

Anatomy of The Spine

Spinal Muscles

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Spinal stability and spine function requires the coordinated effort of numerous muscle groups. There are more than 30 muscles and tendons that help provide spinal stability, balance, flexibility and mobility. There are also large muscles which run along each side of the spine. Muscles of the spine tend to work in pairs. When muscles contract opposite muscle groups will relax allowing for movements to take place. There are many small muscles within the region of two adjacent vertebrae, which allow for fine control of movement and stability. These deeper, smaller muscles, which run from segment to segment are often referred to as stabilizing muscles they are essential for the control of posture. The multifidus muscles are most widely researched of the deep spinal musculature. They help provide stability to each individual spinal segment. The multifidus muscle gets its nerve supply from a small nerve branch from adjacent spinal segments.

There are also superficial muscles which lie on each side of the spine. The largest and best known of this group is referred to as the erector spinae. The erector spinae muscles can be felt on either side of the spine. The erector spinae muscles will react to back pain by going into spasm, producing pain, tenderness and stiffness.

The abdominal muscles play a critical role in stabilizing spine as well as facilitating twisting and rotation of the back. The abdominal muscles contribute to forward and movement of the spine as well as side bending and rotation of the spine. The transverse abdominis is the deepest abdominal muscle having an important function of flattening the stomach and stabilizing the back. Strengthening this muscle is very important for core stabilization and reducing mechanically induced back pain.