SUMMARY OF CHANGES
BETWEEN THE CURRENTLY EFFECTIVE RULE 17, EXHIBIT 4: SHOULDER INJURY MEDICAL TREATMENT GUIDELINES AND PROPOSED OF 2014

Below is a Summary of Major Substantive Changes between the 2008 Shoulder Injury Medical Treatment Guidelines and the Proposed 2014 Medical Treatment Guidelines. The changes that are listed below are comprised mainly of the following: diagnostic procedures, therapeutic procedures, changes in recommendations; treatment strategies and other issues not addressed previously; information on patient selection; and procedures and other issues no longer addressed in proposed rule. The reader should refer to the Guidelines for specific and complete substantive and non-substantive changes.

SECTION	*SUBSTANTIVE CHANGE* *(includes page # of proposed)*
General Comments	**Language has been updated according to changes in the medical literature** **All sections include an increased number of evidence statements, and discussion of the available medical literature.** **There has been increased emphasis on outcomes and function, return to work, and patient education.** **The specific concept of informed decision-making has been introduced and incorporated throughout the guidelines.**
B. General Guidelines Principles	**[p. 2] Insertion of section on Informed Decision Making.** **[p. 3] Re-evaluate Treatment Every 3 to 4 Weeks: Importance of discussion between provider and patient prior to discontinuing treatment** **[p. 4] Guideline Recommendations and Inclusion of Medical Evidence Language added to section on to**

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	clarify how future scholarly research may have may have an impact on the effect of an intervention.
D. Initial Diagnostic Procedures	**[p. 5] Introduction: Statement that shoulder disorders may be difficult to diagnose due to: potential for having more than one lesion present; neurological pathology may appear similar to musculoskeletal; the variety of shoulder movements within a confined space complicates diagnosis.** **[p. 5] Subsection on nature of pain has been added which includes descriptions related to the following: bone, nerve, capsular/ligamentous tissues, muscular, vascular, cartilaginous.** **[pp. 7-12] Specific Shoulder Tests: Although specific subsections have not changed, there has been changes to descriptions of clinical tests relative to current trends and research in clinical evaluation. A specific subsection has been added regarding clinical tests for rotator cuff tears (although some of these tests were in the previous guidelines.** **[pp. 12-13] Functional Assessment: Although addressed in previous medical treatment guidelines updates, this section has been expanded. Emphasizes the importance of documenting current level of function. Introduces the concept of "response shift" the phenomenon that the patient may experience varying levels of self-evaluation throughout the continuum of care.** **[pp. 13-15] Relationship to Work or Other Activity: Principles of causation of occupational shoulder diagnoses has been inserted. States that work-related conditions may occur from the following:** • **Specific incident/injury** • **Aggravation of previous symptomatic condition** • **Work-related exposure rendering previously asymptomatic condition becoming symptomatic and requiring treatment.** **A summary of the medical evidence related to occupational relationship and causation is inserted. This section provides some evidence as to causative risk factors for shoulder tendon-related pathology.**

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E. Follow-up Diagnostic Procedures	**[p. 18] Introduction: Introductory remarks have been added to this section to bring several concepts in line with other Division Guidelines: awareness of excessive radiation doses; the importance of a prudent choice of diagnostic procedure(s).** **[p. 19] Diagnostic Sonography: Although in follow-up diagnostic procedures, may occasionally be used by highly experienced physicians in initial testing.** **[p. 20] Magnetic Resonance Arthrography: Brief discussion on strength of selected Tesla machines, that 3.0 Tesla may eliminate the need for contrast studies.** **[p. 20-21] Diagnostic Arthroscopy: Removed from this section and no longer addressed in a separate section.** **[pp. 23-24] Functional Capacity Evaluations Expanded discussion on available scholarly literature, discussing relationship between FCE results and task performance and return to work. Includes alternate assessment strategies, such as work tolerance screening. States that, since return to work is a multidimensional issue, several factors in addition to FCE should be considered when determining fitness to return to work.**
F. Specific Diagnostic, Testing and Treatment Procedures	**General Notes: Concept of Informed Decision Making has been inserted throughout this section. Also the importance of smoking cessation intervention. The point is stressed that upon return to work, the injured worker should adhere to written return to work restrictions not only in the workplace but 24 hours per day. Prior to any surgical interventions, it is advised that patient and surgeon should identify functional operative goals and likelihood of achievement. Patient should understand length of partial and full disability and commit to any pre- and post-operative treatment. Most subsections have been expanded in the following topics: occupational relationship; specific physical exam findings; diagnostic testing procedures; non-operative treatment; surgical indications; operative treatment; post-operative treatment. Continuous interscalene blocks not recommended.**

