



Clinical Best Practices: Thoracic Pain

Introduction

There is much evidence that supports a conservative approach for most episodes of thoracic 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 thoracic pain can frequently be minimized with appropriate chiropractic treatment, including but not limited to, 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 thoracic pain in patients 18 years of age or older.

The term “Best Practice” is somewhat ambiguous but is often used to indicate what institutions, and well-regarded practitioners are doing, as well as thought protocols that have been vetted through peer reviewed literature. 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 was under the purview of the 2022-2023 HNS Professional Affairs Advisory Boards (PAAB). The PAABs are comprised of more than seventy chiropractic physicians practicing in North and South Carolina. 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” adult patient presenting with thoracic 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, *provides supporting documentation for reimbursement sought for services provided to a patient* and legal defense in a malpractice case. 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 thoracic pain is essential. The assessment should focus, in part, on the presence or absence of red flags, and 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 thoracic pain into one

or more of the three categories below, to determine the appropriate treatment strategy.

- Serious pathology (red flags)
- Radicular nerve involvement
- Thoracic pain

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

- History (Presence of 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 thoracic pain, and should include:

- Onset and duration of pain
- Quality of pain
- Site and radiation
- Precipitating and relieving factors
- Severity and functional impact
- Neurological deficits
- Symptoms of systemic illness
- Current and past health conditions, including previous injuries and treatment.
- Family medical history
- Social history
- Current and relevant past medications (including prescriptive, over the counter and natural products- nutraceuticals)
- 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 medical specialist, 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 thoracic 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 thoracic pain warrants close attention, and suggests the need for further investigation and possible specialist referral as part of the 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.

Thoracic back pain is more likely than neck or low back pain to be caused by serious underlying pathology. However, many patients with thoracic back pain have a benign, mechanical cause.

As noted in the article *Thoracic Back Pain (Causes, Symptoms and Treatment)*¹, Red flags for possible serious spinal pathology include:

- Recent violent trauma (such as a vehicle accident or fall from a height).
- Minor trauma, or even just strenuous lifting, in people with osteoporosis.
- Age at onset less than 20 or over 50 years (new back pain).
- History of cancer, drug abuse, HIV, immunosuppression or prolonged use of corticosteroids.
- Constitutional symptoms - e.g., fever, chills, unexplained weight loss.
- Recent bacterial infection.
- Pain that is:
 - Constant, severe and progressive.
 - Non-mechanical without relief from bed rest or postural modification.
 - Unchanged despite treatment for 2-4 weeks.
 - Accompanied by severe morning stiffness (rheumatoid arthritis and ankylosing spondylitis).
- Structural deformity.
- Severe or progressive neurological deficit in the lower extremities.

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, family

and workplace factors, which may impact the patient's response to your proposed treatment plan.

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

3. 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.

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 etiology of the radiating pain:
 - i. Where is the pain?
 - ii. How far around the ribs does pain radiate?
 - iii. Is the radiating pain unilateral - consider myocardial infarct, shingles, rib subluxation, or if bilateral consider costochondritis, pleurisy, pericarditis, mediastinal issues.
 - iv. If leg pain or paresthesia- consider metastatic carcinoma, central disc prolapse, space occupying lesion, etc.
- c. Did the radicular pain, tingling or numbness occur prior to the presence of thoracic pain? (If so, consider other pathological etiologies.)
- d. Is the pain constant or intermittent?
- e. Do the radicular symptoms exacerbate with activity and immediately remit with rest or positional changes?
- f. How long is the refractory period before pain goes away?
- g. Questions regarding comorbidities, such as neurologic, smoking, alcohol use, obesity, side effects of medications, chemotherapy, osteoporosis/osteopenia, other myofascial / spasm considerations.

B. Examination:

The initial examination is intended to identify the etiology of the patient's presenting complaints. History should focus on the extent and region of the examination.

Outcome assessments must be utilized during the initial examination in order to establish a functional baseline, and in part, determine treatment strategy. See sub-section 1 below for details.

