Does Your Lower Back Bother Your Bowling?

What an awful thought. Probably happens more than we think. How many of us have experienced some form of lower back pain? I have on several occasions, and I still claim to be a young educated whippersnapper. Well, age doesn't really factor into the equation yet. I am sure we have all experience it. Strain a muscle lifting or twisting. It even occurs while sneezing of all things. The pain is ever present. Each step taken generates small twitches or twinges in the injured area. Try bowling with an injured lumbar. Can't bend forward or straighten up, the arm swing is restricted, and how can one get down into the follow through position. OUCH!!!!!!!!!!

The solution to this problem is really quite simple. There is no solution, unless you consider a sedentary lifestyle a viable option. I do not. Therefore, prevention of such an occurrence is the best alternative. So, let us take some time to learn about our lower back and conditioning procedures in an attempt to avoid future complications.

James Peterson and Cedric Bryant of Stairmaster Sport/Medical Products, Inc. have published various articles verifying that low back pain is the most prominent medical problem in American society for the 30-60 age group. Accordingly, across all age groups, 30 million Americans are impaired with low back problems. In lieu of its seriousness, an elusive low back conditioning program is a must. **Most instances, exercise has been found to be an effective means for both preventing and treating low back pain by enabling individuals to restore proper muscular balance in the trunk region achieving low back & hamstring flexibility.**

The low back (lumbar) is considered the framework of the entire spine. The vertebral column, or commonly known as the spine, runs from the base of the skull to the end of the tailbone. It is comprised of 33 individual bones called vertebrae of which 24 are moveable and nine immovable (fused over time). There are seven cervical, 12 thoracic, and five lumbar vertebrae. As the spinal segments progress downward from the cervical region they grow increasingly larger to accommodate for the upright posture of the body. Each vertebrae consists of a neural arch through which the spinal cord passes and several projecting process serve as attachments for muscles and ligaments. The lumbar spine itself is composed of five vertebrae (L1-L5) that are the major support of the low back. Nearly 75% of trunk flexion and extension occurs in the lumbar area at the lumbo-sacral junction of L5 and S1.

The anatomical design and positioning of the spine allow for a high degree of mobility front to back, side to side, and rotationally. Flexion of the trunk involves the lengthening of the deep superficial muscles of the back combine with the contraction of the rectus abdominus and oblique muscles. Trunk extension is achieved by the quadratus lumborum and spinalis muscles running along the spinal column. Trunk rotation is produced by the abdominals, obliques, and spinalis muscles.

Back afflictions are second only to foot problems in order of incidence throughout life. Previous writings (September, 1995) have revealed the most common work-related injuries occur to the back. **In sport, back problems are relatively common and most often result from congenital conditions, mechanical problems, or traumatic factors.** For those of us in good physical condition, the risk of lumbar injuries is minimized at best. However, if your fitness level is sub par, the risk of injury is nearly doubled and even tripled if you bowl on a regular basis. Let us not become conditioned to the adage that reflects bowling as an effortless activity, but rather understand the many physical processes and functions of our sport.

- **Congenital Condition** - conditions present at birth.
- **Mechanical Problem** - faulty posture, obesity, or poor body (bowling) mechanics.
- **Traumatic Factors** - forces produced during sport resulting in contusions, sprains, and or fractures.

Your lower back is tremendously taxed while bowling. It supports the bodies' weight while maintaining stability and balance, and exerting force to produce the pendulum or not-so-pendulum arm swings of today. Over the course of several games and many days, the lower back becomes fatigued, drained of energy, and downright tired. This is when injury susceptibility is greatest. To avoid future lumbar complications, use the following suggestions to your advantage.

Exercises to Improve Back Strength

All sport specific conditioning programs should include exercise as a preventive measure to reduce back injuries. **This form of conditioning prevention includes either maintenance of, or increasing in, trunk flexibility and strength.** Developing maximum ROM in rotation and both lateral and forward flexion is important. Lumbar fitness should be

developed slowly and consistently with emphasis placed on the quadratus lumborum and erector spinae muscles ensuring proper postural alignment (September, 1995).

- **Lumbar Extensions** - (beginner exercise) lie prone (on your stomach) on the floor with the head turned to one side. Lay the hands and arms under the chin to support the neck. Relax the stomach and lower back allowing free, unrestricted motion. Begin this exercise by slowly exhaling the air from the lungs and contracting the lower back muscles. Then, raise the upper torso off the floor by using the lower back muscles to pull upwardly. The shoulders should rise off the floor anywhere from six to 12 inches. Once the furthest extended position is reached, hold for two seconds, then slowly lower the upper torso under control to the floor. As soon as the shoulders contact the floor, begin the next repetition.
- **Back Extension Exercise Machines** - (intermediate exercise) this is an exercise machine designed specifically for lumbar extension. Begin by slowly and freely, with no resistance, producing the movement while acclimating oneself with the machine and exercise. When you have comfortably learned the movement, gradually increase the resistance to begin overloading the muscles. Perform three sets of 10 repetitions increasing the resistance moderately each set. Glute-Ham Raises - (advanced exercise) - mount the glute-ham bench and rest the thighs on the padding, feet securely anchored. When in a comfortable position, lean forward over the thigh rest and lower the body toward the floor **(A)**. Allow the lower back and hamstring muscles to stretch for a brief 2-3 seconds. Begin exhaling and slowly straighten the body by flexing the lower back, glutes, and hamstring muscles to bring the torso upward. Stop at approximately parallel position to the floor **(B)**. Slowly return to starting position and begin another repetition **(A)**. Perform two sets of 10 repetitions using good biomechanical form.

Exercising your lower back is the best preventive measure taken to ensure minimizing risk of complications or future injuries. Take the time to improve your fitness level using the beginner, intermediate, and advanced exercises for you benefit. Ask anyone how debilitating a lower back injury can be and you should acquire all the motivation needed to get started. Remember, **BTM** brings you current information pertaining to various methods athletes employ to enhance performance. Become one of those athletes and show the bowling community your dedication and commitment to a healthy, happy lifestyle. Remember to consult your doctor or physician before beginning any exercise or activity program.

Tips for Preventive Low Back Care

- Do not sleep on the abdomen or on the back with legs fully extended.
- When carrying objects always bend at the hips and knees, not the waist.
- Carry objects at center of body and at waist level.
- Do not twist or rotate when picking an object up.