

Degenerative Disc Disease

TERMINOLOGY

- Degenerative Disc Disease (DDD)
- Disc Degeneration
- Spondylosis
- Rostrocaudal Subluxation

INTRODUCTION

Degenerative disc disease (DDD) is characterized by biochemical and structural changes of the intervertebral disc which lead to altered appearance and physical properties of the disc. The cause is multifactorial and is associated with aging. A degenerative disc may be asymptomatic or may be associated with local neck or back pain and in some cases extremity pain due to radiculopathy. The loss of disc volume and vertebral disc height may be associated with secondary complications such as a spinal joint pain syndrome and nerve encroachment. A degenerative disc becomes more vulnerable to disc fiber disruption (annular tears) which can lead to disc herniation.

When discs degenerate, they flatten out much like a cushion flattens out over time. Magnetic resonance scans (MRI) of degenerated discs show a loss of water content in the stuffing (disc material/nucleus pulposus). If the wall of the cushion, the annulus, degenerates, it weakens and bulges and is called a bulging disc. If the stuffing of the cushion (disc) begins to come out of the cushion all the way through the outermost layer of the cushion (annulus) it is called a herniated disc.

The characteristic features of disc degeneration include disc dehydration (desiccation), 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 intervertebral osteochondrosis may be used to describe disc degeneration secondary to a pathologic (disease) process.

PREVALENCE

Disc degeneration occurs with equal prevalence in males and females. The back pain associated with degenerative disc disease (DDD) occurs most frequently between the ages of 45 and 65. Most individuals over 40 years of age are found to have one or more degenerative discs. They are most often detected in the low back (lumbar spine).

