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## Oklahoma Interventional Pain Management

### STRUCTURE OF THE BACK

The human back is an amazing mechanical device. It is strong enough to support our entire body, yet is supple and flexible enough to allow us freedom of movement.

The spine forms the major part of the skeleton. It is made up of 33 bones called vertebrae, 24 of which are moveable, providing flexibility to the spine. The vertebrae are stacked on top of each other to form a column on the front and a bony canal in the back. The spine is divided into 5 separate regions, each of which has different characteristics relating to its functions.

- 7 cervical vertebrae (neck)
- 12 thoracic vertebrae (provide attachment for 12 pairs of ribs)
- 5 lumbar vertebrae (lower back)
- sacrum (5 bones fused together that join to the pelvis)
- coccyx, or tail bone (3 to 5 fused vertebrae)

Between each vertebra is a disc which acts as a shock absorber to provide a cushion for the spine. Each disc consists of a tough outer layer of cartilage and elastic tissue surrounding a soft, pulpy center, known as the nucleus. The disc provides the strongest attachment between the vertebrae. The vertebrae are also joined to one another at two facet joints, one on each side. The facet joints help to guide the movement of the spine.

The vertebrae are also held together by tough fibrous bands called ligaments, and muscles are attached to the vertebrae by bands of tissue called tendons. Together they help to support and stabilize the spine and help to protect its delicate nerves.

The large openings in each vertebra line up to form a long hollow canal called the vertebral canal. The spinal cord runs through this canal. Spinal nerves are attached to the spinal cord and exit the vertebral canal at different levels in the spine through spaces between the vertebrae. The spinal cord starts at the base of the brain and ends in the upper lumbar region where the remaining nerves branch out and exit the vertebral canal. The spinal cord serves as the primary nerve pathway to and from the brain.