Herniation of the intervertebral disc

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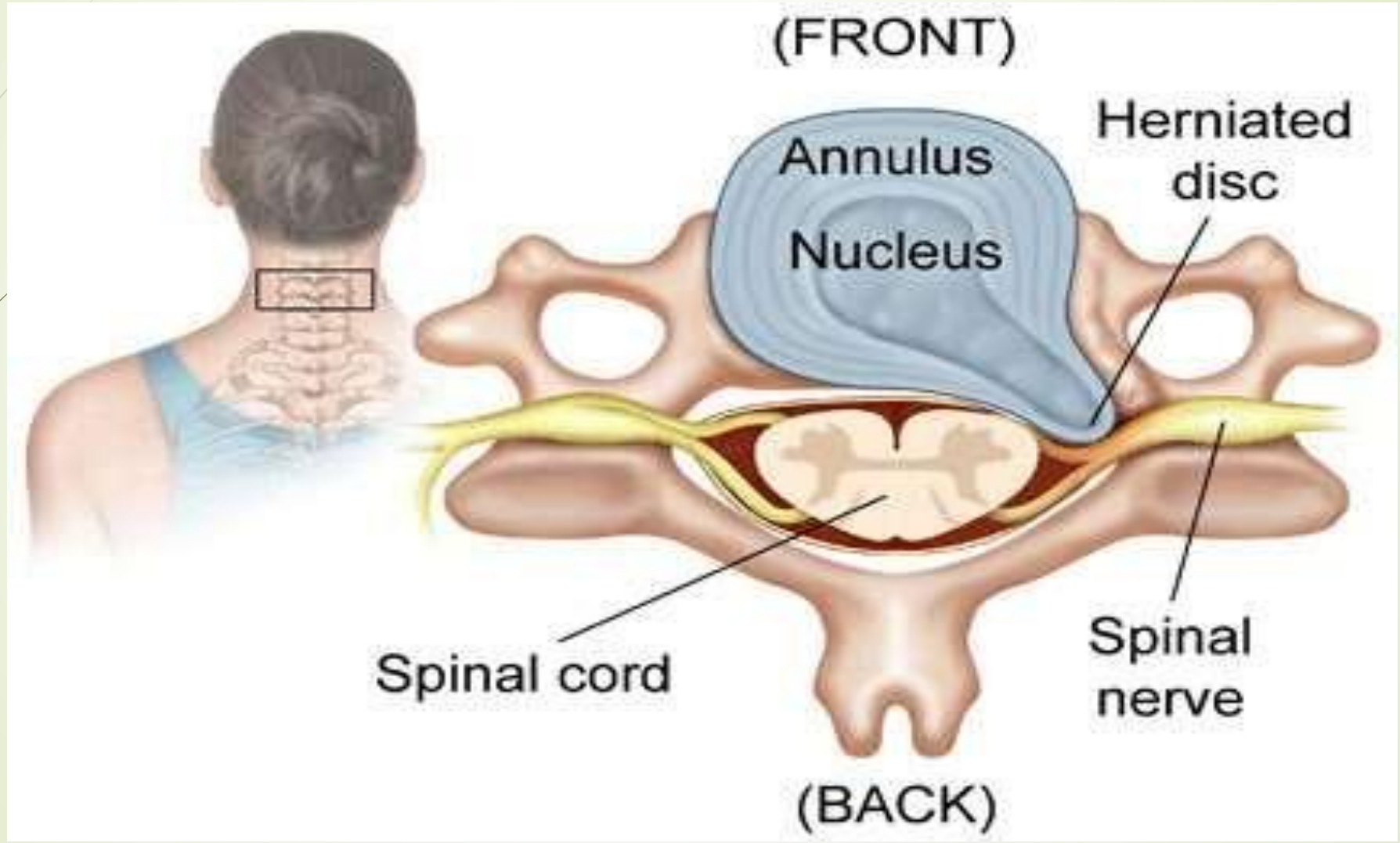
DEFINITION

- *Herniation of the intervertebral disk* is a protrusion of the nucleus of the disk into the annulus.
- The herniation may occur in any proton of the vertebral column. The pressure on spinal nerve roots or the spinal cord causes severe , chronic, or recurrent back and leg pain.
- Herniation of the intervertebral disc is also called as spinal disc herniation or slipped disc.

