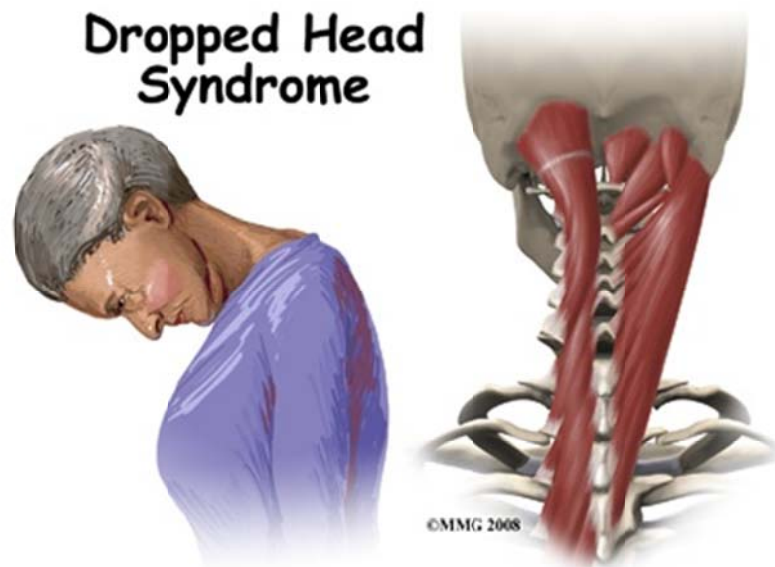


Dropped Head Syndrome

Introduction



Welcome to BodyZone Physiotherapy patient resource about Dropped Head Syndrome.

Dropped Head Syndrome is characterized by severe weakness of the muscles of the back of the neck. This causes the head to rest on the chest in standing or sitting. *Floppy Head Syndrome* and *Head Ptosis* are other names used to describe this syndrome.

Most of the time, Dropped Head Syndrome is caused by a specific generalized neuromuscular diagnosis. When the cause is not known, it is called *isolated neck extensor myopathy*, or INEM.

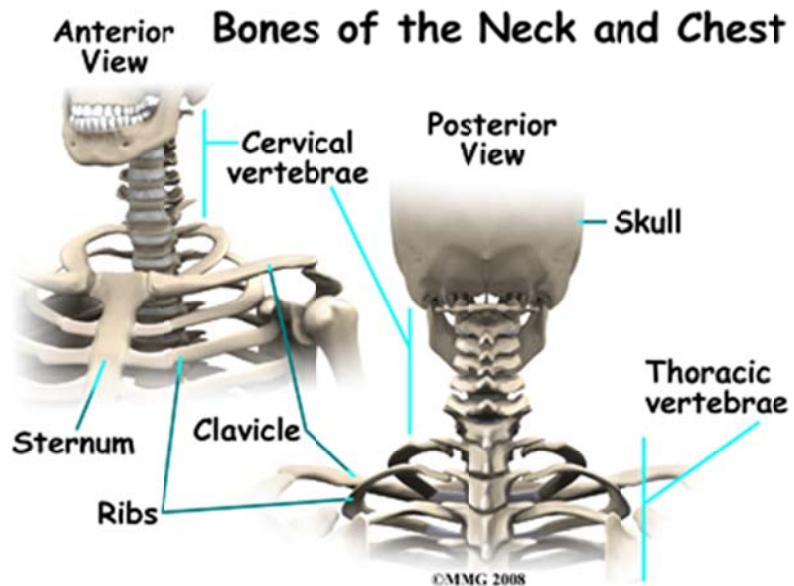
This guide will help you understand:

- what parts make up the cervical spine
- what causes this condition
- how doctors diagnose this condition

- what treatment options are available

Anatomy

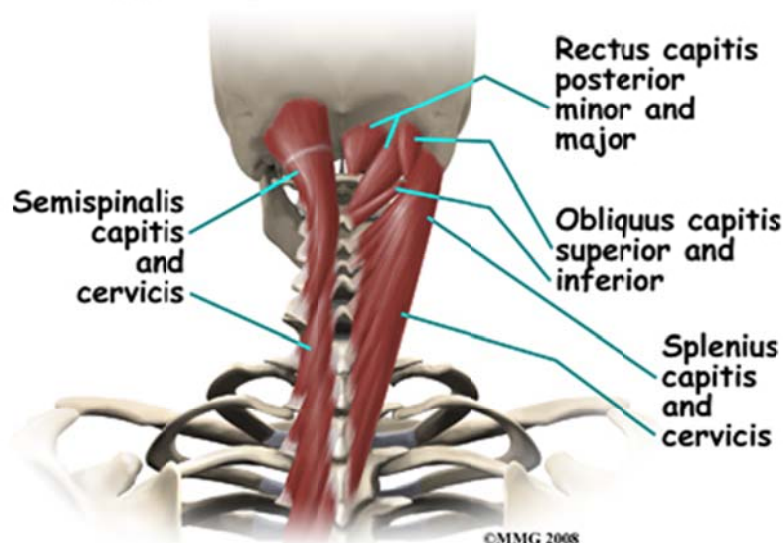
What parts make up the cervical spine?



