

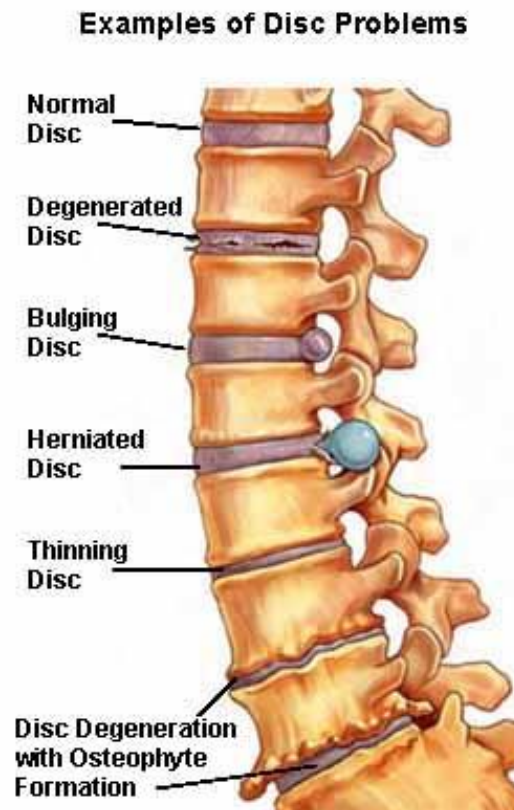
## Lumbar Degenerative Disc Disease

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### Anatomy

- The spine is made up of a series of connected bones called **vertebrae**. Between each pair of vertebrae there is a rubbery tissue called the **disc** that acts as a cushion, or shock absorber. The disc protects the vertebral bones, allows motion, and maintains the height between the vertebrae to leave room for the nerves to exit on either side.



### What is degenerative disc disease?

- Everything you do while upright tests the spine's ability to support your body weight and puts great pressure on the discs. Many people also sustain minor injuries to the discs, injuries that may not cause any immediate pain, but may contribute to problems in the future.
- These repeated daily stresses and minor injuries can add up, gradually resulting in “**degenerative disc disease.**” It is important to understand that degenerative disc disease, like gray hair and wrinkles, is an age-related process that eventually affects ALL human beings. There is variation, however, as to the extent of the condition and the associated symptoms.

### What causes lumbar degenerative disc disease?

- Lumbar degenerative disc disease most often results from age-related “**wear and tear.**” Genetics, **smoking**, and a number of occupational activities may lead to early disc degeneration as well.
- The principal underlying problem is that the **discs lose their ability to retain water.** A healthy disc is rich in water content, like a sponge placed under a water faucet. The more water it can hold, the more able it is to absorb stress and shock. A degenerated disc can be likened to a sponge that has been left out on the counter, more rigid and unable to absorb stress.
- Although the process starts with damage to the disc, degenerative disc disease eventually affects other parts of the spine as well, such as the facet joints and nerve root exits.

### What are the symptoms associated with lumbar degenerative disc disease?

- The most common symptom of degenerative disc disease is **low back pain.** This is typically **activity related**, and may worsen with bending forward or lifting/carrying heavy objects. In advanced cases, the pain can be quite debilitating.
- Degenerative disc disease may also result in less room for the exiting nerve roots often resulting in symptoms such as leg pain, numbness, tingling or weakness. This is referred to as **sciatica**, or **lumbar radiculopathy.**

### How is lumbar degenerative disc disease diagnosed?

- Since back pain may result from a variety of different causes, the first step is always to take a complete history and administer a thorough physical examination.
- To determine the root cause of the problem, diagnostic tests such as **plain x-rays** and/or **MRI** may be considered. X-rays will confirm a decrease in the space between vertebrae or the formation of bone spurs (osteophytes). An MRI will demonstrate loss of water content in a disc, problems in the facet joints or the presence of nerve root compression.

### What are the treatment options?

- **The mainstay in the treatment is non-surgical management.** In most cases, activity modification, physical therapy, medications and spinal injections (pain management) will resolve, or greatly improve, the symptoms.
- In cases where non-surgical options fail, however, surgery may be indicated. Operative intervention is most beneficial when the degenerative disc disease is confined to a single level. My procedure of choice for lumbar degenerative disc disease is a minimally invasive **anterior lumbar interbody fusion (ALIF).**