

## TAKE CARE OF YOUR TENDONS

BY ROBERT MARX, MD, MSc, FRCSC

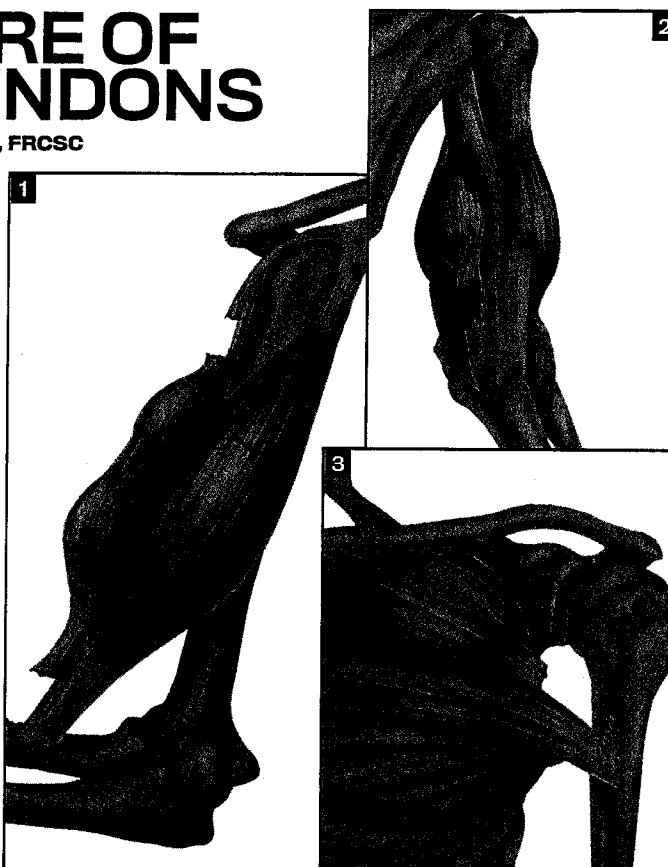
You need strong muscles and bones to make gains in the gym, but don't forget the glue that holds them together: tendons. They connect muscle to bone, enabling them to bend or straighten joints as they contract. If you rupture a tendon, muscle strength will be greatly reduced — if it's a complete rupture, the muscle will have no power at all — and the shape of the muscle will be altered because it's no longer held at its normal length. Knowing how tears happen and how to prevent them is a big step toward staying on track. Read on.

### THE NEGATIVE OF NEGATIVES

**Unfortunately, tendon ruptures are relatively common in bodybuilders.**

**The most typical mechanism of injury, a forceful eccentric (negative) contraction,** places the tendon under a large degree of stress that can cause it to tear. You'll feel sudden pain and usually will be unable to continue the rest of your workout. Swelling occurs rapidly, and there is often significant bruising in the area.

The diagnosis can be relatively simple for certain ruptures, such as the biceps, due to the obvious deformity. For other ruptures, such as the rotator cuff of the shoulder, other tools are required to make an accurate diagnosis, such as an MRI (magnetic resonance imaging).



### ALL TORN UP

The seven most common tendons for bodybuilders to tear:

UPPER BODY	LOWER BODY
1. Biceps	5. Patellar (kneecap) tendon
2. Triceps	6. Quadriceps tendon
3. Pectoralis	7. Achilles tendon
4. Rotator cuff	

### RISKY BUSINESS

There are many risk factors for tendon rupture, but the most common for individuals involved in bodybuilding and strength competition is the use of anabolic steroids. These drugs lead to stronger muscles but weaker tendons. In studies, anabolic steroids administered to rats caused a decrease in the elasticity of tendons as well as a decrease in the load required to cause tendon rupture. In humans, the combination of an

increase in muscle strength and a potentially weakened tendon increases the rate of tendon rupture. But even if you don't use steroids, it can happen to you.

### THE FIX

If it does, you may need surgery, and it's best to have it within two weeks of the acute rupture to prevent muscle atrophy and degeneration. Wait too long and you might be out of luck: The muscle may retract and not be of sufficient length to allow

tendon repair.

The technique for surgical repair varies depending on which tendon is torn. Metal devices known as suture anchors are now used for the surgical repair of many tendons. These implants are inserted into the bone firmly with very strong sutures attached to them. The sutures are then sewn into the tendon to repair it to the bone. In the shoulder, these devices can be inserted arthroscopically, allowing rotator-cuff repairs without a large incision, which means a faster recovery. For tendon ruptures at the knee, the ideal method is using drill holes through the patella (kneecap) due to the size and quality of this bone.

### FULL RECOVERY

Rehabilitation following these repairs is critical. Depending on the tendon repaired, you may be temporarily immobilized.

With the help of a therapist, you'll progress to passive motion — working out the stiffness and working up to normal joint function. The tendon will require time to heal back to the bone before being subjected to real-life stresses. Six weeks after surgery, you should be able to actively move the joint, and a month after that you may gradually resume your workouts. But take it easy at first — no sense in hurting yourself all over again.

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