



by Timothy M. Sievers, MD, Pain Management Center

What is whiplash?

Whiplash is a relatively common injury that occurs to a person's neck following a sudden acceleration-deceleration force, most common from motor vehicle accidents. The term "whiplash" was first used in 1928. The term "whiplash injury" describes damage to both the bone structures and soft tissues of the cervical spine. "Whiplash associated disorders" (WAD) describes a more severe and chronic condition.

Whiplash is typically not a life threatening injury but it can lead to a prolonged period of partial disability, with significant economic implications that reach 30 billion dollars a year in the United States as a result of medical care, disability, sick leave, lost productivity, and litigation.

What causes whiplash?

The most common scenario is one of a rear impact motor vehicle accident. High speed camera-crash test dummy studies reveal that after the rear impact, the lower cervical vertebrae are forced into a position of hyperextension while the upper cervical vertebrae are in a hyper flexed position. This abnormal s-shape forcefully causes damage to the soft tissues that hold the cervical vertebrae together (ligaments, facet joints capsules, muscles) with a potential stretch injury to the spinal cord in severe cases.

What are the symptoms of whiplash?

The most common symptoms related to whiplash include: neck pain and stiffness, headache, shoulder pain and stiffness, dizziness, fatigue, jaw pain, arm pain/weakness, visual disturbances, ringing in the ears, and associated low back pain. The more severe and chronic case of "whiplash associated disorder" symptoms can include: depression, anger, frustration, anxiety, stress, drug dependency, post-traumatic stress disorder, sleep disorders, litigation, and social isolation.

How is whiplash diagnosed?

Diagnosis is based on a thorough patient history with significant mechanism of injury, head and neck examination, x-rays to rule out fractures and malalignment, and other imaging studies if there are concerns of neural involvement or instability.

The Quebec Task Force (QTF) was sponsored by the Societe del'assurance du Quebec, the public auto insurer in Quebec, Canada. The QTF submitted a report in 1995 with classification and recommendations for whiplash-associated disorders.

Quebec task force grades of Whiplash Associated Disorders (WADs):

Grade 0: No neck pain, stiffness, or any physical signs are noticed.

Grade 1: Neck complaints of pain, stiffness or tenderness only, but no physical signs are noted by the examining physician.

Grade 2: Neck complaints and the examining physician finds decreased range of motion and point tenderness.

Grade 3: Neck complaints plus neurological signs such as decreased deep tendon reflexes, weakness, and sensory deficits.

Grade 4: Neck complaints and fracture or dislocation, an injury to the spinal cord.

How is whiplash treated?

Treatment for WAD grade 1 – 3 includes gentle mobilization, range of motion exercises, heat and ultrasound, analgesics and non steroidal anti-inflammatory drugs with periods of relative rest (use of cervical collar). Cervical collar should not be used for longer than 72 hours. Some data suggests that prolonged immobilization leads to a higher likelihood of more chronic conditions.

Traumatic cervical facet syndrome involves refractory pain from the facet joints due to capsule trauma. In some cases, steroid-based intra-articular injections or medial branch blocks can diagnose and assist in pain control with enhanced mobility. Radio frequency lesioning techniques can then be offered for more long-term control by interrupting sensory feedback from the facet joints. 



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