ORTHOPAEDIC SECTION JOSPT

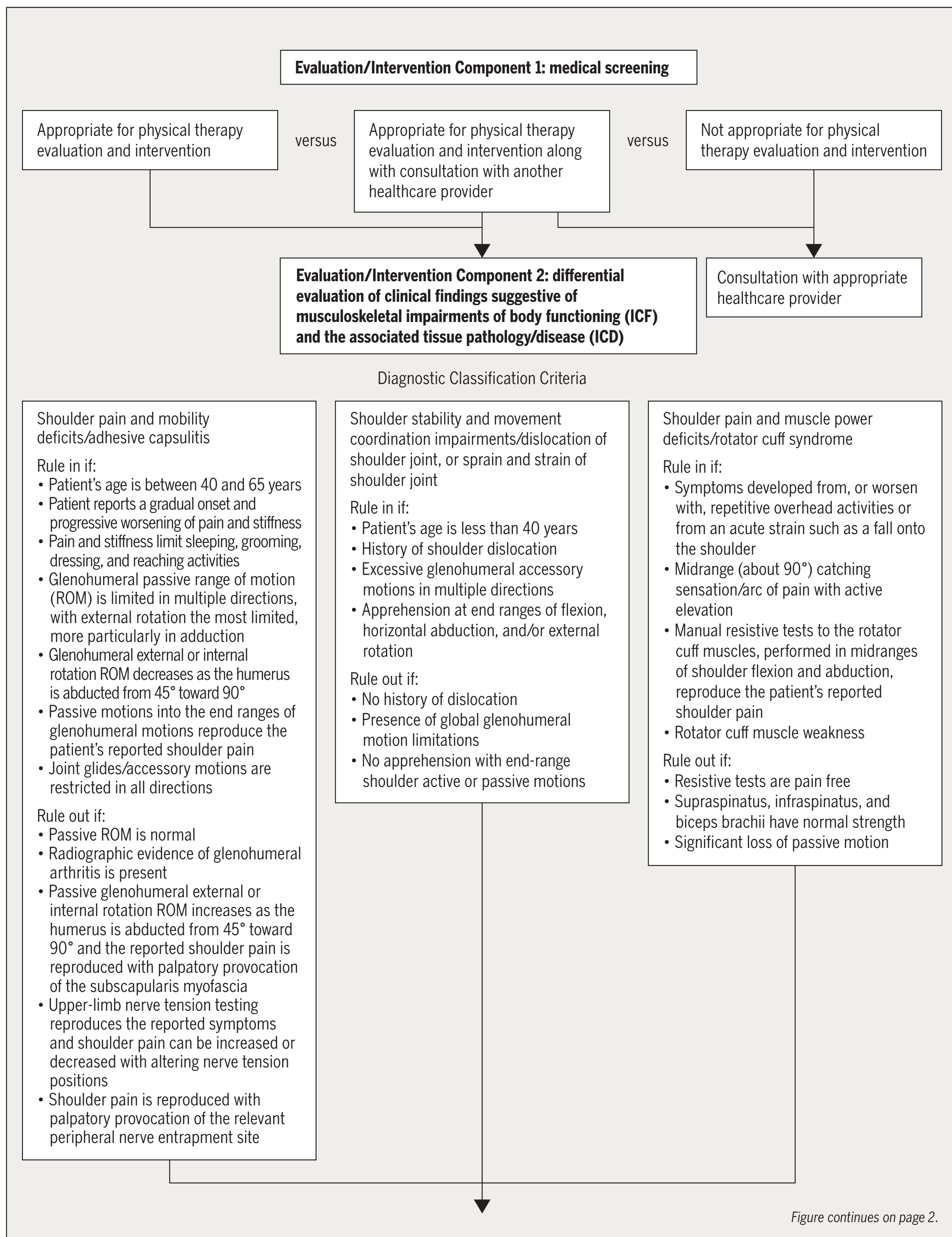
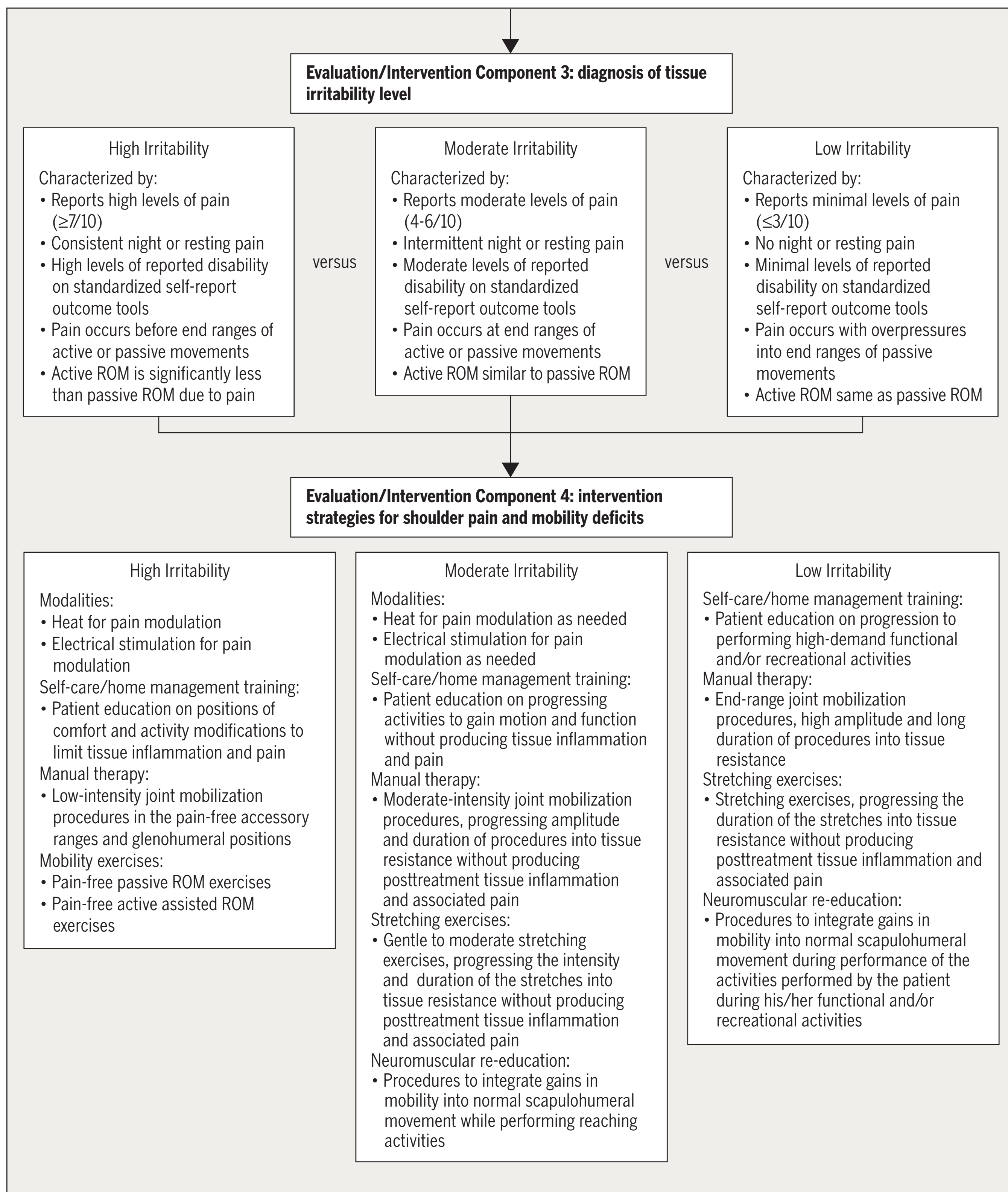


