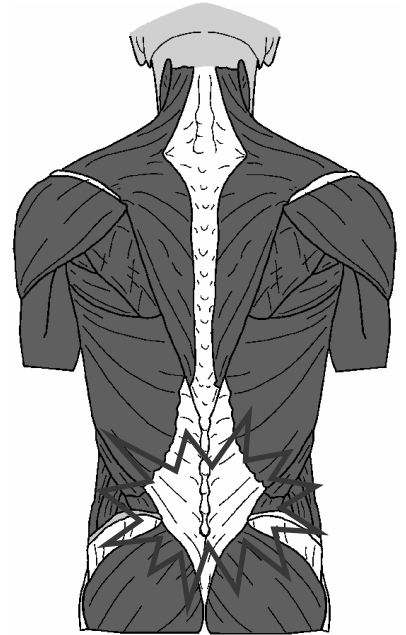




Low Back Pain



SYMPTOMS

- Pain in the low back, possibly radiating into the buttocks or down the leg
- A general aching in low back; may include stiffness
- Restricted range of motion
- Pain can be felt with prolonged sitting, prolonged standing or when going from sitting to standing

DEFINITIONS

PIRIFORMIS SYNDROME

- A spasm or tightness of the piriformis muscle in the buttocks that can irritate or impinge the sciatic nerve causing pain
- Poor mechanics of the foot and lower extremity can cause a rotation in the pelvis causing the spasm to occur

DISC PROBLEMS

- Discs are found between each of the vertebrae of the spine from C2 to S1
- Discs (the cushioning between the vertebrae) can be compressed, ruptured, herniated, develop a mild bulge or, there may be degeneration of the disc
- Any of the above conditions may occur from poor posture in sitting or standing. Also, with standing, walking or running, poor support of the foot can lead to mechanical changes in the back

LEG LENGTH DISCREPANCIES

- A difference in the length of the leg from the pelvis to the ankle.
- May be due to a fracture of the bone in the lower leg or thigh
- Could also be caused by poor mechanics of the lower extremity due to lack of good support beginning at the foot

ARTHRITIS

- A degenerative condition where the joints become abnormal due to damage to the cartilage

PRIMARY CAUSE

EXCESSIVE PRONATION

- Pronation is a normal movement of the foot, that allows the arch to flatten to a degree, which helps the body to absorb shock and to adapt to different ground surfaces.
- In analyzing one's gait, first contact is on the heel and outside of the foot; followed by a shift of body weight continuing forward, toward the arch and toes.
- If the foot is weak or tired and/or the footwear is not supportive, then the arch can flatten more than normal, which is excessive pronation.
- Flattening of the arch (excessive pronation) places pressure on the foot and can cause the same stress on the back as a leg length discrepancy
- This repetitive, excessive pronation, is the main contributor of many lower extremity, overuse injuries including back problems.

CONTRIBUTING FACTORS

- Poor flexibility
- Muscle imbalances
- Leg length discrepancies
- Flat pronated feet
- Poor support of the shoes you wear and/or the support in the shoes, can add to the stress on the foot and back
- Biomechanical changes in the foot can allow increases in pronation

TREATMENT – ADVICE GIVEN MOST OFTEN IN CURRENT LITERATURE

The **3 S's** — **Stretching, Strengthening and Supporting**, along with ICE and REST, have been found to be the simplest and most effective treatment for reducing stress on the lower extremity and back.

- **Stretching** of the muscles of the lower extremity can help reduce pressure on the back. This can include the hamstring, piriformis, IT Band, Psoas Major and low back.
- **Strengthening** of the abdominal muscles, hip and low back and legs can reduce stress on the back also.
- **Supporting** the foot with proper shoes and insoles, can prevent or eliminate the vast majority of foot related problems. This may be a Birkenstock sandal, with a broad base and contoured footbed, that is low to the ground and conforms to the foot. It may also be a shoe with an upper that wraps the foot and supports the arch and heel, thus limiting excessive pronation. The vast majority of footwear have enough cushion but very little support for the arch and heel. One of the easiest and most effective solutions is to add a simple over the counter insole that provides a forgiving support for both the arch and heel.
- Correct posture for sitting, standing and activity.
- Physical therapy including ultrasound, massage, soft tissue mobilization and exercise along with posture stabilization.

BACK CONDITIONS/INJURIES VARY WIDELY. INDIVIDUAL EXERCISE/STRETCHING PROGRAMS SHOULD ONLY BE DESIGNED BY A PROFESSIONAL ON A CASE-BY-CASE BASIS FOLLOWING AN EXAMINATION.

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