Neck Pain, Cervicalgia

Diagnosis/Condition:	Neck Pain, Cervicalgia
Discipline:	DC, ND
ICD-9 Codes:	723.1; 723.3; 739.1; 847.0
ICD-10 Codes:	M54.2; M53.1; M99.01; S13.4XXA; S13.8XXA
Origination Date:	1996
Review/Revised Date:	04/2015
Next Review Date:	04/2017

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] Neck pain is common in children as well. Neck pain has been found in up to 40% of a small sample of pre-adolescents and teenagers.[2,3] Neck pain is frequently reported to and treated by CAM providers. Historically segmental dysfunction and cervical sprain/strain are the first and second most common diagnoses reported by CHP chiropractic physicians with neck pain being the second most common diagnosis reported by CHP naturopathic physicians (NDs). There is some evidence that manual therapy techniques have been found to be less costly and more effective than either physiotherapy or general practitioner care in improving neck pain.[4]

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 on the basis of 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.

Subjective Findings and History

- Risk factors for neck pain include age, gender, and heredity[1]
- Modifiable risk factors include tobacco exposure (smoking and second hand), low social support at work, high quantitative work demands, sedentary, precision and repetitive work[1]
- Macro trauma: Onset of pain and paraspinal muscle spasm begins either immediately after the injury or gradually over the next 24 hours
- Micro trauma: Repetitive traumatic events not singularly capable of producing injury
- 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 reveals asymmetry, misalignment or decrease of normal spinal curvature
- Decrease/loss of normal spinal ROM
- Palpation: Segmental joint dysfunction/subluxation, tenderness with pressure over involved tissues, muscle spasm or tautness of paravertebral muscles, Myofascial Trigger 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 radiographic guidelines at www.chpgroup.com, *For Providers* tab, *Provider Log-in* tab, *Clinical Tools* tab) Note: There is no evidence that common degenerative changes in the cervical spine are a risk factor for neck pain.

Assessment

- Rule out "red flags" of serious pathology 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.[5]
- A complete medical history and description of local and systemic symptoms.
- A thorough physical examination, including musculoskeletal and neurological exams.
- Imaging: refer to CHP Radiographic guidelines. (add link)
- Determining which patients may benefit from treatment for neck pain can aid clinical decision-making. One large study of about 20,000 patients illuminated which ones were likely to experience immediate relief from manipulation. Patients who presented with symptoms of reduced neck, shoulder, arm movement, stiffness, neck pain, upper, mid back pain, headache, shoulder, arm pain, are likely to report immediate improvement in these symptoms after treatment. Patients presenting with any 4 of these symptoms were shown to have the highest probability of immediate improvement.[6]

The Neck Pain Task Force recommends a 4-grade classification system of neck pain severity.[7]

- 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.

Plan

A number of non-surgical treatments appear to be more beneficial than "usual care" (e.g. medication, advice, exercises), sham, or alternative interventions but none of the active treatments were clearly superior to any other in the short or long term. Educational videos, mobilization, manual therapy, exercises, low-level laser therapy (LLLT), and perhaps acupuncture appeared to have some benefit. 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.[7] More recent evidence provides strong recommendations for treatment of chronic neck pain with manipulation, manual therapy and exercise in combination with other modalities.[8] Moderate to strong recommendations for treatment of chronic neck pain included stretching, strengthening and endurance exercises alone.[8,9] Moderate recommendations were made for treatment of chronic neck pain with mobilization as well as massage in combination with other therapies and weak recommendations were made for the same condition with manipulation alone. With respect to acute neck pain, moderate recommendations were made for treatment with manipulation and mobilization in combination with other therapies and weak recommendations were made for the same condition with exercise alone.[8] 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.[10] There is also evidence of significant and immediate improvement respectively with cervical manipulation in the treatment of symptomatic disc herniations and degenerative cervical radiculopathy.[11, 12]

Passive Care:

- Cervical and thoracic manipulation, cervical mobilization.[13,14]
- Physical therapy modalities.
- Prescription/OTC medications: analgesics, NSAIDS, muscle relaxants.
- Topical salicylic acid, other topical analgesic cream.
- Braces/supports.

Active Care:

- Rest from inciting activities.
- Active exercises/stretches for mobility and strength.
- Ice/heat application at home (hydrotherapy).
- Posture training, ergonomic evaluation, educational interventions.
- Activity/work restrictions, if appropriate.

- Supervised qigong, lyengar yoga, and combined with programs including strengthening, range of motion, and flexibility.[15]

Other treatments:

- Nutritional supplementation (Vitamin C, manganese, magnesium, calcium, glucosamine sulfate, chondroitin, methylsulfonylmethane, bromelain and essential fatty acids.
- 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).
- Topical treatments (e.g. comfrey poultice, hypericum, arnica, wintergreen).
- Homeopathy.
- Acupuncture.
- Massage.[16]

Length of Treatment

- Estimated duration of care: 1-6 weeks. Evidence for the dose response to manipulation and physical medicine modalities is sparse. In a small sample (80 patients) the difference between 8 and 16 treatments over an 8 week period was small.[17]
- Evaluate progress on an on-going basis.
- Risk factors for chronicity: Significant trauma, co-morbidity (degenerative disc disease, segmental instability, osteoporosis, spine deformity), age, socio-economic factors.

Outcome Assessment Tools

- Visual analog pain scale (VAS), numeric pain rating scale (NRS), quadruple VAS and NRS.
- Neck pain disability index (NDI).

Vertebrobasilar Stroke Risk

There is concern for the association of cervical manipulation, especially upper cervical manipulation, and injury to the vertebrobasilar artery (VBA) resulting in stroke. A population-based case control and case crossover study of 815 VBA stroke cases showed that there was an association between chiropractic services and subsequent vertebrobasilar artery stroke in persons under 45 years of age. But a similar association was also observed among patients receiving general practitioner services. This is likely explained by patients with incipient vertebrobasilar artery dissection-related neck pain or headache seeking care from DCs and MDs before having their stroke and not because of a manipulation.[18] A review of the best evidence indicates that chiropractic care is useful for patients with neck pain for which the risks of serious adverse events should be considered negligible.[19,20]

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 Clinicians

Chiropractic clinical practice guideline: evidence-based treatment of adult neck pain not due to whiplash. Canadian Chiropractic Association Canadian Federation of Chiropractic Regulatory Boards. 2005. 52 pages.

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

The Evidence

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Clinical Pathway Feedback

CHP desires to keep our clinical pathways customarily updated. If you wish to provide additional input, please use the e-mail address listed below and identify which clinical pathway you are referencing. Thank you for taking the time to give us your comments.

Clinical Services Department: providers@chpgroup.com

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