Figure continues on page 2.


Evaluation/Intervention Component 3: diagnosis of tissue irritability level
High Irritability
Characterized by:
• Reports high levels of pain (≥7/10)
• Consistent night or resting pain
• High levels of reported disability on standardized self-report outcome tools
• Pain occurs before end ranges of active or passive movements
• Active ROM is significantly less than passive ROM due to pain
versus
Moderate Irritability
Characterized by:
• Reports moderate levels of pain (4-6/10)
• Intermittent night or resting pain
• Moderate levels of reported disability on standardized self-report outcome tools
• Pain occurs at end ranges of active or passive movements
• Active ROM similar to passive ROM
versus
Low Irritability
Characterized by:
• Reports minimal levels of pain (≤3/10)
• No night or resting pain
• Minimal levels of reported disability on standardized self-report outcome tools
• Pain occurs with overpressures into end ranges of passive movements
• Active ROM same as passive ROM
Evaluation/Intervention Component 4: intervention strategies for shoulder pain and mobility deficits
High Irritability
Modalities:
• Heat for pain modulation
• Electrical stimulation for pain modulation
Self-care/home management training:
• Patient education on positions of comfort and activity modifications to limit tissue inflammation and pain
Manual therapy:
• Low-intensity joint mobilization procedures in the pain-free accessory ranges and glenohumeral positions
Mobility exercises:
• Pain-free passive ROM exercises
• Pain-free active assisted ROM exercises
Moderate Irritability
Modalities:
• Heat for pain modulation as needed
• Electrical stimulation for pain modulation as needed
Self-care/home management training:
• Patient education on progressing activities to gain motion and function without producing tissue inflammation and pain
Manual therapy:
• Moderate-intensity joint mobilization procedures, progressing amplitude and duration of procedures into tissue resistance without producing posttreatment tissue inflammation and associated pain
Stretching exercises:
• Gentle to moderate stretching exercises, progressing the intensity and duration of the stretches into tissue resistance without producing posttreatment tissue inflammation and associated pain
Neuromuscular re-education:
• Procedures to integrate gains in mobility into normal scapulohumeral movement while performing reaching activities
Low Irritability
Self-care/home management training:
• Patient education on progression to performing high-demand functional and/or recreational activities
Manual therapy:
• End-range joint mobilization procedures, high amplitude and long duration of procedures into tissue resistance
Stretching exercises:
• Stretching exercises, progressing the duration of the stretches into tissue resistance without producing posttreatment tissue inflammation and associated pain
Neuromuscular re-education:
• Procedures to integrate gains in mobility into normal scapulohumeral movement during performance of the activities performed by the patient during his/her functional and/or recreational activities

