

Improve Your Flexibility

Stretch the Shoulders

Bowling is hard work and extremely physically demanding. You practice often, sweat puddles, and possibly tire to the point of exhaustion. Being overweight does not help. Maybe your lacking in strength and stability using a lighter ball than originally planned. Perhaps you have recently returned from an injury or layoff and lost some flexibility such as the good deep knee bend or long fluid follow through your game so richly cherished. Sound vaguely familiar. Many physical maladies or complications can arise and affect our bowling. Most of which result from poor physical fitness.

BTM reported last month on the first of three consecutive fragments of a stretching routine that can be performed on the road or in the confines of the home. This month we wish to reveal another portion of the routine and equip you with the information and techniques to properly stretch the **shoulder joint**.

Stretching is a form of exercise. Though not vigorous like aerobic activity or strenuous as strength training, it has its place in the training world. Stretching is often overlooked in today's society of exercise phobias and those who have little understanding of its main effects underrate its value. Thought of as "a waste of time" or "unnecessary," moderate stretching has lost the interest of the public. Fortunately for us, the importance of stretching has a direct link to bowling performance and physical fitness. Follow the Roman numeral sequence of points and derive for yourself the positive relationship between bowling performance and flexibility.

1. Bowling is physically demanding, requiring the interactions of many **musculoskeletal** (muscles & bones) and **physiological systems**.
2. These interactions, regulated primarily by the brain, affect the body's ability to function in a sport specific manner.
3. A lack of physical fitness hinders these interactions affecting the body's ability to function in a sport specific manner.
4. Improved physical fitness promotes these interactions enabling the body to function more efficiently in a sport specific manner.
5. Therefore, improved physical fitness should be a goal of the athlete.
6. Flexibility, a component of physical fitness, can be improved through a stretching routine designed specific to the demands of the sport.

Flexibility

The term **flexibility** can be defined as the **ROM (Range Of Motion) at a specific joint**. This means our flexibility is greater at one joint (knee) and lesser at another (trunk) and no two joints have the same equivalent ranges of motion. According to writings by **Kreighbaum and Barthels (1990)** a lack of ROM at certain sport specific joints is often the cause of inefficient movement or skill performance. In bowling lingo, poor flexibility hampers your ability to execute crisp repetitious shots. A bowler with poor flexibility often lacks: 1) a good deep knee bend 2) a long extended follow through 3) a stabilized forward pelvic tilt. Therefore, the absence of a minor fitness component can have traumatic or catastrophic effects on performance.

A common cause of inflexibility is inactivity. As the body ages, muscular strength and lean body tissue are lost at a rate of about 1-2% a year after 30. These degenerative effects are enhanced through lower levels of physical fitness. If the complete ROM of a joint is not used over time, the connective tissues begin to shorten and tighten decreasing flexibility. In essence, the muscles adapt to the current ROM standards used by the individual. The old adage of "use it or lose it" does have meaning when referring to the body's flexibility. Specific to bowling and many other sports, a lack of flexibility hinders the natural motions required for skill execution.

The Stretching Technique

Stretching can be done in the confines of the home, while traveling on tour, or even at work on a short break. Flexibility training enhances physical fitness by optimizing learning, practice, and performance of skilled movements. Stretching a given muscle or group increases muscular and joint-specific flexibility. In turn, improved flexibility reduces the risk of sprains and strains, soreness and tensions, and the severity of painful menstruation (dysmenorrhea). According to **Kreighbaum and Barthels (1990)** if flexibility training is to be implemented to promote greater ROM for skill improvement, the joints needing improvements should be predetermined; that is, the exercise should be specific to the need.

Static Stretching is a favorite technique of mine since it can be done without assistance. Though other types of stretching including **ballistic**, **PNF**, **Mates**, **dynamic**, and **active** exist having a place in the training circles, they are not our concern. Researches on flexibility improvements have shown that static stretching is safe and result in minimal muscle soreness. **Static stretching** allows the individual to hold a stretched position for a set time creating semipermanent changes in muscular length inducing muscular relaxation. Static stretching is properly executed following the progression list as follows:

1. Position the body on a flat surface such as a table, bed, or floor.
2. Take 1-2 minutes to relax the entire body by slowly closing the eyes and inducing deep breathing.
3. Begin using self-assistance; stretch the specific muscle to the farther point while maintaining form.
4. Hold this position for 15 seconds, then slowly return to the starting position.
5. Repeat steps one through four two-additional times.

Shoulder Stretching

The shoulder is a ball-n-socket joint functioning in all movement planes. The **deltoid** and **rotator cuff** are the two primary muscles that comprise the shoulder region. Working both together and independently, the deltoid and rotator cuff move the shoulder in four specific motions: abduction & adduction, flexion & extension, medial & lateral rotation, and horizontal flexion and extension. The deltoid muscle originates on the lateral 1/3 of the clavicle, the acromium process, and the spine of the scapula inserting on the deltoid tuberosity. Note, the rotator cuff is a group of four small muscles that were previously highlighted in the February 1996 issue. The following two shoulder stretches should be incorporated into the everyday training routine. Follow the previously described **Static Stretching** guidelines during the routine.

Rear Deltoid Stretch

Reclined or standing, arms and legs fully relaxed. Begin by raising one arm out in front of the body to shoulder height. Cross the arm in front of the body just under the chin. Place the opposite arm over the first arm and grasp behind the elbow joint. Slowly pull the arm across the body stretching the rear deltoid. Hold the stretched position for 15 seconds before slowly relaxing the arm back to the beginning position. Repeat the stretch two additional times, then switch arms.

Combination Front Deltoid/Chest Stretch

Reclined or standing, arms and legs fully relaxed. Stand next to a wall to be used as a support for the stretch. Begin by raising one arm out in front of the body to shoulder height. Place the arm against the wall still at shoulder height by positioning the body to the wall. The arm will be stationary in this stretch and the body will slowly be moving. Next, turn the body slowly away from the arm stretching the front/anterior deltoid and the chest muscle simultaneously. Hold the stretched position for 15 seconds before slowly relaxing the arm back to the beginning position. Repeat the stretch two additional times, then switch arms.

Each stretch should be done while relaxing in a stress free manner. You may want to dim the lights to simulate a nighttime experience. Stretch three specific times holding each for a 15-second count. This simple routine can be done daily as long as your nutrient and water intake are sufficient and the body receives the proper rest required for recovery. Usually 6-8 hours daily. Remember, if any complications arise during or due to any of the prescribed exercise, consult a medical provider immediately.