Lumbar degenerative disc disease

Disc degeneration
Degenerative disc disease refers to a syndrome in which a compromised disc causes low back pain. Lumbar degenerative disc disease usually starts with a torsional (twisting) injury to the lower back, such as when a person rotates to put something on a shelf or swing a golf club. However, the pain is also frequently caused by simple wear and tear on the spine.

Despite its rather dramatic label, degenerative disc disease is fairly common, and it is estimated that at least 30% of people aged 30-50 years old will have some degree of disc space degeneration, although not all will have pain or ever receive a formal diagnosis. In fact, after a patient reaches 60, some level of disc degeneration is deemed to be a normal finding, not the exception.

Lumbar degenerative disc disease pain and symptoms
Most patients with lumbar degenerative disc disease will experience low-grade continuous but tolerable pain that will occasionally flare (intensify) for a few days or more. Pain symptoms can vary, but generally are:

- Centered on the lower back, although it can radiate to the hips and legs
- Frequently worse when sitting, when the discs experience a heavier load than when patients are standing, walking or even laying down
- Exacerbated by certain movements, particularly bending, twisting or lifting

The low back pain associated with lumbar degenerative disc disease is usually generated from one or both of two sources:

- **Inflammation**, as the proteins in the disc space irritate the surrounding nerves, and/or
- **Abnormal micro-motion instability**, when the outer rings of the disc - the annulus fibrous – are worn down and cannot absorb stress on the spine effectively, resulting in movement along the vertebral segment

Excessive micro-motion, combined with the inflammatory proteins, can produce ongoing low back pain.

Fortunately, over time the pain from lumbar degenerative disc disease usually decreases, rather than becoming progressively worse. This is because a fully degenerated disc no longer has any inflammatory proteins (that can cause pain) and usually collapses into a stable position, eliminating the micro-motion that generates the pain.

1. **Non-surgical treatment for degenerative disc disease**
   The ongoing pain, as well as the frequency and intensity of the flares, can be mitigated through a number of non-surgical options. Modifying activities to

preclude lifting of heavy objects and playing sports that require rotating the back (e.g. golf, basketball or football) can be a good first step. Other options include:

- Applying **heat** to stiff muscles or joints to increase flexibility and range of motion, or using **ice** packs to cool down sore muscles or numb the area where painful flares are concentrated.
- **Medications** such as non-steroidal anti-inflammatories (e.g., ibuprofen, naproxen, COX-2 inhibitors) and pain relievers like acetaminophen (such as Tylenol) help many patients feel good enough to engage in regular activities. Stronger prescription medications such as oral steroids, muscle relaxants or narcotic pain medications may also be used to manage intense pain episodes on a short-term basis, and some patients may benefit from an epidural steroid injection. Not all medications are right for all patients, and patients will need to discuss side effects and possible factors that would preclude taking them with their physician.
- An **exercise program** is essential to relieving the pain of lumbar degenerative disc disease and should have several components, including:
    - Hamstring stretching, since tightness in these muscles can increase the stress on the back and the pain caused by a degenerative disc
    - A strengthening exercise program, such as Dynamic Lumbar Stabilization exercises, where patients are taught to find their 'natural spine', the position in which they feel most comfortable, and to maintain that position
    - Low-impact aerobic conditioning (such as walking, swimming, biking) to ensure adequate flow of nutrients and blood to spine structures, and relieve pressure on the discs
- **Chiropractic manipulation** can relieve low back pain by taking pressure off sensitive nerves or tissue, increasing range of motion, restoring blood flow, reducing muscle tension, and, like more active exercise, promoting the release of endorphins within the body to act as natural painkillers
- **Epidural steroid injections** can provide low back pain relief by delivering medication directly to the painful area to decrease inflammation.