HERNIATION OF A INTERVERTEBRAL DISC



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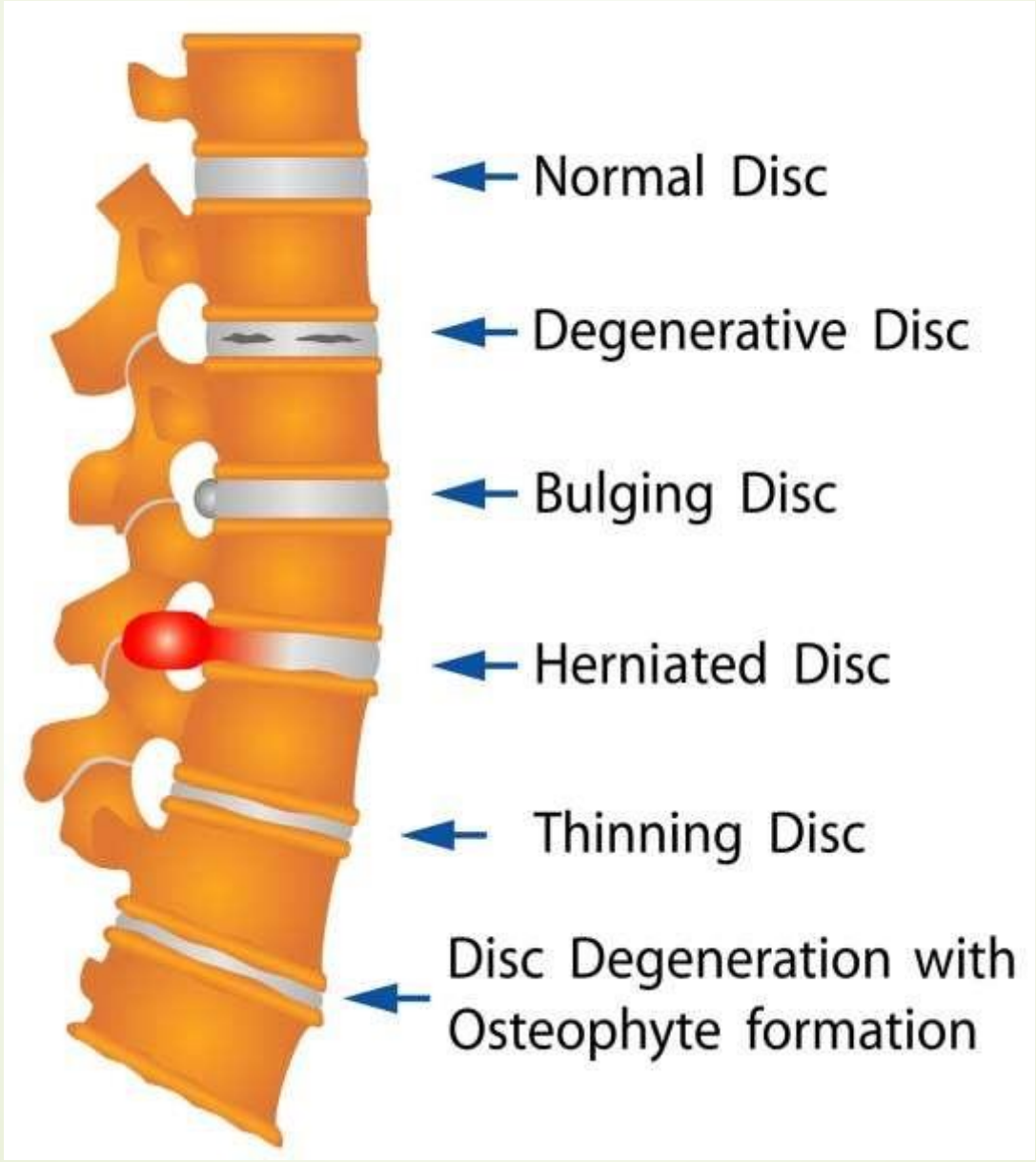

ETIOLOGY

a) About 90 % of herniated disks involve the lumber and lumbosacral spine. The most common site is the **L4 & L5 disk space**.

b) The cause of a herniated lumber disk is usually a flexion injury, but many patients do not recall experiencing a traumatic event.

