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## **“Crack the Whip”**

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### **Question**

I was involved in a car accident and awoke the following day with stiffness in my neck and shoulders. Could this be whiplash and how could I be helped?

### **Answer**

Whiplash injuries most commonly occur following trauma to the neck, such as in an automobile accident. The term implies a mechanism of injury whereby the body comes to a sudden stop followed by a sudden snap of the unsupported neck and head. This syndrome is commonly referred to as a cervical acceleration/deceleration injury. The potential health and economic costs are enormous and its occurrence is in epidemic proportions. According to the Insurance Corporation of British Columbia, whiplash injuries accounted for 61.7 per cent of injuries suffered in automobile collisions in that province in 1990. Whiplash injuries are more commonly caused by rear-end collisions, however, a similar whiplash action occurs in side impact and head-on collisions. In rear-end collisions, even with a high seat back or head restraint, the neck is thrown into extension (backwards). As the victim's torso is forced backward into the seat back, the head and neck initially remain fixed, while the vehicle moves forward. The initial inertia of the head is followed by extension of the neck. After deflecting off the head rest, the head rebounds forward, forcing the neck into flexion. If the head rest is not high enough, it may actually act as a fulcrum over which the neck pivots. As the neck recoils forward, hyperflexion is stopped as the chin strikes the chest. It is important for your doctor to obtain as much information as possible about the injury, including the direction of force, position and relationship of the head and spine, and whether the head was turned, flexed or extended. These and many more questions aid in the assessment of the severity of injury in addition to indicating which other areas need to be focussed on during the physical exam. The first priority is an X-ray to rule out a fracture, instability, and any possible dislocation. An examination of the area in question will include evaluation of muscles in the anterior and posterior portions of the neck for damage (i.e. tearing, bleeding). These muscles are often stretched and later contract in a guarding fashion to prevent further injury. A complete orthopedic, neurological and chiropractic assessment should be performed to ensure that these systems are functioning properly. Patients suffering from whiplash injuries complain of a large variety of symptoms. A feeling of tightness and stiffness gradually ensues, and after several days a broad complex of symptoms may develop. The most common symptoms are neck pain with limited motion. Headaches may develop as a result of muscle spasm and inflammation. Blurring and other visual disturbances may be present for short durations. Difficulty in swallowing may result from damage to the pharynx and larynx (voice box) with subsequent bleeding to the area. This requires immediate medical attention. Sensory complaints include numbness and tingling of the neck, shoulder, arm, forearm and fingers, possibly resulting from nerve root irritation in the neck or from muscular involvement. Other common problems are low back pain and jaw discomfort due to the sheer force of impact. Gentle manipulation (a force directed into the joint) and mobilization of the neck should be done as soon as possible. Initial goals are to increase motion and reduce inflammation. A cervical collar is optional. Many times the patient experiences less discomfort if the neck is allowed a certain amount of movement. Therapies such as ultrasound, low intensity laser therapy and electrical stimulation decrease inflammation, aid in pain control and promote healing. Cervical traction (pulling along the long axis of the spine) helps reduce nerve root irritation and stimulates muscular relaxation. Rehabilitative

exercise builds strength in weakened muscles and helps elongate those tissues that have previously shortened. This in turn increases active ranges of motion and prevents scar formation. It is important to seek active early intervention for whiplash.