Draft Shoulder Injury

Title Page

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Department of Labor and Industry
Employment Standards Division

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Section 1. Guidelines Introduction

Section 1.a. Context and Use

This document has been prepared by the Montana Department of Labor and Industry and should be interpreted within the context of guidelines for physicians/providers treating individuals who qualify as injured workers with shoulder injuries under the Administrative Rules of Montana.

The Department recognizes that acceptable medical practice may include deviations from these guidelines, as individual cases dictate. Therefore, these guidelines are not relevant as evidence of a provider's legal standard of professional care.

To properly utilize this document, the reader should not skip or overlook any sections.

Section 1.b. Application of the Guidelines

The Department provides procedures to implement Utilization and Treatment Guidelines and to foster communication to resolve disputes among the provider, payer, and patient through the Administrative Rules of Montana. In lieu of more costly litigation, parties may wish to request an Independent Medical Review (IMR) from the Department's Medical Director prior to submitting a *Petition for Workers' Compensation Mediation Conference*.

Section 1.c. Guidelines Recommendations and Inclusion of Medical Evidence

All recommendations are based on available evidence and/or consensus judgment. A Colorado Department of Labor and Employment Division of Workers' Compensation staff researched and adopted evidence critique criteria. Evidence evaluation was performed in a manner congruent with national standards and completed independent of the multidisciplinary task force group that drafted recommendations. The methodology is described in detail on the Colorado Department of Labor and Employment website, including documents on the literature search and evidence base.

References are provided in the evidence document when high-quality evidence that met the Division's methodological standards was available to support recommendations. Recommendations without qualifying evidence are based on consensus; consensus means the judgment of experienced professionals based on general medical principles.

All recommendations in the Utilization and Treatment Guidelines are considered to represent reasonable care in appropriately selected cases, irrespective of the amount of evidence or consensus attached to them. The inclusion of a treatment as acceptable does not imply that every patient meeting the Guideline criteria must or should have that treatment. It means that for individuals meeting the criteria, the treatment should be approved when the provider and patient decide to proceed with it.

Those procedures considered inappropriate, unreasonable, or unnecessary are designated in the Guidelines as "not recommended."

Montana Code Annotated (MCA) 39-71-704 states "there is a rebuttable presumption that the adopted utilization and treatment guidelines establish compensable medical treatment for an injured worker." As outlined in ARM 24.29.1611, "In cases where treatment(s) or procedure(s) are recommended by the Montana Guidelines, and treatment is provided in accordance with the guidelines, prior authorization is unnecessary unless the Montana Guidelines specify otherwise." ARM 24.29.1621 outlines circumstances in which prior authorization is required. When prior authorization is required, authorization is presumed to be given if not denied within 14 days.

Treatments or indications for treatments not addressed by the Guidelines require prior authorization for a case-by-case assessment of appropriateness. Examples of appropriate supporting documentation to accompany a prior authorization request are outlined in ARM 24.29.1621.
If the provider feels that a patient will functionally benefit from undergoing a procedure that is not included or recommended in the Guideline, they may request an Independent Medical Review (IMR) after the initial request for the procedure has been denied by the insurer. The request should include a detailed description of how the patient is expected to benefit and provide literature citations supporting the request.

For more information on the evidence basis for recommendations, see the evidence base document on the Colorado Department of Labor and Employment's Medical Treatment Guidelines website.

Section 1.d. Recommended Citation for This Document

Montana Department of Labor and Industry. (2025). Shoulder Injury Utilization and Treatment Guidelines. Montana Department of Labor and Industry Employment Standards Division. Available at: https://montanaguidelines.com/

Section 2. General Guidelines Principles

The general guidelines principles provide a framework for care for all injured workers. This document should be interpreted within the parameters of the following guidelines principles that may lead to more optimal medical and functional outcomes for injured workers. As noted in Administrative Rules of Montana (ARM) 24.29.1611 (3)(d), "For those body parts not included in one of the guideline chapters, providers must apply and follow the general guideline principles that are found at the beginning of each chapter, and an insurer is liable for reasonable medical treatment."

Section 2.a. Education

Education of the individual and family and/or support system, as well as the employer, insurer, policymakers, and the community, should be the primary emphasis in the treatment of injured workers. Currently,

practitioners often think of education last, after medications, manual therapy, and surgery. Practitioners must implement strategies to educate injured workers, employers, insurance systems, policymakers, and the community as a whole. An education-based paradigm should always start with inexpensive communication that provides recovery, function-focused, patient-centered, and evidence-based information. More in-depth education is currently a component of treatment regimens that employ functional, restorative, preventive, and rehabilitative programs. No treatment plan is complete without addressing issues of individual and/or group patient education as a means of facilitating self-management of symptoms and prevention. Facilitation through language interpretation, when necessary, is a priority and part of the medical care treatment protocol.

Section 2.b. Shared Decision Making

Providers should implement shared decision making as a crucial element of a successful treatment plan. Patients, with the assistance of their health care practitioner and support system, should identify their personal and professional functional goals of treatment at the first visit. Progress towards the individual's identified functional goals should be addressed by all members of the health care team at subsequent visits and throughout the established treatment plan. Nurse case managers, psychologists, physical therapists, and other members of the health care team play an integral role in shared decision making and achievement of functional goals. Patient education and shared decision making should facilitate self-management of symptoms and prevention of further injury.

Section 2.c. Return to Work

Return to work is therapeutic, assuming the work is not likely to aggravate the basic problem. The practitioner must provide specific written physical limitations, and the patient should never be released to work with non-specific and vague descriptions such as "sedentary" or "light duty." The following physical limitations should be considered and modified as recommended: lifting, pushing, pulling, crouching, carrying, walking, using stairs, bending at the waist, awkward and/or sustained postures, tolerance for sitting or standing, hot and cold environments, repetitive motion tasks, sustained grip, tool usage, and vibration factors. Even if there is residual chronic pain, return to work is not usually contraindicated.

The practitioner should understand all physical demands of the patient's job position before returning the patient to full duty and should request clarification of the patient's job duties. Clarification should be obtained from the employer or, if necessary, including, but not limited to, an occupational health nurse, occupational therapist, vocational rehabilitation specialist, or an industrial hygienist.

Section 2.d. Treatment Parameter Duration

Time frames for specific interventions commence once treatments have been initiated, not on the date of injury. Duration will be impacted by the individual's adherence, as well as availability of services. Clinical judgment may substantiate the need to accelerate or decelerate the time frames discussed in this document.

Section 2.e. Active Interventions

Active interventions emphasizing patient responsibility, such as therapeutic exercise and/or functional treatment, are generally utilized over passive interventions, especially as treatment progresses. Generally,

passive interventions are viewed as a means to facilitate progress in an active rehabilitation program with concomitant attainment of objective functional gains.

Section 2.f. Active Therapeutic Exercise Program

Exercise program goals should incorporate patient strength, endurance, flexibility, coordination, and education. This includes functional application in vocational or community settings.

Section 2.g. Positive Patient Response

Positive results are defined primarily as functional gains that can be objectively measured. Objective functional gains include, but are not limited to: positional tolerances, range of motion (ROM), strength, endurance, activities of daily living (ADLs), ability to function at work, cognition and communication, psychological behavior, and efficiency/velocity measures that can be quantified. These would include, but would not be limited to, the functional assessment tools available in the Appendix. These can assist in documenting management decisions, status, risk, and outcomes. Subjective reports of pain and function should be considered and given relative weight when the pain has anatomic and physiologic correlation. Anatomic correlation must be based on objective findings. Patient-completed functional questionnaires can provide useful additional confirmation.

