Q-COMP.....	18



1. Developed by

Work Loss Data Institute. Shoulder (acute & chronic). Corpus Christi (TX): Work Loss Data Institute;2006. 153 p. [185 references]

2. Guideline status

This is the current release of the guideline.

This guideline updates a previous version ; Work Loss Data Institute. Shoulder (acute & chronic). Corpus Christi (TX): Work Loss Data Institute; 2006. 175 p.

3. Where located/how accessed

National Guideline Clearinghouse www.guideline.gov

Electronic copies; Available to subscribers from the Work Loss Data Institute Web site

Print copies Available to subscribers from the Work Loss Data Institute , 169 Saxony Road, Suite 210, Encinitas, CA 92024; Phone :800-488-5548, 760-753-9992, Fax 760-753-9995; www.worklossdata.com

The following companion documents are available:

- Background information on the development of the Official Disability Guidelines of the Work Loss Data Institute is available from the Work Loss Data Institute Website
- Appendix A. ODG Treatment in Workers' Comp. Methodology description using the AGREE instrument. Available to subscribers from Work Loss Data Institute Website

The following patient resources are available:

- Appendix B ODG Treatment in Workers' Comp. Patient information resources 2006

4. Description/scope

Disease/condition(s)

Work-related shoulder disorders

Guideline category

- Diagnosis
- Evaluation
- Management
- Treatment

Clinical speciality

- Family Practice
- Internal Medicine
- Orthopaedic Surgery
- Physical Medicine and Rehabilitation
- Surgery



Intended users

- Advanced Practice Nurses
- Health Care Providers
- Health Plans
- Nurses
- Physician Assistants
- Physicians

Guideline objectives

To offer evidence-based step-by-step decision protocols for the assessment and treatment of workers' compensation conditions

Target population

Workers with occupational shoulder disorders

Interventions and practices considered

The following interventions/procedures were considered and recommended as indicated in the original guideline document:

1. Activity restrictions/work modifications
2. Anterior scalene block
3. Arthrography
4. Cardiovascular functional testing
5. Chiropractic/manipulation
6. Continuous-flow cryotherapy
7. Deep friction massage
8. Diagnostic arthroscopy
9. Diagnostic ultrasound
10. Electrodiagnostic testing for thoracic outlet syndrome (TOS)
11. Exercises
12. Extracorporeal shock wave therapy (ESWT)
13. Impingement test
14. Low level laser therapy (LLLT)
15. Magnetic resonance imaging (MRI)
16. Nerve blocks
17. Physical therapy/occupational therapy
18. Pulsed electromagnetic field
19. Radiography
20. Return to work (early mobilization)
21. Steroid injections
22. Surgery for impingement syndrome
23. Surgery for rotator cuff repair
24. Surgery for shoulder dislocation
25. Surgery for thoracic outlet syndrome
26. Therapeutic ultrasound



The following interventions/procedures are under study and are not specifically recommended:

1. Acupuncture
2. Arthroplasty (shoulder)
3. Ergonomic interventions
4. Hydroplasty/hydrodilatation
5. Manipulation under anesthesia
6. Massage
7. Postoperative pain pump
8. Surgery for adhesive capsulitis
9. Thermal capsuloraphy
10. Thermotherapy
11. Transcutaneous electrical neurostimulation (TENS)

The following interventions/procedures were considered, but are not recommended:

1. Adson's test (AT)
2. Biofeedback
3. Biopsychosocial rehabilitation
4. Bipolar interferential electrotherapy
5. Continuous-passive motion (CPM)
6. Costoclavicular maneuver (CCM)
7. Cutaneous laser treatment
8. Diathermy
9. Electrical stimulation
10. Elevated arm stress test
11. Immobilization
12. Mechanical traction
13. Osteochondral autologous transplantation (OATS)
14. Porcine small intestinal submucosal implants
15. Supraclavicular pressure
16. Surgery for acromioclavicular (AC) joint separation
17. Surgery for ruptured biceps tendon (except as indicated in the original guideline document)
18. Transdermal nitroglycerin

5. Outcomes considered

- Sensitivity, specificity, and accuracy of diagnostic tests
- Effectiveness of treatment in relieving pain and restoring normal function.

