HNS Clinical Best Practices:
Shoulder Pain

Introduction

Shoulder pain is “the third most commonly experienced type of musculoskeletal pain, exceeded only by low back and neck pain.”[1]

There is much evidence that supports a conservative approach for most episodes of shoulder pain, and many guidelines to support these approaches. As chiropractic physicians, we know that functional limitations, pain reduction and recurrences, and the costs associated with shoulder pain can frequently be minimized with appropriate chiropractic treatment, including but not limited to, spinal manipulation, extra-spinal manipulation, physical therapy modalities, exercise, and patient education.

As a clinically integrated physician network, we strive to improve quality of care, treatment outcomes, and the delivery of cost-efficient healthcare. To achieve these goals, in part, HNS has and continues to develop “best practices”, and has developed these best practices for the diagnosis and management of shoulder pain.

The term “Best Practice" is somewhat ambiguous but is often used to indicate what institutions and well-regarded practitioners are doing. In short, a best practice is a method or practice that conventional wisdom suggests *is effective and will reliably lead to desired and/or improved outcomes.*

The creation of these best practices has been under the purview of the 2019-2025 HNS Professional Affairs Advisory Boards (PAAB). To date more than 250 HNS chiropractic physicians practicing in North and South Carolina have contributed to this objective. The PAABs were charged with identifying previously published clinical guidelines for inclusion in these best practices and for recommending additional clinical guidelines that, based on clinical experience, are likely to improve treatment outcomes while ensuring clinical autonomy.

While many of these best practices are evidenced-based, in areas where there was disagreement between the evidenced-based guideline and the opinion of the physicians serving on the PAABs, the opinion of the PAAB is duly noted.

Statement of Intent:

The treatment recommendations that follow are intended for the “typical” patient presenting with shoulder pain. These best practices are not intended to serve or be construed as a “standard of care” for each patient nor to be used as a substitute for the independent judgement of the chiropractor. Adherence to these guidelines will not ensure a successful outcome for every patient. There are other acceptable methods of evaluation and treatment aimed for the same result. The decision to utilize a particular assessment, clinical procedure or treatment plan must be made by the chiropractor in light of the clinical data presented by the patient, the diagnostic and treatment options available, and the patient’s preferences and values.

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II. Documentation - Performance Expectations

As the legal document substantiating healthcare services provided to the patient, the healthcare record serves as a method of communication among healthcare providers caring for a patient and *provides supporting documentation for reimbursement sought for services provided to a patient.* As such, regardless of the patient's presenting symptoms/condition, a healthcare record must be created (and maintained per legal requirements) for each patient who receives care at the provider's practice, whether care was provided by the physician or his/her support staff.

Thorough, precise, and timely documentation of services provided is essential for sound clinical decision-making and is in the best interests of each healthcare provider, his/her patients, and of the payors responsible for the payment of those services.

Excellent clinical documentation improves safety and quality of care, treatment outcomes, reduces errors and unnecessary testing, and is paramount to appropriate continuity of care. Conversely, the lack of appropriate and accurate documentation can lead to negative treatment outcomes, potential safety and quality of care issues, and higher healthcare costs.

To help ensure healthcare provided by HNS Network Physicians is appropriate, and is properly documented, HNS has developed *HNS Best Practices - Clinical Quality and Documentation Standards*. These best practices *represent HNS' performance expectations for all contracted physicians regarding appropriate documentation in the healthcare record.* These Best Practices are posted on the HNS Website under 'Clinical Resources'.

III. Assessment

A thorough assessment of patients presenting with shoulder pain is essential. History, type of pain and site of pain are generally the most important factors directing diagnosis and subsequent treatment. However, the assessment should focus, in part, on the presence or absence of red flags, which will alert the clinician to the presence of any underlying serious condition. Moreover, it will determine the appropriate pathway of care for each patient.

The history and examination provide the clinical rationale for appropriate diagnosis and subsequent treatment planning. The history and physical examination should attempt to separate individuals with shoulder pain into

one of the three potential categories below, to determine the appropriate treatment strategy.