Section 2.h. Re-evaluation of Treatment Effectiveness

Re-evaluation should occur every 3 to 4 weeks or within the time to produce effect for a given treatment. Treatment should be modified or discontinued if there is no evidence of positive results. Before discontinuing the treatment, the provider should have a detailed discussion with the patient to determine the reason for failure to produce positive results. Reconsideration of diagnosis should also occur in the event of a poor response to a seemingly rational intervention. Within six weeks of the injury, the authorized treating provider may request a one-time consultation with the consultant of their choice for diagnostic or treatment recommendations without prior authorization. After the consultation is complete, the patient returns to their treating provider for additional care.

Section 2.i. Surgical Interventions

Surgery should be contemplated within the context of expected functional outcome and not purely for the purpose of pain relief. The concept of “cure” with respect to surgical treatment by itself is generally a misnomer. All operative interventions must be based upon positive correlation of clinical findings, clinical course, and diagnostic tests. A comprehensive assimilation of these factors must lead to a specific diagnosis with positive identification of pathologic conditions.

Section 2.j. 6-month Time Frame

The prognosis drops precipitously for returning an injured worker to work once they have been temporarily totally disabled for more than 6 months. The emphasis within these guidelines is to move patients along a continuum of care and return to work within a 6-month time frame, whenever possible. It is important to note that time frames may be less pertinent for injuries that do not involve work-time loss or are not occupationally related.

Section 2.k. Delayed Recovery

For patients who are failing to make expected progress 6 to 12 weeks after initiation of treatment of an injury, strongly consider a psychological evaluation, if not previously provided, as well as initiating interdisciplinary rehabilitation treatment and vocational goal setting. There is recognition that 3% to 10% of all industrially injured patients will not recover within the timelines outlined in this document, despite optimal care. Such individuals may require treatments beyond the timelines discussed within this document, but such treatment requires clear documentation by the authorized treating practitioner focusing on objective functional gains afforded by further treatment and impact upon prognosis.

Section 2.l. Post Maximum Medical Improvement (MMI) Care

Maximum medical improvement (MMI) should be declared when a patient's condition has plateaued to the point where the authorized treating physician no longer believes further medical intervention is likely to result in improved function. However, some patients may require treatment after MMI has been declared in order to maintain their functional state. The recommendations in these guidelines are for pre-MMI care and are not intended to limit post-MMI treatment.

Per 39-71-116 MCA, maximum medical improvement refers to "a point in the healing process when further material functional improvement would not be reasonably expected from primary medical services." However, this designation does not always mean that an individual is symptom-free. Some patients may require treatment after MMI has been declared in order to maintain their functional state. At the time of an MMI determination, the treating provider should develop a maintenance treatment plan that will allow the injured worker to remain at work, if necessary, with consideration for the factors outlined in Section I. Maintenance Management of the Chronic Pain Disorder Utilization and Treatment Guideline, including anticipated future medical or surgical care related to the accepted claim.

In the State of Montana, per MCA 39-71-704 (f) (i) & (ii), medical benefits terminate sixty months from the date of injury or diagnosis of an occupational disease for injuries or occupational disease diagnoses occurring after July 1, 2011. This does not apply in cases of permanent total disability or prosthesis. Medical benefits may be reopened, per MCA 39-71-717, if the injured worker's medical condition is a direct result of the compensable injury or occupational disease and requires medical treatment to allow the injured worker to remain at work or return to work. Administrative rule, ARM 24.29.3101 to 24.29.3127 outlines processes for reopening closed medical benefits.

The remainder of this document should be interpreted within the parameters of these guideline principles that may lead to more optimal medical and functional outcomes for injured workers.

Section 3. Diagnoses Covered by this Utilization and Treatment Guideline

The following diagnoses are addressed in this Utilization and Treatment Guideline:

- Acromioclavicular (AC) joint sprain and/or dislocation
- Arthritis that is either aggravated or exacerbated by a work injury or that is secondary to a claim-related trauma or surgery
- Biceps tendon disorder, including tendinopathy, subluxation, and/or disruption

- Brachial plexus and peripheral nerve conditions
- Bursitis
- Fracture
- Glenohumeral instability, also called shoulder instability, such as from dislocation, Bankart injuries, Hill-Sachs lesions
- Labral tears, including superior labrum anterior and posterior (SLAP) lesions
- Post-traumatic stiff shoulder, including frozen shoulder and adhesive capsulitis, that is secondary to a claim-related trauma or surgery
- Rotator cuff tear
- Rotator cuff tendinopathy, including calcific and non-calcific tendonitis
- Subacromial impingement syndrome.

Section 4. Diagnosis

Section 4.a. History Taking and Physical Examination

Recommendation 1. A detailed history of symptom onset, past medical history, physical examination, and a detailed neurologic examination are required at the initial evaluation.

Recommendation 2. Initial functional assessment is strongly recommended. See examples of functional outcome measures in the Appendix.

Section 4.b. Diagnostic Procedures

Section 4.b.i. Compartment Pressure Testing.

Recommendation 3. Compartment pressure testing is acceptable for patients who present with symptoms consistent with compartment syndrome.

Section 4.b.ii. Electrodiagnostic Testing.

Recommendation 4. Electromyography and nerve conduction studies are recommended for patients with suspected neural involvement and persistent symptoms that are unresponsive to at least 6 weeks of conservative care emphasizing Active Therapies as outlined in Section 7.a.i. It is acceptable to test the non-affected side for comparison.

Recommendation 5. Surface electromyography and current perception threshold evaluation are not recommended.

Section 4.b.iii. Imaging.

Arthrography.

Recommendation 6. It is acceptable to add arthrography to magnetic resonance imaging (MRI) or computed tomography (CT) advanced imaging studies for patients with previous shoulder surgery, complex fractures,

and those with a history and physical findings suggestive of shoulder instability, rotator cuff tear, osteochondral defects, intra-articular loose bodies, and/or labral tear.

Recommendation 7. Conventional (X-ray) arthrography is acceptable for evaluation of patients with metal implants and previous shoulder surgery.

Bone Scan (All Radioisotopes).

Recommendation 8. Radioisotope bone scanning is rarely used. It is acceptable when there is clinical suspicion for metastatic or primary bone tumors, occult or stress fractures, osteomyelitis, infection, or other inflammatory lesions.

Computed Tomography (CT).

Recommendation 9. A computed tomography (CT) scan is acceptable for better visualization of bone and further evaluation of masses and suspected fractures not clearly identified on X-ray radiographic evaluation.

Diagnostic Sonography.

Recommendation 10. Diagnostic ultrasound before 4 weeks post-injury is acceptable for cases with the presence of significant weakness on elevation or rotation, a palpable defect at the greater tuberosity, or an acute traumatic injury.

Recommendation 11. Diagnostic ultrasound is acceptable for visualization of soft tissue structures when shoulder pain and functional deficits persist after at least 4 weeks of conservative care emphasizing Active Therapies as outlined in Section 7.a.i.

Magnetic Resonance Imaging (MRI).

Recommendation 12. Magnetic resonance imaging (MRI) before 4 weeks post-injury is acceptable for cases with the presence of significant rotator cuff weakness on manual muscle testing, a palpable defect at the greater tuberosity, or an acute traumatic injury.

Recommendation 13. Magnetic resonance imaging (MRI) is acceptable for visualization of soft tissue structures when shoulder pain and functional deficits persist after at least 4 weeks of conservative care emphasizing Active Therapies as outlined in Section 7.a.i.

Vascular Imaging (Doppler Ultrasonography, Plethysmography, Arteriogram, or Venogram).

Recommendation 14. Doppler ultrasonography or plethysmography are acceptable for diagnosing vascular and circulatory disorders.

Recommendation 15. Arteriogram and venogram are acceptable to better visualize suspected vascular injury or disease not clearly identified following doppler ultrasonography or plethysmography.

X-ray (Radiograph).

Recommendation 16. X-ray studies of the shoulder are acceptable.

Section 4.b.iv. Joint Aspiration.

