



## Spinal Movement and Anatomy Center

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### Introduction

The spinal column (vertebral column or backbone) provides both structural and nervous system support for your entire body. Made up of 34 bones, the spinal column holds the body upright, allows it to bend and twist with ease and provides a conduit for major nerves running from the brain to the tips of the toes and everywhere in between. Here we explain the basics about spinal anatomy to help you understand your back or neck pain, the doctor's diagnosis and treatment plan, and 10 steps you can take today to help prevent a spine problem. The entire spinal column consists of 24 individual bones called vertebrae (singular vertebra), plus 2 sections of naturally fused vertebrae-the sacrum and the coccyx-located at the very bottom of the spine. When most people talk about the spinal column, they're actually referring to the vertebral column: the 24 circular vertebrae that march down the middle of the back. A normal vertebral column creates a graceful, double-S curve when viewed from the side of the body. The cervical vertebrae gently curve inward, while the thoracic spine curves gently outward, followed by the lumbar spine, which

curves inward again. This structure gives the spinal column great strength and shock-absorbing qualities. The sacrum (or sacral spine) is a triangular-shaped bone located below the last lumbar spinal vertebrae. The sacrum sits between the hip bones (called iliac bones) and forms the back of the pelvis. The sacrum connects to the pelvis at the left and right sides by the sacroiliac joints (SI joints).

Immediately below the sacrum are 3 to 5 small bones that naturally fuse together at adulthood forming the coccyx or tailbone. Sometimes the coccyx is termed the coccygeal vertebrae. Although the tailbone is very small and may seem insignificant, it plays an important role in supporting your weight when you sit. The spinal column doesn't consist only of bones. To maintain its double-S shape, provide skeletal support and route the nerves where they need to go, the spine also relies on a number of supporting structures. First among these structures are the spinal discs, called intervertebral discs. Each disc is similar to a fibrous pad of tissue (called fibrocartilage) and anchored in place by vertebral endplates (called cartilaginous endplates) starting at C3 through L5-sacrum. These discs act as interbody spacers and shock absorbers. Notably, there is no spinal disc between C1 and C2, nor is there a disc between the sacrum and the coccyx. Facet joints are paired (left, right sides) at the back of each vertebral body (C3-L5). Sometimes these joints are called zygapophyseal or apophyseal joints. These joints help stabilize the spine while allowing flexion (bending forward), extension (bending backward) and twisting movement (called articulation). Similar to other joints in the body, each facet joint is encased in a capsule of connective tissue that produces a nourishing fluid that lubricates the joint. Cartilage coats the joint surfaces ensuring smooth movement.