

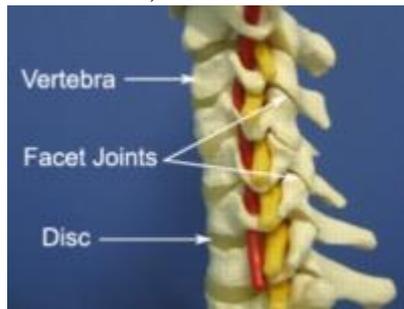
# Whiplash

(Also known as Whiplash, Whiplash Syndrome, Acceleration / Deceleration Injury, Neck Sprain)

## What is neck whiplash?

Whiplash is the term given to an acceleration / deceleration injury of the neck or lower back. This may cause damage to numerous structures within these areas.

The spine comprises of many bones known as vertebrae. Each vertebra connects with the vertebra above and below via two types of joints: the facet joints on either side of the spine and the disc centrally (figure 1). In addition, the spine has muscles situated at the front, back and sides of the neck supporting these joints.



During an acceleration / deceleration injury of the neck and/or low back, stretching and compressive forces are placed on the joints, muscles, ligaments and nerves primarily at the front and back of the neck or back. This may cause widespread damage to these structures if the forces are beyond what the tissues can withstand. When this occurs the condition is known as whiplash.

## Causes of neck whiplash

Whiplash injuries most commonly occur in motor vehicle accidents whereby the neck is thrown forcefully forwards and then backwards. This condition is also frequently seen in contact sports, whereby the usual mechanism of injury is a forceful collision with another player resulting in a jolting force to the head and neck, and lower spine.

## Signs and symptoms of neck whiplash

Patients with this condition usually experience a sudden onset of neck pain and/or low back pain during the causative activity. However, occasionally patients may experience little or no pain at the time of injury. In these instances, symptoms typically increase over the following 2 to 3 days and may be prominent at night or first thing in the morning.

The pain associated with whiplash can be sharp or dull and may increase with movement or sustained postures (e.g. sitting at a computer in poor posture). Pain is usually felt in the neck and occasionally radiates into the shoulders, arm(s) or head (causing a headache). If the low back is involved, pain may be felt in the local area, and also could radiate down the course of the sciatic nerve in the leg.

Patients with whiplash also commonly experience stiffness or restricted movement in their neck and/or back. Occasionally patients may feel that their head is heavy and can experience difficulty lifting their head off a pillow. Pins and needles, numbness or weakness may also be felt in one or both arms, hands and fingers, buttock and legs although this is less common.

## Diagnosis of whiplash

A thorough subjective and objective examination from a physiotherapist is usually sufficient to diagnose whiplash. Investigations such as an X-ray, MRI or CT scan are usually required to rule out serious injury.

### **Prognosis for neck whiplash**

Most patients with mild to moderate cases of neck whiplash heal quickly and have a full recovery with appropriate physiotherapy treatment. In these instances, recovery may take weeks to months. In severe cases, recovery may be significantly longer. Patients with severe whiplash may also have an increased likelihood of developing degenerative changes to their joints resulting in long term problems with restricted movement and pain.

### **Treatment for neck whiplash**

Prior to commencing treatment, all patients with whiplash should undergo assessment from a medical professional to rule out serious injury (such as spinal fracture).

The success rate of treatment in patients with this condition is largely dictated by patient compliance. One of the key components of treatment is that the patient rests sufficiently from any activity that increases their pain until they are symptom free.

Activities which place large amounts of stress through the neck should be minimized, these include: prolonged sitting, standing or lying in poor posture, head looking down activities, shoulders forward activities and lifting. Resting from aggravating activities allows the body to begin the healing process in the absence of further tissue damage.

Once the patient can perform these activities pain free, a gradual return to these activities is indicated provided there is no increase in symptoms.

Ignoring symptoms or adopting a 'no pain, no gain' attitude is likely to lead to the condition becoming chronic. Immediate treatment for patients with neck whiplash is essential to ensure a speedy recovery. Once the condition is chronic, healing slows significantly resulting in markedly increased recovery times.

