

UNDERSTANDING WHIPLASH INJURIES

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Whiplash is a common injury that can be experienced following a motor vehicle collision (MVC). There are more than 100,000 whiplash cases in Canada each year. The unique forces generated during these collisions can stress biological tissues and result in pain, decreased functioning and disability for those affected. This article provides a review of the current scientific understanding of whiplash associated symptoms, along with guidelines on assessment and best management strategies.

Although rear-end collisions are the most commonly reported mechanism of whiplash injury, an injury may also occur following side and head-on collisions. The forces generated from these types of impacts thrust the head (and to a lesser extent the entire body) back and forth, much like a snapping whip. Injury results because the body is unable to compensate adequately for the speed of head and torso movement from the acceleration forces generated at the time of impact. This will put stretch, compressive and shear stresses on biological tissues such as muscles, ligaments, joints and nerves. As a result, this can generate pain symptoms, and affect range of motion, strength, coordination, and balance. The onset of whiplash symptoms may immediately follow a MVC or may gradually develop over the first 24-72 hours. A later onset of symptoms does not necessarily indicate a more serious injury.



Neck pain is traditionally associated with whiplash injuries. However, the whiplash mechanism may also cause injury and symptoms that include: whole body muscle pain/ache, jaw pain, shoulder pain, referred arm pain, mid back pain, low back pain, headaches, dizziness, vertigo, tinnitus, difficulties with swallowing, hearing and memory acuity, depression and anxiety. The term WAD (Whiplash Associated Disorder) encompasses all of these potential symptoms and is commonly used to grade the degree of injury present. WAD Grades 1 and 2 represent the majority of whiplash cases, and are commonly referred to as uncomplicated soft tissue injuries in the medical literature.

Evaluation of whiplash injuries should include a proper medical history, along with a physical examination consisting of inspection, palpation for tenderness, range of motion, strength, neurological, provocative/orthopaedic and functional testing. Signs of serious injury, such as fracture, are usually evident in early assessments and may require further diagnostic testing such as x-ray, CT scan, or MRI. Health care professionals trained to treat whiplash are alert for these signs.

WAD 1 and 2 injuries are amenable to conservative management. Early treatment and consultation can greatly improve the recovery process and prevent future complications and ongoing pain. Effective treatment strategies should include: pain controlling modalities such as electrotherapy and acupuncture to help facilitate and promote activity and functioning; soft tissue and manual therapy to assist in healing injured biological tissues; education on how to safely re-integrate into activities of daily living; and rehabilitative exercises that include range of motion, strengthening, balance and coordination training. An independent home exercise program should also be provided. The goal of treatment is to get the injured individual back on their feet and up

to their normal level of activity. Returning to activity maintains the health of soft tissues and keeps them flexible. This accelerates recovery and minimizes the chance of developing chronic pain.

Current treatment strategies refer to the concept of “**functional restoration**”, an approach in which the regulated health professional is oriented toward daily function and to the delivery of treatments/interventions that help the injured person to reduce or manage their pain. The injured person is assessed to determine the level of current functioning relative to these critical demands and any functional limitations that have arisen as a result of the injury. The treatment interventions delivered by the regulated health professional are then designed to address these areas of limitation such that the individual will be able to maintain and/or resume normal activities at home and at work.

Prolonged rest after a whiplash injury may prolong recovery. Injured tissues can become stiff and weak when they are not used, which can further exacerbate pain symptoms. Research indicates that successful whiplash treatment requires patient cooperation and active efforts to resume daily activity. The majority of people with WAD Grades 1 and 2 experience no disruption to their normal activities of daily living. Some may experience a temporary disruption to their normal activities, but usually improve after a few days or weeks. Occasionally, symptoms may persist over a longer period of time. A return to normal activities of daily living may be assisted by active treatment and rehabilitative exercise prescription as described above.

The majority of whiplash injuries do not represent any serious structural problems. The prognosis for uneventful recovery after an uncomplicated soft tissue whiplash injury is excellent, with no long term complications expected. A return to daily activities is extremely important for successful recovery. For those with whiplash symptoms that may be interfering with their activities of daily living, a qualified health professional can prescribe appropriate conservative therapy, rehabilitation and self-management strategies specifically for your whiplash injury. For more information, visit www.nhwc.ca.

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