Recommendation 17. Joint aspiration and fluid analysis is acceptable in cases of suspected infection, inflammation, or crystal-induced arthropathies.

Section 4.b.v. Laboratory Testing.

Recommendation 18. When clinically indicated, early laboratory studies are acceptable to evaluate for systemic illness, infection, neoplasia, or underlying rheumatologic or connective tissue disorder.

Section 4.b.vi. Psychological or Psychosocial Screening and Evaluation.

Recommendation 19. A psychological screen is encouraged as a routine part of clinical care and is required as soon as any of the following barriers to functional recovery are identified (see examples of psychological screens in the Appendix):

- limited patient engagement in recovery, or
- activity avoidance, or
- catastrophizing due to pain, or
- avoidance of essential recovery activities, or
- low expectations of recovery, or
- ineffective coping skills, or
- loss of vocational connection.

Individuals with barriers to functional recovery may benefit from an interdisciplinary approach to care.

Recommendation 20. A formal psychological or psychosocial evaluation is acceptable for those with elevated scores on psychosocial screening tests and/or for surgical candidates. It is indicated for patients not making expected progress within 6 weeks of injury and whose subjective symptoms do not correlate with objective signs and tests. See the Behavioral and Psychological Interventions section.

Section 4.b.vii. Screening.

Diabetic Screening.

Recommendation 21. Diabetic screening and monitoring is acceptable when poorly controlled diabetes is expected to negatively impact claim-related medical outcomes (e.g., prior to surgery; before and after steroid injection).

Implant Component Allergy Screening and Testing.

Recommendation 22. Screening and testing for allergy to implant components is acceptable.

Osteoporosis Screening and Treatment.

Recommendation 23. Osteoporosis screening tests, including bone density tests and vitamin D levels, are acceptable for patients who experience a fracture and are at risk for osteoporosis.

Recommendation 24. Claim-related treatment is acceptable when untreated osteoporosis is expected to negatively impact medical outcomes, but long-term care for osteoporosis is not covered under workers' compensation.

Section 4.c. Determining Work-Relatedness

Section 4.c.i. All Conditions.

Recommendation 25. Medical causation must establish that the condition or injury results from a specific injury, an aggravation of an underlying condition, or a previously asymptomatic condition made symptomatic by a work-related exposure. The use of evidence-based resources and the medical literature is encouraged to support medical causation determinations.

Recommendation 26. Occupational risk factors for injury and disease are listed in Sections 4.c.ii-4.c.x below. The risk factors are based on available evidence related to medical causation. Due to limited evidence, the occupational exposures listed are not fully comprehensive, and work-relatedness must be determined on a case-by-case basis.

Section 4.c.ii. Acromioclavicular (AC) Joint Sprain and/or Dislocation Risk Factors.

Occupational risk factors may include:

- a fall with a landing on the point of the shoulder, driving the acromion downward; or
- a backward and outward force on the shoulder, such as a fall on an outstretched hand or elbow with an adducted arm.

Section 4.c.iii. Bursitis Risk Factors.

Bursitis may occur with an occupational strain or tendinopathy. It may be caused by work-related trauma, chronic overuse (particularly repetitive reaching away from the body or overhead), abnormal scapular mechanics, scapular dyskinesia, arthritis, and/or acute or chronic infection.

Section 4.c.iv. Calcific Tendonitis Risk Factors.

Symptomatic calcific tendonitis may be related to degeneration of the rotator cuff tendons. This can be aggravated by work exposures related to the affected tendon.

Section 4.c.v. Fracture Risk Factors.

Occupational risk factors may include:

- a crushing, twisting, and/or high-energy fall; or
- trauma to the shoulder, arm, hand, and/or chest wall.

Section 4.c.vi. Nerve Injury Risk Factors.

Nerve Injury, General.

Occupational risk factors may include:

- trauma from an injury or surgery;
- nerve stretch such as from traction of the shoulder, arm, and/or chest wall; or

- direct internal compression, such as secondary to a hematoma or post-traumatic cyst.

Nerve Injury, Specified.

In addition to the general risk factors for nerve injury described above, there are also occupational risk factors associated with individual nerve injuries:

Axillary Nerve Injury.

- upward pressure on the axilla;
- humeral neck fracture; or
- dislocation of the shoulder.

Brachial Plexus Injury.

- weight-lifting;
- carrying heavy backpacks;
- shoulder subluxation;
- clavicular fracture;
- forceful deviation of the head away from the arm; or
- direct forceful impact to the brachial plexus region.

Long Thoracic Nerve Injury.

- chronic, repeated, or forceful shoulder depression;
- severe traction with the shoulder compressed and the head tilted; or
- repeated forward, overhead motion of the arms with the head tilted or rotated to the unaffected side.

Musculocutaneous Nerve Injury.

- backpack use;
- repetitive overhead motions with force, such as pitching a baseball;
- heavy weight-lifting;
- malposition during sleep or surgery; or
- a sudden, forceful extension of the elbow.

Spinal Accessory Nerve Injury.

- traumatic, forceful, downward compression of the shoulder; or
- deviation of the head away from the traumatized shoulder.

Suprascapular Nerve Injury.

- a fall on an outstretched arm; or
- supraclavicular trauma, stretch, friction, or compression through the suprascapular notch or the spinoglenoid notch.

Section 4.c.vii. Post-Traumatic Stiff Shoulder Risk Factors.

Post-traumatic stiff shoulder should include a history of work-related injury or surgery resulting in significantly decreased range of motion.

Section 4.c.viii. Shoulder Instability and/or Glenohumeral Instability Risk Factors.

Occupational risk factors may include:

- a direct traumatic blow to the shoulder;
- a fall on an outstretched arm;
- repetitive overhead motions with force, such as pitching a baseball;
- a significant traction injury to the arm;
- direct fall on the shoulder resulting in posteriorly directed forces; or
- electrocution and/or seizure.

Section 4.c.ix. Shoulder Tendon Related Pathology Risk Factors.

Biceps Tendon Disorder.

Occupational risk factors may include:

- acute trauma to the long head of the biceps tendon of the shoulder girdle;
- acute distractive force or transection of the tendon; or
- an extension force applied to a flexed elbow.

Rotator Cuff Tear.

Occupational risk factors may include sudden shoulder trauma, such as breaking a fall with an overhead railing or an outstretched arm.

Rotator Cuff Tendinopathy.

Rotator cuff tendinopathies are often seen with frequent overhead motion. Symptoms may include pain and/or achiness that occur after blunt trauma or repetitive use of the shoulder.

Chronic Shoulder Tendon Disorders.

Risk factors include any of the following; however, this is not a comprehensive list, and work-relatedness must be determined on a case-by-case basis.

- Overhead work consisting of additive time per day of at least 30 minutes/day for a minimum of 5 years.
- Work that requires shoulder movement at the rate of 15-36 repetitions per minute and no 2-second pauses for 80% of the work cycle.
- Work that requires shoulder movement with force and has no 2-second pauses for 80% of the work cycle.
- It is also likely that jobs requiring daily heavy lifting at least 10 times per day over the years may contribute to shoulder disorders.
- Vibration can also be considered an additional risk factor.

Section 4.c.x. Superior Labrum Anterior Posterior (SLAP) Lesions Risk Factors.

Occupational risk factors may include:

- compression injury, such as:
  - a fall on an outstretched arm with the shoulder in forward flexion and abduction, or
  - a direct blow to the glenohumeral joint;

- traction injury, such as:
  - repetitive overhead throwing,
  - experiencing a sudden pull when losing hold of a heavy object, or
  - attempting to break a fall from a height;
- repetitive overhead motions with force, such as pitching a baseball;
- a fall on an adducted arm with upward force directed on the elbow; or
- driving an automobile that is rear-ended.