- Serious pathology (red flags)
- Referred pain - UE numbness and tingling
- Mechanical shoulder pain

Assessment should include, but is not limited to, the following:

- History (Presence or red and/or yellow flags)
- Functional Deficit Measurement
- Examination
- Imaging and other diagnostic testing (as applicable)
- Consideration of coordination of care/referrals

A. History

A carefully obtained and thorough history inevitably yields critical information in the assessment of shoulder pain and should include:

- Onset and duration of pain
- Quality of pain
- Site and referred pattern
- Location of trigger points and specific tenderness
- Precipitating and relieving factors
- Severity and functional impact
- Neurological deficits
- Symptoms of systemic illness
- Current and past health conditions, including previous injuries (falls), congenital connective tissue disorders that may destabilize or weaken the shoulder (*e.g.*, Ehler Danlos Syndrome (EDS), repeated episodes of shoulder dislocations, etc.)
- History of recent vaccination
- Family medical history
- Social history
- Work history – particularly if excessive overhead or other stressful postures for the shoulder
- Current and relevant past medications (both prescriptive, over-the-counter, and natural products)
- Past and present treatment for the presenting condition and results of that treatment
- Previous relevant imaging studies (or other diagnostic testing)
- All health risk factors

During the history, obtain the name of the patient's primary care provider and/or any other providers the patient has seen for their presenting condition, and permission to contact to facilitate coordination of care.

1. Red Flags

A focused history taking is the most critical tool for identifying risk factors for serious disease (red flags) in a patient who presents with shoulder pain. "Red flags" are the current clinical features and prior illnesses that warn of a possible specific cause, which may lead to serious problems unless it is treated immediately.

At each visit, DCs should evaluate for the presence or absence of red flags. Identification of a red flag in patients with shoulder pain warrants close attention, and suggests the need for further investigation and possible specialist referral as part of overall treatment strategy.

While positive red flags are typically indications for imaging, red flags should be evaluated in the context of the clinical presentation as a whole**,** such as the following:

1. Referred Cardiac Pain
    a. Shortness of breath, pain on exertion, change in skin color
2. Cancer
    a. Pathologic fracture
    b. Tumor palpable mass or unexplained deformity
    c. Night pain or pain at rest
    d. Unexplained weight loss
    e. Pain at multiple sites
3. Referred Gall Bladder pain
4. Trauma
    a. Dislocation and subsequent instability
    b. Acromial clavicular separation
    c. Fracture
    d. Loss of mobility in undiagnosed condition
    e. Unexplained motor or sensory deficit
5. Infection (post-surgical)
    a. Fever, erythema
    b. Immunosuppression
    c. Systemically unwell
    d. Penetrating wound
6. Post vaccination symptoms
7. Auto Immune condition, *e.g.* Lupus
8. Pancoast tumor
9. Pain referred secondary to blood clots in the lungs
10. Deep vein thrombosis in the upper extremities
11. Evidence or history of shingles

12. Thoracic Outlet Syndrome

2. Yellow Flags

While the presence of red flags indicates the potential for serious life or limb threatening pathology, psychosocial risk factors (yellow flags) include the patient's attitudes and beliefs, emotions, behaviors, and family and workplace factors, which may impact the patient's response to your proposed treatment plan.

The following yellow flags from the article, *Management of people with acute low back pain: model of care*[2]*,* are also applicable to patients presenting with Shoulder Pain:

- Belief that pain and activity are harmful
- Sickness behaviors
- Low or negative moods, mental illness
- Treatment that does not fit with best practice
- Problems with compensation system [. . .]
- Problems at work, poor job satisfaction
- Overprotective family or lack of social support[2]

Furthermore, HNS agrees that:

> When relevant psychological factors are identified, the rehabilitation approach should be modified to emphasize active rehabilitation, graded exercise programs, positive reinforcement of functional accomplishments, and/or graduated exposure to specific activities that a patient fears as potentially painful or difficult to perform.[3]

As with red flags, DCs should evaluate yellow flags in the context of the clinical presentation as a whole**.**

3. Functional Deficit Measurement (Baseline Outcome Assessment)

The importance of a patient's perspective regarding his/her condition relative to function, pain, health status, work disability, and effectiveness of treatment is well-known and should be established prior to the onset of treatment.

The use of valid outcome assessment tools in a proper and timely fashion will establish and benchmark functional deficits within a patient treatment plan and establish medical necessity for ongoing care.

