

Lumbar Disc Herniation

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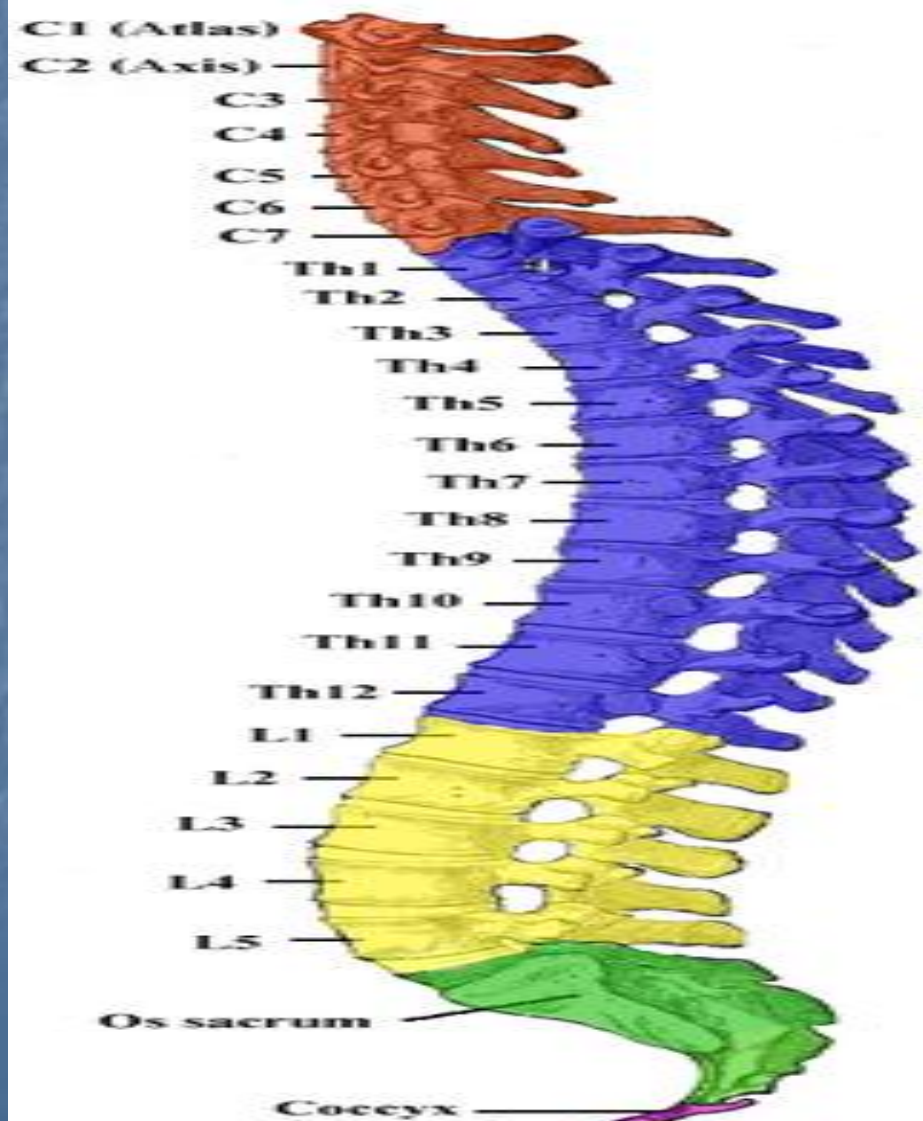
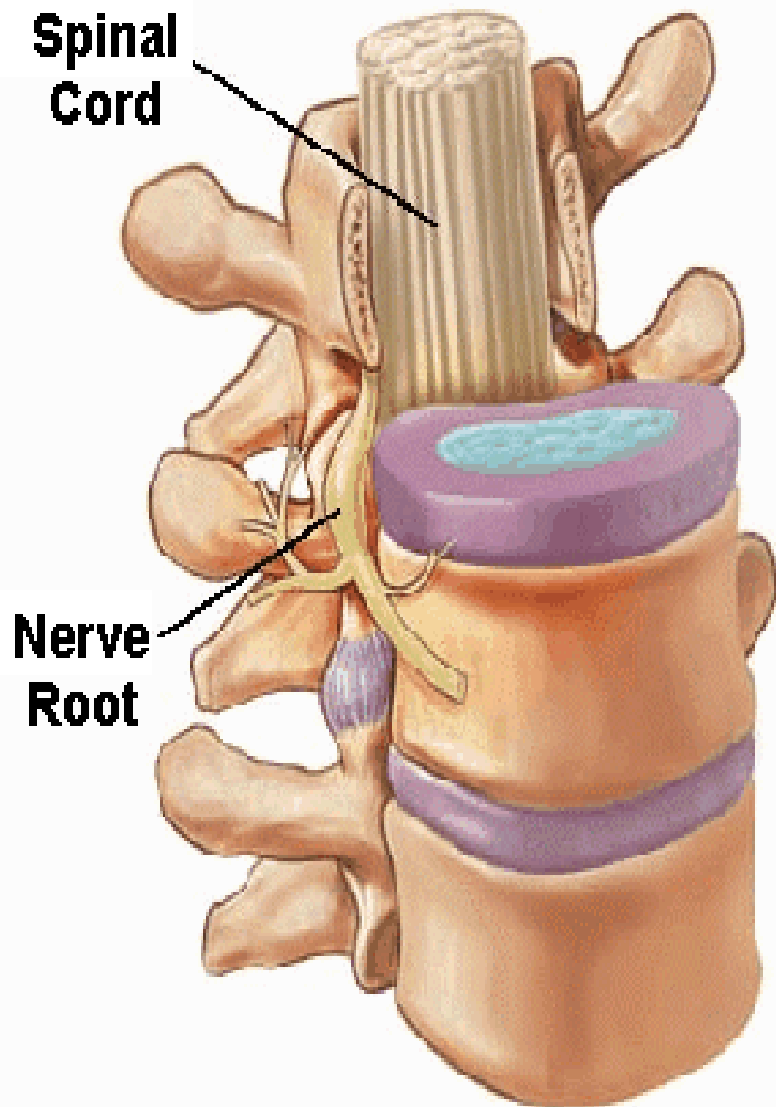
Lumbar disc herniation

