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# Ask the Expert

Q: My shoulders really feel tired and sometimes sore from all my triathlon training. Can you recommend anything that may help me out?



This doesn't sound like an injury, but the first thing I would do is see a medical professional just to be sure. They will most likely run you through a battery of tests that will identify what your problem could be. If they are suspicious of a possible soft tissue tear they may want you to get an MRI. With all of the overhead movements that occur, specifically when swimming, you may have an issue with your rotator cuff.

I would also recommend that you have your swim stroke analyzed for any potential problems. Often times triathletes come from running or cycling with little swimming experience or technique. This lack of experience and coaching can be problematic resulting in injury.

Let's assume that you do not have any specific injury and you have been cleared to train and compete. That means that you need to train your shoulders for injury prevention and performance. We will address a specific strength training program later, but you should keep a couple fundamental principals in mind.

Progression: The progression principal states that you should gradually increase your train-

ing intensity and volume at a rate that is most optimal to make gains. In other words, start slow and increase the amount of work

and the weight used gradually. I will recommend a specific protocol once we get through some other concepts.

Overload: The overload principal states that you must stress the body beyond what it is accustomed to in order to make gains. It is easy to overload a couch potato by having them go for walks and do a few calisthenics. On the other hand it is much more difficult to overload a well-trained athlete who is trying to improve their performance by fractions.

So, when you first start your strength training routine you will need a gradual progression that will ramp you up over a period of several weeks and you will need to use a program that will provide the right stimulus with exercise selection, sets, reps and training days that will optimize your gains. If you are like most athletes, you may have a tendency to try the most aggressive strength training routine in order to fix your problem. Don't overdue it.

## The Shoulder Complex

The shoulder is a fairly complex area of the body and you need to understand that when you are training and completing the shoulders can really take a beating.

The bones that make up the shoulder complex are the humerus, scapula and clavicle. The joints are the acromioclavicular, sternoclavicular, glenohumeral and the scapulothoracic joints. There are many muscles that connect to the bones of the shoulder that stabilize and control the movements. Additionally, there are several bursae of the shoulder, as well as a nerve and blood supply. It is easy to see the complexity of the shoulder once you take a closer look.

### The Warm Up

I like the old adage that says, “If you don’t have time to warm up, you don’t have time to train.” There are two phases of the warm up that should be completed before you start your training: general warm up and specific warm up. The general warm up is basically a complete body warm up that elevates the heart rate and begins to deliver oxygen to working muscles. The general warm up usually lasts for about 5-10 minutes but could take much longer depending on what level of condition you are in. A stationary bike or jogging on a treadmill works great. There is some evidence that suggests that a longer warm up will allow the body to use oxygen more effectively once competing.

The specific warm up is actually performing the given exercise with light weights before you start using more challenging loads. Elite weightlifters use an empty bar at the beginning of a training session before they attempt extremely heavy weights, thus verifying the importance of a specific warm up. Don’t be tempted to skip either the general or specific warm up prior to any type of strength training.

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### Strength Endurance

The term “strength endurance” is an interesting concept. It is the ability to repeat a strength effort with no significant depreciation in performance in the following efforts. For instance, if you could lift 200 pounds 10 times and then do it again 3 minutes later for another set and again for another set, you would have good strength endurance capacity. On the other hand, if you could only do it once then try again and do only 5 reps, then again for 2 reps you would have poor strength endurance. It is important for an endurance athlete to be able to sustain repeated efforts of strength.

### The Routine

I am a firm believer that everyone wants to get the most out of his or her training routine and training time and

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in order to achieve this, I would recommend you consider using a simple strength training circuit 3 times per week that will address the strength endurance of the shoulders. In order to adhere to the progression principal we can simply add more work over the course of time. We can also add more weight, which will lower the repetitions for each exercise. This will provide the overload mentioned earlier in the article.

Exercise	Weeks 1 & 2	Weeks 3 & 4	Weeks 5 & 6
Warm Up	Warm Up	Warm Up	Warm Up
Step Ups	10 reps, 1 set	8 reps, 2 sets	6 reps, 3 sets
Upright Rows	10 reps, 1 set	8 reps, 2 sets	6 reps, 3 sets
RDL's	10 reps, 1 set	8 reps, 2 sets	6 reps, 3 sets
Dumbbell Side Raises	10 reps, 1 set	8 reps, 2 sets	6 reps, 3 sets
Bicep Curls	10 reps, 1 set	8 reps, 2 sets	6 reps, 3 sets
Push Ups	10 reps, 1 set	8 reps, 2 sets	6 reps, 3 sets
Calf Raises	10 reps, 1 set	8 reps, 2 sets	6 reps, 3 sets
Dumbbell Rows	10 reps, 1 set	8 reps, 2 sets	6 reps, 3 sets

\*Perform a very light set of the circuit once to complete a specific warm up

\*\*Routine performed M-W-F or T-Th-Sat

### Recovery and Regeneration

You should be adhering to some sort of recovery and regeneration program during the most intensive time of your training. It is very difficult to recover from cumulative training sessions if you don't pay careful attention to your nutrition, sleep habits and general stress. The following are some practices that will help you optimally perform.

Nutrition	Hydrate before, during, and after training & competition.	Eat colorful fruits, vegetables and whole grains to sustain efforts and recovery quickly.
Sleep	Get 7-9 hours of sleep each night.	Go to bed at the same time every night.
Stress	Avoid smoke, bright lights and loud, noisy places like night-clubs and bars.	Organize your personal and professional life, it will help you to be more productive & lower your anxiety.

Good Luck.

**Michael Barnes, MEd, CSCS\*D, NSCA-CPT\*D** earned his Masters degree in Human Performance from Auburn University. Mike most recently served as the Education Director for the National Strength and Conditioning Association and is currently the owner of Infinity Personal Training and Fitness, a personal training and fitness company headquartered in Colorado Springs, CO. Previous work experience includes, a Division I Strength and Conditioning Coach, Strength and Conditioning Coach for USA Rugby and seven years as the Strength Development Coordinator for the San Francisco Forty-Niners. Mike is a popular national speaker on strength and conditioning and has authored numerous publications as well.