Patient based outcome measures must be utilized with the *initial exam* and then *during each re-evaluation* administered at regular intervals during treatment to evaluate patient improvement and treatment effectiveness.

Further, the proper use of outcome assessment tools address the growing emphasis of third-party payors on outcome-based systems for reimbursement.

As Globe states in *Chiropractic Care of Low Back Pain*—also applicable to shoulder pain—"[f]or a trial of care to be considered beneficial, it must be substantive, meaning that a definite improvement in the *patient's functional capacity has occurred*."[4]

Specific examples of objective measurable outcome assessments for shoulder pain include:

a. SPADI (Shoulder Pain and Disability Index).
b. Upper Extremity Outcome Assessment
c. Neck Pain Disability Index.
d. DASH - Disability of the Arm, Shoulder, and Hand.

Moreover, the following "[e]xamples of measurable outcomes and activities of daily living and employment" cited in *Chiropractic Care of Low Back Pain*[4] also apply:

a. Pain scales such as the Visual Analog Scale and the numeric rating scale.
b. Pain diagrams that allow the patient to demonstrate location and character of their symptoms.
c. Increases in home and leisure activities, in addition to increases in exercise capacity.
d. Increases in work capacity or decreases in prior work restrictions.
e. Improvement in validated functional capacity testing, such as lifting capacity, strength, flexibility, and endurance.[4]

4. Radicular Pain

Thorough history and evidence-informed examination are critical components of chiropractic clinical management, particularly in the presence of radicular complaints. These procedures provide the clinical rationale for appropriate diagnosis and subsequent treatment planning.

In the case of shoulder pain, the shoulder pain may be the effect of another condition rather than the cause of the pain, such as with

cardiac, gall bladder issues, cervical disc/nerve root, upper intrascapular pain, chest wall, and diaphragm, with positive Bakody's sign.

If radiating pain, in addition to the above, History should include:

a. Does the patient have a history of previous radicular symptoms?

b. Questions to differentiate where the radiating pain comes from:
   i. Where is the pain?
   ii. Is the radiating pain related to positional changes?

c. Is the pain constant or intermittent?

d. How long is the refractory period before pain goes away?

e. Questions regarding comorbidities, such as neurologic or vascular claudication, diabetes, shingles, autoimmune issues, side effects of statins, chemotherapy, and questions to rule out neurologic entrapment syndromes and other myofascial considerations, such as thoracic outlet syndrome, which could affect healing times.

B. Examination

The initial examination is intended to identify the etiology of the patient's presenting complaints and primarily to discriminate between articular involvement and referral pain. The history should focus the extent and region of the examination. In *Diagnostic imaging guideline for musculoskeletal complaints in adults-an evidence-based approach-part 2: upper extremity disorders,* Bussières and colleagues suggest the routine shoulder exam should include an evaluation of the cervical spine, chest wall, and elbow.[1]

Outcome assessments must be utilized during the initial examination in order to establish a functional baseline, and in part, determine treatment strategy.

Key aspects of the physical examination in patients with shoulder pain include:

- Vitals (at a minimum, weight, pulse, and blood pressure-compared bilaterally)
- Observations (e.g., patient's posture, demeanor, pain behavior, deformities, and scarring (*i.e.* military)
- Motion and static palpation, including structural abnormalities of adjacent regions (e.g., AC joint, sternoclavicular joint, gleno-humeral

joint, subacromial tenderness, muscle spasticity, winged scapula, anterior humerus, SCM trigger points, thoracic rib problems, etc.)
- Auscultation of the carotids and subclavian pulses
- Outcome assessments to establish a functional baseline
- Outcome assessments for pain
- Appropriate functional tests including active/passive motion palpation findings and ROM testing, functional capacity testing, muscle testing
- Relevant orthopedic and neurological tests
- Consideration of imaging studies and other diagnostic tests
- Dermatologic evaluation

1. Radicular Pain

If radiating pain, in addition to the above, Examination should include:

a. Inspection of upper extremities for edema, asymmetrical radial pulse and blood pressure findings, color changes, wounds, or temperature changes.

b. Evaluate for upper extremity compartment syndrome or vascular insufficiencies (Notation of discoloration of patient's nail beds to rule out vascular etiology).

c. Endeavor to identify upper extremity motor deficits, muscular weakness, and/or atrophy.

d. Determine what cervical dermatome/sclerotome is affected.

e. Testing to rule out myofascial entrapment syndromes, such as with thoracic outlet syndrome and rotator cuff issues.

f. Compression testing to rule out cervical/thoracic cord compression and cervical ribs.

