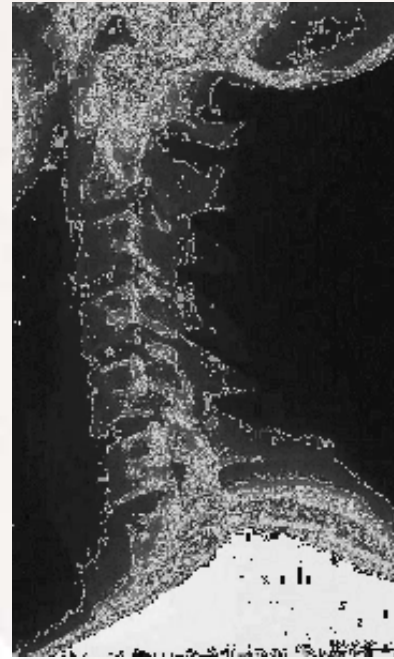


Cervical Spine Pathologies and Treatments

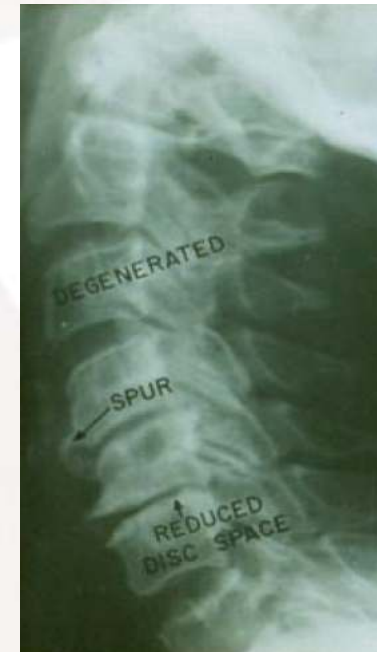
*Dr Amey S Parab
MS MCh (Neurosurgery)
Manipal Hospital Goa*

Degenerative Disease of the Spine

- Degenerative processes of ageing occur at different rates, locations, and modalities, based on the unique attributes of individuals (factors known to influence degenerative diseases of the spine include lifestyle, work patterns, diet, and even genetics)