6. Agree appraisal

- Scope and Purpose 67%
- Stakeholder Involvement 33%
- Rigour of Development 55%
- Clarity and Presentation 100%
- Applicability 6%



- Editorial Independence 17%

7. Relevance/appropriateness of use in workers' compensation sector

a) Functional progression

Major recommendations

Initial diagnosis

- First visit: with Primary Care Physician MD/DO (100%)
- Initial evaluation should include:
 - Determine the type of trauma (e.g., direct trauma, fall, repetitive motion, twisting incident, etc.)
 - Test the range-of-motion of the joint (normal, mild restriction, severe restriction, or complete restriction).
 - An initial evaluation of the shoulder requires accurate diagnosis of shoulder injuries by careful inspection and palpation of the shoulder area. Although the shoulder is generally swollen, the injury is usually defined by direct tenderness over the injured area.
- **Determine “degenerative changes” versus “acute trauma”:**
- **Degenerative changes** (*Go to Initial Conservative Treatment*)
 - Lesions of the rotator cuff are a continuum, from mild inflammation and degeneration to full avulsions. Studies of normal subjects document the universal presence of degenerative changes and conditions, including full avulsions without symptoms. Conservative treatment has results similar to surgical treatment but without surgical risks. Surgical outcomes are much better in younger patients with a rotator cuff tear, than in older patients, who may be suffering from degenerative changes in the rotator cuff. Impingement syndrome, shoulder tendonitis, shoulder sprain, and subacromial bursitis are all closely related entities with the same aetiology. They involve friction, abrasion, and inflammation of the rotator cuff and the long head of the biceps tendon with the subacromial arch (anterior lip of the acromion, coracoacromial ligament, and acromioclavicular joint). These conditions involve consequences of aging or repetitive use, or a combination thereof, such as:
 - Impingement syndrome (age >40 years, weakness, cuff tenderness, painful range of motion [ROM], impingement sign, radiographic findings, night pain, history of catching, or pain with shoulder motion)
 - Rotator cuff tendonitis (similar)
 - Rotator cuff tear (only Types I and II, partial tear, age >40 yrs)
 - Adhesive capsulitis, frozen shoulder (progressive pain and stiffness, diabetes or trauma, decreased passive ROM, normal x-rays, night pain)
 - Tendonopathy
 - Bicipital tendon disorders
 - Bursitis
- **Acute trauma** (*Go directly to Aggressive Treatment*)
 - Acute rotator cuff tear (type III, age <40 yrs)
 - Acromioclavicular (AC) joint strain or separation
 - Types I-III versus Types IV-VI (rare, surgery may be indicated)

- Rule out diagnoses (See other treatment parameters for each of these):
 - Referred neck pain (see the original guideline document for International Classification of Diseases, Ninth Revision [ICD-9] codes for this and other diagnoses)
 - Thoracic outlet syndrome, brachial plexus disorders
 - Fractures (treat clavicular fractures mostly nonoperatively)
 - Laceration
 - Glenohumeral shoulder joint dislocation
 - Arthritis

Imaging (30% of cases)

[Benchmark cost: \$370-\$1,200]

Magnetic resonance images (MRIs) are quite accurate in differentiating chronic impingement from tears of the rotator cuff and should be employed when

- A surgical approach is being considered, and
- The diagnosis is unclear, and
- The clinical examination is limited
- MR arthrograms are accurate in diagnosing labral tears.
- X-rays: special views of AC joint, with weights in hand for AC separation
- Diagnostic ultrasound is an option.
- If indicated by imaging, and no improvement from initial conservative therapy, refer for aggressive treatment at three months.