Section 5. Return to Activity and Work Considerations

Section 5.a. Job History and Communication

Recommendation 27. A job history interview should be completed at the time of the initial evaluation. A thorough job history generally includes:

- duration, duties, and demands (e.g., tools used, nature and frequency of tasks) of job held at time of injury; and
- duration, duties, and demands (e.g., tools used, nature and frequency of tasks) of current job, if different; and
- stressors; and
- cognitive and social issues, with treatment incorporated into the plan of care.

Recommendation 28. A formal job description for the injured worker is recommended to identify physical demands at work and to assist in the creation of medically appropriate work restrictions. Job descriptions are helpful but should not be used as a substitute for thorough patient interview and/or direct observation.

Recommendation 29. Nurse case management is recommended in medically complex cases to facilitate communication between the primary provider, referral providers, insurer, employer, and employee.

Section 5.b. Return to Work

Recommendation 30. It is strongly recommended that the patient return to work as soon as it is medically appropriate, even if it is in a modified capacity.

Recommendation 31. Ergonomic or adaptive equipment, therapeutic breaks, and workplace interventions are acceptable to maintain employment.

Recommendation 32. Interdisciplinary services are acceptable to assist the injured worker in return to work efforts (e.g., behavioral and/or psychological support, active therapy).

Recommendation 33. For patients with work restrictions, a graduated return to work is recommended as part of a successful medical treatment plan with a goal of return to full duty, if medically feasible (e.g., nature and frequency of activities; hours worked).

Recommendation 34. Permanent work restrictions, when needed, should be developed based on objective information available, including:

- history;

- findings on physical examination and diagnostic testing; and
- functional response to active therapy, work conditioning, and/or modified duty.

Section 5.c. Workplace Tests

Recommendation 35. A jobsite evaluation is acceptable to fully understand the physical demands of an individual's work. This information can be used when determining medical causation, the need for ergonomic changes, and/or ability to return to work. The timing and maximum allowed for jobsite evaluation are as follows:

- 1 time for initial evaluation, 1 for mid-treatment assessment, and 1 at final evaluation.

Recommendation 36. A work tolerance screening is acceptable to determine a patient's tolerance for performing a specific job activity or task from a cardiovascular, postural tolerance, ergonomic, and physical fitness perspective. The timing and maximum allowed for work tolerance screening are as follows:

- 1 time for the initial screen. May monitor improvements in physical work capacity every 3 weeks up to a total of 6 visits.

Recommendation 37. A functional capacity evaluation (FCE) is acceptable to determine an individual's capacity to work. A formal job description and jobsite evaluation, if performed, should be made available to the FCE evaluator prior to having the FCE performed. The timing and maximum allowed for FCE are as follows:

- 1 time to determine baseline status, and 1 time to determine permanent work restrictions at case closure if the provider needs additional information regarding the patient's physical work capacity.

Recommendation 38. Follow-up evaluation with the treating therapist and/or the treating physician is required within 3 days after the functional capacity evaluation (FCE) to assess the patient's status and discuss the results and objective findings from the evaluation, in addition to any need for work restrictions, if applicable.

Recommendation 39. Functional capacity evaluations (FCEs) and computer-enhanced evaluations are not recommended as the sole tool for the development of temporary or permanent work restrictions.

Recommendation 40. Performance during functional capacity evaluations (FCEs) cannot be used as the sole criteria in diagnosing malingering.

Recommendation 41. Computer-enhanced evaluations (including computerized dynamometry) are acceptable. The timing and maximum are as follows:

- 1 time for initial evaluation, 1 for mid-treatment assessment, and 1 at final evaluation.

Section 6. Essential First-Line Treatment

Section 6.a. Education, Shared Decision Making, and Informed Consent

Recommendation 42. Patient education is required as a primary component of treatment, beginning with the expected natural history of the injury or condition. Education about the injury or condition and associated disability may involve the patient, patient's family, employer, insurer, policymakers, and

community.

Recommendation 43. In the setting of benign clinical examination, it is strongly recommended that the provider educates and reassures the patient that there is a high likelihood their condition will improve and that it is essential to self-manage their symptoms.

Recommendation 44. Patients should be educated regarding restriction of activities, including the following:

- The detrimental effects of immobility versus the efficacious use of limited rest periods. Adequate rest allows the patient to participate in active treatment and benefit from the rehabilitation program.
- Avoidance of complete work cessation, if possible, since it often further aggravates the pain presentation and promotes disability.
- Modified return to work is almost always more efficacious than work cessation and rarely contraindicated in the vast majority of injured workers.

Recommendation 45. Patient education should include a thorough discussion of how behavioral health evaluation and treatment is an essential component to support recovery from physical injury.

Recommendation 46. Shared decision making by the provider and patient, including the exchange of ideas and collaboration in the decision, is required, regardless of whether the degree of risk is high or low. Discussions should be tailored to the patient's health literacy. Elements of shared decision making must include the following:

- the patient's experience with treatment; and
- creation of individualized functional goals of treatment and anticipated barriers to success; and
- documentation of expected results of diagnostic testing and possible plan of action in response to test results; and
- a discussion of the continuum of treatment from the least invasive to the most invasive, with the intent of identifying a treatment along this continuum that most completely addresses the condition; and
- expectation regarding the functional impact of the proposed treatment, including a discussion regarding return to work and expected time frame for treatment; and
- specific measurable and clinically meaningful criteria for determining treatment success or failure; and
- confirmation of the patient's commitment to perform active therapy to optimize treatment outcomes; and
- documentation and consideration of the patient's unique risks and benefits based on comorbid medical conditions.

Recommendation 47. Informed consent is required when a high-risk treatment is under consideration. It includes the following elements:

- discussion of the proposed treatment's purpose; and
- benefits, limitations, and risks of the proposed treatment, alternative treatments, and nontreatment; and
- explicit patient agreement or refusal.

Section 7. Second-Line Treatment

Section 7.a. Core Second-Line Treatment

Section 7.a.i. Active Therapies.

Recommendation 48. Active therapies are acceptable. They require intrinsic motivation by the patient to complete a specific exercise or task, in contrast with passive therapies. Interventions may include, but are not limited to, the following:

- activities of daily living (ADLs) therapy,
- aquatic therapy,
- functional activities therapy,
- in-office use of functional electrical stimulation or neuromuscular electrical stimulation (NMES) in which the patient is active,
- a home exercise program,
- neuromuscular re-education,
- therapeutic exercise,
- work conditioning,
- working modified duty with gradual advancement of activities, and
- work simulation.

Recommendation 49. Providing education alongside active therapies is acceptable. Education may include, but is not limited to, the following:

- a favorable prognosis for recovery,
- the importance of continuing daily activities,
- promotion of self-efficacy,
- problem-solving,
- engagement of support systems,
- pain neuroscience education,
- coping strategies; and
- relaxation techniques.

Recommendation 50. Specialist medical clearance is required prior to participation in active therapies if a patient has any of the following unexplained symptoms:

- angina/dyspnea on exertion or at rest, or
- paroxysmal nocturnal dyspnea and/or orthopnea, or
- syncope or presyncope, or
- arrhythmia or palpitations, or
- cardiac murmur.

Recommendation 51. Patients in active therapy must:

- demonstrate functional progress that is documented through validated sequential functional assessment measures;
- return to work with decreased restrictions; and/or
- have improvement in clinical measures (e.g., strength, range of motion [ROM], and activities of daily living [ADLs]).

If there is no documented evidence of functional progress after 6 treatments, the therapy will be discontinued, and the patient must be referred back to their treating provider for further evaluation. Each patient is limited to a maximum of 4 discrete active therapy trials without documented functional progress. (See examples of functional outcome measures in the Appendix.)

Recommendation 52. It is acceptable for adjunct passive therapy to occur concurrently with active therapy, and with the expectation that the frequency of passive therapies will decrease over time. See the Passive Therapies section.

