

is suspected. If surgery is recommended, always ask the purpose of the operation and what results you can expect. Never be afraid to obtain a second opinion.

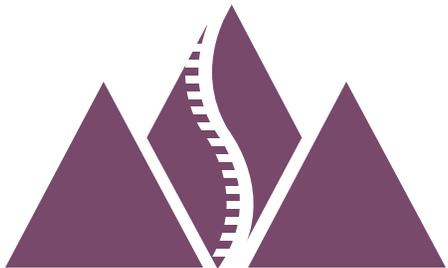
To relieve nerve pressure and neck pain, surgery usually involves a partial disc removal or discectomy. This surgery is usually done from the front of the neck (called an anterior discectomy). In addition, the surgeon may need to access the problem disc by removing a portion of the bone covering the nerve. This procedure is called a laminotomy and is usually done from the back of the neck (posterior laminotomy).

Fortunately, these procedures can often be done utilizing minimally invasive spine surgery techniques. Minimally invasive spine surgery does not require large incisions, but instead uses smaller cuts and tiny specialized instruments and devices such as a microscope and endoscope during the operation.

### Prevention

Aging is inevitable, but lifestyle changes can help prevent cervical disc disease. Risk factors include poor posture and body mechanics, weak neck muscles, smoking and obesity. Start now to adopt habits that will help preserve your spine for the future.

*If you have any further questions or wish to discuss your neck pain or sciatic discomfort, please schedule a consultation with us at your convenience.*

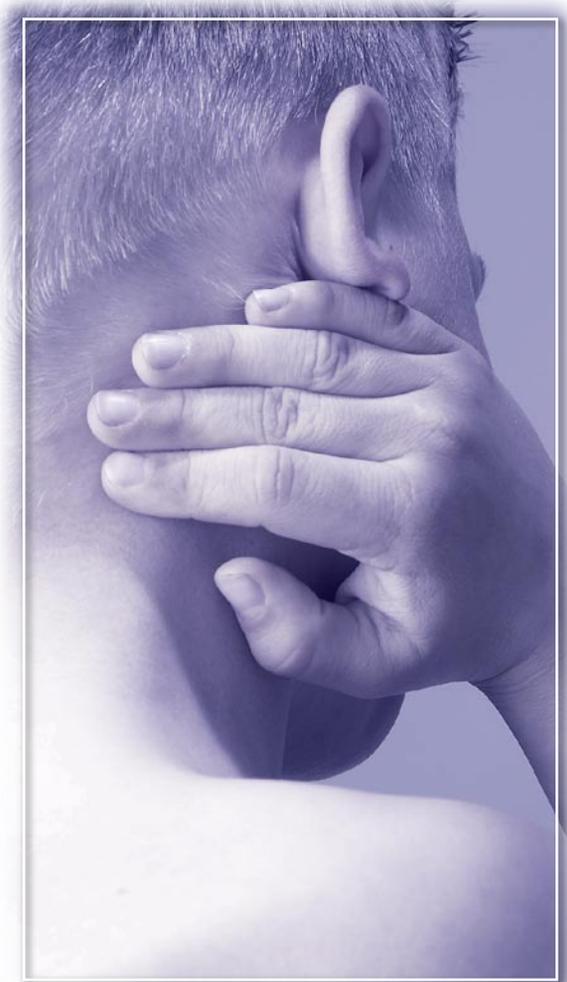
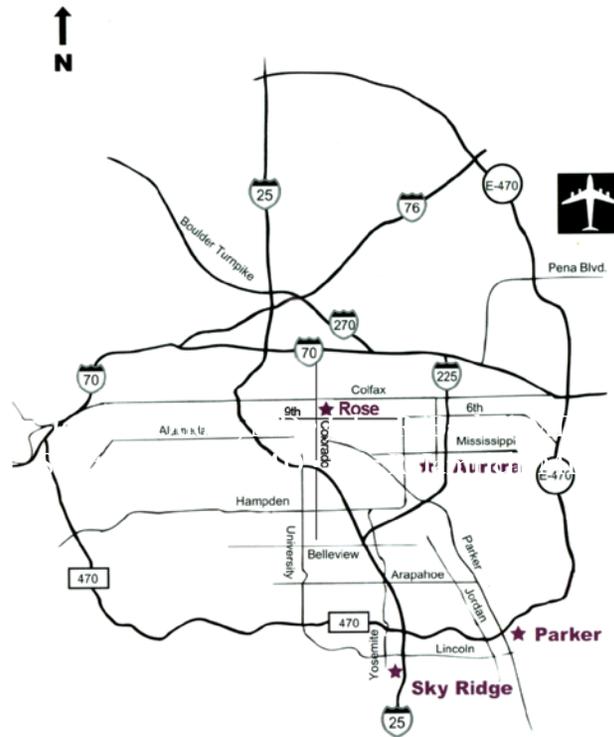


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*“Orthopaedic surgeons specializing in both conservative and surgical care of the spine”*



# Neck Pain

neck • nek  
noun

the part of a person's body connecting the head to the rest of the body

pain • pán  
noun

physical suffering or discomfort caused by illness or injury

A common cause of neck, shoulder and arm pain is a ruptured or herniated cervical disc. Symptoms may include dull or sharp pain in the neck or between the shoulder blades, pain that radiates down the arm to the hand or fingers, or numbness or tingling in the shoulder or arm. Certain positions or movements of the neck can intensify the pain.