Normal

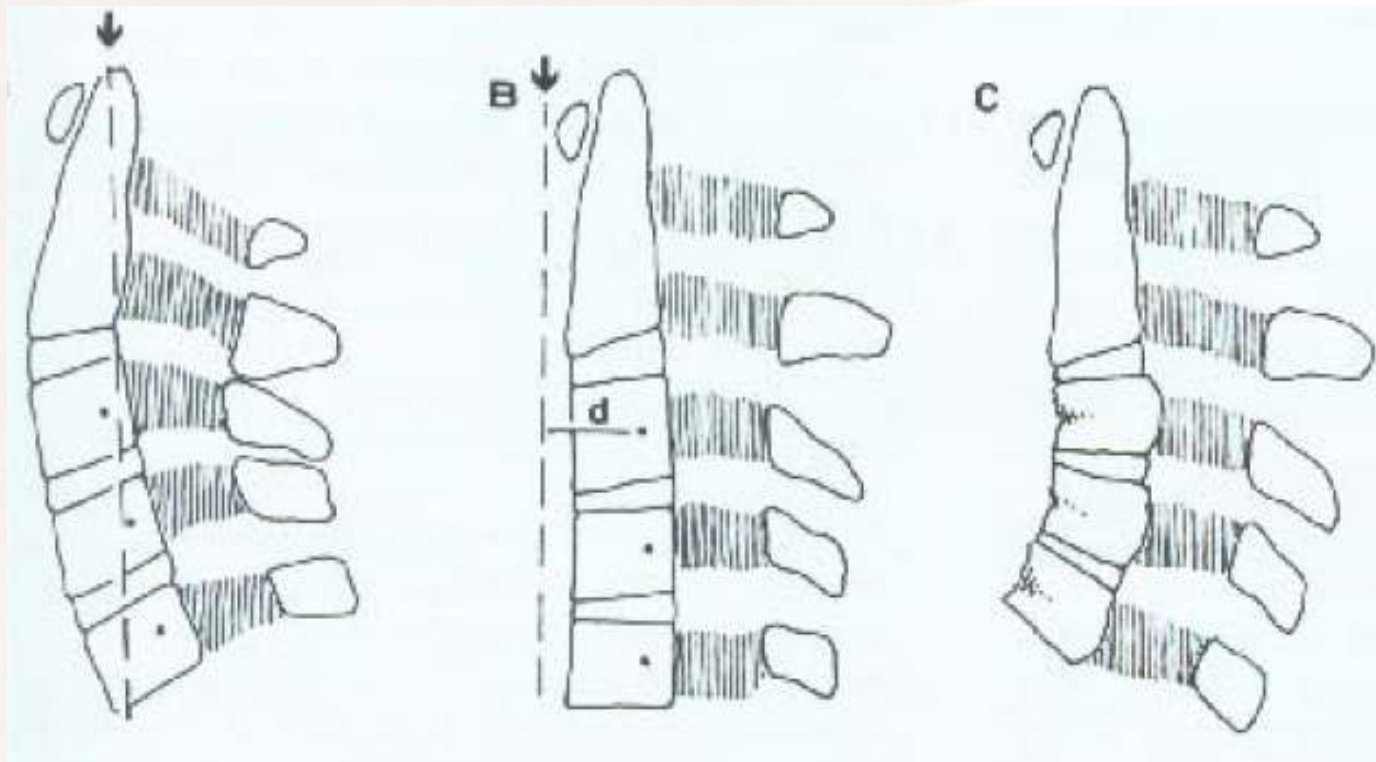


Spondylotic

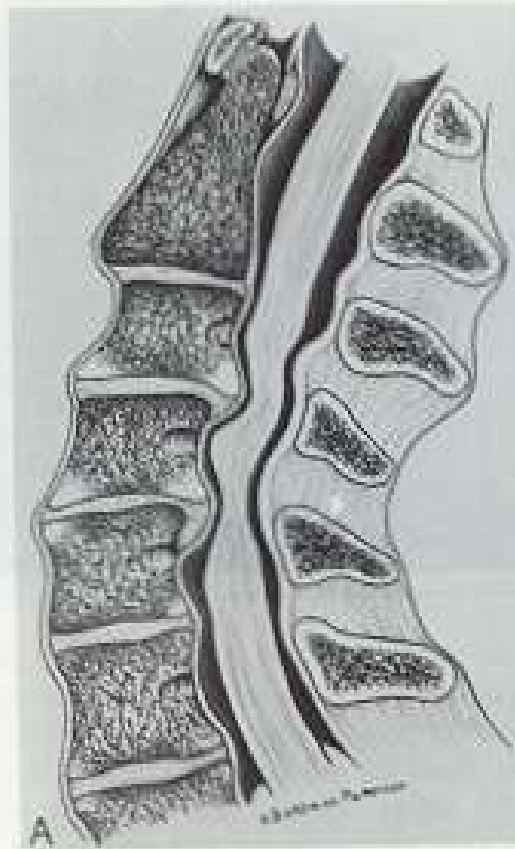
Cervical Spondylosis

- Cervical spondylosis is a general term encompassing a number of degenerative conditions
 - Degenerative disc disease (DDD)
 - Spinal stenosis
 - With or without degenerative facet joints
 - With or without the formation of osteophytes
 - With or without a herniated disc
- One single component as a diagnosis is rare

