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LUMBAR DISC HERNIATIONS - STANDARDISED NOMENCLATURE

There is a wide variation in the reporting of lumbar disc herniations between individual radiologists. In 2001, the combined task force of the North American Spine Society, American Society of Spine Radiology and the American Society of Neuroradiology, put forward the following recommendations for the description of lumbar disc herniations. This is a summary of those recommendations.

The definition of a herniation is localised displacement of disc material beyond the limits of the intervertebral space. The intervertebral space is basically defined by the intervertebral end plates/ring apophysis of the vertebral bodies, excluding any osteophytes.

A disc herniation requires a tear (or development of a fissure), within the annulus fibrosus (the outer aspect or capsule of the disc), through which the central part of the disc (the nucleus pulposis), can herniate into and then eventually through.

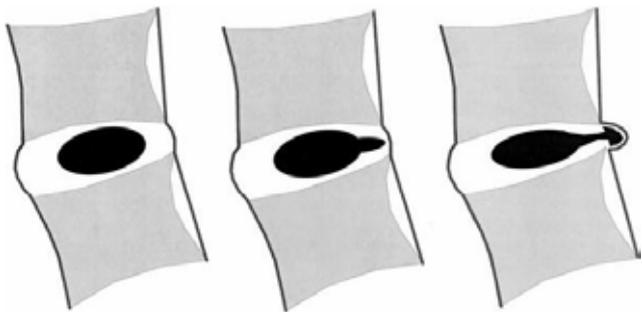


Fig 1. Normal disc

Annular tear

Herniated disc

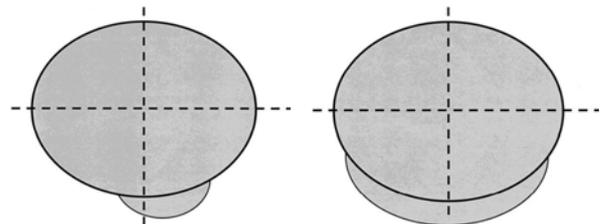


Fig 2. Focal herniation

Fig 3. Broad-based herniation

The term '**disc herniation**' is an umbrella term. Disc herniations can be focal, broad based or generalised. A **focal disc herniation** has a base less than 25% of the disc circumference, (Fig 2). A **broad based herniation** has a base greater than 25% but less than 50% of the circumference of the disc. (Fig 3). A **generalised herniation** is greater than 50% of the disc circumference. An **annular bulge** is not technically a herniation but refers to a circumferential bulging of the disc annulus by less than 3mm beyond the vertebral endplates and can be symmetric or asymmetric.

The herniations can then be further described as protrusions, extrusions or sequestrations:



Fig 4. Protrusion

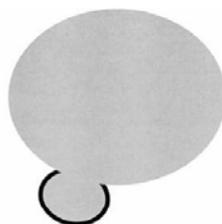


Fig 5. Extrusion

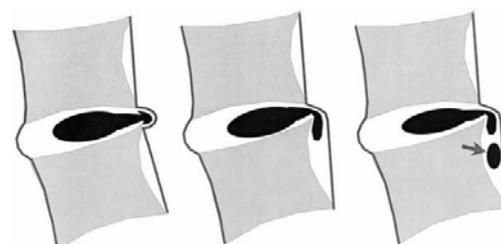


Fig 6. Sequestration

The term **protrusion** relates to a herniation in which the greatest dimension in any plane of the herniated disc material is less than the distance between the edges of the base of the herniation (Fig 4). An **extrusion** relates to herniated disc material which in any plane measures more than the distance between the edges of the base of the herniation, (Fig 5). A **sequestration** is present when there is discontinuity between the herniated disc material and the parent disc (Fig 6).

The herniations are then described based on the **location**; central, paracentral, lateral recess, foraminal and far lateral (or extraforaminal).

The figures for this article have been taken from: Nomenclature and classification of lumbar disc pathology: Recommendations of the Combined Task Forces of North American Spine Society, American Society of Spine Radiology and American Society of Neuroradiology. Fardon: Spine, Volume 26(5). 2001.E93-E113

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CEREBRAL ARTERY ANEURYSMS

Many patients with cerebral artery aneurysms only discover the fact when the aneurysm ruptures, frequently with catastrophic effects. Less commonly, aneurysms are discovered after a severe headache of sudden origin, leading to MR or CT brain imaging. Others are found by screening relatives of patients with a strong family history of aneurysm or in patients with autosomal dominant polycystic kidney disease.

Aneurysm detection depends on asking the right questions and requesting the appropriate investigation. **CT scans are a reliable detector of subarachnoid haemorrhage in the acute phase** (Fig 1). After 24 hours the detection rate of subarachnoid haemorrhage by CT rapidly declines. The imaging strategy therefore shifts to the confirmation or exclusion of an intracranial aneurysm.

MR imaging with MR angiography is the best combination to **confirm or exclude the presence of an aneurysm** (Fig 2).



Fig 1. Acute subarachnoid haemorrhage. CT shows dense blood in the subarachnoid space (arrow).

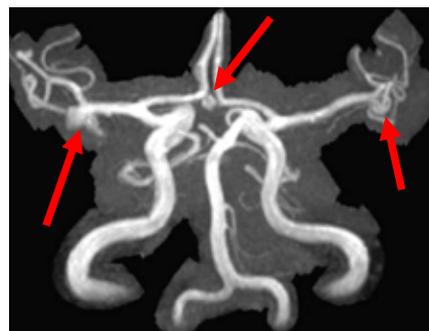


Fig 2. MR angiography showing bilateral middle cerebral artery aneurysms and an aneurysm of the anterior communicating artery (arrows).

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