The spine is made up of a column of bones. Each bone, or *vertebra*, is formed by a round block of bone, called a *body*. A bony ring attaches to the back of the vertebral body, forming a canal for the spinal cord. The spinal cord is made up of nerve cells which grow to look like a rope or cord about one half inch in diameter. The spinal cord attaches to the base of the brain. The base of the brain is called the *brainstem*.

The vertebral column is divided into three distinct portions. The *cervical*, or neck portion attaches to the base of the skull at the upper end. The lower end of the cervical portion connects with the *thoracic spine*. There are seven cervical vertebrae.

Neck Extensor Muscles



There are many muscles that lie in the neck region. Some attach from the base of the skull, others to the spine, ribs, collar bone, and shoulder blade. *Extension* of the neck happens when the top of the head tilts backward. This causes the face and eyes to look up. *Flexion* of the neck is when the top of the head tilts forward. This causes the eyes to look down. It also lowers the chin to the chest.

The vertebrae stack on top of one another. When looking at the spine from the side, or from the *sagittal view*, the spine column is not straight up and down, but forms an *S* curve. The cervical spine has an inward curve called a *lordosis*. The thoracic spine curves outward. This curve is called a *kyphosis*. The lumbar spine usually has an inward curve or *lordosis*. The *S* curve seen in the sagittal or side view allows for shock-absorption and acts as a spring when the spine is loaded with weight.

Causes

What causes this condition?

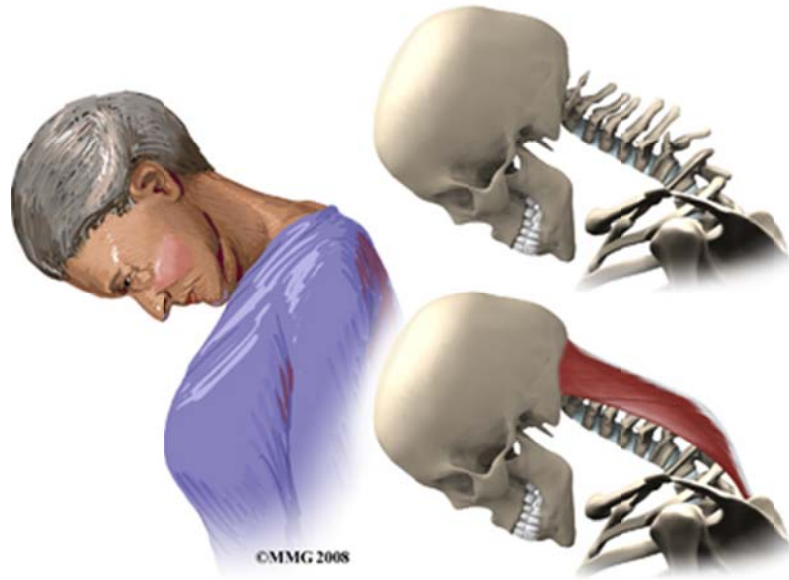
Most of the time, Dropped Head Syndrome is caused by a specific generalized neuromuscular diagnosis. These include *amyotrophic lateral sclerosis (ALS)* also known as Lou Gehrig's disease, Parkinson's disease, myasthenia gravis, polymyositis, and genetic myopathies. Other specific causes can include motor neuron disease, hypothyroidism, trauma to the spine, and cancer.

When the cause of Dropped Head Syndrome is not known, it is called *isolated neck extensor myopathy*, or INEM.

The INEM form of Dropped Head Syndrome usually happens in older persons. The weakness of the muscles in the neck usually occurs gradually over one week to three months.

Symptoms

What does the condition feel like?



The symptoms of dropped head syndrome are usually painless. It most often occurs in the elderly. The weakness is due to the muscles that extend the neck. Dropped Head Syndrome usually develops over a period of one week to three months. The head is then tilted downward. Because of the weakness of the extensors of the neck, the chin rests on the chest and raising the head in sitting or standing is impossible. When lying down however, the neck is able to extend.