Definition of sprain/strain severity grade:

In general,

- Grade I or mild sprain/strain is caused by overstretching or slight tearing of the ligament/muscle/tendon with no instability, and a person with a mild sprain usually experiences minimal pain, swelling, and little or no loss of functional ability. Although the injured muscle is tender and painful, it has normal strength.
- Grade II sprain/strain is caused by incomplete tearing of the ligament/muscle/tendon and is characterized by bruising, moderate pain, and swelling, and
- Grade III sprain/strain means complete tear or rupture of a ligament/muscle/tendon. A sprain is a stretch and/or tear of a ligament (a band of fibrous tissue that connects two or more bones at a joint). A strain is an injury to either a muscle or a tendon (fibrous cords of tissue that connect muscle to bone).

b) Physical/psychiatric rehabilitation

Mild/moderate -- initial conservative treatment (90% of cases)

- Also first visit (day 1):
 - Prescribe alteration of activity (home and work), no overhead work, stretching (gentle range-of-motion exercises), appropriate analgesia (i.e., acetaminophen) and/or anti-inflammatory (i.e., ibuprofen) [Benchmark cost: \$14], back to work--modified duty: if condition caused by job, possible ergonomic evaluation of job
- Second visit (day 14 - about 2 weeks after first visit)
 - Document progress.
 - If not significantly improved, then prescribe physical therapy (gentle range-of-motion exercises plus exercises that strengthen the rotators and stabilize the scapula); should be started for home exercise training [Benchmark cost: \$250]: Refer to Physical Therapist (50%) or Occupational Therapist (50%) for 3 visits per week for 2 weeks.



- Third visit (day 28 – about 1 month after first visit)
 - Document progress.
 - Further relaxation and pain control can be achieved by injecting an anaesthetic under the acromion (laterally or anteriorly) into the shoulder joint.
 - Corticosteroid injection trial [Benchmark cost: \$276]. Should be performed by musculoskeletally-trained physician. Sprains of the rotator cuff cause swelling within a closed space and add an element of chronic impingement which may be slow to resolve. By decreasing swelling, local infiltration of the rotator cuff with corticosteroids may quicken the resolution of this problem. Repeat corticosteroid injection may be necessary, but should not be done any sooner than every two weeks, up to a maximum of three injections. Injection should be avoided in patients under 30 years of age.
 - If prescribe therapy, then continue therapist, change from passive to active modality, up to 2 visits per week, teach home exercises.
- Fourth visit (day 42 – about 6 weeks after first visit)
 - Refer for imaging.

Aggressive treatment (10% of cases) [Benchmark cost: \$2,621]

- Include imaging as above.
- Dislocation: After reduction, the first and second dislocations of the shoulder are treated nonsurgically except in unusual circumstances. An initial dislocation should generally be treated with three or more weeks of immobilization in a sling and swathe. This is followed by a progressive exercise program to strengthen the muscles of the shoulder girdle and, thus, reduce the probability of recurrent dislocations. A second dislocation may be treated in a sling until asymptomatic. After a third dislocation, further dislocations may be presumed to be imminent, and orthopaedic referral for consideration of a surgical repair is appropriate.
- Arthroscopy, Shoulder, Surgical: Rotator cuff repair, with decompression of subacromial space with partial acromioplasty, with or without coracoacromial release. Performed by Orthopaedic Surgeon (90%) or General Surgeon (10%) on an outpatient or 23-hour basis. May be endoscopic. Decompression/acromioplasty alone should be performed after at least six weeks of conservative treatment.
- Clavicle (collarbone) fractures are common injuries, and they can occur different ways. Some patients fall on an outstretched hand, others fall and hit the outside of their shoulder. Treatment of clavicle fractures most commonly involves resting the affected extremity in a sling. It is unusual for a clavicle fracture to require surgery, but surgery is required in some situations when either the skin is broken or if the fracture is severely displaced or shortened
- Post-surgical treatment:
- Physical/Occupational Therapy: A short course may be needed; if so then post-surgical treatment (endoscopic): 14 visits over 8 weeks; post-surgical treatment (open): 20 visits over 10 weeks

c) Risk factor/recovery

Potential harms

Complications related to cryotherapy (i.e., frostbite) are extremely rare but can be devastating.