C. Diagnostic Testing

Imaging and other diagnostic tests are indicated in the presence of severe and/or progressive neurologic deficiencies or if the history and physical examination cause suspicion of serious underlying pathology.

1. Imaging

HNS notes the existence of evidenced based studies which show that routine imaging or other more advanced imaging is not initially recommended for adult patients with non-traumatic shoulder pain of 4 weeks or less duration in the absence of red flags (see *supra,* Section III.A.1) particularly with normal range of motion.[1]

Detailed recommendations for diagnostic imaging of adult upper extremity disorders can be found in *Diagnostic imaging guideline for musculoskeletal complaints in adults-an evidence-based approach-part 2: upper extremity disorders. J Manipulative Physiol Ther.* 2008 Jan;31(1).[1]

It is the position of the HNS Professional Affairs Advisory Boards, however, that clinical decision-making regarding the appropriateness of all diagnostic testing (particularly x-rays) should be determined by the chiropractor in light of the clinical data presented by the patient, the diagnostic and treatment options available, and the patient's preferences and values.

The decision to employ either conventional radiography or specialized imaging, and which one, can be based on factors such as the clinical value of the additional information, presence of an implanted device, patient tolerance, and cost. Consultation with a chiropractic or medical radiologist is often helpful.

The following types of imaging modalities are most frequently used in the diagnostic process:

a. Plain film or digital radiographs
   General indications for radiographs in the evaluation of patients with shoulder pain would include a lack of response to care after 4 weeks, significant activity restriction of more than 4 weeks, presence of red flags, or presence of nonmechanical pain (i.e., pain that cannot be reproduced on exam, pain at rest, or increasing symptoms).[1]

b. CT/MRI
   Most patients with chronic shoulder pain can be effectively evaluated with a thorough history, exam, and plain x-rays. Advanced imaging is warranted in the absence of improvement after 4 weeks of treatment, history of instability, deteriorating function, significant disability lasting over 6 months, or presence of serious pathology (palpable mass, pain at rest, etc.).[1]

   MRI is particularly useful, in fact considered the "Gold Standard" when certain rotator cuff disorders are suspected.[1] These may include subacromial impingement, rotator cuff tears (full or partial thickness), glenohumeral instability with history of dislocation or following shoulder trauma.[1] Adhesive capsulitis, calcific bursitis, or inflammatory arthritidies also lend themselves to evaluation with MRI.[1]

CTs are also a useful diagnostic adjunct, often used with glenohumeral instability (particularly CTA), trauma (to rule out fracture), or AC joint separation.[1] Chest CT is used to rule out suspected Pancoast's tumor.[1]

c. Arthrogram
The use of contrast media in conjunction with CT or MRI can improve diagnostic accuracy in cases where chronic instability develops secondary to ligamentous laxity, evaluation of the postoperative shoulder, SLAP lesions of the labrum, and AC separations.

d. Ultrasound
The clarity and accuracy of ultrasonography is operator dependent and while cost effective, particularly in the evaluation of soft tissue lesions, the quality of available studies on ultrasound are variable.[5]

e. Bone scan
This imaging is routinely employed to diagnose/monitor osteopenia or osteoporosis. It can also be helpful to identify occult fractures, primary or metastatic bone cancers, systemic infections, septic arthritis, or osteonecrosis.

2. Imaging Studies Taken Elsewhere

If the patient brings (or provides) past healthcare records, including but not limited to, results of imaging studies, copies of these should be added to the patient's healthcare record and must be signed by the DC.

Further, the healthcare record must include a summary of all relevant information obtained from the review of the records/studies, and this summary must be signed by the DC.

