



Injury Prevention

Train Safe!

ROBERT L. BARNETT



LEARN ABOUT

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INJURY**

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EXERCISE**

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DOCTOR**

TRAIN SAFE

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As with any new exercise program you are advised to seek medical advice before you begin. The author is not responsible for any injury resulting from the material contained within this eBook.

AUTHOR: ROBERT BARNETT

Robert Barnett is the author of several new eBooks and his groundbreaking “The Barnett Training System” was first published in 2002. He was a Powerlifting champion and he is currently a 7th Degree Blackbelt in Kenpo. Robert is a graduate of USC and Cornell University. He has been a fitness trainer for the last 16 years and has been weightlifting himself for over 40 years. He is married and has four children.

INJURY PREVENTION

TRAIN SAFE

There are many ways to protect yourself from injury if you have the knowledge and discipline to train safely.

To be perfectly honest, when I was younger I was occasionally too impatient to train safely, and I had to pay the consequences. I have torn pectorals, delts, triceps and even the sheath of my quad muscle. Some of these injuries could not have been avoided. However, some of my injuries might have been avoided if I knew what I do now about injury prevention.

In addition, if you are getting older you really need to pay attention to injury prevention. A mistake in training by a twenty year-old could result in a setback -- by a thirty year-old, it could end your training for good.

When we age some of our muscles shorten and lose flexibility. As an example, the shoulder undergoes “adaptive shortening” in the posterior region. Because of this shortening, a rotator strain is more likely. Therefore, if you are over 25, please pay special attention to this advice.

STANDARD CAUTIONS

- Do not exercise for at least 1 hour after a meal. The only exception is light walking.
- Reduce intensity when the temperature is above 80 degrees.
- Do not exercise with pain in a joint, such as knees and shoulders.
- Avoid aerobic exercise when you have the flu or upper-respiratory tract infections.
- Stop exercising immediately if you are lightheaded, dizzy, or have any chest discomfort.

WARM-UPS

Everyone knows that you should warm-up before exercising; however, few people take the time to warm-up, and they totally disregard this injury prevention technique.

I have all of my fitness clients do 20 minutes on the treadmill before resistance training. The treadmill can be used for several purposes, but I have the clients use it primarily as a warm-up. It helps them loosen-up and it increases their circulation and body temperature which helps prevent muscle strains.

Additionally, I have many clients warm-up specific muscle groups by using a light weight for their first set of each exercise. This is a warm-up set, and it is not counted as a regular set in their routines. They perform approximately 10 to 12 repetitions. When I was powerlifting, it was common to see someone who could bench 450 pounds warming-up with the 45-pound Olympic bar. However, look at the people in the local gym --they max out at 185 pounds in the bench press, and yet they warm-up with 135 pounds which is 73% of their 1RM. Why, because they do not want anyone to see them handling a light weight. Try to lose the ego and avoid injury.

Before you do your resistance training, warm-up by using a treadmill or stationary bike, and always do a warm-up set for each exercise. Everyone should follow these two simple injury prevention techniques.

EXERCISE FORM

The exercises descriptions found in the Exercise chapter should be followed precisely. Even advanced bodybuilders need to periodically review exercise performance. I have found through the years that my fitness clients need constant reinforcement on exercise performance. As an example, should the elbows be out while performing the bench press and the lat pull down? If the elbows are held close to the body, which muscle groups are stimulated?

Conversely, if the elbows are held out from the body, which muscle groups are stimulated, and what muscle group are at risk? If you do not know the answers to these simple questions, you need to review exercise performance and adjust your form accordingly. Another concern is uneven execution of certain exercises. I see some of my clients perform the bench press with uneven extension (one arm in lead of the other). This “lack of form” can cause serious injury because it places the body in an unnatural position, and thus can cause tendon, ligament, or muscle strains.

Try to use perfect form! Get feedback from your trainer or training partner regarding your exercise performance. If you do not have a partner, use the mirror. You need a trainer or training partner who will scrutinize your form and provide you with constructive criticism.

STRETCHING

Why is stretching so important? Every time you lift weights, your muscles need repair. When the muscles heal, they heal slightly shorter. Stretching lengthens the muscles and tendons, and it fills the muscles with blood and makes them pliable. The more pliable the muscles and tendons are, the less likely they are to be injured. Almost every professional team understands that stretching is an important way to prevent strains and sprains. They also know that stretching also improves speed, balance, agility, strength, and endurance.