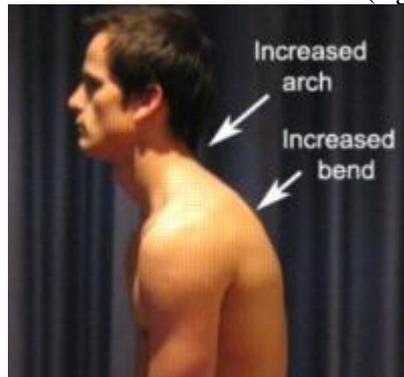
Patients with this condition should perform early movement and postural exercises to prevent stiffness from developing and to ensure the neck is functioning correctly. The treating physiotherapist can advise which exercises are appropriate and when they should be commenced.

Patients should also pay particular attention to maintaining good posture as much as possible to minimize stress on the neck (a postural support or postural taping may be required). This is particularly important when sitting or driving. Optimal sitting posture can be obtained by sitting tall on an appropriate chair, with your bottom in the back of the chair and a lumbar support (or a pillow or rolled up towel) in the small of your back. Your shoulders should be back and your chin should be tucked in slightly



(figure 2).

Patients with whiplash should avoid maintaining poor posture in any position, as this places considerable stress on the neck (figure 3). This may rapidly aggravate the



condition.

### **Physiotherapy for neck whiplash**

Physiotherapy treatment for this condition is vital to hasten the healing process and ensure an optimal outcome. Treatment may comprise:

- joint mobilization
- dry needling (acupuncture)
- electrotherapy (e.g. ultrasound, laser etc)
- postural taping
- postural bracing
- the use of a lumbar roll for sitting
- education
- anti-inflammatory advice
- activity modification advice
- the use of an appropriate pillow for sleeping
- ergonomic advice
- exercises to improve flexibility, strength (particularly the deep cervical flexors) and posture
- neural stretches

### **Other intervention for whiplash**

Despite appropriate physiotherapy management, a small percentage of patients with neck whiplash fail to improve and may require other intervention. This may include pharmaceutical intervention, corticosteroid injection, investigations such as an X-ray, CT scan or MRI, or referral to appropriate medical authorities who can advise on any intervention that may be appropriate to improve the condition.

### **Exercises for neck whiplash**

The following exercises are commonly prescribed to patients with neck whiplash. You should discuss the suitability of these exercises with your physiotherapist prior to beginning them. Generally, they should be performed 3 times daily and only provided they do not cause or increase symptoms.

#### **Chin Tucks**

Begin this exercise by sitting or standing tall with your back and neck straight, shoulders should be back slightly (figure 4). Tuck your chin in until you feel a mild to moderate stretch in your neck pain-free. Keep your eyes and nose facing forwards during the movement. Hold for 2 seconds and repeat 10 times provided there is no increase in symptoms.



**Figure 4** – Chin Tucks

### **Shoulder Blade Squeezes**

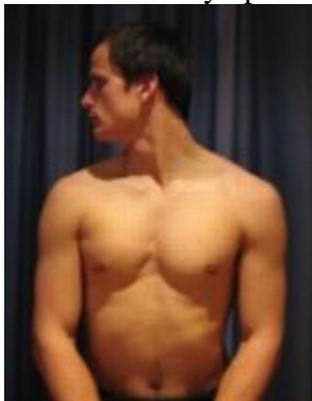
Begin this exercise by sitting or standing tall with your back straight (figure 5). Squeeze your shoulder blades together as hard and far as possible pain-free. Hold for 5 seconds and repeat 10 times provided there is no increase in symptoms.



**Figure 5** – Shoulder Blade Squeezes

### **Rotations**

Begin this exercise by sitting with your back and neck straight and your shoulders back slightly (figure 6). Turn your head looking over one shoulder until you feel a mild to moderate stretch pain-free. Keep your neck straight and don't allow your head to poke forwards during the movement. Repeat 10 times to each side provided there is no increase in symptoms.



**Figure 6** – Rotations (right side)

If you have sustained a whiplash injury, I am here to help. Please contact me on +442866328200 or email [info@lindaburke.co.uk](mailto:info@lindaburke.co.uk)