3. Radicular Pain

If radiating pain, imaging studies should be considered only after careful review and correlation of the history and examination.

a. Advanced imaging (i.e., MRI or CT scans) should be considered for patients displaying definite motor deficits and/or progressive sensory deficits.

b. Advanced imaging may be appropriate if the patients are unresponsive during the initial treatment cycle, or symptoms worsen.

c. If MRI is indicated, a consultation with radiologist is appropriate to determine value of contrast studies in situations of spinal trauma, suspicion or history of cancer, possibility of pathologic fracture with retropulsion onto cord, or suspected infection.

d. Diagnostic ultrasound should be considered in patient with symptoms suggestive of vascular etiologies.

e. Patients with non-dermatomal symptoms who are largely non-responsive during a single treatment cycle may be candidates for electro-diagnostics, such as NCVS/EMG testing.

IV. Coordination of Care/Specialist Referral

Both initially and throughout care, providers should consider coordination of care and/or referrals.

As applicable, the healthcare record should include evidence of continuity and coordination of care.

The health care record must include any recommendations to the patient to see his/her Primary Care Provider (PCP), the basis for the recommendation, and evidence of any coordination of care, including but not limited to, any referrals to/from other health care providers.

All communications (written, telephone, etc.) to and from other health care professionals or the patient should be included in the clinical record.

A. Specialty Care

Specialty referrals should be considered for potential surgical candidates, those for whom the diagnosis is uncertain, or those unresponsive to treatment.

Referrals may include, but are not limited to the following:

- Chiropractic peers who have advanced extremity training/focus (e.g., CCSP or national accreditation board ACCO, which has replaced the DABCO organization with two credentials -DACO and IAIM)
- Orthopedic Surgeon – cortisone injections, surgery
- Pain management specialist
- Physical Therapist – post surgery rehab, frozen shoulder, shoulder instability
- Acupuncturist – for pain management
- Massage therapist – for soft tissue therapy, frozen shoulder
- Physiatrist
- Neurologist – atypical shoulder pain and progressive neurologic deficits should be referred out

- Nutritional Consult

1. Radicular Pain
   If radiating pain, in addition to the above, referral should be considered:

   a. If the patient is unresponsive during the initial treatment cycle, or if symptoms worsen.

   b. When patient presents with symptoms suggestive of intermittent vascular claudication.

V. Diagnoses

Shoulder pain is often nonspecific and therefore cannot be attributed to a definite cause. Careful history-taking and physical examination are crucial in attempting to diagnose the underlying cause and in determining the most appropriate pathway to treatment. It is also important to remember that shoulder pain may be referred from cervical nerve compression, impingement syndromes, rotator cuff injuries, scapular dyskinesis, labrum, AC sprain, bicep tendon injury, degenerative joint disease, shoulder dislocation or some combination thereof.

The history and examination provide the clinical rationale for appropriate diagnosis and subsequent treatment planning.

For each patient, establish a diagnosis (or diagnoses) based on the history and clinical exam findings. The diagnosis or diagnostic impression must be reasonable based on the patient's chief complaint(s), results of clinical exam findings, diagnostic tests, and other available information.

The diagnosis, together with the documented clinical exam findings, establishes the medical necessity for the patient's subsequent treatment.

The patient's healthcare record must reflect all diagnoses/clinical impressions that coexist at the time of the visit that require or affect patient care.

Diagnoses must clearly support the treatment outlined in the treatment plan.

All services/DME provided shall be supported by an appropriate diagnosis.

Any changes in diagnoses must be documented in the healthcare record.

VI. Education

Patient education and managing the patient's expectations are an important part of the treatment of shoulder pain. Successful treatment depends on the

patient's understanding of the condition and his/her role in recovery and in avoiding re-injury.

Shoulder pain often creates new concerns, even fear about their short and long-term health. It is important to address both these concerns and to establish reasonable patient expectations. DCs should educate patients regarding their condition, and their role and responsibility in achieving a positive outcome and should help manage patient expectations.

Prior to initiating treatment, it is essential to provide the patient with clear, concise information regarding their condition, the recommended treatment, the anticipated length of treatment, the anticipated outcome, and his/her role in helping to achieve the desired outcome. Additionally, information on the causes of shoulder pain, pain resolution, usual activity/work, prevention strategies, when to contact the DC, and, as applicable, when referral may be appropriate is also helpful.

At a minimum, education should include these points:

- Shoulder pain is a symptom and, in most situations, does not indicate serious disease; however, the patient should be educated about possible cardiac symptoms.
- Patients should take responsibility for, and actively participate in, the rehabilitation process such as, exercises and stretches.
- Stress the importance of staying active and continuing daily activities as normally as possible.
- Emphasize the importance of compliance to the treatment plan and recommendations, such as: avoidance of overhead activities; ergonomic recommendations for home and work; and sleep positions needed to temper activity to minimize chance of aggravation secondary to glenohumeral instability.
- Review what symptoms to watch for and when to contact the chiropractic physician.

