MarchingBandWorkout
EXERCISE FOR THE ARTS

Healthy Low Back

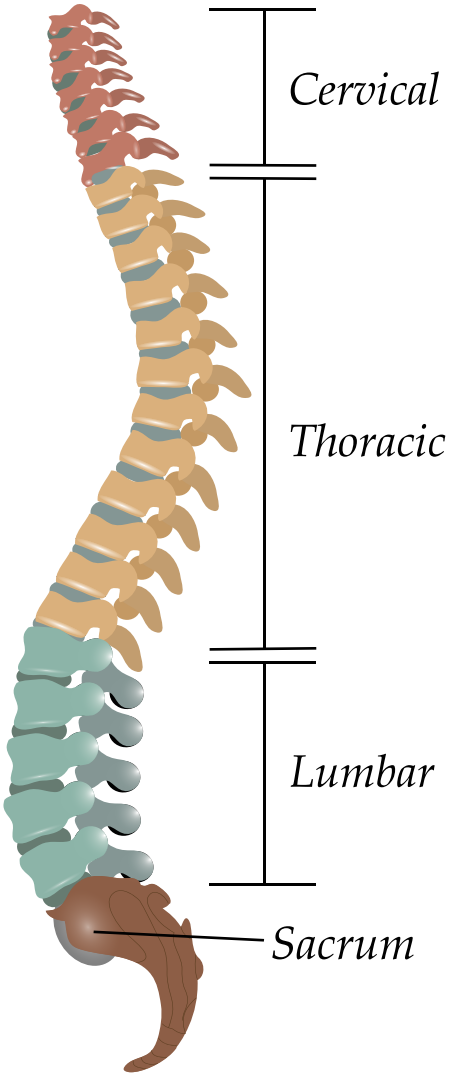
Current research estimates that over 80% of adult Americans will experience Low Back Pain at some time. About 80 to 90% of all back discomfort result from faulty mechanical or postural habits rather than disease. Lifelong habits of sitting for long periods of time, gaining weight as we age, incorrect lifting, bending, sleeping and sitting methods, and infrequent exercise lead to chronic back discomfort.

Unfortunately, back discomfort often appears suddenly as you experience an abrupt movement, over exertion in activities, fall, twist or bend, even a sneeze. The important thing to remember is that you probably set yourself up for the discomfort by poor habits – the incident that made you aware of it simply put you over the edge.

Anatomy of the Spine

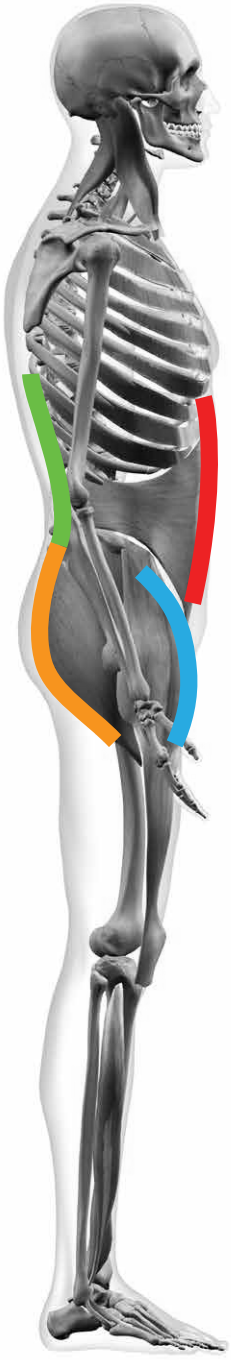
When we speak of the back we refer to the spine or vertebral column. This is the body's scaffolding that anchors the shoulder and pelvic girdles, skull and ribs. The spine's construction forms a boney canal to protect the spinal cord and at the same time provides a structure to bear weight. The spine is composed of 33 vertebrae, which is a series of bones stacked on one another separated by discs. These discs help to dampen the forces transmitted through the spine, yet allow for movement between the bones.

Normally the spine forms four gentle curves. From top to bottom they are the Cervical, Thoracic, Lumbar and the Sacrum/Coccyx. These curves help to maintain posture and balance. Generally, poor posture or muscle tone leads to exaggerated curves that result in misaligned vertebrae. Misaligned vertebrae can then compress spinal nerves which results in pain. The spine has two major problem areas, the Cervical (neck) and Lumbar (low back) spine.



Low Back Pain

The Lumbar (low back) curve tends to bear weight more on the delicate posterior (rear) small joints of the vertebrae rather than the larger anterior (front) weight bearing bodies and are therefore more prone to injury. Additionally, the lumbar spine experiences the heaviest mechanical strain. Abdominal weight gain encourages lumbar strain because it allows the abdominal muscles to loosen which lets the body's center of gravity to move forward. As a result, the muscles on the opposite side (rear) of the body, called the paraspinals, become chronically tight and painful, which can lead to the vicious cycle of chronic low back pain.



Posture and Balance

There are Four basic sets of muscles that maintain the integrity of the low back. Since chronic back problems are usually the result of poor balance and tone of the supporting muscles, we find weak or lax muscles on one side, occurring with tight muscles on the opposing side. This unbalanced situation leads to exaggerated curvatures of the spine which put undue pressure on the delicate soft tissues of the back.

Exercises that **stretch** the tight muscles and/or **strengthen** the lax muscles will help to alleviate or prevent low back problems in most cases. At the low back, muscles that cause posterior tilt of the pelvis tend to flatten the lumbar curve thereby decreasing back discomfort. Conversely, those muscles which cause an anterior tilt of the pelvis increase the lumbar curve – an exaggeration called "lordosis" or sway back.

Exercises For A Healthy Low Back

-**Abdominal Muscles** pull the ribs down and the front of the pelvis up.
-This causes a Posterior Tilt and Flattening of the Lumbar Curve.
-Exercises that **strengthen** the Abdominals are:
1) Vacuum; 2) Plank; 3) Mountain Climbers; 4) Squats

-The **Paraspinals** pull the upper back down and the back of the pelvis up.
-This causes an Anterior Tilt and Hyperextension of the lumbar curve.
-Exercises that **stretch** the Paraspinals are:
1) Lying Knee to Chest; 2) Mad Cat; 3) Lying Pelvic Tilt; 4) Lying Piriformis Stretch

-The **Hip Flexors** cause the thigh to move forward.
-By virtue of its attachment at L5 of the lumbar spine, tight hip flexors causes an exaggeration of the lumbar curve called "lordosis."
-Exercises that **stretch** the Hip Flexors Are:
1) Standing Lunge Stretch; 2) Kneeling Hip Flexor Stretch; 3) Seated Butterfly Stretch; 4) Lying Bridge Stretch

-The **Gluteal (Buttock) Muscles** pull the thigh backwards and the back of the pelvis down.
-This causes hip extension or flattening of the lumbar curve.
-Exercises that **strengthen** the Gluteals are:
1) Kneeling Bird Dogs; 2) Squats; 3) Deadlifts; 4) Lunges