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	[p. 29] Adhesive Capsulitis/Frozen Shoulder: Statement that idiopathic adhesive capsulitis usually occurs spontaneously without any specific inciting injury. This is not normally a work related condition. Radiofrequency for this condition was previously not recommended but now is no longer addressed. **[p. 63] Fractures: Low-intensity pulsed ultrasound changed from requiring prior authorization to *not recommended.*** **[p. 64] Proximal Humeral Fractures: Immobilization without physical therapy for more than one week is *not recommended*.** **[p. 65] Proximal Humeral Fractures: Ultrasound and shockwave therapy are *not recommended* as routine treatment for acute fractures** **[p. 78] Post-traumatic Stiff Shoulder: Although concepts may have been addressed in other specific disorders, this is a new separate section.** **[p. 82] Rotator Cuff Syndrome/Impingement Syndrome and Other Associated Shoulder Tendinopathies:** **[p. 88] Acromioplasty as a surgical procedure not generally recommended.** **[p. 96] Rotator Cuff Tear: Acellular dermal matrix augmentation of rotator cuff tears was newly addressed: larger than 3 cm and less than 5 cm require prior authorization.** **[p.96] Routine acromioplasty is not recommended** **[p.96] Tenodesis is generally not recommended** **[p.96] Distal Clavicular Resection is generally not recommended** **[p.96] Arthroscopic laser treatment is not recommended** **[p.96] Use of porcine submucosa grafts are not recommended** **[p.96] Continuous subacromial infusion is not recommended.** **[p. 98]Tenotomy accompanied by Tenodesis in the Setting of repairable RCT is *not recommended*.**
F. Non-operative	**[p.113] Introduction: Language that is in other guidelines is inserted to maintain consistency with other Division guidelines: emphasis on performance and documentation of patient education, patient**

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Therapeutic Procedures	**involvement; home therapy as an important component to therapy; and referral to psychosocial evaluation should patient not demonstrating expected progress. Statement added that sleep positions should be addressed.** **[pp. 113-116] Acupuncture: Description of scholarly literature on acupuncture greatly expanded to maintain consistency with other Division Guidelines. Topics include: challenges in studying the effectiveness of acupuncture, recommendations on patient selection, and differences between acupuncture and dry needling.** **[p.116] Biofeedback: This section expanded to included review of the literature, indications for treatment, and recommended credentials for practitioners. Also available is a list of types of biofeedback are addressed: Electromyogram; skin temperature, respiration feedback, respiratory sinus arrhythmia; heart rate variability; electrodermal response; electroencephalograph. These additions align biofeedback with other recently updated Division Guidelines.** **[pp. 117-18] Extracorporeal Shock Wave Therapy (ESWT). Radial Shock Wave Therapy included in this section.** **[p. 119-120] Botulinum Toxin: Newly addressed. May be appropriate for specific indications: conditions which produce cervical dystonia; bursitis; or impingement. Although injection is allowed, Prior authorization required for additional injections. *Not recommended* for other myofascial trigger points (besides the outlined indications).** **[p. 121] Shoulder Joint Steroid Injections: Morning cortisol levels may be ordered prior to repeating steroid injections or prior to the initial steroid injection when patient has received multiple previous steroid injections.** **[p. 120] Platelet-Rich Plasma Protein: Newly addressed and not recommended.**

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	[pp.123-125] Trigger Point Injections and Dry Needling Treatment: Recommendation that there is no indication for conscious sedation during trigger point injections. Dry needling newly addressed to be consistent with other Division Guidelines. **[p. 125] Viscosupplementation/Intracapsular Acid Salts: Injection of hyaluronic acid for rotator cuff tendinopathy is not recommended. Use of hyaluronic acid accompanied by physical therapy is not recommended. Use of hyaluronic acid in subacromial impingement syndrome is not recommended. *Not recommended* for rotator cuff tendinopathy.** **Although not FDA approved in the Shoulder, there is some scholarly literature supporting use of hyaluronic acid injections for certain shoulder pathologies. It is acceptable with the indication of glenohumeral osteoarthritis in the absence of other symptomatic shoulder pathology.** **[p.126-130] Interdisciplinary Rehabilitation: Although Interdisciplinary Rehabilitation Programs were addressed in the previous Shoulder Injury, this is section has been reformatted and language added to align with other recently updated Division Medical Treatment Guidelines. Recommendations that formal and informal programs be comprised of the following dimensions per Colorado Association of Rehabilitation Facilities, 2010-11): communication; documentation; treatment modalities; therapeutic exercise programs; return to work; patient education; psychosocial evaluation/treatment; vocational assistance. Interventions of work simulation and work conditioning have been moved to Active Therapy Section. Work Hardening no longer addressed.** **[pp. 131-136] Medications: This section greatly expanded [although mentioned to an extent in the currently effective guidelines] to include additional references and guidance for providers on several medications, such as the following: acetaminophen; muscle relaxants; Non-steroidal Anti-inflammatory Drugs; opioids. Other changes in recommendations in medication subsection included are:** • ***Chronic use* of benzodiazepines or other muscle relaxants listed as not recommended.**