A. Radicular Pain

If radiating pain, in addition to the above, education should include:

1. Radicular symptoms are typically slower developing and not the result of an acute insult, therefore resolution is usually more protracted than conditions without radicular symptoms.

2. Advise the patient to inform you if the radiating pain increases or decreases throughout the treatment process.

3. Make clear that workplace ergonomics, dietary changes, lifestyle changes and sleep position recommendations are critical with radicular symptoms.

VII. Consent

Prior to initiating treatment for any condition, informed consent must be obtained from the patient, and written evidence consent was given (or that the patient declined the treatment) *must be included in the healthcare record.*

Physicians must keep in mind that informed consent is a process, and involves making sure the patient understands the diagnosis, the proposed treatment, the attendant risks and benefits of the treatment, alternative treatments and their risks and benefits, and the risks of declining treatment.

To assure an appropriate level of patient understanding, the process should involve a discussion and should always include an opportunity for the patient to ask questions. The doctor should ask the patient if she or he has any questions and then answer them before proceeding. *A signed written consent is not a valid substitute for, nor does it replace, a discussion between doctor and patient.*

Physicians shall obtain new informed consent when presented with a new condition that was not addressed when the previous informed consent was obtained. (Consent to treat one body part does not necessarily confer that consent to other body parts.)

The patient may withdraw consent at any time.

While HNS recommends the use of the *HNS Informed Consent Form*, any similar form is acceptable, *provided the form clearly states the treatment to be provided and addresses the specific risks discussed with the patient*.

All informed consent forms shall be dated and signed by the patient.

The healthcare record shall include written evidence that informed consent was obtained prior to initiating care and shall reflect that new consent was obtained when the patient presents with a new condition not addressed when the previous consent was obtained.

VIII. Treatment

At the onset of treatment, the physician should adequately explain to the patient the nature of the patient's condition, the goals of treatment, and the treatment strategy. The physician should provide the patient with estimates of time within which to expect initial improvement, and the time within which to expect maximum therapeutic benefit.

To be consistent with an evidence-based approach, chiropractors should use clinical methods that generally reflect the best available evidence, combined with clinical judgement, experience, and patient preference.

Although current evidence does not generally support the use of therapeutic modalities in isolation, their use as part of a passive to active approach may be warranted based on clinician judgement and patient preference. Passive care may be initially emphasized, but active care (i.e., exercise) should be increasingly integrated into the treatment plan to increase function and return the patient to regular activities of daily living.

A. Treatment Plan

Once the diagnosis has been established based on the history and clinical exam findings, for each episode of shoulder pain, an individualized treatment plan shall be established. Each treatment plan shall include objective, measurable and reasonable treatment goals intended to improve a functional deficit and reduce pain.

"General treatment recommendation principles include:

1. Avoid basing treatment recommendations on philosophy, habitual practice procedures, or financial considerations.
2. Frequency and duration of treatment should be consistent with severity of presenting complaint, history, and examination findings.
3. Treatment should include an initial trial of care . . . to determine the success or failure of treatment and the possible need for additional diagnostic tests or referral, including multidisciplinary, multimodal care.
4. In general, there should be diminishing reliance on passive care and a shift toward active care and patient self-reliance."[6]

1. Radicular Pain

No changes to above recommendations.

B. Treatment Plan Requirements

Each treatment plan should:

- Be based on HNS' Philosophy of Care:
  "Treat and Release": provide care to correct the presenting condition, bring the patient to maximum medical improvement, and discharge the patient from active care with appropriate instructions regarding maintenance/supportive care, self-care, and prevention of future occurrences.

- Include all recommended treatment, including but not limited to, manipulations, manual therapy, kinesiology taping, laser, acoustic

wave/shock wave, other modalities/therapies, DME, and home instructions.

