**Akal College of nursing**

**Topic: PIVD (Prolapsed Intervertebral Disc)**

**Summary of MSN I (10.12.15)**

**B. Sc. 2nd Year (10-11am)**

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**INTRODUCTION:** An intervertebral disc is a pad that rest between the centres of two adjacent vertebrae. Disc provides cushion for spinal movement.

IVD is made of 2 cartilaginous plates –Outer one- annulus fibrosis

- Inner one- nucleus pulposus

**DEFINITION**

It is a medical condition affecting the spine due to trauma, lifting injuries or idiopathic cause in which a tear in the outer fibrous ring of an intervertebral disc allows the soft central portion to bulge out beyond the damaged outer rings

**ETIOLOGY**

* Lifting an object from a stooped position.
* Twisting the back in sudden motion.
* Direct injury to back.
* Heavy physical labour
* Strenuous exercise
* Weak abdominal and back muscles
* Flexing of back without bending knees
* Repeated stress progressively weaken the disc , causing bulging and herniation

**RISK FACTORS**

* Occupation that require strenuous or repetitive lifting in a stooped position
* Cigarette smoking
* Jobs that require operating vibrating machinery
* Genetic predisposition
* Back strain

**Related terms**

**Spinal stenosis** is the narrowing of vertebral foramen through which spinal cord passes.

**STAGES OF PIVD**

**1. NUCLEUS DEGENERATION---**

Degenerative changes occur in the disc before displacement of nucleus material-----

softening of the nucleus and its fragmentation

weakening and disintegration of posterior wall of the annulus

**2. NUCLEUS DISPLACEMENT**

The nucleus is under positive pressure at all time when annulus become weak, the nucleus tends to bulge through the defect………..This is called disk protrusion

**3. DISC EXTRUSION**

The nucleus comes out of the annulus and lies under posterior longitudinal ligament, though it has not lost contact with the parent disc

**4. SEQUESTRATION OF DISC**

Once the disc is extruded it will not go back. The extruded disc may lose its contact with the parent disc…..when it is called sequestrated disc

**5. STAGE OF FIBROSIS**

This is the stage of repair…..begins alongside of degeneration the residual nucleus pulposus becomes fibrosed the extruded nucleus pulposus becomes flattened ,fibrosed and finally undergoes calcification.

**PATHOPHYSIOLOGY**

* Risk factors or any cause
* Bulging of disc, the annulus remains intact
* As herniation progresses , the annulus is torn
* Extrusion of the nucleus pulposus
* Herniation of disc
* Herniation of disc

Compression of muscle stenosis due to

spinal nerve root spasm herniation

When disc severe produces pressure

impinges sciatic back pain on entire spinal cord

if not treated weakness

and paralysis of innervated Sciatica

muscle may results

**CLINICAL MANIFESTATIONS**

Cervical disc prolapse causes –

* Neck stiffness
* Shoulder pain that radiates down the arm into the hand paraesthesia and sensory disturbance in the hand
* Ruptured Lumbar IVD causes
* Low back pain that radiates down the sciatic nerve into the posterior thigh
* Muscle spasm
* Aggravation of pain by straining (coughing, sneezing, defecation bending lifting and straight leg raising)
* Depression of deep tendon reflexes
* Hyperesthesia in area of distribution of affected nerve root
* Sciatic pain-begins in the buttocks and extends down the back of the thigh and leg to the ankle
* any movement of lower extremity that stretches the nerve causes pain and involuntary resistance
* Spinal stenosis leads to pain with walking and standing altered bowel and bladder function

**DIAGNOSTIC TEST**

* Patient’s history
* Sciatic pain on straight leg raising is a positive test ( Lasegu’s sign)
* Patient with PIVD offers a resistance or pain to having the knee extended when both the hip and knee are at 90 degree of flexion
* Plain x ray
* MRI
* MYELOGRAPHY
* CT SCAN

**MEDICAL MANAGEMENT**

Involves:

- bed rest

- medication

- traction

**Pharmacological therapy includes:**

- analgesics (NSAIDS) are given to relieve acute pain

- sedatives to control anxiety

- muscle relaxants to intrupt the cycle of muscle spasm

- corticosteroids to treat inflammatory response

- hot moist compresses (for 10-20 min) to increase blood flow to muscles and to relieve spastic muscles

**CONSERVATIVE MANAGEMENT**

Objective of this treatment is -

- To relieve the pain by reducing the compression force of normal weight bearing on involved disc.

**The regimen consists of:**

* Prolonged bed rest
* Pelvic belt traction
* Physical therapy in the form of heat and specific exercises (pelvic tilt and knee chest)
* Ice massage may be done in case of acute muscle spasm

**TENS**

* May be ordered in conservative management of back pain
* TENS device consists of battery operated pulse generator and a pair of cables with electrodes.
* the electrodes are applied to the skin overlying the painful area or the nerves supplying the painful area
* The sensation produced by electrical stimulation is similar to tingling sensation
* SURGICAL MANAGEMENT
* Disectomy- removal of herniated or extruded fragment of IVD

**NURSING MANAGEMENT**

**HISTORY TAKING-**

- ask the client to describe the discomfort-

* + location
  + Severity
  + duration
  + characteristics
  + radiation of pain
  + associated weakness in the legs

- How patient deals with pain

- ask for work history

- Any kind of stress

- Obesity

**Physical examination-**

- Head to toe examination

-assess for spinal curves

-palpate paraspinal muscles and note the spasm

**Nursing diagnosis**

* Pain r/t musculoskeletal problem
* Impaired physical mobility r/t pain, muscle spasm and decrease flexibility
* Knowledge deficit r/t back conserving body mechanics
* Self-concept disturbance r/t impaired mobility
* Altered nutrition less than body requirement r/t disease condition