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	• **Opioids: Max Duration-2 weeks. Use beyond 30 days after non-traumatic injuries, or 6 weeks post-surgery after the original injury or post-operatively is *not recommended*. If necessary the physician should access the Colorado Prescription Drug Monitoring Program (PDMP) and follow recommendations in Chronic Pain Guideline.** • **NSAIDs: Chronic use is *generally not recommended* due to increased risk of cardiovascular events and GI bleeding.** • **Oral Steroids: This section removed** **[p. 137] Education/Informed Decision Making: Informed Decision Making included in this section and highly emphasized as the hallmark of a successful treatment plan. Language inserted on the importance of the patient being able to identify their functional goals. Documentation of informed decision making process should occur when diagnostic tests or referrals from the authorized treating physician are contemplated and should include: expected functional outcomes; side effects/risks; required post-treatment rehabilitation; alternative therapies or diagnostic testing.** **[pp. 138-141] Personality/Psychological/Psychosocial Intervention: Reviews of literature and guidance inserted on cognitive-behavioral therapy and other psychological/psychiatric interventions. This section adjusted to be consistent with other more recently adopted Division Guidelines. Full psychological evaluation required prior to commencement of cognitive behavioral therapy (CBT). Time parameters inserted for CBT/other similar treatment and other psychosocial interventions.** **[p. 141] Restriction of Activities: Adds further description of what immobility might mean, (eg. orthotics or bed-rest). Continued increase of activity is emphasized. It is emphasized that patients need to be educated on detrimental effects of immobility.** **[pp. 141-143] Return to Work: Additional information for successful return to work provided throughout this subsection. Additional considerations inserted when attempting to return an injured worker to work: job history interview; coordination of care; communication.**

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	[p. 144] Therapy-Active: Additional guidance to therapists and other providers include, but are not limited to: specific education on natural course of condition, objective measurements of progress and goals; importance of activity, pain perception. Communication with the authorized treating physician is emphasized. Detailed discussion on clinical findings which may contribute to shoulder symptoms: abnormal posture; head tilting forward; scapular dyskinesia, joint/tissue hypo mobility/hypermobility. Therefore treatment of scapular dyskinesia and myofascial dysfunction is important to for restoration of upper quadrant function. **[p. 146-147] Neuromuscular Re-education: This section adjusted to include specific muscles targeted to improve scapular/upper quadrant function.** **[p. 147] Therapeutic Exercise: Statement that manual therapy is usually performed initially to assure correct muscle activation. Additional language inserted describing types and frequency of exercises for different disorders.** **[p. 148] Continuous Passive Motion: Stated as not generally recommended** **[p. 150] Low Level Laser: Newly addressed and not recommended.** **[p. 151] Microwave Diathermy: Newly addressed and not recommended.**
G. Therapeutic Procedures-Operative.	**[p 154] Introduction: Language that is in other guidelines is inserted to maintain consistency with other Division guidelines. Concept of Informed Decision Making as well as the need for, prior to surgical intervention, surgeon and patient identify functional operative goals and likelihood of achievement. The importance of agreement of patient to comply with pre- and post- operative protocols is emphasized.** **[p. 157] RhBMP (Recombinant Bone Morphogenetic Protein: Changed from requiring prior authorization to *not recommended*.**

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	[p. 157]: Osteoarticular allograft transplantation (OATS) PROCEDURE and other Cartilage transplantation procedures: Implantation and transplantation require prior authorization or are *not generally recommended*. Hemiarthroplasty or total shoulder replacement are *not recommended* for younger patients. **[p. 162]: Continuous Interscalene Blocks: Newly addressed and *not recommended.*** **[p. 162]: Continuous Subacromial Infusion: Not recommended.**