- Include recommended activity modifications and home care instructions.
- Include anticipated duration of treatment, including frequency of visits. (The *initial* treatment plan should not exceed approximately 4 weeks or 12 office visits, (whichever occurs first), but may be modified should the objective data from the subsequent re-evaluation indicate the appropriateness of additional care.)
- Include objective measures to evaluate treatment effectiveness.
- Include expected outcomes.
- Reference obstacles to recovery and strategies to overcome them.
- Be modified, as applicable, in response to changes to the patient's condition.

C. Treatment Frequency and Duration

While some patients may respond more quickly, a typical course of treatment for acute shoulder pain is 6 to 12 chiropractic sessions over the course of 2 to 4 weeks.

Although most patients respond within expected time frames, frequency and duration of treatment may be influenced by factors, including but not limited to, co-morbidities, yellow flags, and patient compliance to the treatment plan (including recommendations regarding activity modification and home care instructions). Depending on these factors, additional time and treatment may be needed.

After each course of treatment, the patient should be evaluated regarding the effectiveness of treatment, whether maximum therapeutic benefit has been reached, and to determine the appropriateness of additional chiropractic treatment.

1. Radicular Pain

If radiating pain, more frequent treatment and a protracted treatment period may be necessary.

D. Patient Compliance

Successful treatment depends, in part, on the patient's understanding of the condition and his/her role in recovery and in avoiding re-injury.

Because patient compliance and active participation in the treatment plan is essential to success, the physician should refer or discharge a patient who fails to comply with treatment recommendations and make sure this non-compliance is documented in the healthcare record.

IX. Initial Course of Treatment

The goals of treatment for shoulder pain are to relieve pain, improve function, reduce time away from work, and develop strategies to prevent recurrence.

During the initial phase of treatment of acute shoulder pain, the decision regarding treatment must be made in light of the clinical data presented by the patient, the diagnostic and treatment options available, and the patient's values and expectations.

During the initial course of treatment, DCs should continue to evaluate for the presence or absence of red flags.

The following are treatment considerations for the typical patient presenting with acute shoulder pain.

A. Manipulation/Mobilization.

Decisions regarding the use of chiropractic adjustments should be based on clinical judgement, experience, and patient preference.

1. Cautions and Contraindications

In certain cases, the appropriateness of manipulative procedures must be considered.

> "In some complex cases where biomechanical, neurological, or vascular structure or integrity is compromised, the clinician may need to modify or omit the delivery of manipulative procedures. Chiropractic co-management may still be appropriate using a variety of treatments and therapies commonly used by DCs. It is prudent to document the steps taken to minimize the additional risk that these conditions may present."[4]

B. Therapeutic Modalities and Therapeutic Procedures

In conjunction with spinal or extra-spinal manipulation, therapeutic modalities/procedures may provide therapeutic benefit and/or reduction in pain in the treatment of patients with acute shoulder pain. These include, but are not limited to, ice/heat, electrical stimulation, laser treatment, ultrasound treatment, shock wave, diathermy, acupuncture, exercise, and transcutaneous electrical nerve stimulation.

As soon as clinically appropriate, consideration should be given to moving from passive therapies to active therapies in an effort to increase function and return the patient to regular activities.

1. Radicular Pain

   No changes to above recommendations.

C. Activity Modification

Patients should be advised to maintain normal activities, as tolerated, during the acute stage of shoulder pain and should progressively increase their physical activity levels according to a plan agreed upon between the DC and the patient.

1. Radicular Pain

   If radiating pain, activity modification may be necessary.

   Based upon the patient complaints and the specific etiology of the radiculopathy, the physician shall determine if activity modification is necessary, and the extent of the activity modification.

   The patient should avoid activities which cause pain, or which worsen radicular symptoms.

   Increased activity should be under the doctor's consent only and should be closely monitored.

X. Re-evaluation

As noted in Section VIII C (Treatment Frequency and Duration), it is not uncommon for patients with acute shoulder pain to require 6 to 12 chiropractic sessions over the course of 2 to 4 weeks.

A focused re-evaluation shall be performed after an initial course of care (4 weeks or 12 visits, whichever comes first), and if care continues beyond the initial re-evaluation, re-evaluations must be performed every 4 weeks or 12 visits (whichever comes first) until the patient has reached MTB, is referred, or is discharged to maintenance/supportive care.