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

- Vitals (at a minimum, weight, pulse, and blood pressure)
- Observations (e.g., patient's posture, gait, demeanor, pain behavior, structural abnormalities, hyperkyphosis, Tripod Sign, tight band around chest)
- Palpation, including structural abnormalities, tenderness, muscle spasticity, etc.)
- Thoracic auscultation and percussion
- Outcome assessments to establish a functional baseline
- Outcome assessments for pain
- Appropriate chiropractic tests including spinal palpation findings and ROM testing
- Relevant orthopedic and neurological tests
- Consideration of imaging studies and other diagnostic tests
- Considerations should be made of cervical or lumbar condition involvement

1. 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 addresses the growing emphasis of third-party payors on outcome-based systems for reimbursement.

While Globe states the following in *Chiropractic Care of Low Back Pain*², this is also true for thoracic pain.

For 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*.

Examples of measurable outcomes and activities of daily living and employment include the following:

- a. Validated ADL measures, such as the Revised Oswestry Back Disability Index, Roland Morris Back Disability Index, and Bournemouth Disability Questionnaire.
- b. Improvement in validated functional capacity testing, such as lifting capacity, strength, flexibility, and endurance.
- 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. Pain scales such as the Visual Analog Scale and the numeric rating scale.
- f. Pain diagrams that allow the patient to demonstrate location and character of their symptoms.

2. Radicular Pain

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

- a. Inspection of extremities for pitting edema, asymmetrical radial and dorsalis pedis pulse, arm/ankle blood pressure findings, color changes, wounds, or temperature changes.
- b. Endeavor to identify lower extremity motor deficits, muscular weakness, and/or atrophy.
- c. Determine what dermatome is affected.
- d. Testing to rule out myofascial entrapment syndromes in pertinent regional areas, such as thoracic outlet syndrome.
- e. Compression and vibratory testing to rule out fractures and thoracic outlet syndrome.

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 underlying pathology or trauma.³

It is the position of the HNS Professional Affairs Advisory Boards 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.

1. Imaging

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

- a. Plain film or digital radiographs
- b. CT
- c. MRI
- d. Bone Scan
- e. Ultrasound

CT/MRI

CT and MRI testing should be considered only after a careful review of the history and results of the physical examination, and/or in response to treatment. CT and MRI are more sensitive than plain film imaging, but are only indicated with patients exhibiting red flags symptoms, i.e., trauma, pathologic fractures, infection, tumors, progressive neurologic deficits, etc.

- CT is superior to MRI for revealing bony abnormalities and may be particularly useful if plain films are abnormal or inconclusive.
- MRI is preferred to CT because it provides better visualization of non-bony structures, and does not subject the patients to radiation.

Bone scans

Bone scans are used to detect and monitor infection, fracture, or disorders in the bone. DEXA bone scans are the best way to evaluate bone density. Radiographs are unreliable for the assessment of bone mass (density) changes before at least a 30-50% loss.³

Ultrasound imaging

Ultrasound imaging (sonography) uses high-frequency sound waves to obtain images inside the body. Ultrasound imaging can show tears in ligaments, muscles, tendons, and other soft tissue masses in the back.

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.

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. Other Diagnostic Tests

As with imaging studies, other diagnostic tests, including but not limited to electrodiagnostic and laboratory tests, should be considered only after careful review of the history and results of the physical examination, and in response to treatment.

Electrodiagnostics

Electrodiagnostics are primarily used to confirm whether a person presenting with thoracic pain has upper extremity radiculopathy or other pathologic considerations. The procedures include electromyography (EMG), nerve conduction studies (NCS), and evoked potential (EP) studies.

Laboratory tests

There is evidence that indicates laboratory tests are generally not necessary in the initial evaluation of thoracic pain, except in the case of cardiac symptoms. With that said, relevant blood chemistries in the evaluation of musculoskeletal complaints would include ESR over 50 mm, RA Factor, HLA-B27, PSA, and serum calcium.³

4. Radicular Pain

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

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

- c. Diagnostic ultrasound should be considered in patients with symptoms suggestive of other etiologies.

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 healthcare 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 healthcare professionals must be included in the clinical record.

A. Specialty Care

Specialty referral should be considered for potential surgical candidates, those for whom the diagnosis is uncertain, or those that show less than expected response to treatment.

