

Phases of Spinal Degeneration

The cervical spine is made up of the first seven vertebrae in the spine. It starts just below the skull and ends just above the thoracic spine. The cervical spine has a lordotic curve, a backward "C"-shape-just like the lumbar spine. Two vertebrae in the cervical spine, the **atlas and the axis**, differ from the other vertebrae because they are designed specifically for rotation. These two vertebrae are the reason your neck can move in so many directions. The atlas is the first cervical vertebra - the one that sits between the skull and the rest of the spine. The atlas does not have a vertebral body, but it does have a thick forward (anterior) arch and a thin back (posterior) arch with two prominent sideways masses.

The atlas sits on top of the second cervical vertebra, the axis. The axis has a bony knob called the odontoid process, which sticks up through the hole in the atlas. Special ligaments between the atlas and the axis allow for a great deal of rotation. It is this special arrangement that allows the head to turn from side to side as far as it can. The cervical spine is very flexible, but it is also very much at risk for injury from strong, sudden movements, such as whiplash-type injuries. This high risk of harm is due to the limited muscle support that exists in the cervical area, and the fact that this part of the spine has to support the weight of the head-an average of 15 pounds. This is a lot of weight for a small, thin set of bones and soft tissues to bear. Sudden, strong head movements can cause damage.

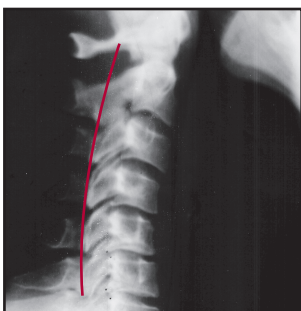
Over time, wear and tear to the discs, joints and bones can occur resulting in degenerative changes to the spine. These degenerative changes may include decreased disc height, loss of joint cartilage, bony spurring (osteophytes) and thickening of bone. This condition is known as **spinal degeneration**. As this condition progresses, the spinal canal can begin to narrow and may eventually place pressure on the spinal cord and nerves resulting in a variety of health symptoms.

There are 4 distinct phases that occur with spinal degeneration.



Normal:

- Gentle curves and "Body Balance"
- Even and healthy disc spaces
- Smooth bones
- Full and complete range of motion or movement
- Positioned to support physical and emotional health

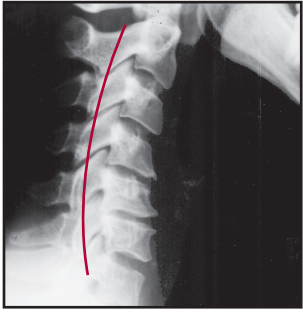


Phase I:

- Loss of the normal spinal curves
- Weakened discs, joints, muscles and nerves
- Poor posture, forward head position and "Body Imbalance"
- Loss of energy
- Diminished height

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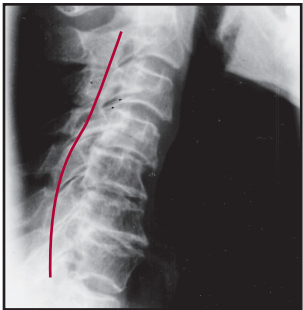
Phase II:

- Increased spinal decay, disc narrowing and bone deformation
- Spinal canal narrowing (stenosis)
- Increased aches and pains
- Increased fatigue
- Reduced ability to cope with physical and emotional stress
- Loss of height



Phase III:

- Greater "Body Imbalance" and poor posture
- Increased nerve damage
- Decreased brain to body communication
- Advanced bone deformation and scar tissue
- Signs of physical and/or mental weakness or disability
- Further loss of energy and height



Phase IV:

- Severe degeneration of bone and cartilage
- Bone fusion, constant pain and discomfort
- Inability to turn, twist or bend
- Physical, mental and emotional weakness worsens
- Further loss of height

DID YOU KNOW?

The nervous system is the body's inner communication system. It's made up of the body's many nerve cells. The nerve cells take in information through the body's senses: touch, taste, smell, sight, and sound. The brain interprets these sensory cues to understand what's going on outside and inside the body. This allows a person to use their body to interact with their surrounding environment and control their body functions.

The body has billions of nerve cells

Every person's body contains billions of nerve cells (neurons).

There are about 100 billion in the brain and 13.5 million in the spinal cord. The body's neurons take up and send out electric and chemical signals (electrochemical energy) to other neurons.



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