STATIC, DYNAMIC and BALLISTIC STRETCHING

One of the ways to improve flexibility--one of the health-related components of fitness--is by incorporating stretching into one’s physical fitness program. There are three general modes of stretching most often used to increase flexibility: static, dynamic, and ballistic stretching.

**Static Stretching** involves the slow, gradual lengthening of a muscle or muscle group, followed by a holding of one’s body position once the muscle or muscle group is at an optimal length, as determined by the individual. The stretch is held for at least several seconds, or longer, based on the workout or desired goals. Because the stretch occurs slowly, the muscle can relax, resulting in greater length. This stretching technique is practiced frequently in fitness classes and in personal training sessions, although dynamic stretching has been gradually supplementing or even replacing static stretching in some trainers’ and instructors’ workouts. Static stretching is associated with a very low injury risk.

**Dynamic Stretching** involves moving while stretching a muscle or muscle group, although at a controlled speed and range of motion. Some practitioners believe that dynamic stretching can better mimic performance, so may therefore be more appropriately applied in a personal training program, especially for athletes.

**Ballistic Stretching** involves movement, like dynamic stretching, but the activity is performed using rapid, bouncy movements that provide force to lengthen muscles. Although this particular type of stretching may improve flexibility, it also can lead to increased risk for muscle injury, since speed and range of motion can be difficult to control. If a muscle is contracted too quickly, muscle spindles within the muscle may be activated, which trigger a shortening of that muscle. If ballistic stretching continues on the shortened muscle, the individual risks a muscular strain.

To optimize performance and minimize injury risk, all stretching should be performed when the body’s muscles are warm. So, if a person wants to stretch prior to an exercise bout, a warm-up should first be performed. Stretching at the end of a workout is time efficient, since the muscles are already warm. Many people also feel a sense of relaxation when stretching, which can end a workout with a reduction in heart rate and blood pressure. Additionally, stretching may provide the opportunity to address muscle tension from a workout. Stretching may relieve the exerciser of relief of the tension, and may provide more kinesthetic awareness (the awareness of our body in motion) and proprioception (the awareness of joint position).