Neck Pain, Cervicalgia

Diagnosis/Condition:	Neck Pain, Cervicalgia Cervical sprain
Discipline:	Integrated
ICD-10 Codes:	M54.2; M53.1; M99.01; S13.4XXA S13.8XXA
Origination Date:	1996
Review/Revised Date:	07/2025
Next Review Date:	07/2027

Neck pain is second only to low back pain as the most common musculoskeletal disorder in population surveys and in primary care. Depending on the case definition of "neck pain," from 30 to 50% of the adult population experiences neck pain each year.[1] and between 60% to 80% experience it in their lifetimes.[2] Neck pain is common in children as well, with prevalence estimates of 40% of pre-adolescents and teenagers.[3,4] Estimates of the global burden of disease attributed to neck pain indicate neck pain is the 4th highest condition causing disability.[5] Neck and back pain combined cost an estimated $86 billion in the US. Yet despite its prevalence, high disability, and health care costs, research devoted specifically to neck pain is minimal compared to other spinal problems such as cervical radiculopathy, low back pain, and lumbar radiculopathy.

Classification of cervicalgia according to ICD-10 includes neck pain (M53.2), cervicobrachial syndrome (M53.1), and biomechanical lesions (M99.01). Strictly speaking, cervicalgia is neck pain without radiation, although radiating symptoms are commonly encountered.

Other neck pain classification schemes consider acute, subacute, and chronic pain problems based on the time course of the disorder. Acute refers to the first month, subacute 2-3 months and chronic >3 months. Subacute also incorporates intermittent recurrences of pain interrupted by pain free intervals. Yet another classification scheme has been proposed by the Bone and Joint Decade Taskforce on Neck Pain (see assessment section below).[6] The Task Force on Neck Pain aims to assess the literature to best determine the epidemiology, diagnosis, prognosis, economic costs, and treatment of neck pain.[7] The Task Force recommends manual approaches (including chiropractic and acupuncture) as first-line therapies for the treatment of chronic mechanical neck pain without radiculopathy.

Neck pain is frequently reported to and treated by integrative healthcare (IH) providers. US surveys indicate that neck pain is one of the most common complaints for which individuals seek treatment with Complementary and Integrative Health (CIH) therapies.[8,9] There is some evidence that manual therapy and acupuncture techniques have been found to be less costly and more effective than either physical therapy or general practitioner care in improving neck pain.[10,11]

While most individuals with acute neck pain do not seek health care, those that do account for a disproportionate amount of health care costs. Most neck pain is not attributable to a specific disease or disorder and is labeled as muscular, mechanical, or postural neck pain. Despite decades of research and posturing to explain chronic neck pain based on a specific disease or injury, and despite increasingly sophisticated diagnostic imaging assessment, little advance has been made in achieving a specific structural diagnosis for this prevalent condition. Individuals with neck pain do not typically experience full remission; it is estimated that 50-80% will re-experience symptoms in 1-5 years.[12,13]

Subjective Findings and History

- Risk factors for neck pain include age, gender, heredity, and sedentary behavior (with the risk escalating with longer durations of sedentary time).[14]
- Modifiable risk factors included smoking, exposure to tobacco, and psychological health.[1]
- Local pain, sometimes accompanied by referred pain, diffuse (scleratogenous pain distribution).
- Loss of flexibility.
- Pain is usually relieved by rest and aggravated by motion.

Objective Findings

The validity of most commonly used objective tests is lacking. There is support for subjective self-report assessment in monitoring the patient's course and response to treatment.

- Postural evaluation may reveal asymmetry, misalignment or decrease of normal spinal curvature, and may present with lateral list.
- Decrease/loss of normal cervical ROM may be present.
- Palpation may reveal: Segmental joint dysfunction/subluxation, tenderness with pressure over involved tissues, muscle spasm or tautness of paravertebral muscles, myofascial trigger points, and tenderness of acupuncture points.
- Orthopedic and neurological examination directed at differentiating neurogenic from other sources of pain: absence of nerve compression signs (e.g., absence of muscle weakness); orthopedic tests may reproduce the pain (e.g., foraminal compression and other tests that cause spinal motion may increase neck pain).
- Radiographic examination: depending on age and history of prior episodes (see Heraya's Radiographic Guidelines behind the provider log in at www.herayahealth.com: *Providers* tab, *Provider Hub* tab, *Provider Log-in*, *Clinical Tools* tab).

Assessment

- Rule out "red flags" of serious pathology especially in patients seeking care for neck pain without frank trauma. Serious disorders to rule out include pathologic fractures, neoplasm, systemic inflammatory diseases, infections, cervical myelopathy and/or previous cervical spine or neck surgery, or open injury.[15]

- The clinical impression should indicate the specific anatomical structures and acupuncture channels involved, and clinically correlate them with the mechanism of injury, history, subjective complaints, and objective findings.
- Risk factors for chronicity: Significant trauma, co-morbidity (degenerative disc disease, segmental instability, osteoporosis, spine deformity), age, socio-economic factors.