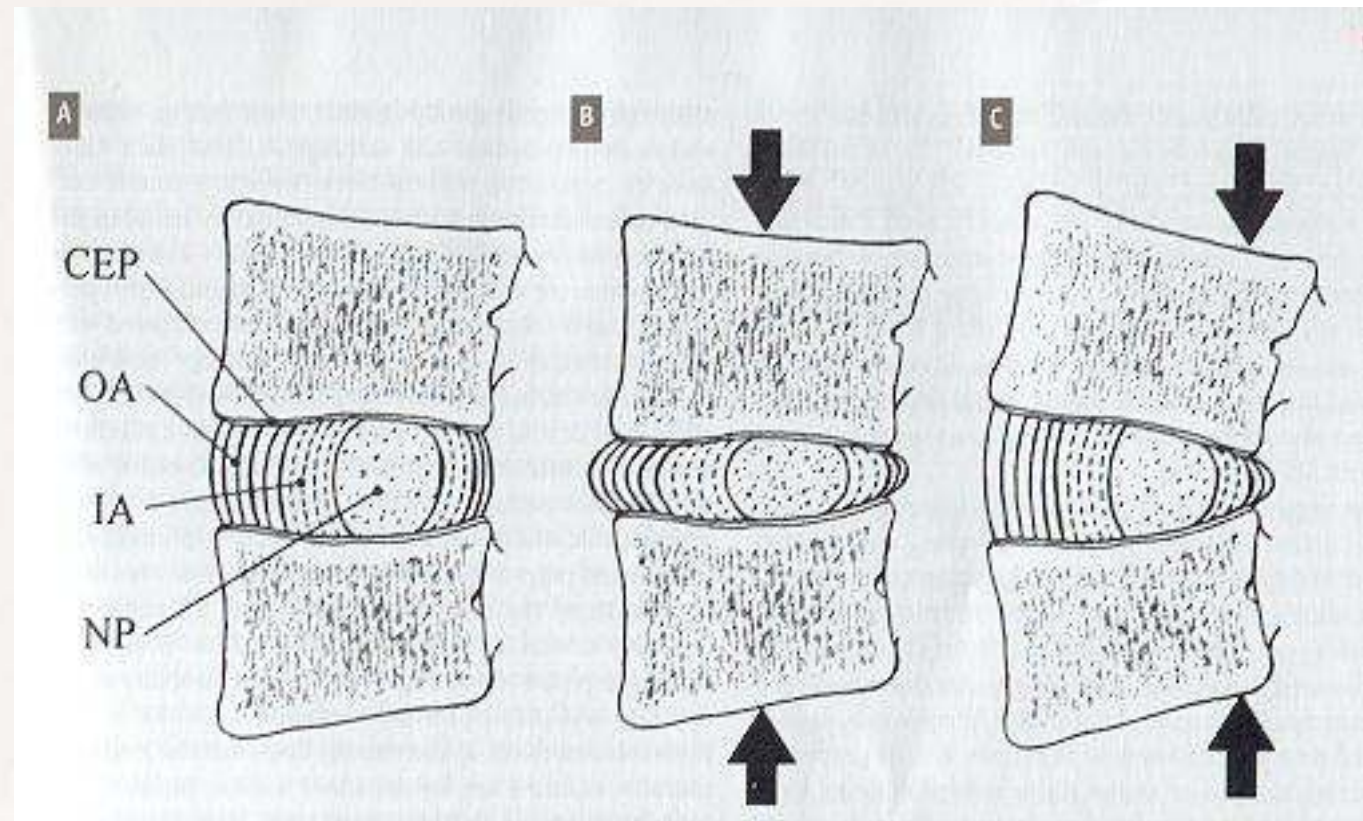
Cervical Spondylosis



Cervical Spondylosis



Cervical Spondylosis

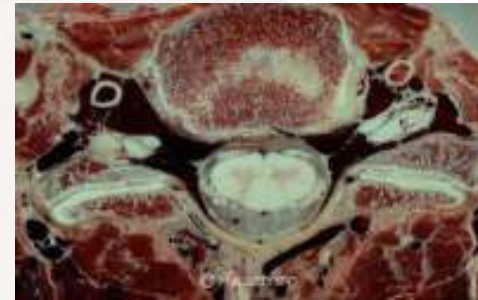


Degenerative Disc Disease

- The process is thought to begin in the annulus fibrosis with changes to the structure and chemistry of the concentric layers
- Over time, these layers suffer a loss of water content and proteoglycan, which changes the disc's mechanical properties, making it less resilient to stress and strain

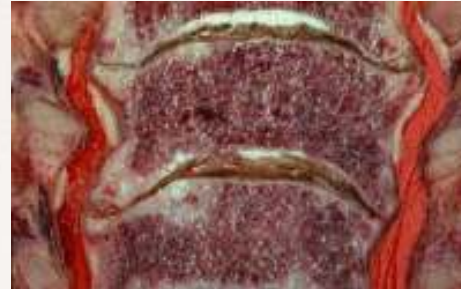


Normal
Pathology



Degenerative Disc Disease

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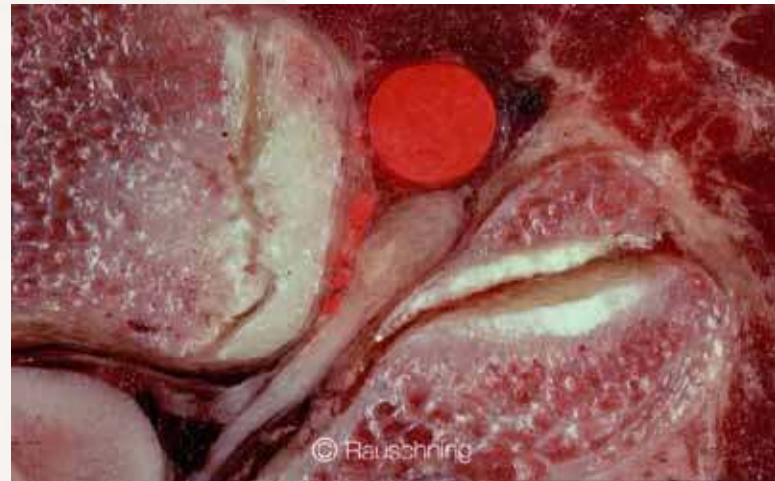