Gaze is down at the floor, instead of forward. The face is downward. The neck appears elongated, and the curve of the neck is accentuated. This can cause over stretching or pinching of the spinal cord. When this happens, there is weakness and numbness of the arms or entire body.

Dropped head syndrome can also cause difficulty swallowing, speaking, and breathing.

Diagnosis

How will my health care provider diagnose this condition?

Diagnosis begins with a complete history and physical exam. When you first visit BodyZone Physiotherapy, our physiotherapist will ask questions about your symptoms and how your problem is affecting your daily activities. This is followed by a physical examination to test your reflexes, skin sensation, muscle strength.

Some patients may be referred to a doctor for further diagnosis. Most of the time, loss of neck extension occurs as a result of a more generalized neurological disorder. Neurological conditions must be considered first because some are treatable. A neurologist will usually be involved to help decide what is causing the chin-on-chest deformity.

Once your diagnostic examination is complete, the physiotherapists at BodyZone Physiotherapy have physiotherapy

that can help treat your condition.

.Our Treatment

What treatment options are available?

Isolated neck extensor myopathy (INEM) is considered benign because it does not spread or get worse. Symptoms improve in some cases. It is most often treated conservatively.

At BodyZone Physiotherapy, our physiotherapy treatment of Dropped Head Syndrome is mainly supportive. The condition remains localized to the neck extensor muscles, and physiotherapy may help with this.

Our physiotherapists may recommend neck extension strengthening exercises to provide some improvement. However, many patients find the strengthening both tiring and frustrating. When lying down on your back you can move the neck to maintain range of motion. This helps to avoid unnecessary stiffness and shortening of the muscles in the front of the neck. Our physiotherapist will recommend that range of motion exercises be done on an ongoing basis to avoid contracture of the neck.

Neck collars are one of the most useful treatments for Dropped Head Syndrome. Wearing a neck collar when you are up is likely to improve your activities of daily living.



The collar can partially correct the chin-on-chest deformity. This improves forward gaze and activities of daily living.

can help prevent contractures of the neck in a fixed flexed posture. However, it can be uncomfortable and cause the chin. In these cases, other options can be suggested to prevent chin discomfort.

Physician Review

Your doctor will likely order a *magnetic resonance imaging* (MRI) of your neck. The MRI machine uses magnets rather than X-rays. It shows the anatomy of the neck. It is very good at showing the spinal cord and nerves. The tests do not require a dye or a needle.

Electromyography (EMG) uses small diameter needles in the muscle belly being tested. It helps determine how well the muscles conduct signals to the muscles.

A *muscle biopsy* may be needed. A small piece of muscle is removed and examined under a microscope. A close-up of the muscle fibers can be helpful in making a diagnosis.

In isolated neck extensor myopathy (INEM), the muscle biopsy is non-specific. EMG shows some myopathic changes, but the nerve conduction studies are normal.

If no other associated neurologic disorders are found, then the diagnosis of isolated neck extensor myopathy (INEM) is made. It is a diagnosis of *exclusion*, meaning that everything else that could have caused it has been ruled out. It is not known what causes isolated neck extensor myopathy (INEM).

Some doctors feel that isolated neck extensor myopathy (INEM) is caused by either a non-specific non-inflammatory or a localized inflammatory response that is restricted to the neck extensor muscles. Another possible cause is thoracic kyphosis. If the natural curve of the thoracic spine is increased, it may place the extensor muscles at a disadvantage given the weight of the head. This may cause over stretching and weakness of the extensor muscles.

Prednisone is a potent anti-inflammatory that may be prescribed. It may be beneficial when there is local myositis or inflammation of the muscles. It can be taken in a pill form by mouth or intravenously.

Speech therapy may also be recommended for swallowing, feeding, and breathing problems. Some people may need a feeding tube inserted through the stomach.

Your doctor may want to repeat imaging of the spine. There is the possibility of over stretching or pinching the spine when the neck extensors are so weak. You will need to watch for symptoms such as weakness or numbness in the arms and other portions of the body. Bowel and bladder function could become a problem.

Surgery

Unless fusion is necessary, surgery is usually not recommended in Dropped Head Syndrome.

When there is damage to the nerves in the neck or spinal cord, surgery to fuse the neck may be necessary. This requires a fusion from C2-T2. The loss of neck movement after fusion leaves patients unable to see the ground in front of their feet. This makes them at greater risk for falls. The inconvenience caused by having a rigid neck may prove to be a greater problem than the original dropped head deformity.

Osteoporosis, particularly in older females also poses a problem with surgery. The soft bone may allow the metal hardware used to stabilize the spine to pull out.