Contraindications

Extracorporeal shock wave therapy (ESWT) is contraindicated in the following:

- Pregnant women
- Patients younger than 18 years of age
- Patients with blood clotting diseases, infections, tumours, cervical compression, arthritis of the spine or arm, or nerve damage
- Patients with cardiac pacemakers

- Patients who had physical or occupational therapy within the past 4 weeks
- Patients who received a local steroid injection within the past 6 weeks
- Patients with bilateral pain
- Patients who had previous surgery for the condition
- Corticosteroid injections should be avoided in patients under 30 years of age.

d) Return to work

Official disability guidelines (odg) return-to-work pathways

Medical treatment (Grade I or II1, impingement, no tear), modified work: 0 days

Medical treatment (impingement, no tear), manual work: 7 days

(See ODG *Capabilities & Activity Modifications for Restricted Work* under “Work” in the Procedure Summary of the original guideline document)

ODg return-to-work pathways

Medical treatment (impingement, no tear), manual overhead work: 28 days

Medical treatment, regular work if cause of disability: 42 days

Medical treatment, heavy manual work: 42 days

ODg return-to-work pathways

Arthroscopic surgical repair/acromioplasty (Grade III1), clerical/modified work: 28-56 days

Arthroscopic surgical repair/acromioplasty, manual work, non-dominant arm: 56- 90 days

Arthroscopic surgical repair/acromioplasty, manual work, dominant arm: 70-90 days

Open surgery (Grade III1), clerical/modified work: 42-56 days

Open surgery, manual work, non-dominant arm: 70-90 days

Open surgery, manual work, dominant arm: 90-106 days

Open surgery, heavy manual work if cause of disability: indefinite

8. Priority for Q-COMP

Rating criteria

Functional restoration Does the guideline consider graded increases in activity and function?	4
Psychosocial factors To what degree does the guideline consider psychosocial factors that may influence recovery?	1
Return to work process (vocational rehabilitation) To what degree does the guideline consider the return to work process (vocational rehabilitation)?	5
Risk factors for recovery To what degree does the guideline consider risk factors for recovery?	5
Total rating	15



The diagnosis and management of soft tissue injuries and related disorders

Contents

1. Developed by	20
2. Guideline status	20
3. Where located/how accessed	20
4. Description/scope	20
5. Outcomes considered	21
6. Agree appraisal.....	22
7. Relevance/appropriateness of use in workers' compensation sector.....	22
A) functional progression.....	22
Rotator cuff disorders	22
Frozen shoulder	23
Glenohumeral instabilities.....	23
Acromioclavicular (ac) joint disorder	24
Sternoclavicular (sc) joints disorder	24
Cultural considerations.....	24
B) Physical/psychiatric rehabilitation.....	25
Rotator cuff disorders	25
Frozen shoulder	25
Acromioclavicular (ac) joint disorder	25
Sternoclavicular (sc) joints disorder	25
C) Risk factor/recovery	25
D) Return to work.....	25
8. Priority for Q-COMP.....	26



1. Developed by

New Zealand Guidelines Group (NZGG). The diagnosis and management of soft tissue shoulder injuries and related disorders. Wellington (NZ): New Zealand Guidelines Group (NZGG);2004.66p.[102 references]

2. Guideline status

This is the current release of the guideline.

3. Where located/how accessed

National Guideline Clearinghouse www.guidelines.gov

Electronic copies: Available in Portable Document Format (PDF) form the New Zealand Guidelines Group Web site.

Print copies: Available from the New Zealand Guidelines Group Inc.,Level 30, Grand Plimmer Towers 2-6 Gilmer Terrace, PO Box 10-665, Wellington, New Zealand; Tel: 64 4 471 4185;e-mail;info@nzgg.org.nz

The following companion document is available:

- New Zealand Guidelines Group (NZGG). Key messages. The diagnosis and management of soft tissue shoulder injuries and related disorders. Wellington (NZ): New Zealand Guidelines Group (NZGG);2004 Jul.2p. Available in Portable Document Format (PDF) from the New Zealand Guidelines Group

4. Description/scope

Disease/condition(s)

Soft tissue shoulder injuries including:

1. Rotator cuff disorders, including 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 tendonitis
2. Frozen shoulder (also known as adhesive capsulitis)
3. Glenohumeral (GH) instabilities, including acute and recurrent dislocation and labral injury
4. Acromioclavicular (AC) joint disorders, including dislocation and stress osteolysis
5. Sternoclavicular (SC) joint disorders, including sprain and dislocation

Guideline category

Diagnosis, Evaluation, Management, Rehabilitation, Treatment

Clinical speciality

- Emergency Medicine
- Family Practice
- Internal Medicine
- Orthopaedic Surgery
- Paediatrics
- Physical Medicine and Rehabilitation
- Sports Medicine