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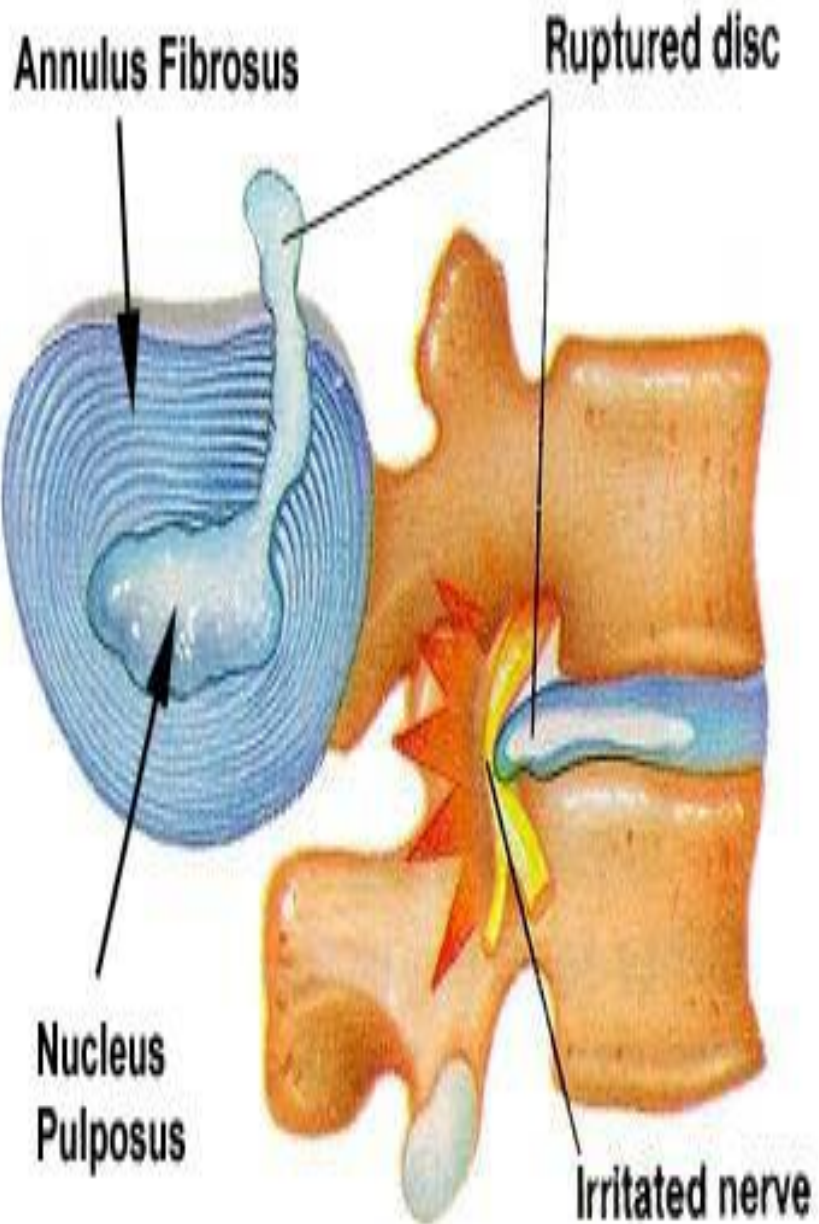
Lumbar disc herniation

