

# Disc Bulge

## TERMINOLOGY

Annular Bulge

## INTRODUCTION

A disc bulge is defined as generalized mild extension of the outer boundary of the intervertebral disc beyond the border of the adjacent bone. If there is not other evidence of disc abnormality it may be considered a normal variant. Disc volume and shape will adapt and change under different loading and positional states. A symmetric disc bulge which involves between 50 and 100% of the circumference of the disc is not considered a form of herniation and is more likely to represent a normal state.

### Classification of Disc Disorders

It is important that physicians of various disciplines agree and understand the use of common terminology to describe different disease processes. Standardization of language or terminology is often a challenge. IN 1995 the North American Spine Society (NASS) initiated efforts to standardize the use of terminology as it applies to various disorders of the intervertebral disc. They received assistance from the American Society of Spine Radiology (ASSR) and the American Society of Neuroradiology (ASNR). The efforts lead to the development of recommended classifications, definitions and criteria for different disc disorders at various stages of development. The use of commonly accepted and understood terminology helps physicians accurately communicate with their patients and with each other. It influences the type of care recommended to patients with spine disorders.

The following disc disorder classifications and their descriptions are derived from the nomenclature and classification of lumbar disc pathology, recommendations of the combined task forces of the North American Spine Society, American Society of Spine Radiology and American Society of Neuroradiology. These terms describe what can be anatomically differentiated on imaging studies such as MRI. Thus, this classification system is limited by the resolution capacity of the imaging technology and may not accurately represent the actual anatomical extent of the disc pathology.

**Normal disc:** This term is used to describe a young intervertebral disc that is structurally normal. This term may be used to describe a mild diffuse disc bulge that does not show evidence of any other abnormality.

**Disc with Congenital/Development Variation:** This classification includes those discs which are structurally abnormal as the result of hereditary considerations. This includes disc that undergo structural (morphological) changes due to adaptation to abnormal growth of the spine.

**Degenerative/Traumatic Disc Lesion:** This is a broad category which includes discs that present with degenerative changes, evidence of traumatic compromise or a combination of both. This category includes degenerative changes that may be age-related.

**Disc Herniation:** Disc herniation is defined as a localized displacement of disc material beyond the outer limits of the intervertebral disc. The material may consist of a portion of the gel-like nucleus, bone fragments, annular tissue or cartilage. A herniation may be further categorized as focal (< 25% of disc circumference) or broad based (between 25 and 50% of disc circumference). A herniated disc may present as a protrusion (contained herniation) or as an extrusion. An extrusion is associated with migration of disc material completely through the outer annular fibers of the disc. If a piece of the extrusion breaks loose it is referred to as a sequestered fragment. If a disc herniation occurs into an adjacent vertebral body this is called an intravertebral herniation. Disc herniations are further classified as contained, uncontained, as well as by location, size, volume and content.

**Disc Degeneration:** Characteristic features of disc degeneration include disc dehydration (dessication), fibrosis, narrowing of the disc space, diffuse bulging of the disc and the development of annular tears. It also includes the development of bone spurs (osteophytes along the bony margin of the disc and thickening (sclerosis) of the vertebral endplates. Degeneration weakens the intervertebral disc and renders it more vulnerable to compromise with normal stress and strain and to injury. The term spondylosis deformans may be used to describe age-related disc changes. The term intervertebra osteochondrosis may be used to describe disc degeneration secondary to a pathologic (disease) process.

**Disc Inflammation and Infection:** This category of disc disorders includes infection,

infection-like inflammatory changes and inflammation due to a variety of conditions. The presence of inflammatory changes in the disc is often referred to as discitis. Infectious and inflammatory changes often extend into neighboring bone (vertebrae).

**Disc Neoplasia:** Primary cancer or metastatic cancer of disc tissues is referred to as disc neoplasia. It is further categorized by the type of neoplasia.

**Discs with Structural (Morphological) Variants of Unknown Significance:** This category includes discs that have structural abnormalities that cannot otherwise be classified into one or more of the other accepted categories of disc disorders.

An accepted classification of lumbar disc disorders is:

- Normal (excluding age-related changes)
- Congenital/developmental variant
- Degenerative/traumatic lesion
- Annular tear
- Herniation
- Protrusion/extrusion
- Intravertebral
- Degeneration
- Spondylosis deformans
- Intervertebral osteochondrosis
- Inflammation/infection

- Neoplasia
- Morphologic variant of unknown significance