The Task Force on Neck Pain recommends a 4-grade classification system of neck pain severity.[12]

- Grade I neck pain: No signs or symptoms suggestive of major structural pathology and no or minor interference with activities of daily living; will likely respond to minimal intervention such as reassurance and pain control; does not require intensive investigations or ongoing treatment.
- Grade II neck pain: No signs or symptoms of major structural pathology, but major interference with activities of daily living; requires pain relief and early activation/intervention aimed at preventing long-term disability.
- Grade III neck pain: No signs or symptoms of major structural pathology, but presence of neurologic signs such as decreased deep tendon reflexes, weakness, and/or sensory deficits; might require investigation and, occasionally more invasive treatments.
- Grade IV neck pain: Signs or symptoms of major structural pathology, such as fracture, myelopathy, neoplasm, or systemic disease; requires prompt investigation and treatment.

TCM Perspective

According to TCM theory, neck pain corresponds to a type of obstruction in the circulation of qi and blood in the channels and collaterals, traditionally known as 'Bi syndrome.' This syndrome indicates pain, soreness or numbness of the muscles, tendons and joints from invasion of 'external pathogenic factors', i.e., wind, cold and/or dampness, trauma, or internal imbalance. These pathogenic factors obstruct the circulation of qi and blood in the channels and collaterals, causing pain.[16]

Plan

Following a trauma (e.g., whiplash), patients should be encouraged to resume pre-accident activity as quickly and safely as possible. Patients should also be reassured that neck pain normally has a good prognosis and regaining normal function is highly likely. Interventions that focus on regaining function and returning to work as soon as possible are relatively more effective than interventions that do not have such a focus.

Manual Adjustments/Manipulation:

- Cervical and thoracic manipulation, cervical mobilization.[17,18,19,20]
- Cervical posture corrective orthotic device.[21]
- Eight RCT's (n-=965) support the use of spinal manipulative therapy (SMT) as an effective and safe intervention for reducing pain, improving CROM, and decreasing disability in patients with acute neck pain.[22]

- Manipulative therapy reduces the degree of chronic neck pain and neck disabilities.[23]
- There is low level evidence that intermittent cervical traction is helpful for neck pain.[24]
- A 2014 study provides strong recommendations for treatment of chronic neck pain with manipulation, manual therapy and exercise in combination with other modalities[25]
- The treatment of seniors (65 years or older) with neck pain using spinal manipulative therapy proved beneficial when combined with supervised and unsupervised home exercise with the supervised component adding little benefit.[26]
- A 2023 study indicated a multi-modal treatment approach including exercise and manual therapy appears to provide similar effects as manual therapy alone but is more effective than exercise alone or other interventions (control, placebo, 'conventional physical therapy', etc.) for the treatment of nonspecific neck pain and related disability.[27]

Soft Tissue Therapies*:*

- Physical therapy modalities, including manual therapy with a multi-modal approach.[28,29, 30]
- Manual pressure.[31]
- Passive and active soft tissue therapy.[32]
- Massage Therapy.[33]
- Low level laser therapy may be useful in chronic neck pain.[34]
- 2024 study of 10 RCT's (n=59) showed modest effects are observed in pain reduction, suggesting potential benefits of myofascial release in managing chronic neck pain.[35]
- Meta-analysis (n=566) found that manual soft tissue therapy (MSTT) has a significant effect on alleviating the pain of patients with chronic neck pain.[36]

Physical Modalities (Western):

- High intensity laser therapy (HILT) may be considered as an adjunctive treatment modality and showed moderate quality evidence to improve pain intensity and cervical ROM in individuals with neck pain.[37,38]
- Electrical stimulation seems to be effective for improving pain intensity, immediately post-treatment in people with neck pain, mainly as an adjunct therapeutic modality.[39]
- Mulligan's techniques appear to be safe, simple, and potentially beneficial for managing mixed or chronic NP.[40]

Movement and Exercise:

- Alexander Technique.[41]
- Evidence shows that The Feldenkrais Method (FM) has therapeutic effects comparable to other physiotherapy techniques in patients with spine pain.[42]
- Virtual reality (VR) has shown advantages in rehabilitation.[43]
- Resistance, mindfulness-based, and motor control exercises were effective for reducing neck pain.[44]
- Isometric training has significant effects on relieving neck pain, improving neck dysfunction, and improving joint mobility.[45]

Pharmaceuticals (OTC):

- Analgesics, NSAIDS, muscle relaxants. There is insufficient data to suggest that one medication is superior or more effective to any other or to non-pharmaceutical interventions.[46] They also demonstrate no observable differences in short or long-term assessment of Quality of Life Years (QALYs).[12,46]
- Topical salicylic acid, capsaicin, CBD, and other topical liniments, plasters/patches, or creams.