Introduction



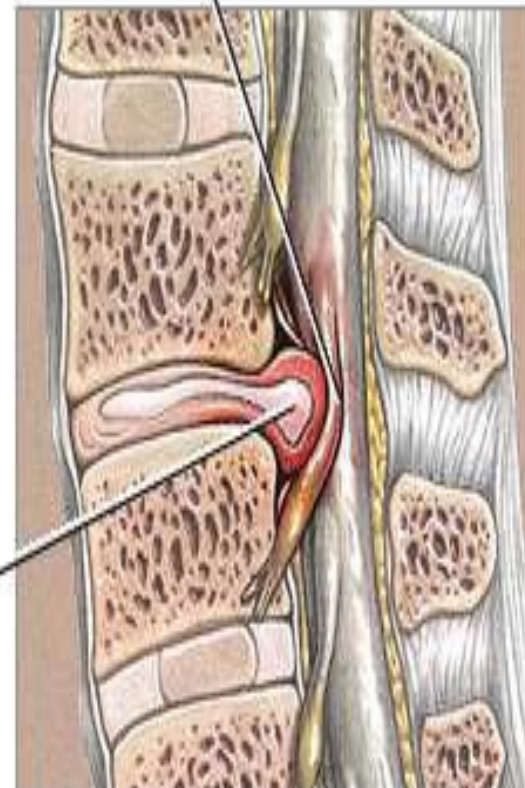
Definition of disc herniation

Abnormal rupture of the soft gelatinous central portion of the disc (**nucleus pulposus**) through the surrounding outer ring (**annulus fibrosus**). In about **95%** of all disc herniation cases, the L4-L5 or L5-S1 disc levels are involved.



Compressed lumbar spinal nerve

Herniated disc



Causes of lumbar disc herniation

- 1. Trauma or injury to the disc**
- 2. Disc degeneration**
- 3. Congenital predisposition**

Types of disc herniation

There are three types of disc herniation

1. Protrusion / bulge
2. Disc herniation
3. Sequestration (disc rupture)

A.



Disc Bulge (A)

B.



Herniated Disc (B)

C.



Disk Rupture (C)

Typical locations of disc herniation

Central

- It is rare condition, it will affect multiple nerve roots, patient will have back pain more than leg pain and it may cause **incontinence** of the bladder and bowel. **Urgent** surgical treatment is necessary if patient presents with neurological deficits.

Typical locations of disc herniation

Posterolateral

- Usually it is the most common location, it involve one nerve root (the lower one).

Foraminal

- It occurs in about 8-10% of all cases. It involves the exiting nerve.

Clinical manifestations of disc herniation

- **If the herniated disc is:**
- **Not** pressing on a nerve, you may have an ache in the low back or no symptoms at all.
- **Pressing** on a nerve, you may have pain, numbness, or weakness in the area of your body to which the nerve travels.

Clinical manifestations of disc herniation

- With herniation in the lower (lumbar) back, **sciatica** may develop. **sciatica** is pain that travels through the buttock and down a leg to the ankle or foot because of pressure on the **sciatic nerve**. Low back pain may accompany the leg pain.

Clinical manifestations of disc herniation

- **Leg pain caused by a herniated disc**
- Usually occurs in only one leg.
- May start suddenly or gradually.
- May be constant or may come and go (intermittent).
- May get worse ("shooting pain") when sneezing, coughing, or straining to pass stools.

Leg pain caused by a herniated disc (cont...)

- May be **aggravated** by sitting, prolonged standing, and bending or twisting movements.
- May be **relieved** by walking, lying down, and other positions that relax the spine and decrease pressure on the damaged disc.

Clinical manifestations of disc herniation

- **Nerve-related symptoms caused by a herniated disc include:**
- **Tingling** ("pins-and-needles" sensation) or numbness in one leg that can begin in the buttock or behind the knee and extend to the thigh, ankle, or foot.
- **Weakness** in certain muscles in one or both legs.
- **Pain** in the front of the thigh.
- **cauda equina syndrome**

Diagnostic studies

- MRI is the test of choice for evaluation of disc disease. Its **multiplanar** capabilities make it suitable for visualizing far lateral disc **herniation** as well as the **paravertebral** structures.

Management of disc herniation_

- **The medical management traditionally involves:**
- **Bed** rest and analgesics and anti-inflammatory drugs.
- **Muscle** relaxants help in some. Transcutaneous electrical nerve stimulation (TENS) helps in about 20% of patients.
- **Physical** therapy such as (exercise, relaxation, massage, and hot compressors).

Management of disc herniation

■ Surgical management:

Indications for surgery include failure of acceptable pain control by nonoperative measures, progressive neurological deficit. The traditional approach to lumbar discectomy (**laminectomy**) usually under general anesthesia.

Nursing intervention

Reducing pain

- Bed rest
- Comfortable position such as semi-fowler's with moderate hip and knee flexion or side lying position.
- Progressive ambulation

Patient's education

- Exercise
- Proper position
- Avoid lifting



Merci