

Exercise Your Way To Improved Performance

Throughout the ages various activities have paralleled what we label today as exercise. Sport historians generally explain that in years past everyday physical labor was sufficient enough to stimulate an exercise response. If you would, think back several hundred years and recall the working conditions of that era. Physical labor primarily constituted every job or task performed daily; and most often than not was enough to physically condition the body. Whether people cut wood, dug ditches, churned butter, skinned fur, hunted for food, or traveled miles on foot carrying various items, life then was physically stressful. Because of this, exercise, though rarely understood, was not entirely needed to assist the people in their lifestyles.

As society has progressed from those times, several factors have greatly influenced the need for exercise. Such factors include the invention of the wheel, electricity, generated and stored power, and just about any computerized or mechanized device that takes away from the human labor component. The progressive development of society has brought on a significant decrease in physical activity and can be directly attributed to the lack of labor needed to perform many daily or work related tasks. Along with the decline in activity levels arrives an increase in various health related risks and risk factors. These include elevated blood pressure & cholesterol levels, increased cardiac heart disease, rising body fat levels, **and declines in strength, stability, and flexibility of the body.**

For us bowlers, the modernization of life has a definite impact on our current physical condition and bowling performance. The decrease in general activity lowers our physical fitness level creating a greater risk to develop injury and other health related problems. Every time we roll a bowling ball, unnatural stress is placed on the body. This accumulates, as do the games we bowl. Over the course of time, this constant stress and pressure on the body can be detrimental to our various bodily systems. They eventually wear down causing us to become very susceptible to injury and paving the way for a decrease in performance. Keep in mind, this problem is enhanced if the body is deconditioned and lifestyle habits are poor. Only those who maintain and increase their level of physical fitness will be able to handle the physical stress of our sport, fight off several health risk factors, and improve performance on the lanes.

Why should I exercise? Will exercise help or hinder my performance?

Will I get muscle bound from lifting weights?

Is it really important that I strengthen my body?

The most recent research in health and wellness reveals that after the age of 30 your body loses 1%-2% of muscle mass and strength each year. This eventually hurts our physical performance and decreases longevity in the sport. If a proper fitness program is not adhered to, then we must realize as bowlers and human being our physical performance capabilities are declining. The understanding of decreasing fitness levels and increasing physical demands of our sport leads me to the series of the most often asked questions from the bowling community.

Most of these are health related questions and can be answered with a general understanding of importance:

- 1. Exercise decreases blood pressure, cholesterol levels, body fat stores, and blood sugar levels.**
- 2. Exercise reduces the risk of developing coronary artery disease (the #1 killer in society), diabetes, arthritis, osteoporosis, and obesity.**
- 3. Exercise induces positive emotions, feelings, and enhances your ability to handle stress.**

It is clear that these and the thousand other positive reasons to exercise should be motivators in themselves. Yet, why is it that so many people (including bowlers) neglect exercise as part of the daily routine? This is a question I choose not to debate today; rather let me focus on the bowlers needs.

Reasons Bowlers Should Exercise

- 1. Increased fitness positively enhances sport performance.**
- 2. Improved fitness promotes physical longevity in bowling.**
- 3. Elevated fitness levels delay the onset of fatigue.**
- 4. Strength directly affects the ability to generate force during the pivot step, release, and follow through.**
- 5. Strong muscles, bones, tendons, and ligaments improve joint stability, thereby, decreasing acute injuries and the development of chronic injuries.**

6. **General fitness helps the body recover quicker from activity.**
7. **Overall health will improve your quality of life.**

There are several different exercise programs available to the public. They fall in either one of two categories according to the type of exercise, aerobic or anaerobic. Aerobic exercise is continuous exercise using oxygen as a fuel source such as running, cycling, swimming, or aerobic exercise machines. Anaerobic exercise utilizes muscular strength within short time frames. Some examples are resistance training, weight training or the most widely utilized strength training procedures.

Did you know? Bowling is an anaerobic sport because it is short term rather than continuous or vigorous in nature.

It is important to exercise the body both from a muscular (anaerobic) and a cardiovascular (aerobic) standpoint. The direct and indirect benefits (some referred earlier) are enormous and noteworthy. For us bowlers though, the muscular training takes precedent over cardiovascular conditioning (not to be neglected) because bowling is not a cardiovascular sport.

Strength Training

Muscular fitness is required for successful performance in most all sports. Strength training is a common type of exercise that develops muscular fitness by strengthening the musculoskeletal structure (muscles, bones, tendons, and ligaments). This in turn provides greater ease during activity, extends muscular endurance, delays fatigue, and improves joint stability reducing injuries. Strength training provides the means to develop strength without greatly enhancing physical size. This is true. You can become stronger without bulking-up. Strength training places a greater than normal stress on the body by increasing the resistance and decreasing the number of sets and repetitions performed per exercise. Strength training combined with adequate nutrition and proper rest enables the body to adapt to the demands by increasing strength and permitting you to handle greater resistance.