Intended users

- Patients
- Physical Therapists
- Physicians

Guideline objectives

- To provide an evidence-based summary of the diagnosis and management options available for soft tissue shoulder injuries and related disorders to assist health practitioners and consumers to make informed decisions to improve health outcomes

Target population

- Adolescents and adults in New Zealand with soft tissue shoulder injuries and related disorders

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

Interventions and practices considered

Diagnosis

1. History
2. Physical examination
3. Neurological examination
4. Imaging – x-rays, diagnostic ultrasound, magnetic resonance imaging (MRI)

Management

1. Medications including paracetamol, nonsteroidal anti-inflammatory drugs (NSAIDs), and corticosteroidal injections
2. Sling
3. Activity modified
4. Specialist referral as indicated
5. Surgery
6. Consideration of the particular needs of Maori and Pacific Island patients

Rehabilitation

1. Physiotherapy including electrotherapy and exercise therapy
2. Acupuncture

5. Outcomes considered

- Sensitivity and specificity of clinical and diagnostic tests
- Rate of treatment success
- Disability at six months
- Quality of life and return to work



6. Agree appraisal

- Scope and Purpose 72%
- Stakeholder Involvement 67%
- Rigour of Development 71%
- Clarity and Presentation 96%
- Applicability 0%
- Editorial Independence 25%

7. Relevance/appropriateness of use in workers' compensation sector

a) Functional progression

Initial diagnosis and management

Recommendation

If a significant rotator cuff tear is suspected, refer for diagnostic ultrasound.

Good practice points

Diagnostic ultrasound should be undertaken by a radiologist with appropriate expertise.

Indications for radiography

- Strong suspicion of fracture
- Dislocation if aged >40 years or if clinically indicated
- Where surgery is being considered as a management option

Recommended views

- Anteroposterior (AP) glenoid fossa (Grashey) view
- Outlet or lateral scapular view
- Axial view

Plain films are best requested by a specialist, for people referred with shoulder problems that have not responded to nonoperative management or where surgery is being considered as a management option.

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.

Rotator cuff disorders

Recommendations

Prescribe nonsteroidal anti-inflammatory drugs (NSAIDs) with caution. They provide short-term symptomatic pain relief, but can have serious consequences.

Use subacromial corticosteroid injection with caution. It provides short-term symptomatic relief for people with tendinosis and partial thickness tears.

Provide a trial of supervised exercise by a recognised treatment provider for people with rotator cuff disorders.

Avoid use of therapeutic ultrasound (no additional benefit over and above exercise alone).



Good practice points

Simple analgesics provide pain relief with less potential for serious side effects.

Informed consent for subacromial steroid injection should include the risk of infection (very rare), transient red face particularly in women, and sometimes “post-injection flare of pain.”

Subacromial corticosteroid may be appropriate for full thickness tears as part of long-term management where surgery is not being considered as a treatment option.

If there is no significant improvement in those with a full thickness tear of the rotator cuff after 4 to 6 weeks of nonoperative management, refer to an orthopaedic specialist.

Early surgical management for a rotator cuff tear has the most to offer people with otherwise healthy tissue and who are physiologically young and active.

Frozen shoulder

Recommendations

Actively consider intra-articular corticosteroid injection performed by an experienced clinician in the painful phase of a frozen shoulder.

If required, offer supervised exercise by a recognised treatment provider to improve range of movement after the acute pain has settled.

Good practice points

Informed consent for an intra-articular steroid injection should include likelihood of pain, the risk of infection (very rare), transient red face particularly in women, and sometimes “post-injection flare of pain.”

People with diabetes should have their blood sugar levels monitored following corticosteroid injection and there should be appropriate contingency plans in place if hyperglycaemia occurs.

Avoid vigorous stretching in the early painful phase of a frozen shoulder as it will exacerbate pain.

It is most important that people with a frozen shoulder understand the time it takes for this condition to resolve.

Glenohumeral instabilities

Recommendation

Young adults engaged in demanding physical activities with a first traumatic shoulder dislocation should be referred for orthopaedic evaluation.