RISK FACTORS

1. Degeneration:- ageing, Trauma, & Congenital predisposition
2. Biochemical factors
3. Sedentary occupations
4. Obesity
5. Smoking

CLINICAL MANIFESTATIONS

- ***GENERAL CONSIDERATIONS:***

1. An intervertebral disk may herniate without causing symptoms.
2. Symptoms depend on location, size, rate of development and effect of surrounding structure.
3. Most of symptomatic disk herniations result in pain , sensory changes, loss of reflex, and muscle weakness that resolve without surgery.

CERVICAL MANIFESTATIONS

1. Pain and stiffness in the neck. Top of shoulders, and region of scapula.
2. Pain in upper extremities and head.
3. **Paresthesias** ((tingling or a “pins and needles” sensation) and numbness of upper extremities.
4. Weakness of upper extremities.

LUMBER MANIFESTATIONS

- Lower back pain with varying degree of sensory and motor dysfunction.
- Pain radiating the lower back into the buttocks and down the leg, referred to as sciatica.
- A stiff or unnatural posture
- Some combination of paresthesias, weakness, and reflux impairment.

DIAGNOSTIC EVALUATIONS

1. HISTORY COLLECTION
2. PHYSICAL EXAMINATION
3. NEUROLOGICAL EXAMINATION
4. CT SCAN & MRI USUALLY CONFIRMS THE DIAGNOSIS
5. ELECTROMYOGRAPHY
6. MYELOGRAMM

MEDICAL MANAGEMENT

THE GOALS OF TREATMENT ARE:

- To rest and immobilize the cervical spine to give the soft tissues time to heal and
- To reduce inflammation in the supporting tissues and the affected nerve roots in the cervical spine.

PHARMACOTHERAPY

1. Anti inflammatory drugs such as ibuprofen or prednisone
2. Muscle relaxants such as diazepam or cyclobenzaprine.
3. Analgesics,opioids may be necessary for several days during acute phase.

SURGICAL MANAGEMENT

- Surgical excision of the herniated disk may be necessary when there is a significant neurologic deficit, progression of the deficit, evidence of cord compression, or pain that either worsens or fails to improve.

SURGICAL MANAGEMENT

1. Discectomy (decompresssion of nerve root)
2. Laminectomy
3. Spinal fusion
4. Microdiscectomy
5. Percutaneous Discectomy

NON PHARMACOLOGICAL TREATMENT

1. Bed rest on firm mattress (2 days usually sufficient) usually results improvement in 80% of clients.
2. Heat or ice massage to affected area.
3. Cervical collar or possibly cervical traction are widely used although efficacy is not proven.
4. Physical therapy
5. Epidural steroid injection may be administered.

ALTERNATIVE AND COMPLIMENTARY TRETMENTS

1. Acupuncture
2. Manipulative therapy
3. Massage therapy for adjunct pain relief
4. Homeopathic remedies
5. Various nutritional supplements

CLIENT EDUCATION AND HEALTH MAINTENANCE

1. Educate the client regarding lifestyle changes – smoking cessation, increase activity and weight loss.
2. Provide instructions regarding back anatomy and physiology.
3. Teach the patient about importance of cervical collar use and other methods.
4. Teach about proper body mechanics
5. Tell the client to avoid the prone position, long car rides and sitting in a soft chair.
6. Encourage good nutrition's avoidance of obesity and proper rest to reduce risk of recurrence.

COMPLICATIONS

1. Permanent neurologic dysfunction (weakness & numbness)
2. Chronic pain with associated psychosocial issue
3. **Cauda equina Syndrome** is a rare disorder that usually is a surgical emergency. In patients with cauda equina syndrome, something compresses on the spinal nerve roots. It needs fast treatment to prevent lasting damage leading to incontinence and possibly permanent paralysis of the legs.

NURSING DIAGNOSIS

1. Acute pain related to area of compression.
2. Impaired physical mobility related to pain and disease physiology.
3. Deficient knowledge related to impeding surgery.
4. Risk for injury related to surgical procedure.