

# Cervicogenic Dizziness

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## Fact Sheet

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**Overview:** The term cervicogenic dizziness is currently used in practice to describe symptoms of dizziness that arise from the cervical spine.<sup>1,2</sup> It is referred to as cervical vertigo, proprioceptive vertigo, cervicogenic vertigo, and cervical dizziness.<sup>3</sup> It has been found that the neck plays a critical role in balance.<sup>4</sup> Abnormal afferent signals from the neck can create various sensations of altered orientation in space and disequilibrium.<sup>3,5</sup> The physiologic mechanisms of cervicogenic dizziness are believed to be from 1) vasomotor changes due to irritation of the cervical sympathetic chain, 2) vertebrobasilar insufficiency/ vascular compression, or 3) altered proprioceptive input from the upper cervical spine.<sup>1,6,7</sup> Dizziness with cervical spine dysfunction frequently results from flexion-extension injuries such as a whiplash injury.<sup>5</sup> Additionally, patients with prior vestibular insults may modify or restrict head motion, thereby altering normal cervical spine mechanics and leading to further symptoms of dizziness from cervical origin.

**Symptoms:** Can vary significantly from person to person. Some of the most common symptoms observed are:<sup>1-9</sup>

Dizziness	Vertigo
Disequilibrium	Dizziness associated with headaches
“Swimming sensation”	Cervical range of motion restrictions
Difficulty sleeping due to pain	Referred pain to shoulders or scapular area
Ataxia	Unsteadiness of gait
Postural imbalance with neck pain	Headaches
Cervical pain	Tinnitus
Hearing loss	Nausea
Lightheadedness	Wooziness

**Diagnosis:** There is no “gold standard” definition or diagnostic tests to identify cervicogenic dizziness as well as no definitive treatment progression.<sup>1,2,4,5,7,8</sup> A variety of various differential diagnoses can present similar to cervicogenic dizziness and a combination of neck pain and dizziness should not be the only characteristics used to describe this disorder.<sup>7</sup> Cervicogenic dizziness can be defined as the presence of dizziness, imbalance or unsteadiness related to movements or position of the cervical spine, or occurring with a stiff or painful neck.<sup>3</sup> Diagnosis of cervicogenic dizziness is often considered a diagnosis of exclusion.<sup>5</sup> Differential diagnosis of dizziness from vertebrobasilar insufficiency is usually accompanied by other symptoms including visual hallucinations, drop attacks, loss of vision or visual field defects, diplopia, and headaches.<sup>2</sup> A detailed history, comprehensive clinical examination, vestibular function tests, and possible radiological evaluation provide information for the diagnosis.<sup>2,5</sup> The clinical exam should include an oculomotor exam, posture assessment, active and passive range of motion of the cervical spine, instability of the

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cervical spine (including alar ligament testing), mobility of the cervical vertebral column (including a segmental exam of the cervical spine), compression and distraction of the cervical spine, palpation, pain, and a neurologic exam.<sup>2,5,6,7</sup> The clinical neck torsion nystagmus test is commonly used for diagnosis although it is not specific for cervicogenic dizziness.<sup>2,4,5</sup> A positive result is nystagmus as well as provocation of symptoms.<sup>2</sup> Smooth pursuit with neck rotated can also be used to diagnose but may require specialized equipment, such as infrared goggles or frenzel lenses.<sup>5</sup> Manual cervical traction can also indicate a cervical component if there is a reduction in symptoms during traction.<sup>2</sup> The Spurling Test evaluates the patient for cervical spine impingement.

**Treatment:** Intervention is prescribed on an individual basis depending on the clinical findings.<sup>2,4</sup> There is moderate evidence to support the use of manual therapy techniques, such as mobilization and manipulation, in the treatment of cervicogenic dizziness.<sup>3</sup> The use of vestibular therapy in conjunction with manual therapy has not been as well studied. However, sound rationale for the use of vestibular therapy in conjunction with manual therapy in cervicogenic dizziness treatment has been well described.<sup>3</sup> The central and peripheral vestibular system may be involved simultaneously and both may need to be addressed.<sup>4</sup> Cervical spine dysfunctions should also be addressed through manual or mechanical traction, active and passive range of motion, strengthening of the deep neck flexors, postural reeducation, massage, trigger point injections, modalities, and biofeedback.<sup>2,4,5,6</sup> Cervical kinesthesia training is another important aspect of treatment.<sup>2</sup> These include a variety of eye fixation or tracking exercises combined with head movements.<sup>2,7</sup> In the acute phases following traumatic injury, muscle relaxants and soft cervical collars may be considered.<sup>4</sup> Use of a soft cervical collar should be limited only to the acute phase and should not be worn more than 1-2 hours per day.<sup>4</sup> Use of a cervical collar beyond these guidelines may actually aggravate the condition.

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