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by Greg Werner, MS, MSCC, NSCA-CP, CSCS, SCCC, ACSM-HFI

# Fists and 'Cuffs

**As an athlete** of any kind, one of the most debilitating injuries you can suffer is a rotator-cuff injury. The pain and lack of strength to your affected shoulder and arm makes you feel like a three-legged dog in a fight. So what is the rotator cuff and how can you strengthen it?

The rotator cuff is comprised of four muscles originating from the shoulder blade and ribs along with their tendons, which insert on the upper-arm bone. The infraspinatus, teres minor and supraspinatus rotate the shoulder outward while the subscapularis helps rotate the shoulder inward. The rotator cuff gets its name because of the way this casing of tendons helps to rotate the arm within the shoulder socket.

Since the rotator cuff allows such a dynamic range of movement in such a tight space, it is susceptible to friction, instability and injury. Shoulders go through a tremendous amount of rough and repetitive movements, the type of movements that lead to impingement, inflammation and the dreaded tendon tear.

#### TAP, DON'T TEAR

When we talk about rotator-cuff injuries and grappling, the one submission that demands discussion is the Kimura (as well as the Americana). Nothing has the potential for tearing a rotator cuff like getting caught in a Kimura by a strong, overexcited newbie.

"The number one piece of advice I have about the Kimura is 'don't get in it.' Number two is 'tap out before it gets broke," jokes Steve Bamel, the strength and conditioning coordinator at the U.S. Olympic Training Center in Chula Vista, Calif., and a student of Brazilian Jiu-Jitsu under Joao Cunha. "But in all seriousness, jiu-jitsu was created so that perfect technique will out-rule strength every time in every instance. The reason that I justify doing my shoulder prehab routine, as well as my knee, elbow and neck routines, is so that when I get put in those holds, the damage done is minimal. I see people missing class every day because they tap out later than they should and they're not strong enough to bounce back without taking a few days off."

The Harvard Medical School has listed three pri-

mary problems associated with excessive rotator-cuff stress, in order of their severity:

- Rotator-cuff tendonitis (bad): Inflammation of a single tendon causes pain only during specific movements, such as when the muscle that pulls against that tendon is being used or when you are reaching upward.
- Shoulder bursitis (worse): Also called "subacromial bursitis," this occurs when inflammation spreads into the pocket of fluid that lubricates the rotator-cuff tendons. Pain is often worse at night and occurs when you move your shoulder in almost any direction, particularly if you are reaching upward.
- Rotator-cuff tear (the worst!): The tendon may tear after it has been violently torqued beyond its normal range of motion or after years of being weakened by inflammation. Rotator-cuff tears that affect a significant portion of the tendon cause weakness of the shoulder, limiting your ability to hold your arm out to one side or to lift an object.

### Exercises

#### **Prone External Rotation**

Begin by lying facedown on a bench. Holding a light dumbbell, raise your left upper arm perpendicular to your body and parallel to the ground. Start with your elbow bent to 90 degrees and your hand hanging down. Keeping your elbow bent, rotate your arm and raise your left hand to shoulder level. Slowly lower your hand and repeat.

#### **Side-lying Internal Rotation**

Begin by lying on your right side on a bench or the floor. Keep your left arm neutral along the top of your body. With a light dumbbell in your right hand, bend your right elbow to 90 degrees, and keep your forearm resting on the bench. Initiate the movement by rotating your right arm inward, raising your forearm up and across your upper abdominal region. Finish the rep by slowly lowering your forearm back down.

#### **Thumbs-up Lateral V-raise**

With a dumbbell in each hand, stand with your palms facing each other and your hands in front of you. Keeping your elbows straight, slowly raise your arms upward and outward laterally in a V-pattern, until your thumbs point downward and your hands reach eye level. Finish the rep by slowly lowering your arms back down to the front of your body.

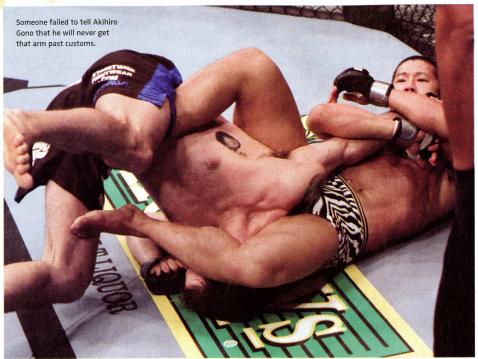
#### **Side-lying External Rotation**

Begin by lying on your left side with your left hand supporting your head. Keep your right arm at your side with your elbow bent to 90 degrees and the forearm resting against your upper abdominal region. Hold a light dumbbell, palm down. Then raise the right forearm until it's parallel to the ground. Lower your arm back down slowly. While performing the reps, you can simultaneously stretch your resting arm by extending it straight past your ear while placing your head on your biceps.





## conditioning room



#### Stretches

#### **Partner Handcuffs Stretch**

Reach behind your back and place both wrists together in your low-back region (hopefully you're not too familiar with this position). With a partner standing behind you, have him grab the outside of each elbow and gently push them toward each other. Keep your elbows bent and allow your partner to push them inward for 15–30 seconds.

#### **Back-pat Stretch**

Raise your arm out in front of your body to upper-chest level. Bend your right elbow and place your right hand on your left shoulder. Next, reach under your right elbow with your left hand and grasp your triceps just above the elbow. Gently pull your right arm inward so that your hand travels around and allows you to pat your back. While keeping your right elbow parallel to the ground, hold the stretch for 15–30 seconds.

#### **Smell-the-pit Stretch**

Begin by raising your right arm straight up overhead. Bend your elbow and drop your hand down to the base of your neck behind your head. Next, with your left hand, reach up over your head and grasp your right elbow. Gently pull your right elbow inward so that your right hand travels down lower behind your neck. Stretch to the point of tightness but not pain, and hold the stretch for 15–30 seconds.

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#### SHOULDER THE LOAD

Your shoulder can be easily injured if it is neglected. The narrow space that envelops the rotator-cuff tendons becomes even narrower if your shoulder muscles are weak or tight. When this happens, routine shoulder movements are more likely to cause tendon friction and eventual problems.

The primary way to build the strength and flexibility of the muscles that comprise the rotator cuff is to follow a complete total-body strength program. Deadlifts, squats, pull-ups, bench presses and rows should be done at least twice a week to build the strength of the larger muscle groups and to fortify all joints.

To target the specific rotator-cuff muscles you must take on the mind-set of "prevention is better than the cure." Rotator-cuff prehabilitation moves are not your typical strength-building mass exercises where your ego can push you to lift heavy weights. Exercises for the rotator cuff must be done with strict focus on technique.

Here you'll find four exercises and three stretches recommended for rotator-cuff prehabilitation. These exercises are easy to do and don't require anything more than some lightweight plates, small dumbbells or elastic tubing and a bench. Do these exercises three times per week on nonconsecutive days, such as Monday, Wednesday and Friday. Begin with a relatively light weight for 3 sets of 10 reps for the first week, and then progress to a gradually heavier weight for 3 sets of 10 reps to failure.

"If applied with the correct technique, no hold, whether it is a joint lock or choke, is breakable, no matter how strong you are," reminds Bamel. "That's the beauty of jiu-jitsu. But with a proper prehab routine, you can maximize your time on the mat and minimize injuries."