Supplements and Nutrients:

- Oral and intramuscular injections of magnesium; bromelain and other proteolytic enzymes; Vit. C and B-complex.

Homeopathy:

- Bryonia, Arnica, Rhus tox, Mag phos, Calc phos et al as indicated by symptomatology.

Western Herbal Medicine*:*

- Botanical medicines: Curcumin, Devil's club, Valerian topically, Cimicifuga, nervines for sleep and relaxation, Arnica, DMSO.
- Topical treatments (e.g., comfrey poultice, hypericum, arnica, wintergreen).
- Botanical supplementation to reduce inflammation (*Curcuma longa* (turmeric), *Capsicum annuum* (cayenne), *Arnica montana* (arnica), *Ruta graveolens* (rue), *Hypericum perforatum* (St. John's wort), and *Gaultheria procumebens* (wintergreen).

Immobilization, Bracing, Taping*:*

- Braces/supports.
- Posture training, ergonomic evaluation, educational interventions, for example cranio-cervical flexion exercises.[47]
- Activity/work restrictions and rest, if appropriate. These may include: No repetitive motion, lifting, grasping, pinching.

Acupuncture:

Numerous clinical triala have assessed the value of acupuncture for the treatment of *chronic* neck pain. With the exception of a few recent trials,[48,49], the majority of published clinical trials have been summarized in five systematic reviews.[50,51,54,52,56] Based on the literature the following conclusions can be drawn:

The evidence supports the benefit of acupuncture for chronic neck pain.

- The most recent SRs demonstrate the effectiveness of acupuncture adjunctive to usual medical care for pain, disability, and function (short-term follow-up).[53,54,55]
    - This is supported by two new trials not included in the above reviews.[50,51]
- Two large scale trials suggest acupuncture provides long-term benefit (1-year follow-up) when used in addition to usual care.[56,57]

The evidence supports the cost-effectiveness of acupuncture for the treatment of chronic neck pain.

- A large scale trial (n=3,451) demonstrated cost-effectiveness at 1 and 4 -year.[56]

Acute Neck Pain:
A 2024 review assesses the literature for acute neck pain, all trials were published in Chinese and of low methodological quality.[58] Despite this, the authors suggest benefit of acupuncture.

Dry Needling:
A 2023 systematic review suggests benefit of dry needling techniques compared to other active interventions for chronic neck pain.[59] Meta-analysis of pain demonstrated a positive effect, but caution is warranted due to high heterogeneity (MD: -0.45; 95% CI: −0.90 to −0.01; $p<0.01$; $I^2 = 88\%$).

Lifestyle Counseling:

- Psychoemotional counseling.[60]
- Cognitive and Mind/Body Therapies.[61]

Injection Therapies:

- 4 RCT studies showed level I (strong) evidence for short- and long-term improvements in pain relief and functionality with cervical epidural injections of local anesthetic alone or with a steroid in the management of neck pain.[62]

Mind-Body Therapies*:*

- Yoga.[63,64]
- A 2024 systematic review (n=1442) suggest yoga, pilates, Qigong, and Tai Chi demonstrated considerable effectiveness in improving pain intensity, functional disability, cervical mobility, and quality of life in patients with chronic non-specific neck pain.[65]
- Seven RCTs (n=479) concluded pain neuroscience education (PNE) effectively reduced pain intensity and kinesiophobia in patients with chronic neck pain (CNP). A longer PNE time leads to greater pain reduction and is more effective in adults than in adolescents.[66]
- QiGong:
    - A systematic review (N=5; 399 participants) suggests benefit.[67]

Outcome Assessment Tools

- Visual analog pain scale (VAS), numeric pain rating scale (NRS), quadruple VAS and NRS.
- Neck pain disability index (NDI).
- Patient Specific Functional Scale.
- MYMOP2 (Make Yourself Medical Outcome Profile version 2).[68]
- Northwick Park Questionnaire.[69]

Referral Criteria

Referral to an appropriate specialist may be appropriate after 4-6 weeks of care without symptomatic or functional improvement or upon onset of (progressive) neurologic deficit.

Resources for Patients

Spine-health.com publishes original, award-winning articles written for patients by over 80 physician authors and peer-reviewed by a 23-member Medical Advisory Board. This trusted, independent site is supported by hundreds of physician members and visited by millions of patients and their physicians. http://www.spine-health.com/pain/neck-pain-0?page=1

MedlinePlus will direct you to information to help answer health questions. MedlinePlus brings together authoritative information from NLM, the National Institutes of Health (NIH), and other government agencies and health-related organizations.
http://www.nlm.nih.gov/medlineplus/ency/article/003025.htm

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