Strength training is high-intensity exercise requiring only 1-2 sets of repetitions to exhaustion per movement (exercise). It uses resistance training apparatus (machines, weights, dumbbells, stretch bands, etc....) or anything that provides suitable resistance. When done properly, the resistance, per set, per specific exercise, should be sufficient enough to allow you to perform only 8-12 repetitions before failure. If you go beyond 12 repetitions, per set, the resistance is not enough. By the same token, if you cannot complete 8 solid repetitions then you are using too much resistance. Each repetition should be done in a very deliberate and slow manner. I recommend a 4 x 4 count. Four seconds flexing the muscle then four seconds relaxing the muscle. Strength training should be performed two to three times a week and can be achieved in as little as 30 minutes each session. This type of exercising is rather intensive training and should not be performed unless under proper guidance or supervision of an exercise physiologist, personal trainer, or a doctor's prescription. If you are looking to strengthen your body to improve your game, strength training is the way to go.

Sport Specific Training For Bowling

This is the beef have you been looking for. Sport specific training is exercise designed for an individual and their particular sport requirements. It varies from sport to sport and can be distinguished only by the persons needs. A bowler has certain sport specific needs that exercise, particularly strength training, can enhance through proper conditioning. I am a firm advocate of specificity whether it is on the lanes or in an exercise setting. It is conceivable to exercise the entire body with a general program, but we are not seeking general results. Every program I design for a bowler is individualized to meet the needs of that person and the specific physical weaknesses of their game.

The following is a prescription of 3 specific exercises to develop stronger forearms. These are important to every bowler, especially those desiring to increase strength in the hand, wrist, and elbow region. Exercise guidelines for forearm:

Exercise #1 - Forearm/Wrist Curl (Palm Facing Down)

- This particular exercise has two variations, the second of which will be described in exercise #2. This version of the wrist curl strengthens the forearm extensors, or those muscles that extend the wrist. The muscles involved are: extensor carpi ulnaris, extensor carpi radialis longus, and extensor carpi radialis brevis.
- **Step 1** - Choose a resistance suitable for strength training (dumbbell, barbell, resistance band, etc....)
- **Step 2** - Place the arm or arms on a table, bench, or any solid base of support (palm facing down).
- **Step 3** - Let the wrist or wrists hang over any end of the support base 3"-5" to allow for full unrestricted range of motion.

- **Step 4** - Place the resistance in the hand or hands starting with the wrist in a flat comfortable position. (Figure #1)
- ***Step 5** - Slowly lower the resistance to a fully stretched position using the four-second count. (Figure #2)
- **Step 6** - Begin contracting the forearm muscles and extend the wrist to the farthest pain free position using the four second count. (Figure #3)
- **Step 7** - Continue this exercise until you reach a point of momentary muscular fatigue or failure. According to the strength training procedures this should be between 8 - 12 repetitions.

Exercise #2 - Forearm/Wrist Curl (Palm Facing Up)

- This version of the wrist curl strengthens the forearm flexors, or those muscles that flex the wrist. The muscles involved are: flexor carpi ulnaris, flexor carpi radialis, and palmaris longus.
- **Step 1** - Choose a resistance suitable for strength training (dumbbell, barbell resistance band, etc. ...)
- **Step 2** - Place the arm or arms on a table, bench, or any solid base of support (palm facing up).
- **Step 3** - Let the wrist or wrists hang over any end of the support base 3"-5" to allow for full unrestricted range of motion.
- **Step 4** - Place the resistance in the hand or hands starting with the wrist in a flat, comfortable position. (Figure #1)
- ***Step 5** - Slowly lower the resistance to a fully stretched position using the four-second count. (Figure #2)
- **Step 6** - Begin contracting the forearm muscles and flex the wrist to the farthest pain free position using the four second count. (Figure #3)
- **Step 7** - Continue this exercise until you reach a point of momentary muscular fatigue or failure. According to the strength training procedures this should be between 8 - 12 repetitions.

Exercise #3 - Wrist Pronation/Supination

- This exercise is a great follow up to the wrist flexion and extension. It mainly conditions the muscles deep in the forearm that attach at or near the elbow joint. This exercise should never be performed before the two previous because of its nature. The forearms need to be extensively warmed-up and fairly active. This exercise must be done unilaterally or one arm at a time. The muscles conditioned are: pronator teres, pronator quadratus, supinator, bicep brachii.
- **Step 1** - Choose a resistance suitable for strength training (dumbbell, stick weight, or, resistance band, etc. ...)
- **Step 2** - Place the arm on a table, bench, or any solid base of support (thumb facing up).
- **Step 3** - Let the wrist hang over any end of the support base 3"-5" to allow for full unrestricted range of motion.
- **Step 4** - Place the resistance in hand starting with the wrist in a flat comfortable position. (Figure #1)
- ***Step 5** - Slowly rotate the resistance either to the left or right to a fully stretched position using the four-second count. (Figure #2)
- **Step 6** - Slowly rotate the resistance the opposite direction to a fully stretched pain free position using the four second count. (Figure #3)
- **Step 7** - Continue this exercise until you reach a point of momentary muscular fatigue or failure. According to the strength training procedures this should be between 8 - 12 repetitions.

*The forearms must remain stable on the support base at all time. The natural tendency is to lift the arm off the support while performing these exercises.

Add these three exercises to your routine and you will be amazed how fast your performance can improve with a little added strength. Look for next month's edition on strength training and how important are a strong spine and trunk.