Good practice points

Investigations

- Prereduction x-ray is recommended in people aged >40 years.
- Post-reduction x-ray is recommended for all people with an acute first time dislocation to confirm the reduction and assess for bony injury.
- X-ray is required for all people with a failed attempt at reduction.
- X-ray is recommended for those with recurrent dislocation where surgical stabilisation may be a management option.

Acute Management

- Only clinicians with appropriate expertise should reduce anterior or posterior dislocations.
- Relaxation is critical for successful reduction. Ensure adequate analgesia is given, if required, before attempting reduction.
- Attempt slow steady traction for at least 30 seconds.
- Avoid excessive force while attempting to reduce a dislocated shoulder.
- Urgent referral to an orthopaedic specialist is required when reduction is unsuccessful after two attempts.

Post-Reduction Management: Nonoperative

- In people with a primary dislocation for whom nonoperative management is appropriate, apply a sling, provide analgesia, and refer for a supervised exercise programme.
- Following dislocation, people should not return to sport for at least 6 weeks, or when they have achieved near normal muscle strength.

Recurrent Dislocation

People with recurrent dislocation (>2) should be referred to an orthopaedic specialist to evaluate the need for surgical stabilisation.

Acromioclavicular (ac) joint disorder

Good practice points

Imaging

- If surgery is an option for an AC joint dislocation, perform x-rays to stage the degree of dislocation.

Management

- People with Grade I and II sprains can be provided with a sling and analgesics for 5 to 7 days until comfortable.
- Advise gradual return to activity as symptoms settle, and avoidance of heavy lifting and contact sports for 8 to 12 weeks.
- People with Grade III AC joint sprains can also be managed nonoperatively but if this is not successful after 3 months, consider referral to a specialist for further evaluation.
- More serious AC joint dislocations require referral for orthopaedic evaluation.

Sternoclavicular (sc) joints disorder

Good practice points

Although rare, clinicians should watch for pulmonary or vascular compromise due to a posterior dislocation of the SC joint usually resulting from severe compression trauma. Immediate referral to an appropriate specialist is indicated.

Most injuries of the SC joint are mild sprains and can be managed with a sling, analgesics, and return to activity as tolerated.

Cultural considerations

Recommendation

Health care practitioners providing care for Maori and Pacific peoples should be sensitive to their particular needs.

Grades indicate the strength of supporting evidence, rather than the importance of the recommendations.



**Recommended practice based on the professional experience of the Guideline Development Team where there is no evidence available.

b) Physical/psychiatric rehabilitation

As mentioned above:

Rotator cuff disorders

Provide a trial of supervised exercise by a recognised treatment provider for people with rotator cuff disorders.

Frozen shoulder

If required, offer supervised exercise by a recognised treatment provider to improve range of movement after the acute pain has settled.

Avoid vigorous stretching in the early painful phase of a frozen shoulder as it will exacerbate pain.

Acromioclavicular (ac) joint Disorder

Management

- Advise gradual return to activity as symptoms settle, and avoidance of heavy lifting and contact sports for 8 to 12 weeks.

Sternoclavicular (sc) joints Disorder

Most injuries of the SC joint are mild sprains and can be managed with a sling, analgesics, and return to activity as tolerated.

c) Risk factor/recovery

- *Nonsteroidal anti-inflammatory drugs (NSAIDs)* are associated with possible adverse effects including gastrointestinal bleeding, alterations in renal and platelet function, hepatitis, and bronchospasm.
- Possible adverse effects of *corticosteroid injections* include facial flushing in people with adhesive capsulitis, post-injection flare, infections (rare), tendon ruptures, hyperglycaemia in patients with diabetes.
- There are risks associated with reducing a dislocated shoulder, particularly in the older osteoporotic person, including fracture, and nerve and vascular damage. Reduction should therefore only be carried out by a person with appropriate knowledge, skill and experience. Avoid excessive force.

d) Return to work

Not discussed

8. Priority for Q-COMP

Rating criteria

Functional restoration Does the guideline consider graded increases in activity and function?	4
Psychosocial factors To what degree does the guideline consider psychosocial factors that may influence recovery?	3
Return to work process (vocational rehabilitation) To what degree does the guideline consider the return to work process (vocational rehabilitation)?	1
Risk factors for recovery To what degree does the guideline consider risk factors for recovery?	3
Total rating	11