Indications for specialty referral may include the following:

Medical /Rheumatology specialist

- Chronic pain syndrome
- Ruling out inflammatory arthropathy
- Ruling out fibrositis/fibromyalgia
- Ruling out metabolic bone disease (e.g., osteoporosis)
- Ruling out rash secondary to shingles

Surgical spine specialist:

- Ruling out central thoracic disc herniation in patient with atypical leg or arm symptoms
- Progressive or moderately severe neuromotor deficit (e.g., foot drop or functional muscle weakness such as loss of grip strength, hip flexion weakness or quadriceps weakness)

- Persistent neuromotor deficit after four to six weeks of conservative treatment (does not include minor sensory changes or reflex changes)
- Uncontrolled radicular pain with defined lesion on imaging
- Compression fractures
- Progressive adolescent idiopathic scoliosis with Cobb angle exceeding 20 degrees. Adult patients with painful and progressive scoliosis.

Cardiology Specialist

- Red Flags related to chest pain/pressure, shortness of breath, upper extremity pain, etc.

Pulmonary Specialist

- Red Flags associated with COPD, pulmonary embolism, lung cancer, etc.

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.
- c. When a patient exhibit signs of upper motor neuron lesion or aortic aneurysm there should be an emergency referral to a specialist without further evaluation or imaging.

V. Diagnoses

Thoracic 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.

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 must be reasonable based on the

patient's documented 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.

A. Radicular Pain

No changes to the above recommendations. Diagnosis should provide etiology for radicular symptoms.

VI. Education

Patient education and managing the patient's expectations are an important part of the treatment of thoracic pain. Successful treatment depends on the patient's understanding of the condition and his/her role in recovery and in avoiding re-injury.

Thoracic 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 treatment recommended, 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 back 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:

- Thoracic pain is a symptom and, in most situations, does not indicate serious disease.
- Patients should take responsibility for, and actively participate in, the rehabilitation process.

- Stress the importance of staying active, and continuing daily activities as normally as possible.
- Emphasize the importance of compliance to the treatment plan.
- 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 and lifestyle changes 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.

A. Radicular Pain

If radiating pain, in addition to the above, the patient should be advised of possible complications of untreated radiculopathy, including but not limited to:

- Permanent nerve damage
- Permanent loss of sensation and motor control

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. Currently, the most robust literature regarding manual therapy supports HVLA techniques and mobilization, as well as decompression. Therefore, in the absence of contraindications, these methods are generally recommended.

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 in order 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 thoracic 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/or reduce pain.

General treatment recommendation principles include⁴:

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, and include multidisciplinary, multimodal care.
4. In general, there should be diminishing reliance on passive care and a shift toward active care and patient self-reliance.⁴

1. Radicular Pain

No changes to the 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, 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 based on subsequent re-evaluations.)
- 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 thoracic 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 the 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 thoracic 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 thoracic 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 or yellow flags.

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

A. Manipulation/Mobilization.

The decision regarding the use of HVLA or instrument-adjusting should be based on clinical judgment, experience, and patient preference.

1. Cautions and Contraindications

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

B. Therapeutic Modalities and Therapeutic Procedures

In conjunction with spinal manipulation, therapeutic modalities/procedures may provide therapeutic benefit and/or reduction in pain in the treatment of patients with thoracic pain. These include, but are not limited to, ice/heat, electrical stimulation, laser treatment, ultrasound treatment, spinal decompression, acupuncture, exercise, manual therapy, intersegmental traction 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.

In certain cases, the appropriateness of various therapeutic modalities or procedures may be questioned, i.e., in the presence of defibrillator, pacemaker or healing fracture, etc.

1. Radicular Pain

No changes to the above recommendations.

C. Activity Modification

Patients should be advised to maintain normal activities, as tolerated, during the acute stage of thoracic 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 thoracic 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 toward 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 and/or yellow flags.

Re-evaluation of thoracic 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 positive chiropractic, orthopedic and neurological findings from previous evaluation
- As applicable, recommendations regarding modifications to activities/work

For each re-evaluation, documentation in the healthcare record must include evidence that 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 re-evaluation should include an evaluation of the degree 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 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.

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 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 referral is warranted.

B. Exacerbation/Flare-ups

Additional chiropractic care may be indicated in cases of exacerbation/flare-up in patients who have previously reached MTB.

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 thoracic pain with and without 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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