

Neck Pain Guidelines: Revision 2017

Using the Evidence to Guide Physical Therapist Practice

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Neck pain is a common and costly condition, ranked 19th overall in global cause of disability-adjusted life years and fourth overall in years lived with disability. Pain and disability from many types of neck pain can be improved by nonsurgical interventions provided by physical therapists. Best practice physical therapy requires an evidence-based approach, and clinical practice guidelines (CPGs), such as the revised CPG on neck pain published in the July 2017 issue of the *JOSPT*, help clinicians to stay current and translate evidence into practice.

WHAT WE KNEW

The first neck pain CPG, published in 2008,² reviewed and summarized the literature up to 2007 and made evidence-based recommendations on evaluation, diagnosis, and the use of manual therapy and exercise in the nonsurgical treatment of neck pain. It was a reference publication for orthopaedic physical therapy clinicians, instructors, and students that reviewed the best current practice of orthopaedic physical therapy for this condition.

WHAT WE DID

We worked with the International Collaboration on Neck Pain to review and summarize the literature from 2007 to 2016. We focused on systematic reviews and meta-analyses to update our knowledge on the use of manual therapy, exercise, education, and physical agents in the treatment of neck pain. In addition, we expanded the CPG to include information on screening, evaluation, diagnosis, and treatment-based classification of neck pain.

WHAT WE FOUND

Of approximately 4000 articles screened, 748 papers were reviewed. The articles were appraised for quality, which influenced the strength of the recommendations in the CPG. Data from the articles were extracted, summarized, and categorized into the acute, subacute, and chronic stages of 4 conditions commonly treated by physical therapists: (1) mobility deficits, (2) movement coordination impairments (whiplash-associated disorders), (3) headache (cervicogenic), and (4) radiating pain (radicular pain).

BOTTOM LINE FOR PRACTICE

The resulting recommendations for the 4 components of the model for examination, diagnosis, and treatment plan consist of:

1. Medical screening: determination of the appropriateness of physical therapy and the need for referral to and consultation with other providers
2. Classify condition through evaluation of clinical findings: evaluation and determination of the category of neck pain
3. Determination of condition stage (acute, subacute, or chronic): determination of the condition stage and consideration of other factors, such as biopsychosocial elements and tissue irritability, in deciding treatment types and dosage
4. Intervention strategies: the physical therapist implements the treatment plan

Components 1, 2, and 3 may be repeated throughout the episode of care to determine progress and the need for altering the treatment plan. A flow chart summarizing key elements in components 2 and 4 of the proposed model for examination, diagnosis, and treatment planning for patients with neck pain is provided on the following page.

This *JOSPT* Perspectives for Practice is based on the guidelines by Blanpied et al¹ and was produced by a team of *JOSPT*'s Special Features Editorial Board and staff, led by Editor-in-Chief J. Haxby Abbott, DPT, PhD, FNZCP, using material contributed by the authors of the guidelines.¹ The flow chart on the following page was produced by Kate Minick, DPT, OCS and Gerard P. Brennan, PT, PhD, FAPTA of Intermountain Healthcare, Rehabilitation Services, Salt Lake City, Utah.

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1. Blanpied PR, Gross AR, Elliott JM, et al. Neck pain: revision 2017. 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*. 2017;47:A1-A83. <https://doi.org/10.2519/jospt.20170302>
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JOSPT PERSPECTIVES FOR PRACTICE

Classify Condition Through Evaluation of Clinical Findings

Neck Pain With Mobility Deficits

Neck Pain With Movement Coordination Impairments

Neck Pain With Headache (Cervicogenic)

Neck Pain With Radiating Pain

Common Symptoms

- Central and/or unilateral pain
- Range-of-motion (ROM) limitations with symptom reproduction
- Associated (referred) upper extremity (UE) pain may be present

- Trauma/whiplash onset
- Associated (referred) UE pain
- Dizziness/nausea
- Headaches, concentration and/or memory difficulties, hypersensitivity, heightened affective distress

- Noncontinuous unilateral neck pain and associated (referred) headache
- Headache precipitated or aggravated by neck movements or sustained positions

- Neck pain with radiating pain in the involved extremity
- UE dermatomal paresthesia, numbness, myotomal weakness

Expected Exam Findings

- Limited cervical ROM
- Pain at end-range active and passive ROM
- Segmental cervical and thoracic mobility restriction
- Pain reproduced with segmental provocation
- Strength and motor control deficits with subacute or chronic pain

- Positive cranial cervical flexion test
- Positive neck flexor muscle endurance test
- Positive pressure algometry
- Strength and endurance deficits of the neck muscles
- Neck pain with mid-range motion that worsens with end-range positions
- Tenderness of myofascial trigger points
- Sensorimotor impairment
- Neck pain with referred pain

- Positive cervical flexion-rotation test
- Headache reproduced with segmental provocation
- Limited cervical ROM
- Restricted upper cervical segmental mobility
- Strength, endurance, and coordination deficits of neck muscles

- Positive radiculopathy test item cluster (upper-limb nerve mobility, Spurling's test, cervical distraction, cervical ROM)
- May have UE sensory, strength, or reflex deficits associated with the involved nerve(s)

Intervention Strategies*

- Thoracic thrust manipulation: A-B | S-C | C-B
- Cervical thrust manipulation: A-C | S-C
- Cervical mobilization: A-C | S-C
- Cervical ROM exercise: A-B
- Advice to stay active: C-C
- Home ROM exercise: A-B
- Supervised exercise for strengthening and endurance of upper quarter: A-B | S-B | C-B
- Stretching: A-B
- General fitness: C-B
- Combined cervical/thoracic region exercise plus thrust manipulation/mobilization: C-B
- Neuromuscular exercise for cervical/scapulothoracic regions: C-B
- Multimodal approach: C-B
- Dry needling, laser, intermittent traction: C-B

- Advice to remain active: A-B
- Home ROM and postural exercise: A-B
- Progress monitoring: A-F
- Minimize collar use: A-B
- Combined exercise plus manual therapy: A-B | C-C
- Exercise for active ROM, strengthening, endurance, posture, coordination, aerobics, function: A-B
- Transcutaneous electrical nerve stimulation: A-C | C-C
- Education on prognosis, pain management, reassurance: C-C
- Cervical mobilization plus individualized exercise: low-load strengthening, endurance, flexibility, functional training, principles of cognitive behavioral therapy, neuromuscular coordination: C-C

- Active mobility exercise: A-B
- Exercise: C1-2 self-sustained natural apophyseal glide (self-SNAG) element: A-C | S-C
- Cervical thrust manipulation and mobilization: S-B | C-B
- Thoracic thrust manipulation: C-B
- Combined manual therapy plus cervical and scapulothoracic strength and endurance exercise: C-B

- Exercise: mobilizing and stabilizing elements: A-C
- Low-level laser: A-C
- Possible short-term collar use: A-C
- Combined exercise (stretching/strength) plus manual therapy for cervical and thoracic region: C-B
- Education to encourage occupational and exercise activity: C-B
- Intermittent traction: C-B

*Intervention strategies are coded by stage (A, acute; S, subacute; C, chronic) and grade of recommendation (A-F). For example, A-B indicates that for people in the acute stage of the condition, there is grade B evidence supporting the effectiveness of the intervention. Figure produced for JOSPT by Kate Minick, DPT, OCS and Gerard P. Brennan, PT, PhD, FAPTA of Intermountain Healthcare, Rehabilitation Services, Salt Lake City, Utah.