If you have read the chapter on flexibility, you know that I am supportive of stretching between sets. Stretching between sets will provide several positive benefits as indicated. It will also stretch the fascia and allow for greater muscle girth, and most importantly, it will help prevent injury.

About seven years ago, I was doing overhead triceps extensions with a triceps bar. I had completed about three sets of the exercise when I tore my left triceps. This was a serious “grade 3” strain. A grade 3 strain is an extensive tear or complete rupture of 50 percent to 100 percent of the muscle fibers, with a large palpable depression in the muscle.

Did I do something wrong, or was the injury unavoidable? To begin with, I had not used a triceps bar for some time. I normally do “French Presses” with a dumbbell, and I was not used to the vertical hand position of the triceps bar. Essentially, I was doing a new exercise and was stressing my triceps in a new and different way.

Whenever you do a new exercise use light weight and stretch the muscle between sets. Had I followed this advice I probably would not have torn the muscle. In conclusion, if you are not stretching you are inviting injuries.

OVER-TRAINING

Many injuries are the result of over-training. According to William Southmayd, M.D., and coauthor of Sports Health, about 60 percent of the injuries that he sees (Sports Medicine Resource) are due to over-training. There is an upper limit to resistance training and most bodybuilders cross the line. When you continually over train you get weaker and smaller and you are vulnerable to injuries.

A common over-training scenario is training too frequently without an adequate recovery period between workouts. If you believe that you have been over-training, I would

recommend that you give your legs between three and four days of rest between workouts. I recommend that you rest your chest and back for three or four days, and your shoulders and arms for one or two days. In general, the larger the muscle group, the longer the recovery period.

Remember that over trained muscles are injured (micro tears), fatigued and tight. If you are overtrained and workout, your muscles may not permit normal muscle excursion (contraction) and a strain may result. The extent of the injury is normally dependent on the force generated within the muscle.

EQUIPMENT

One of the major causes of athletic injuries is faulty equipment. Make sure that you are using the best possible exercise equipment such as Cybex, Vectra, Hoist, Life Fitness, Nautilus, and Pacific Fitness, just to name a few.

Also, make sure the equipment is kept in good repair. Sometimes fitness clubs fail to keep to a good maintenance schedule.

If you are using free weights, make sure that the dumbbells and barbells are tight. I have seen plates fall off heavy dumbbells during an exercise more than once. I would suggest that you always use collars on an Olympic bar. It is very common to see “the new guy” dump the plates off the ends of an Olympic bar - one end at a time. An injury is very likely and not only to your ego.

I am also in favor of wearing gloves and belts if you are really using heavy weights. I have read more than a few articles that support the idea that belts do not prevent injuries. When I was a competitive powerlifter, I always wore my weightlifting belt, and I am positive it helped me avoid injury.

INJURIES AND TREATMENT

Strains

There are three grades of strains:

1. Grade I

Strain is from the stretching of a few muscle fibers with minimal tearing.

2. Grade II

Strain is a partial tear of between 10 to 50 percent of the fibers and the site shows a slight defect.

3. Grade III

Strain is an extensive tear or complete rupture with a large palpable depression in the muscle.

Treatment

The first phase of treatment of muscle strains is RICE for twenty-four to seventy-two hours.

1. Rest

Stop using the injured muscle the second it is hurt.

2. Ice

Ice contracts blood vessels and thus decreases the bleeding. The more blood that collects in an injury, the longer it takes to heal.

3. Compression

Compression limits swelling, which if uncontrolled, retards healing.

4. Elevation

Elevation of the injured muscle above the level of the heart helps drain excess fluid.

DOCTORS

Always see a doctor when you suspect any injury, and be sure to go to the Doctor with any of these symptoms.

1. Pain

With any injury, that causes severe pain.

2. Joints

A doctor should examine all injuries to a joint or its ligaments.

3. Loss of Function

If you cannot move a limb, ankle, finger, etc. - you have a loss of function and you should see a physician.

4. Persistent Pain

If you have pain in a muscle or joint for more than two weeks, a doctor should examine you.