The symptoms of a cervical herniated disc often resemble other disorders such as carpal tunnel syndrome, rotator cuff tendonitis and gout. In some patients, a cervical herniated disc can cause spinal cord compression where disc material pushes on the spinal cord. This is a much more serious condition and may require a more aggressive treatment plan. Spinal cord compression symptoms include awkward or stumbling gait, difficulty with fine motor skills in the hands and arms, and tingling or “shock” type feelings down the torso or into the legs.

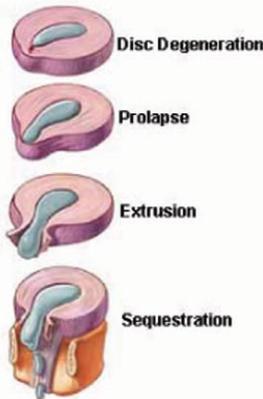
### Anatomy – Normal Cervical Disc

In between each of the vertebrae (bones) in the spine is a disc, a tough fibrous shock-absorbing pad. Endplates line the ends of each vertebra and help hold individual discs in place. Each disc contains a tire-like outer band (called the annulus fibrosus) that encases a gel-like substance (called the nucleus pulposus). Nerve roots exit the spinal canal through small passageways between the vertebrae and discs. Pain and other symptoms can develop when the damaged disc pushes into the spinal canal or nerve roots.

Cervical disc herniation occurs when the annulus fibrosus breaks open or cracks, allowing the nucleus pulposus to escape. This is called a Herniated Nucleus Pulposus (HNP) or herniated disc.

### Progressive Steps Toward a Cervical Disc Herniation

Many factors increase the risk for disc herniation: (1) lifestyle choices such as tobacco use, lack of regular exercise, and inadequate nutrition substantially contribute to poor disc health. (2) As the body ages, natural biochemical changes cause discs to gradually dry out affecting disc



strength and resiliency. (3) Poor posture combined with the habitual use of incorrect body mechanics can place additional stress on the cervical spine.

Combine these factors with the effects from daily wear and tear, injury, incorrect lifting, or twisting and it is easy to understand why a disc may herniate. A herniation may develop suddenly or gradually over weeks or months.



### The Four Stages to a Herniated Disc Include:

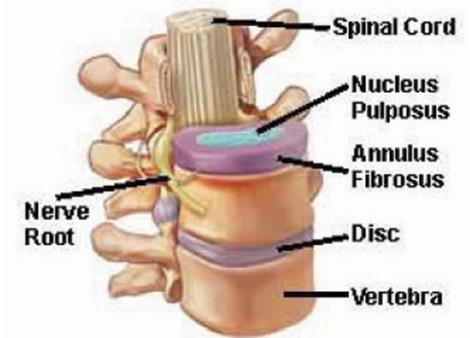
1. Disc Degeneration: chemical changes associated with aging causes discs to weaken, but without a herniation.
2. Prolapse: the form or position of the disc changes with some slight impingement into the spinal canal. Also called a bulge or protrusion.
3. Extrusion: the gel-like nucleus pulposus breaks through the tire-like wall (annulus fibrosus) but remains within the disc.
4. Sequestration or Sequestered Disc: the nucleus pulposus breaks through the annulus fibrosus and lies outside the disc in the spinal canal (HNP).

### Locating the Cause of Pain

Interestingly, not every herniated disc causes symptoms. Some people discover they have a bulging or herniated disc after an MRI for an unrelated reason.

Most of the time the symptoms prompt the patient to seek medical care. The visit with the doctor usually includes a physical and neurological exam; review of medical history, symptom evaluation and the history of treatments and medication the patient has tried.

An x-ray may be needed to rule out other causes of back pain such as osteoarthritis. A CT or MRI scan verifies the extent and location of disc damage.



### Cervical Herniated Disc Treatment – Non-Surgical

Most patients do not need surgery! Initially, the doctor may recommend cold/heat therapy or medications. During the first 24 to 48 hours cold therapy helps to reduce swelling, muscle spasm and pain by reducing blood flow. After the first 48 hours, heat therapy can be applied. Heat increases blood flow to warm and relax soft tissues. Increased blood flow helps to flush away irritating toxins that may accumulate in tissues as a result of muscle spasm and disc injury. Never apply ice or heat directly to skin; instead, wrap the cold or heat source in a thick towel for no longer than 15-20 minutes.

Medications may include an anti-inflammatory to reduce swelling, a muscle relaxant to calm spasm, and a pain-killer (narcotic) to alleviate intense but short-lived pain (acute pain). Mild to moderate pain may be treated with non-steroidal anti-inflammatory drugs (NSAIDs). These work by relieving both swelling and pain. Discuss NSAID use with your physician first.

The doctor may also recommend physical therapy. The doctor’s orders are transmitted to the physical therapist by prescription. Physical therapy includes a combination of non-surgical treatments to decrease pain and increase flexibility. Ice and heat therapy, gentle massage, stretching, and neck traction are some examples.

In four to six weeks, the majority of patients find their symptoms are relieved without surgery! Be optimistic about your treatment plan and remember that less than 5% of back problems require surgery!

### Cervical Herniated Disc Treatment – Surgical

Spine surgery is considered if non-surgical treatment does not relieve symptoms or if spinal cord compression