Recommendation 53. Functional electrical stimulation or neuromuscular electrical stimulation (NMES) home units require prior authorization, documenting medical justification for home use. For transcutaneous electrical nerve stimulation (TENS) home units see Recommendation 69.

Recommendation 54. A patient is allowed up to 6 active therapy visits to advance their active home exercise program. These visits are contingent on documented demonstration of previously instructed exercises, performance of their home program at the recommended frequency, and progress in their exercise program.

Recommendation 55. Time frames for active therapies are as follows:

- Time to produce effect: 6 treatments.
- Frequency: up to 4 times per week.
- Maximum duration: 8 weeks.

Recommendation 56. Durations of care beyond those listed as "time to produce effect" and "maximum" are acceptable in the following circumstances:

- once scheduled for a surgery, preoperative active treatment while waiting for the surgery without expectation of typical functional gains; or
- after surgery, particularly after multiple surgeries; or
- re-injury, interrupted continuity of care, specific diagnoses (such as fracture, post-traumatic stiff shoulder, non-surgical management of rotator cuff or labral tears, aggravated arthritis), returning to a highly physically demanding job, and/or comorbidities when treatment to date has resulted in measurable and clinically meaningful functional improvement.

Section 7.a.ii. Behavioral and Psychological Interventions.

Recommendation 57. Early initiation of behavioral and psychological interventions is acceptable if psychosocial or behavioral factors appear to be interfering with functional recovery (see Recommendation 19 and Recommendation 20). See the Chronic Pain Disorder Utilization and Treatment Guideline for recommendations and treatment time frames.

Section 7.b. Adjunct Second-Line Treatments, as Indicated

Section 7.b.i. Passive Therapies.

All Passive Therapies.

Recommendation 58. Passive therapies include treatments that do not require a patient's energy expenditure. Patients in passive therapy must demonstrate functional progress through validated functional assessment measures. If there is no evidence of functional progress within the time to produce effect, the therapy shall be discontinued, and the patient must be referred back to their treating provider for evaluation. Each patient is limited to a maximum of 4 discrete passive therapy trials.

Recommendation 59. Passive therapies must occur concurrently with self-directed exercise or formal active therapy programs.

Recommendation 60. The frequency of passive therapy must decrease over time.

Recommendation 61. Durations of care beyond those listed as "time to produce effect" and "maximum" are acceptable in the following circumstances:

- after surgery, particularly after multiple surgeries; or
- re-injury, interrupted continuity of care, specific diagnoses (such as fracture, post-traumatic stiff shoulder, non-surgical management of rotator cuff or labral tears, aggravated arthritis), and/or comorbidities when treatment to date has resulted in measurable and clinically meaningful functional improvement.

Acupuncture.

Recommendation 62. Acupuncture is acceptable within the following parameters:

- Time to produce effect: up to 6 sessions.
- Frequency: up to 3 sessions per week. See Recommendation 60 regarding the expected decreasing frequency over time.
- Maximum duration: 15 treatments.

Bone Growth Stimulation.

Recommendation 63. Electrical bone growth stimulation requires prior authorization.

Recommendation 64. Low-intensity pulsed ultrasound (LIPUS) is not recommended for clavicular fracture.

Continuous Passive Motion.

Recommendation 65. Continuous passive motion is not generally recommended. It is acceptable if there is a diagnosis of post-traumatic stiff shoulder and access to therapy is limited.

Diathermy.

Recommendation 66. Radio wave diathermy is not recommended.

Dry Needling.

Recommendation 67. Dry needling is acceptable within the following parameters:

- Time to produce effect: up to 4 sessions.
- Frequency: up to 2 sessions per week. See Recommendation 60 regarding the expected decreasing frequency over time.
- Maximum duration: 8 weeks.

Elastic Taping (e.g., Kinesiotaping).

Recommendation 68. Elastic taping is acceptable as part of active therapy sessions (see Recommendation 55 for time frames). Discontinue use if there is no documented functional benefit.

Electrical Stimulation (In-Clinic Use).

Recommendation 69. In-office electrical stimulation in which the patient is passive is acceptable within the following parameters:

- Time to produce effect: up to 4 sessions.
- Frequency: up to 3 sessions per week. See Recommendation 60 regarding the expected

decreasing frequency over time.
- Maximum duration: 4 weeks.
- If transcutaneous electrical nerve stimulation (TENS) treatment results in documented functional benefit and is anticipated to extend beyond 4 treatments, consider purchase of a home TENS unit.

Hyperbaric Oxygen Therapy.

Recommendation 70. Hyperbaric oxygen therapy is not recommended.

Iontophoresis.

Recommendation 71. Iontophoresis is acceptable within the following parameters:
- Time to produce effect: up to 4 sessions.
- Frequency: 3 sessions per week with at least 48 hours between sessions. See Recommendation 60 regarding the expected decreasing frequency over time.
- Maximum duration: 10 treatments.

Laser Therapy.

Recommendation 72. Low-level laser therapy is not recommended.

Manual Treatment.

Recommendation 73. Manual treatment is acceptable, including manipulation, joint mobilization, soft tissue mobilization, and myofascial release, within the following parameters:
- Time to produce effect: up to 6 sessions.
- Frequency: up to 3 sessions per week. See Recommendation 60 regarding the expected decreasing frequency over time.
- Maximum duration: 8 weeks.

Massage.

Recommendation 74. Massage is acceptable within the following parameters:
- Time to produce effect: 6 sessions.
- Frequency: up to 2 sessions per week. See Recommendation 60 regarding the expected decreasing frequency over time.
- Maximum duration: 8 weeks.

Shockwave Therapy.

Recommendation 75. Shockwave therapy is not a first-line therapy. It is not recommended in the absence of a documented calcium deposit but is acceptable for patients with calcific tendonitis who have not achieved functional goals after at least 2 months of conservative care emphasizing Active Therapies as outlined in Section 7.a.i. within the following parameters:
- Time to produce effect: 3 days after a treatment.
- Frequency: every 4 days. See Recommendation 60 regarding the expected decreasing frequency over time.
- Maximum duration: 4 sessions.

Recommendation 76. Anesthesia and conscious sedation are not recommended during shockwave therapy. Prior authorization is required, if deemed necessary.

Superficial Heat and Cold Therapy.

Recommendation 77. Superficial heat and cold therapy is acceptable within the following parameters:

- Time to produce effect: up to 4 sessions.
- Frequency: up to 3 sessions per week. See Recommendation 60 regarding the expected decreasing frequency over time.
- Maximum duration: 8 weeks.

Ultrasound, including Phonophoresis (In-Clinic Use).

Recommendation 78. Therapeutic ultrasound, including phonophoresis, is acceptable for calcific tendinopathy within the following parameters:

- Time to produce effect: up to 15 sessions.
- Frequency: 3 sessions per week. See Recommendation 60 regarding the expected decreasing frequency over time.
- Maximum duration: 2 months.

Section 7.b.ii. Durable Medical Equipment.

Recommendation 79. Fabrication and modification of orthotics is acceptable to facilitate better motion response, stabilize a joint with insufficient muscle or proprioceptive/reflex competencies, protect subacute conditions as needed during movement, and/or correct biomechanical problems. The time frames are as follows:

- Maximum Duration: 4 sessions of evaluation, casting, fitting, and re-evaluation.

Recommendation 80. Training on the proper use of orthotic devices and/or prosthetic limbs is acceptable. Instruction and training includes but is not limited to, stump preparation, donning and doffing limbs, wearing schedule, orthotic/prosthetic maintenance, and techniques for activities of daily living and self-care. The time frames are as follows:

- Frequency: 4 times per week.
- Maximum Duration: 4 months.

