

# **Building muscle and bone -- at home, on your own**

## **University of California, Berkeley Wellness Letter**

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If you feel shy about starting a strength-training program, it may help to sweep a few myths from your mind.

**Myth:** Strength training is only for the young. Older people might injure themselves.

**Fact:** Older people need it even more than the young, in order to counteract the decline in muscle strength that usually comes with aging, due to decreasing activity. If you're over 50, strength training can be your new best friend.

**Myth:** It's for body builders only.

**Fact:** A moderate program that confers health benefits isn't going to make your biceps bulge. Strength training not only builds muscle, but also helps reduce body fat and increase bone.

**Myth:** It's for men only.

**Fact:** Women, perhaps even more than men, can benefit from strength training. Women are more likely to suffer from osteoporosis, which strength training can help prevent.

**Myth:** Women need a different program from men. For example, they should not lift barbells.

**Fact:** Women and men can follow the same program of exercises -- designed for their body size and level of strength, not for their gender. Women can lift barbells. What you do depends on your level of ability. There's something for everybody.

**Myth:** It's very time-consuming -- hours every week.

**Fact:** Strength training can be one of the fastest workouts -- less time-

consuming than aerobic exercise like running or walking. Three 20-minute sessions a week (preferably not on consecutive days) will do the job.

**Myth:** If you lift weights, that's all the exercise you need.

**Fact:** You still need to do aerobic exercise. One type is not a substitute for the other. Doing both pays real dividends.

## **Strength training: What's in it for you**

A regular, moderate program can bring these benefits:

- Stronger muscles, which in turn mean stronger bones, thus reducing the risk of osteoporosis and fractures.
- An improvement in blood cholesterol levels. Lifting weights may also help control blood pressure and blood sugar.
- Less risk of injury during other activities. It may help correct muscle weakness and imbalances and joint instability.
- Improved self-esteem and self-confidence. Added muscle and bone strength will benefit you in your daily activities, including other exercises and sports.
- May help with weight control. Even if you don't lose weight, you'll become trimmer and fitter.
- Reduced arthritis pain and lower-back pain. (Note: if you have osteoarthritis, you may need special advice about a strength-training program.)

You need little space and only a few inexpensive pieces of equipment. Any store with a sporting-goods section should have a selection of dumbbells. Women should start with a pair of two- or three-pound weights, men with five- or 10-pound weights. Light weights that can be strapped to your feet or ankles are convenient, too. You can buy adjustable dumbbells, to which you can add or remove metal disks.

Some strength-training routines (push-ups and sit-ups) require no equipment. You can also use exercise bands. If you don't want to buy

anything, you can even use heavy objects from the pantry, such as soup cans.

## **Workout tips**

The exercises below are an excellent way to get started. Getting some formal instruction (at the local Y, for example) is also worthwhile. Weight machines at gyms are easy to use, but for safety's sake, beginners should get some instruction. Note: Although working with light weights is very safe, if you're over 40 or have heart disease or another medical condition, you should check with your doctor before starting any exercise program.

1. Warm up before each workout -- for instance, run or march in place for a few minutes. Then do some gentle stretches.
2. Start with light weights, ones you can lift comfortably eight to 12 times. This is called a set. Doing one set is beneficial, but you can work up to two or three sets. Gradually increase the weight; you may have to reduce the number of repetitions at first. Vary your routine by adding new exercises.

This is called progressive resistance training. Lifting the weights should not be effortless. The goal is to tax your muscles somewhat. But don't overdo it: if you can't repeat an exercise eight times, the weight is too heavy.

3. Rest between sets for one to two minutes.
4. Work slowly and smoothly through the entire range of the muscles. This reduces the chance of injury and soreness. Lowering the weight in a slow, controlled manner is also important. Don't lock (fully straighten) your knees or elbows when these are involved in an exercise, since that puts excess stress on the joint itself.
5. Exhale while you lift and inhale when you bring the weight down. Breathe evenly with every repetition: holding your breath when lifting can raise blood pressure precipitously.
6. If you feel any pain during an exercise, stop immediately. Continue only if the pain subsides, but reduce the amount of weight. Soreness the next day is normal when first starting to

exercise or when increasing the amount of weight you lift.

7. Avoid arching your back when lifting a weight.
8. Work large muscle groups first, such as those in the legs, chest and back, which require heavier loads.
9. Pair your exercises. Each muscle group has an opposing (or antagonist) one with which it works, so it's important to work both -- for example, the quadriceps and hamstrings (on the front and back of the thigh), or the biceps and triceps (on the front and back of the upper arm). An imbalance between opposing muscles increases the risk of injury.
10. Cool down after the workout. Repeat part of your warmup and stretching routine to help muscles recover.

Note: A good resource for beginners, men and women, is Miriam Nelson's *Strong Women Stay Young* (Bantam Books).

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