Component 1

Medical screening incorporates the findings of the history and physical examination to determine whether the patient's symptoms originate from a more serious pathology, such as a tumor or infection, rather than from a common shoulder musculoskeletal disorder.[80,139] In addition to serious medical conditions, clinicians should screen for the presence of psychosocial issues that may affect prognostication and treatment decision making for rehabilitation. For example, elevated scores on the Tampa Scale of Kinesiophobia or the Fear-Avoidance Beliefs Questionnaire have been associated with a longer recovery, chronic symptoms, and work loss in patients with shoulder pain.[42,59,79] Accordingly, identifying cognitive behavioral tendencies during the patient's evaluation can direct the therapist to employ specific patient education strategies to optimize patient outcomes to physical therapy interventions and potentially provide indications for referring the patient for consultation with another medical or mental health practitioner.[10]

Component 2

Differential evaluation of musculoskeletal clinical findings is used to determine the most relevant physical impairments associated with the patient's reported activity limitations and medical diagnosis. Clusters of these clinical findings, which commonly coexist in patients, are described as impairment patterns in the physical therapy literature[1] and are labeled according to the key impairment(s) of body function associated with that cluster. These impairment patterns are useful in driving the interventions, which focus on normalizing the key impairments of body function, which in turn improves the movement and function of the patient and lessens or alleviates the activity limitations commonly reported by the patients who meet the diagnostic criteria of that specific pattern. Key clinical findings to rule in and rule out the common impairment patterns, and their associated medical conditions, are shown in the **FIGURE**. Impairment-based classification is critical for matching the intervention strategy that is most likely to provide the optimal outcome for a patient's clinical findings. However, it is important for clinicians to understand that patients with shoulder pain often fit more than 1 impairment pattern and that the most relevant impairments of body function and the associated intervention strategies often change during the patient's episode of care. Thus, continual re-evaluation of the patient's response to treatment and the patient's emerging clinical findings is important for providing the optimal interventions throughout the patient's episode of care.

Component 3

Diagnosis of tissue irritability is important for guiding the clinical decisions regarding treatment frequency, intensity, duration, and type, with the goal of matching the optimal dosage of treatment to the status of the tissue being treated. *Irritability* is a term used by rehabilitation practitioners to reflect the tissue's ability to handle physical stress,[81] and is presumably related to physical status and the extent of inflammatory activity that is present. Three levels of irritability are operationally defined in the **FIGURE**. The primary clinical finding that determines the level of tissue irritability is the relation between pain and active and passive movements. Other clinical findings that characterize the level of tissue irritability are pain level, frequency of pain, and level of disability reported by the patient.

Component 4

Because irritability level often reflects the tissue's ability to accept physical stress, clinicians should match the most appropriate intervention strategies to the level of irritability.[60] Patients with a high level of tissue irritability are not ready for significant physical stress being applied to the affected tissues, and therefore the treatment should emphasize activity modification and appropriate modalities, medication, and manual therapy to relieve pain and inflammation. In addition, only low levels of glenohumeral exercises should be performed while encouraging motion at adjacent regions. Patients with a moderate level of irritability should be able to tolerate controlled physical stress in the form of progressive manual therapy, mild stretching, and strengthening activities. They should also be able to perform basic functional activities. In comparison, patients with low irritability should be able to tolerate progressive physical stress in the form of stretching, manual therapy, resistive exercise, and higher-demand physical activities.

F Clinicians should recognize that patients with adhesive capsulitis present with a gradual and progressive onset of pain and loss of active and passive shoulder motion in both elevation and rotation. Utilizing the evaluation and intervention components described in these guidelines will assist clinicians in medical screening, differential evaluation of common shoulder musculoskeletal disorders, diagnosing tissue irritability levels, and planning intervention strategies for patients with shoulder pain and mobility deficits.

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Martin JK, Shaffer MA, Kuhn JE, et al. Shoulder pain and mobility deficits: adhesive capsulitis: clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. *J Orthop Sports Phys Ther*. 2013;43:A1-A31. https://doi.org/10.2519/jospt.2013.0302

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