Degenerated Pathology



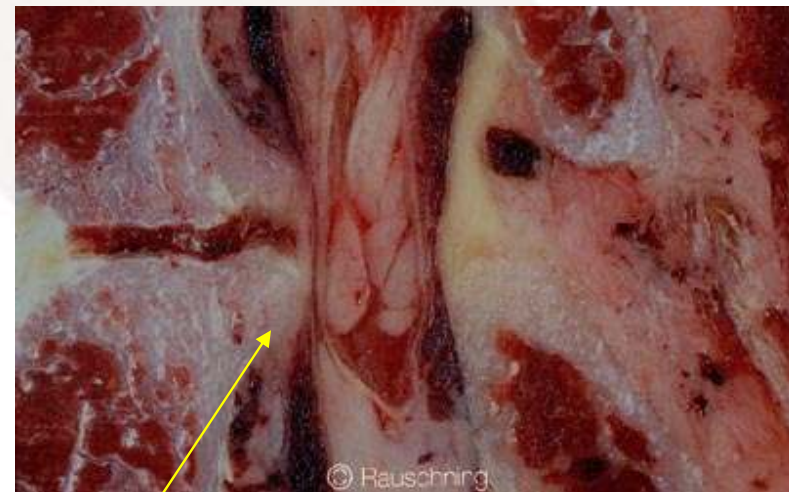
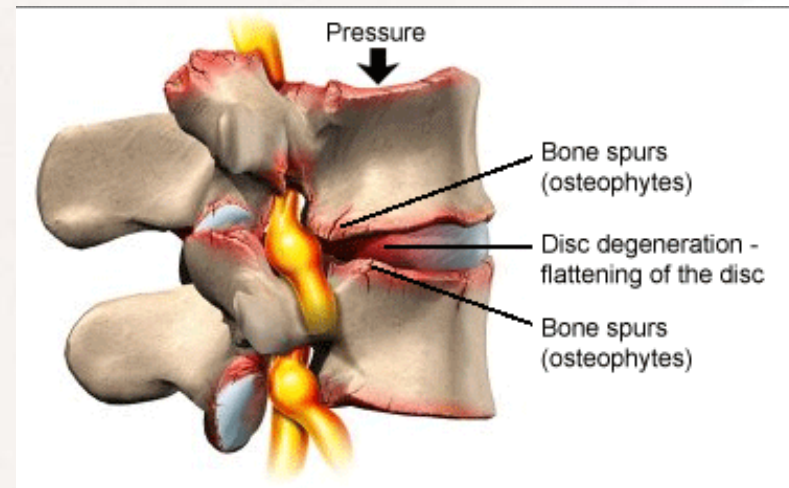
Degenerative Disease: Facet Joints

- Changes in disc structure and function can lead to changes in the articular facets, especially hypertrophy (overgrowth), resulting from the redirection of compressive loads from the anterior and middle columns to the posterior elements



Degenerative Disease: Osteophytes

- There also may be hypertrophy of the vertebral bodies adjacent to the degenerating disc; these bony overgrowths are known as osteophytes (or bone spurs)



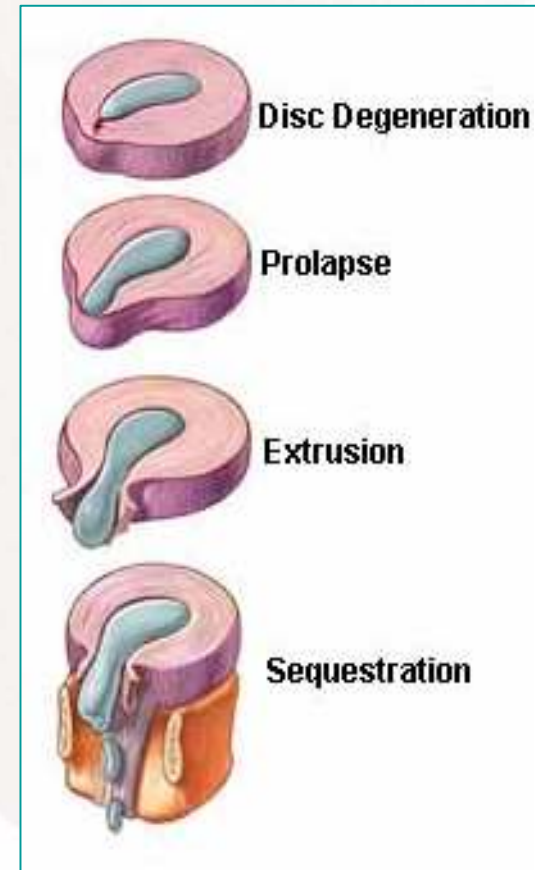
Herniated Nucleus Pulposus

- The progressive degeneration of a disc, or traumatic event, can lead to a failure of the annulus to adequately contain the nucleus pulposus
- This is known as herniated nucleus pulposus (HNP) or a herniated disc



Herniated Nucleus Pulposus

- Varying degrees
- Disc bulge
 - Mild symptoms
 - Usually go away with nonoperative treatment
 - Rarely an indication for surgery
- Extrusion (herniation)
 - Moderate/severe symptoms
 - May need surgery



Spinal Stenosis

- Grouped as “spinal stenosis”
 - Central stenosis
 - Narrowing of the central part of the spinal canal
 - Foraminal stenosis
 - Narrowing of the foramen resulting in pressure on the exiting nerve root

