THE AGING SPINE

People often develop varying degrees of spinal degeneration as they age. Although this is not a normal process of aging, degeneration-related physical disabilities and neurological complications have become more common among the 65 and older group. Some individuals do not initially develop symptoms (i.e. pain) but physical examination often reveals abnormal spinal movement (also referred to as segmental dysfunction) in areas where degeneration is occurring.

Spinal degeneration begins with changes within the intervertebral disc, characterized by a loss of water content and disc height. This leads to bone spur development, joint cartilage erosion, and damage to the supportive muscles and ligaments. Spinal degeneration can cause pain, weakness, and numbness.

The degenerative process in the spine is quite complicated and involves various tissues. This process typically progresses over a period of years. Three phases or stages of spinal degeneration have been described to simplify the changes that may take place.

Phases of Spinal Degeneration (see "Phases of Spinal Degeneration"):

Phase I-
Mild loss of spinal curvature
Minimal disc space narrowing
Reduced spinal range of motion (spinal segmental dysfunction)

Phase 2-
Moderate to severe disc space narrowing, with possible disc bulging or herniation
Marginal bone spurs (osteophytes) and erosion of spinal joint surfaces (degenerative joint disease)
Spinal segmental dysfunction, with reduced or excessive spinal mobility (instability)

Phase 3-
Severe disc degeneration, with moderate to severe loss of curvature
Advanced bone spur development, with stenosis and nerve impingement
Severe spinal segmental dysfunction, often with complete loss of mobility (ankylosis)