

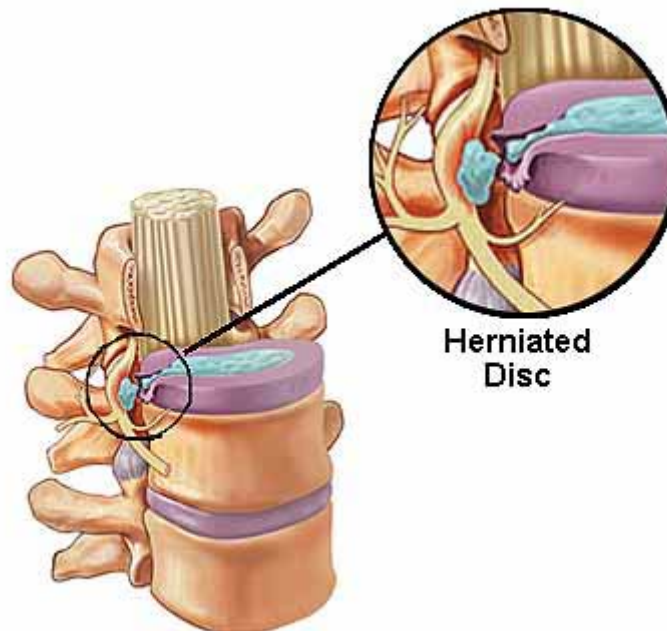
Herniated Discs

North Jersey Orthopedic Specialists

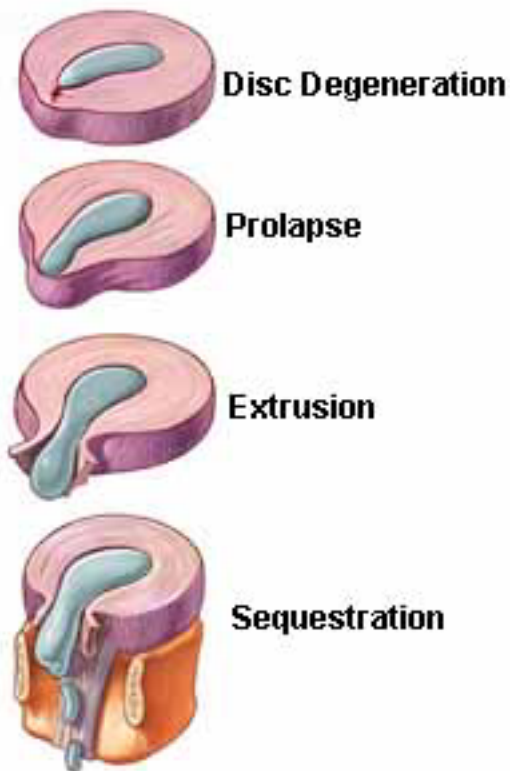
What is a Herniated Disc?

Herniation of the nucleus pulposus (HNP) occurs when the nucleus pulposus (gel-like substance) breaks through the annulus fibrosus (tire-like structure) of an intervertebral disc (spinal shock absorber).

A herniated disc occurs most often in the lumbar region of the spine especially at the L4-L5 and L5-S1 levels (L = Lumbar, S = Sacral). This is because the lumbar spine carries most of the body's weight. People between the ages of 30 and 50 appear to be vulnerable because the elasticity and water content of the nucleus decreases with age.



The progression to an actual HNP varies from slow to sudden onset of symptoms. There are four stages: (1) disc protrusion (2) prolapsed disc (3) disc extrusion (4) sequestered disc. Stages 1 and 2 are referred to as incomplete, where 3 and 4 are complete herniations. Pain resulting from herniation may be combined with a radiculopathy, which means neurological deficit. The deficit may include sensory changes (i.e. tingling, numbness) and/or motor changes (i.e. weakness, reflex loss). These changes are caused by nerve compression created by pressure from interior disc material.



Progression of Herniated Disc

The extremities affected are dependent upon the vertebral level at which the HNP occurred. Consider the following examples:

Cervical - Pain in the neck, shoulders, and arms

Thoracic - Pain radiates into the chest

Lumbar - Pain extends into the buttocks, thighs, legs

Diagnosis of a Herniated Disc

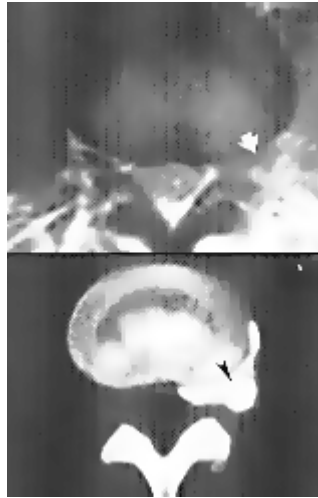
The spine is examined with the patient laying down and standing. Due to muscle spasm, a loss of normal spinal curvature may be noted. Radicular pain (inflammation of a spinal nerve) may increase when pressure is applied to the affected spinal level.

A Lasegue test, also known as Straight-leg Raising Test, is performed. The patient lies down, the knee is extended, and the hip is flexed. If pain is aggravated or produced, it is an indication the lower lumbosacral nerve roots are inflamed.

Other neurological tests are performed to determine loss of sensation and/or motor function. Abnormal reflexes are noted as these changes may indicate the location of the herniation.

Radiographs are helpful, but Computed Axial Tomography (CAT) or Magnetic Resonance Imaging (MRI) provides more detail. The MRI is the best method enabling the physician to see the soft spinal tissues unseen in a conventional x-ray.

Radiographic Evidence of HNP



The findings from the examination and tests are compared to make a proper diagnosis. This includes determining the location of the herniation so treatment options can be reviewed with the patient.

Treatment

There are several conservative treatment options that may relieve the symptoms associated with a herniated disc. These include: alternate bed rest with ambulation and medications to reduce inflammation and pain. Non-steroidal anti-inflammatory drugs (NSAIDs) are often used for this purpose.



Physical therapy may be incorporated into the patient's treatment plan. This might include exercise, massage, thermotherapy, as well as a device designed to support the back - a corset, back belt, or brace.

Remember that most patients with a herniated disc will get better without surgery.

Surgery

When no improvement is noted after a course of conservative treatment, surgery might be considered. However, remember that most patients with a herniated disc will get better without surgery.

A **Discectomy** is the surgical removal of part or the entire offending intervertebral disc.

Microdiscectomy incorporates the use of a microscope to magnify the surgical field during removal of the disc.



Special eyeglasses, called surgical loupes, enhance the surgeon's sight.

Recovery

Whether the treatment course is conservative or operative, it is important to closely follow the instructions of your physician and/or physical therapist.

Keep your weight close to ideal and continue to follow the exercise and/or rehabilitative program designed by your physical therapist at home.

Remember that most patients with a herniated disc will get better without surgery.