



## ***Strength Training - Essential for Success***

**By Ian Briggs**

While triathlon is basically an aerobic sport, it is essential that you create a solid strength base to prepare the body for the physical rigors of swimming, cycling and running, and to reduce the risk of injury.

Often triathletes forego strength training due to time constraints and the perception that it is less important than sport-specific training. Instead it should be viewed as part of the overall training mix.

Strength training might not lead to significant changes to  $VO_2$ , however it definitely enhances endurance performance through improved efficiency of movement.

The primary reasons for employing a strength conditioning program include:

1. Improving functional flexibility and sport-specific range of motion
2. Stabilizing and strengthening the core to prevent injury and create a solid foundation for biomechanical efficiency
3. Strengthening soft tissue - tendons, ligaments and stabilizing musculature to improve joint integrity
4. Strengthening the weakened, long muscles to rectify muscular imbalances that result from overuse
5. Increasing movement-specific lean muscle mass that breaks down over the course of the season

Numerous studies have proven that various endurance activities benefit tremendously from the speed and power gained from strength training. Hill climbing, surging, lactate threshold tolerance, closing gaps, ability to delay exhaustion, and finish line sprinting are just some of the immediate benefits.

The effects of strength training on injury risk are perhaps even more important as they enhance joint stability by improving strength balance in muscles on both sides of major joints.

When it comes to injury prevention, strength training is a must regardless of competition distance. Lack of adequate joint stability contributes to many overuse injuries, and appropriate strength training can do wonders to increase the stability of your joints.

While factors such as poor body alignment, technique, equipment and training error can be the most significant risk factor for suffering an overuse injury.

Training errors include excessive mileage, a sudden change in training distance or intensity, an excessive amount of hard interval training, poor bike fitting, improper footwear and running on cambered surfaces. By incorporating a regular weight-training program into your training schedule, you can help protect yourself against many of the injuries commonly associated with high-volume triathlon training.

**Stretch what's tight** - flexibility (stretching) is often neglected in an athlete's hurry to move on to more intense training. This can be a big mistake as flexibility is the foundation of your fitness.

Since you're performing repetitive movements during swimming, cycling and running, many muscles and joints become overused. Through all this movement the rest of your body is maintaining a fixed position, resulting in imbalances - overused, tight muscles and underused, weak muscles.

Stretching these tight areas using a variety of approaches is the key to correcting these imbalances - the 'foam roller' is a great way to release these muscles. Stretching only what's tight is the first step in eliminating aches and pains, correcting posture and improving performance-enhancing range of motion.

**The core** - is often neglected in favor of more traditional weight lifting programs, that only work the prime movers (main muscles) and only increases muscle imbalances, leaving out critical links in the chain. Our core muscles are crucial for stability, strength and movement efficiency and are necessary to offset faulty movement patterns that lead to injury.

**Strengthen soft tissue (tendons, ligaments) and stabilizing musculature** - prepare the body for the heavier workloads by incorporating multi-joint, multi-planar movements using lighter loads and higher repetitions. Training the stabilizers of the joints helps prepare the body for the rigors of heavier training and competition.

**Strengthen weaker muscles** - this helps build performance and strength and is key in injury prevention. There's no need to strengthen what's already tight and overused, or muscles and muscle groups that don't contribute to performance in our sport. Starting with the weak links is an important part of a performance-enhancement program.

**Increase muscle mass (not body weight)** - After a long training season, our lean muscle can be eaten away from the high volume and intensity of our training and racing. Reduced lean muscle mass can slow the metabolism and impair immune function, so recovery and rebuilding is necessary.

It's tempting to skip strength training in favor of swimming, cycling or running, but this decision could potentially render you unable to swim, ride or run at all, so incorporate it in your training regimen and see the performance results.

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Ian has been coaching athletes for 10 years and is a Sports Fitness Specialist (NASM), Certified Personal Trainer in the USA and Australia, a USA Triathlon Level II Coach, USA Cycling Level III Coach, and an ASCA Level II Swim Coach. He has advanced certifications in strength training, nutrition, and endurance training. He recently stepped down as the Regional President for USA Triathlon (Northeast Region) as a result of moving from New York to Florida. Ian currently coaches individual and group triathletes of all ages and skill levels to develop them for competition by focusing strongly on individual physiology, biomechanics, flexibility, nutrition, muscular strength and endurance and technique to maximize speed and efficiency, and to minimize injury.