Recommendation 81. Splints, slings, braces, immobilizers, and adaptive equipment are acceptable if used to improve safety, reduce stress on the injury, and reduce risk of re-injury. Sessions for their design, fabrication, modification, and/or training on their use are acceptable. The time frames are as follows:

- Maximum Duration: 3 sessions.

Recommendation 82. Adaptive equipment is acceptable if used to improve safety, reduce stress on the injury, and reduce risk of re-injury. Equipment includes high and low-technology assistive options such as workplace modifications, computer interface or seating, and self-care aids. Sessions for training on their use are acceptable. The time frames are as follows:

- Maximum Duration: 3 sessions.

Section 8. Third-Line Treatment

Section 8.a. Injections

Section 8.a.i. Anesthesia-Only Injections (Selective Nerve Blocks).

Recommendation 83. Injections containing only local anesthesia, also called selective nerve blocks, are acceptable for diagnostic purposes to identify pain generators or pathology. Hydrodissection is not the same as a selective nerve block.

Recommendation 84. Imaging guidance for anesthesia-only injections using sonography or fluoroscopy is acceptable.

Section 8.a.ii. Distension Arthrography.

Recommendation 85. Distension arthrography or brisement is acceptable for post-traumatic stiff shoulder when all of the following parameters are met:

- the condition is refractory to at least 3 months of conservative care emphasizing Active Therapies as outlined in Section 7.a.i.; and
- range of motion remains significantly restricted; and
- early therapy to maintain range of motion and to restore strength and function follows distension arthrography.

Section 8.a.iii. Glucocorticosteroid Injections.

Recommendation 86. An initial steroid injection is acceptable. They may target the subacromial space, glenohumeral joint, acromioclavicular (AC) joint, biceps tendon sheath, subdeltoid bursa, subcoracoid space, or around the suprascapular nerve.

Recommendation 87. Steroid injections beyond the first one are acceptable given the following parameters:

- There is documentation of functional improvement from the previous injection.
- Injections are at least 4 weeks apart.
- The maximum is 4 injections per year for all sites combined.

Recommendation 88. Imaging guidance for glucocorticosteroid injections using sonography or fluoroscopy is acceptable.

Section 8.a.iv. Hyaluronic Acid Viscosupplementation.

Recommendation 89. Viscosupplementation is acceptable for glenohumeral arthritis in the absence of other symptomatic shoulder pathology within all of the following parameters:

- the condition limits function and is unresponsive to at least 6 weeks of conservative care emphasizing Active Therapies as outlined in Section 7.a.i.; and
- each course of treatment is at least 6 months apart. The number of injections in each course depends on the product used.

Recommendation 90. Viscosupplementation is not recommended for any of the following:

- rotator cuff tendinopathy, or
- adhesive capsulitis, or
- subacromial impingement syndrome.

Section 8.a.v. Lavage and Aspiration.

Recommendation 91. Prior authorization is required for ultrasound-guided needle lavage and aspiration for patients with calcific tendonitis who have not responded to conservative care emphasizing Active Therapies as outlined in Section 7.a.i.

Section 8.a.vi. Platelet-Rich Plasma Injections.

Recommendation 92. Platelet-rich plasma injections are generally not recommended. They are acceptable when all of the following parameters are met:

- there is tendon damage; and
- the condition is not responding to at least 6 weeks of conservative care emphasizing Active Therapies as outlined in Section 7.a.i; and
- the next level of guideline-consistent therapy would involve an invasive procedure with risk of significant complications.

Recommendation 93. Platelet-rich plasma injections beyond the first one are acceptable when all of the following parameters are met:

- there is documentation of significant functional benefit from the previous injection; and
- the patient has not returned to full function or full duty at work; and
- the injections are at least 4 weeks apart.
- The maximum is 1 repeat injection.

Section 8.a.vii. Prolotherapy.

Recommendation 94. Prolotherapy and sclerotherapy are not recommended.

Section 8.a.viii. Stem Cell Injections.

Recommendation 95. Stem cell injections are not recommended. These include but are not limited to mesenchymal, adipose-derived, amniotic, and bone marrow-derived stem cells.

Section 8.a.ix. Trigger Point Injections.

Recommendation 96. Trigger point injections are acceptable when all of the following parameters are met:

- there are consistent, well-circumscribed trigger points with a local twitch response; and
- there is a characteristic radiation of pain pattern and local autonomic reaction (e.g., persistent hyperemia following palpation); and
- trigger points are not responding to specific, noninvasive, myofascial interventions within a 6-week time frame; and
- concurrent participation in Active Therapies as outlined in Section 7.a.i. is required; and
- the maximum frequency is 1 session per week, with a maximum of 4 injections per session; and
- the maximum duration is 8 weeks. Beyond 8 weeks, refer to the Chronic Pain Disorder Utilization and Treatment Guideline.

Recommendation 97. Sedation is not recommended for patients receiving trigger point injections.

Section 8.b. Surgical Interventions

Section 8.b.i. All Surgeries.

Recommendation 98. The inclusion of a surgical intervention as acceptable does not imply that every patient meeting the Utilization and Treatment Guideline criteria must or should have that surgery. It means that for individuals meeting the criteria, the surgery should be approved when the treating surgeon and patient decide to proceed with it.

Recommendation 99. With the exception of conditions requiring urgent surgery, referral for surgical evaluation is indicated when the criteria listed for specific surgeries are met, along with all of the following criteria:

- symptomatic and functional improvement has plateaued with continued functional impairment that interferes with return to work and/or participation in active therapy; and
- findings on advanced imaging correlate with clinical findings to confirm a specific diagnosis; and
- confounding psychological or physical conditions that may respond to non-surgical techniques but may be refractory to surgical intervention have been diagnostically eliminated; and
- the expected functional outcome following surgery is better than that of non-operative management and outweighs the risk of harm.

Section 8.b.ii. Acromioclavicular (AC) Joint Stabilization and Ligament Reconstruction.

Recommendation 100. Urgent surgical stabilization and ligament reconstruction is acceptable for acromioclavicular (AC) joint separations of Rockwood classification Type IV or above.

Recommendation 101. Stabilization and ligament reconstruction is acceptable for Rockwood Type III acromioclavicular (AC) joint separations following failure of 3 months of conservative care emphasizing Active Therapies as outlined in Section 7.a.i. For patients with particularly high physical demands on their shoulder, orthopedic consultation with surgical intervention as early as two weeks from the date of injury may be considered.

Recommendation 102. Stabilization and ligament reconstruction is not recommended for acromioclavicular (AC) joint sprains (Rockwood Type I or Type II).

Section 8.b.iii. Arthrodesis (Fusion).

Recommendation 103. Arthrodesis is acceptable as a salvage procedure when other procedures have failed to restore shoulder function.

Section 8.b.iv. Arthroplasty (Joint Replacement).

Recommendation 104. Arthroplasty is acceptable when all of the following parameters are met, and the form of arthroplasty is at the surgeon's discretion:

- the presence of any of the following conditions:
  - severe arthritis, or

    - massive rotator cuff tears, or
    - humeral head fracture or osteonecrosis, or
    - humeral malunion; and
- functional impairment remains despite conservative management; and
- the condition is not amenable to less invasive treatment; and
- there is integrity of the deltoid.

Recommendation 105. Revision arthroplasty is acceptable, provided that a second shoulder orthopedist agrees, in cases of hardware failure, chronic pain and stiffness, painful glenoid erosion, or difficulty with activities of daily living. Prior authorization is required.

Section 8.b.v. Biceps Tendon Surgery.

Recommendation 106. Urgent surgical repair is acceptable for distal biceps tendon rupture.

Recommendation 107. Repair without delay is acceptable for proximal biceps tendon rupture or complete dislocation following shared decision making as not all patients require surgical repair (see Recommendation 99).

