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### **Treatment of Low Back Pain**

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**Your Life Your Health**

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Low back pain is a very common condition, and it is estimated that 60% to 90% of Americans will experience at least one episode of low back pain in their lifetime. About 5% to 10% of people will go on to experience chronic back pain. A great deal of low back pain cases are caused by mechanical type injuries including heavy lifting, improper lifting, prolonged sitting or standing, bending and twisting, and working with heavy equipment that produces strong vibrations. The majority of problems associated with low back pain are mechanical, and can be divided into:

1. Muscle and ligamentous injuries,
2. Disc herniations,
3. Disc degeneration resulting in arthritis, and
4. Arthritis causing spinal stenosis.

Most people with acute low back pain improve substantially within the first 2 weeks of injury. Initial treatment usually consists of pain control measures, including ice packs or ice massage, nonsteroidal anti-inflammatory drugs to relieve acute pain and inflammation, and muscle relaxants when palpable muscle spasm or tightness is present. Narcotic analgesics are used occasionally for acute back pain, but their use should be limited to a short-time period as they can be associated with physical dependence (addiction) and tolerance (drug becomes less effective and requires higher doses for pain relief). Bed rest should also be avoided and return to usual daily activities should be resumed as soon as possible. Exercises that promote normal posture, range of motion of the spine, and strengthening and stretching exercises should also begin as soon as possible.

A complete low back pain rehabilitation program consists of two parts. The first component is aerobic exercise to get your whole body in shape. Studies have found that people who regularly exercise have fewer episodes of low back pain. The best aerobic exercise are walking, swimming, and biking. These exercises allow you to work out without subjecting your back to the repeated impact produced by jogging or aerobic dance.

To achieve optimal aerobic conditioning for your back as well as your heart and lungs, try to build up to a regular schedule of 20 to 40 minutes of exercise 3 to 5 days per week. The workout should be strenuous enough to raise your pulse to 60% to 85% of maximum (to estimate your maximum heart rate, subtract your age from 220).

Good posture is essential to minimize strain on your back while you exercise. If you bike, adjust the pedals and handlebars so you can sit up straight without leaning forward. Avoid racing style bikes if you have low back problems. If you walk, stand comfortably straight without slouching. Preserve a slight arch in your lower back and keep your stomach muscles slightly tensed.

The second component of rehabilitation involves specific back exercises. These may be done on your own at home or with the guidance of a physical therapist. Initial exercises are meant to control pain and maintain muscle tone. When done correctly, these exercises should cause little or no pain.

1. Pelvic tilt: lie on your back with both knees bent and feet flat on the floor. Flatten the small of your back against the floor without pushing down with your legs. Hold for 5 seconds, repeat 10 times.
2. Knee to chest: lie on your back with both knees bent and feet flat on the floor. Bring one knee to your chest and hold for 10 seconds. Lower your foot to the floor and repeat with the opposite leg. Repeat 5 times. As you progress, bring one knee to your chest, then the other. Hold both knees and repeat as before.
3. Prone lying: lie on your stomach with your arms along your sides and head turned to one side. A small pillow under the hips and an ice pack wrapped in a towel and placed on the low back may provide additional pain relief. Hold this position for 3 to 5 minutes.
4. Prone lying on elbows: lie on your stomach with the weight on your elbows and forearms, with your hips on the floor. Relax your lower back and hold for 3 to 5 minutes. As you progress, work up to the prone press-up; lie on your stomach with your hands on the floor near your shoulders. Slowly push your upper body off the floor by straightening your arms, keeping your hips on the floor. Hold for 5 seconds, repeat 10 times.

As your back becomes stronger, adding a series of stabilization exercises will help improve back strength and function.

1. Arm reach: Start on your hands and knees, maintaining a straight lower back. Lift one arm straight up next to your ear. Try not to twist your body. Hold the arm parallel to the floor for 5 seconds. Return to the starting position and repeat 10 times, then repeat with the other arm.
2. Leg reach: Start on your hands and knees as above. Extend one leg out behind you; try not to twist your body. Hold the leg parallel to the floor for 5 seconds. Return to the starting position and repeat 10 times, then repeat with the other leg.
3. Quadruped: Start on your hands and knees, maintaining a straight lower back. Lift one arm straight up next to your ear, and then extend the opposite leg out behind you. Try not to twist. Hold the arm and leg parallel to the floor for 5 seconds. Return to starting position, and repeat 10 times. Then repeat with the opposite arm and leg.
4. Bridging: Lie on your back with both knees bent and your feet flat on the floor. Raise your

hips and your lower back from the floor, keeping your lower back straight. Hold the position for 5 seconds, relax and repeat 10 times.

5. Partial sit-up: Lie on your back with both knees bent and your feet flat on the floor. Slowly curl your head and shoulders off the floor. Hold briefly for 1 to 2 seconds, and then relax. Do 10 to 20 times.

A good back exercise program helps your back in 2 ways: first, it strengthens and stabilizes the back and abdomen so they can support your back and protect it from strain. Second, it keeps your back and hamstring muscles flexible.

Tight hip and hamstring muscles often contribute to low back pain. Exercises that stretch these muscles are an essential part of recovery and may prevent new pain from developing.

Be sure to follow these guidelines as you start your program:

1. A little discomfort in the low back is natural as you get your back in condition, but sharp pain means you are pushing too hard.
2. Always warm up before back exercises by walking or doing gentle calisthenics.
3. Applying heat before exercise and ice afterward may keep discomfort to a minimum.
4. Doing the exercises with proper form maximizes the benefits and minimizes strain to your low back.
5. Stretching must be gentle, never push beyond the comfort zone. Hold stretches, do not bounce.

Low back pain cannot be completely prevented, but there are some things that can be done to limit your risk of developing problems.

1. Use proper body mechanics when lifting or carrying heavy objects. If an object is too heavy to lift alone, ask for help.
2. If your work includes lifting and moving heavy objects, wear a brace to help provide support to your lower back.
3. Avoid prolonged sitting and standing. Get up and move about frequently so your lower back does not have a chance to stiffen.
4. If you must remain seated for long periods, keep your feet slightly elevated so your knees rest just above the level of your hips.
5. If you must remain standing for long periods, rest one foot on a small stool to relieve pressure on the lower back. Alternate feet frequently.

These measures will help you maintain the health of your spine as you manage and live with chronic back pain.

If you need help with chronic or acute low back pain, Miles Sykes at Golden Triangle Physical Therapy will be glad to consult with you. Ask our healthcare provider for a referral to Miles.

Remember, it is your life and it is your health.