Outcome assessments for pain and function shall be utilized at each re-evaluation (and throughout the course of care) to 1) measure patient progress towards treatment goals, 2) determine the effectiveness of treatment, 3) evaluate the appropriateness of additional treatment, and 4) determine if maximum therapeutic benefit has been reached.

As part of the re-evaluation, and throughout the treatment, DCs must remain watchful for the appearance of red flags.

Re-evaluation of shoulder pain should include the following:

- Function reassessed with repeat appropriate disability outcome assessment measures
- Pain reassessed with a repeat VAS and appropriate disability outcome assessment measures
- Repeat of chiropractic, orthopedic and neurological findings from previous evaluations
- As applicable, recommendations regarding modifications to activities/work

For each re-evaluation, documentation in the healthcare record must include evidence the patient's progress was *objectively measured against the objective goals of the treatment plan.*

The results of each re-evaluation should 1) be clearly explained to the patient, 2) guide clinical decision-making regarding the next steps in care, and 3) be clearly documented in the healthcare record.

A. Radicular Pain

If radiating pain, in addition to the above, the reevaluation should include an evaluation of the extent of peripheralization by monitoring motor and sensory deficits.

XI. Continuing Course of Treatment

During each office visit, the physician should inquire as to the patient's presenting complaints, perform the treatment called for in the treatment plan, and monitor the patient's clinical picture through the use of objective tests such as range of motion, segmental range of motion, presence or absence of spasm or swelling, presence or absence of positive orthopedic findings, and pain assessment.

As the patient's condition improves, the frequency of treatment should gradually decline until the patient reaches the point of discharge. An acute exacerbation may require more frequent care. The treatment time may be extended due to lack of stabilization and complicating factors.

If maximum therapeutic benefit is not reached during the initial course of care, and provided there is clear evidence that substantive, measurable function gain has occurred, a follow up course of treatment may be warranted. As a general rule, during this phase of care, patients should be encouraged to return to usual activity levels.

The decision regarding continued treatment, and the frequency of it, largely depends on the severity and duration of the condition and whether the patient has reached maximum therapeutic benefit.

A. Maximum Therapeutic Benefit

Maximum Therapeutic Benefit occurs when a patient with an illness or injury reaches a state where additional, objective, measurable improvement cannot reasonably be expected from additional treatment and/or when a treatment plateau in a person's healing process is reached.

HNS refers to (and agrees with) the following clinical guideline included in *Chiropractic Care of Low Back Pain*:

> "When the patient's condition reaches a plateau or no longer shows ongoing improvement, a decision must be made on whether the patient will need to continue treatment. Generally, progressively longer trials of therapeutic withdrawal may be useful in ascertaining whether therapeutic gains can be maintained without treatment."[4]

1. Radicular Pain

When a patient with unresolved radiating pain reaches a state where additional, objective, measurable improvement cannot reasonably be expected from additional chiropractic treatment, advanced imaging and/or a specialist referral is warranted.

Similarly, when a treatment plateau in a person's healing process is reached, and the radiating pain is unresolved, advanced imaging and/or a specialist referral is warranted.

B. Exacerbation/Flare-ups

As indicated in *Chiropractic Care of Low Back Pain*[4]*,* which HNS refers to and agrees also pertains to shoulder pain,

> Additional chiropractic care may be indicated in cases of exacerbation/flare-up in patients who have previously reached MTB if criteria to support such care (substantive, measurable prior functional gains with recurrence of functional deficits) have been established.[4]

1. Radicular Pain

Depending upon the specific etiology of the radiating pain, and the severity of the flare-up, the physician may consider a specialist referral for further evaluation.

XII. HNS Performance Expectations

These Best Practices represent HNS' performance expectations for all contracted physicians. These Best Practices are posted on the HNS Website under 'Clinical Resources'.

XIII. Summary

These best practices were created for the HNS physician network (and other key stakeholders) and summarize HNS' practice recommendations for the chiropractic management of adult patients with acute shoulder pain, and with radiating pain. They are intended to improve treatment quality and outcomes, and to promote the delivery of cost-efficient chiropractic care.

In a value-based healthcare environment, there is a vast difference between merely treating someone versus delivering best practices. The essential step for improving clinical outcomes is to provide the most effective care for every patient on every visit. Timely clinical outcomes, cost effective management, and high patient satisfaction are the key metrics to which all physicians should aspire.

XIV. References

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