Recommendation 108. Tenotomy or tenodesis is acceptable for bicipital tendonitis, subluxing bicipital tendon, or biceps pulley disorder when functional deficits interfere with activities of daily living (ADLs) and/or job duties after 12 weeks of conservative care emphasizing Active Therapies as outlined in Section 7.a.i.

Section 8.b.vi. Brachial Plexus and Peripheral Nerve Exploration and Repair.

Recommendation 109. Nerve exploration and surgical intervention is acceptable in any of the following cases, and surgical approach is at the surgeon's discretion:

- suspicion of nerve laceration or substantial injury from trauma or surgery; or
- progressive weakness or loss of function post-injury or postoperatively; or
- when functional deficits interfere with activities of daily living (ADLs) and/or job duties after 3 months of conservative care emphasizing Active Therapies as outlined in Section 7.a.i.

Section 8.b.vii. Distal clavicle resection.

Recommendation 110. Distal clavicle resection is acceptable for patients with arthritis of the acromioclavicular (AC) joint after 6 weeks of conservative care emphasizing Active Therapies as outlined in Section 7.a.i. when there is a symptomatic AC joint with reproducible pain. See Recommendation 112 for clavicular fracture and Recommendation 118 for use in rotator cuff repair.

Section 8.b.viii. Fracture Repair.

Recommendation 111. Reduction and internal fixation is acceptable for fracture not amenable to less invasive treatment.

Recommendation 112. Distal clavicle resection is acceptable as part of the repair of a clavicular fracture.

Section 8.b.ix. Hardware Removal.

Recommendation 113. Hardware removal for a claim-related condition is acceptable at the surgeon's discretion.

Section 8.b.x. Manipulation Under Anesthesia and Capsular Release.

Recommendation 114. Manipulation under anesthesia and/or capsular release is acceptable for post-traumatic stiff shoulder only after 3 months of conservative care emphasizing Active Therapies as outlined in Section 7.a.i. if range of motion (ROM) is below the norm and functional deficits continue to interfere with activities of daily living (ADLs) and/or job duties.

Section 8.b.xi. Rotator Cuff Tear Repair and Associated Procedures.

Recommendation 115. Surgery is only acceptable for symptomatic rotator cuff tears that result in weakness, decreased range of motion (ROM), decreased function, and/or pain. Surgical approach is at the surgeon's discretion. Timing for surgery depends on the type of tear:

- Immediate repair of acute full-thickness tears that are symptomatic is acceptable.
- Repair of acute partial-thickness tears or chronic tears is acceptable only if they continue to be symptomatic after 6 weeks of conservative care emphasizing Active Therapies as outlined in Section 7.a.i.

Recommendation 116. Use of a graft augmentation or patch as part of a rotator cuff tear repair requires prior authorization.

Recommendation 117. Superior capsular reconstruction requires prior authorization.

Recommendation 118. Distal clavicle resection is not recommended as a routine addition to rotator cuff repair. It is only acceptable when there is a symptomatic acromioclavicular (AC) joint with reproducible pain.

Recommendation 119. Biceps tenotomy or tenodesis is not recommended as a routine addition to rotator cuff repair. It is only acceptable when there is evidence of a biceps tendon disorder or to augment a large rotator cuff repair or revision surgery.

Section 8.b.xii. Shoulder/Glenohumeral Stabilization.

Recommendation 120. Shoulder/glenohumeral stabilization surgery is acceptable in any of the following cases, and patient eligibility and surgical approach is at the surgeon's discretion:

- dislocation with significant rotator cuff tear, significant labral injury (e.g., Bankart lesion), clinically significant bony deformity or loss (e.g., Hill-Sachs lesion), or fracture not amenable to immobilization; or
- recurrent dislocations when not accompanied by generalized ligamentous laxity.

Recommendation 121. Surgery is acceptable for patients with shoulder instability who do not meet the indications in Recommendation 120 only after 12 weeks of conservative care emphasizing Active Therapies as outlined in Section 7.a.i. if functional deficits continue to interfere with activities of daily living (ADLs) and/or job duties. Early surgery is acceptable if there is a recurrent dislocation during the conservative care phase.

Recommendation 122. Thermal capsulorrhaphy is not recommended.

Section 8.b.xiii. Subacromial Decompression (including Bursectomy, Acromioplasty, or Spur Removal).

Recommendation 123. Subacromial decompression (including bursectomy, acromioplasty, or spur removal) is not generally recommended for subacromial impingement syndrome, rotator cuff tendinopathy, or as an adjunct to rotator cuff repair.

Section 8.b.xiv. Superior Labrum Anterior and Posterior (SLAP) Repair.

Recommendation 124. In the absence of other surgical shoulder pathology, surgery for symptomatic superior labrum anterior and posterior (SLAP) tears is acceptable only after at least 3 months of conservative care emphasizing Active Therapies as outlined in Section 7.a.i. when functional limitations remain and/or instability significantly affects activities of daily living (ADLs) or work duties. Surgical approach is at the surgeon's discretion.

Recommendation 125. Arthroscopic exam and superior labrum anterior and posterior (SLAP) repair is acceptable when performed in conjunction with other surgical procedures. The time frames and indications for the primary procedure, as described in this Utilization and Treatment Guideline, must be followed. Surgical approach is at the surgeon's discretion.

Section 8.b.xv. Surgical Intervention for Calcific Tendonitis.

Recommendation 126. Surgery for calcific tendonitis is acceptable only after 3 months of conservative care emphasizing Active Therapies as outlined in Section 7.a.i. if functional deficits continue to interfere with activities of daily living (ADLs) and/or job duties. Surgical approach is at the surgeon's discretion.

Section 9. Medications

Section 9.i. All Medications

Recommendation 127. Medication reconciliation is required at the initial visit and periodically during treatment to avoid medication errors and to discuss side effects, drug interactions, and expected functional goals. Reconciliation includes the following elements:

- current medication name, dosage, frequency, and route;
- patient understanding of indication;
- potential interaction of prescription and over-the-counter medications;
- drug allergies;
- comorbid medical issues;
- history of substance abuse; and
- checking the Montana Prescription Drug Registry (MPDR) when prescribing controlled substances.

Recommendation 128. A therapeutic trial of medications is recommended to evaluate the effect on

functional status. The length of a medication trial will depend on the individual medication, and the patient should be informed on the time to expected benefit. If no functional benefit is observed at that time, the medication should be discontinued.

Recommendation 129. Medications should be initiated at the lowest dose expected to result in functional improvement and then titrated based on clinical response.

Recommendation 130. If anticonvulsants are being considered for neuropathic pain or any medications are being considered for long-term chronic pain management, refer to the Chronic Pain Disorder Utilization and Treatment Guideline medications section.

Section 9.ii. Antidepressants

Recommendation 131. Tricyclic antidepressants are acceptable as the first-line agent for neuropathic pain, particularly in the setting of insomnia. They are not recommended as a first-line agent for depression.

Recommendation 132. Serotonin and norepinephrine reuptake inhibitors (SNRIs) are acceptable as a second-line agent for neuropathic pain if a tricyclic antidepressant offers inadequate relief. However, duloxetine is acceptable as a first-line agent for a patient who is a candidate for pharmacologic treatment of both chronic pain and depression.

Recommendation 133. Selective serotonin reuptake inhibitors (SSRIs) are acceptable for treating depression. They are not recommended for neuropathic pain.

Recommendation 134. The time frames for antidepressant medications are as follows:

- Time to produce effect: up to 6 months, depending on the medication.
- Maximum duration: up to 12 months, with monitoring.

Recommendation 135. Evaluation and ongoing monitoring for suicidal ideation and mood swings are required for all patients being considered for antidepressant medications.

Recommendation 136. A screening electrocardiogram is acceptable prior to initiating treatment with a tricyclic antidepressant or selective serotonin reuptake inhibitor (SNRI) to assess cardiovascular risk.

Section 9.iii. Muscle Relaxants

Recommendation 137. Non-benzodiazepine muscle relaxants, except for carisoprodol, are acceptable as an adjunct to rest and physical therapy for relief of muscle spasm associated with acute, painful, musculoskeletal conditions. The maximum duration is 2 weeks, or longer if used only at night.

Recommendation 138. While use of tizanidine (alpha-2 adrenergic agonist) is “off-label” for musculoskeletal conditions other than centrally mediated spasticity, its use is acceptable for patients who might functionally benefit from the medication’s shorter half-life based on the provider’s discretion.

Recommendation 139. Benzodiazepines and carisoprodol are not generally recommended. They are not recommended for use in combination with opioids.

Section 9.iv. Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) and Acetaminophen

Recommendation 140. Acetaminophen or non-steroidal anti-inflammatory drugs (NSAIDs) are acceptable for initial analgesic treatment. Long-term use of acetaminophen or NSAIDs should be evaluated on a case-by-case basis; see the Chronic Pain Disorder Utilization and Treatment Guideline for more information.

Recommendation 141. Co-prescription of a proton pump inhibitor, histamine H2-receptor antagonists (H2-blockers), or prostaglandin analog with non-steroidal anti-inflammatory drugs (NSAIDs) is acceptable to reduce risk of duodenal or gastric ulceration in patients with concurrent antiplatelet or corticosteroid therapy.

Recommendation 142. Cyclooxygenase-2 (COX-2) inhibitors are acceptable for patients who do not tolerate traditional non-steroidal anti-inflammatory drugs (NSAIDs) or for patients who the treating provider feels may be at risk for complications. They are not recommended as a first-line agent for short-term use in patients at low risk for complications with NSAIDs.

Recommendation 143. Perioperative use of acetaminophen and/or non-steroidal anti-inflammatory drugs (NSAIDs), either alone or in combination with other medications, to optimize analgesia is recommended.

Section 9.v. Opioids

Recommendation 144. Opioid medications are not generally recommended. Rare exceptions include either of the following:

- acute, severe functionally limiting pain in a patient for whom other non-opioid medications are contraindicated; or
- acute, severe functionally limiting pain that is refractory to non-opioid medications and nonpharmacologic treatment and an absence of risk factors for potential misuse or abuse. This includes postoperative use.

Recommendation 145. Prior to prescribing an opioid medication, all of the following steps are required:

- documented results of a rapid risk assessment for developing opioid use disorder (e.g., Opioid Risk Tool [ORT]); and
- risk assessment of developing opioid-related adverse events; and
- review data on the Montana Prescription Drug Registry (MPDR); and
- education on the short- and long-term risks and side effects of opioid therapy; and
- realistic goals of opioid therapy and the anticipated course of recovery; and
- establish the lowest effective dose and shortest duration of therapy; and
- education on the safe storage and disposal of opioid medications; and
- develop a discontinuation plan for opioids prior to prescribing.

Recommendation 146. When opioids are prescribed, the time frames are as follows:

- The optimum duration is 3 days or less.
- The maximum duration is 7 days.
- Whenever opioids are prescribed for more than 7 days, providers must follow all recommendations for screening and follow-up of chronic pain use. See the Chronic Pain Disorder Utilization and Treatment Guideline.

Recommendation 147. Long-acting opioids are not recommended for the treatment of acute, subacute, or postoperative pain.

Recommendation 148. Due to the elevated risk of death due to respiratory depression, opioids should not be prescribed with benzodiazepines, antihistamines, or other central nervous system depressants or when there is a significant risk resulting from concurrent alcohol or substance use.

Recommendation 149. Opioid medications, including tramadol, are not generally recommended for use in patients with a history of opioid dependence. However, if an opioid medication is deemed clinically appropriate, a referral to a pain management specialist is acceptable.

Section 9.vi. Tobacco Cessation and Supplements

Recommendation 150. Tobacco cessation (including medication, behavioral, and laboratory support) is acceptable when tobacco use is expected to negatively impact claim-related medical outcomes. Medications may include nicotine patches, gum, inhaler, lozenges or nasal spray, bupropion, or varenicline. Resources for smoking cessation are also available at Quit Now Montana.

Section 9.vii. Topical Medications

Recommendation 151. Topical medications as single agents are acceptable for pain management for acute and subacute upper extremity injuries. This includes topical capsaicin, lidocaine, and non-steroidal anti-inflammatory drugs (NSAIDs) when oral NSAID use is contraindicated due to systemic side effects.

Recommendation 152. Topical medications must be started with the lowest dose expected to result in functional improvement and then titrated until functional improvement is noted.

Recommendation 153. For information about compounded topical agents and chronic pain considerations, see the Chronic Pain Disorder Utilization and Treatment Guideline. The recommendations in that Utilization and Treatment Guideline are also applicable to acute and subacute shoulder injury.

Section 10. Interdisciplinary Rehabilitation

Recommendation 154. Interdisciplinary rehabilitation is acceptable for individuals who have not responded to less intensive modes of treatment or individuals who require concurrent treatment for chemical dependency. See the Chronic Pain Disorder Utilization and Treatment Guideline for additional information, including indications, recommendations, and time frames.

Appendix

Functional Outcome Measures

Name of Test	Body Part	Description
36-Item Short Form Survey (SF-36) and 12-Item Short Form Survey (SF-12)	Physical Health	Assesses activities of daily living (ADLs)

Brief Pain Inventory	General	Sleep, walking, ADLs
Focus on Therapeutic Outcomes (FOTO)	Various Body Parts	Functional ADLs specific to body part
Oxford Shoulder Instability Score	Shoulder	Functional ADLs
Quick DASH (Disabilities of the Arm, Shoulder and Hand)	Upper Extremity	Shoulder, elbow and hand assessment
Simple Shoulder Test	Shoulder	Shoulder function only
Upper Extremity Functional Scale	Upper Extremity	Functional ADLs related to Upper Extremity

Psychological Screens

Name of Test	Description
Brief Battery for Health Improvement, 2nd Edition (BBHI 2)	Measures pain, functioning, somatization, depression, anxiety, and defensiveness; brief measure of risk factors for delayed recovery
Distress and Risk Assessment Method (DRAM)	Measures depression and somatic symptoms of anxiety, risk factors commonly associated with chronic pain
Center for Epidemiological Studies Depression Scale (CES-D)	Measures depression, 20 items
Beck Depression Inventory-II (BDI-II)	Measures depression, 21 items
Primary Care Evaluation for Mental Disorders (PRIME-MD) ***Must be filled out by a provider***	2 components: paper and pencil screen for patient and follow–up interview by physician. Assesses mood, anxiety, somatoform tendencies, and alcohol and eating disorders
Zung Depression Inventory	Measures depression, brief measure
Patient Health Questionnaire (PHQ) and PHQ-9	Self-administered version of the PRIME-MD. Assesses mood, anxiety, somatoform tendencies, and alcohol and eating disorders
Generalized Anxiety Disorder Scale (GAD-7)	Assesses generalized anxiety, 7 questions
Behavioral Health Index-Multimedia Version (BHI-MV)	Screens for addiction

Orebro Musculoskeletal Pain Screening Questionnaire (OMPSQ)	Screening tool to identify patients at risk of long-term disability in individuals with musculoskeletal pain.
Fear-Avoidance Beliefs Questionnaire (FABQ)	Tool to assess a person's fear-avoidance behaviors and beliefs related to physical activity and pain.
Pain Catastrophizing Scale (PCS)	Tool to assess the degree to which individuals experience catastrophic thinking in relation to their pain.
Psychosocial Risk for Occupational Disability Instrument (PRODI)	Tool to assess the psychosocial factors in the workplace that may contribute to the risk of occupational disability.
Hospital Anxiety and Depression Scale (HADS)	Tool designed to measure the levels of anxiety and depression in patients, typically in a hospital setting.