

# The Basic **Strength-Training Workout**

For many years, strength training was primarily used by adult athletes to enhance sports performance and increase muscle size. However, strength training is now recognized as an important method of enhancing health and fitness for people of all ages and abilities.

You can expect a wide variety of health and fitness benefits from regular, moderate-intensity strength training.

Strength training (also known as resistance training) is a method of conditioning designed to increase one's ability to exert or resist force. A wide range of loads and a variety of training tools are used in strength training, including free weights ( barbells and dumbbells), weight machines, elastic tubing, medicine balls, stability balls, and a person's own body weight. Strength training is not the same as the competitive sports of weightlifting, power lifting, or bodybuilding.

Strength training can improve your ability to perform daily tasks like carrying in the groceries or lifting a child up for a hug. And the more muscle you have (as opposed to fat), the more calories you burn—even at rest. The only drawback with strength training is that it often requires equipment, so you'll need to purchase some or do your workouts at a recreation center or gym.

Below are some good exercises that will help you increase your strength and don't require equipment. You will benefit from these workouts but you will be able to affect more muscles using free weights, weight machines, or stretchy bands. Choose from a variety of strength training options. For more information, go to [www.nia.nih.gov/exercisebook/chapter4\\_strength.htm](http://www.nia.nih.gov/exercisebook/chapter4_strength.htm).

## Comparing Different Tools for Strength Training

Will you get a better workout if you use hand weights or a weight machine? A medicine ball or stretchy resistance bands? The truth is, each mode of training has its own pros and cons. Here's how they stack up against one another:

	Weight Machines	Free Weights	Weighted Balls	Stretchy Bands	Body Weight
Cost	High	Low	Relatively low	Very low	No cost
Portability	Limited	Variable	Excellent	Excellent	Excellent
Ease of Use	Excellent	Variable	Variable	Variable	Variable
Muscle Isolation	Excellent	Variable	Variable	Variable	Variable
Functionality	Limited	Excellent	Excellent	Excellent	Limited
Exercise Variety	Limited	Excellent	Excellent	Excellent	Limited
Space Requirements	High	Variable	Low	Low	Low

Adapted from Faigenbaum & McInnis (2003).

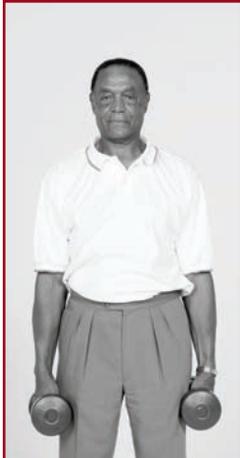
## **Strength Training 101**

In order for the body to adapt to any training program, the exercise stimulus must be greater than the body is accustomed to (overload). For example, if you can easily complete 20 repetitions with 25 pounds while performing a barbell curl, then increase the weight or the number of sets to improve your arm strength or endurance.

The principle of progressive resistance refers to continually and progressively placing demands on the body that are greater than it is accustomed to. A reasonable guideline is to increase the training weight about 5 percent, and decrease the repetitions by two to four when a given load can be performed for the desired number of repetitions with proper exercise technique. For example, if you can easily do 16 repetitions while performing the chest press exercise using 100 lbs., increase the weight to 105 lbs. and decrease the repetitions to 12 to make gains in muscle strength and endurance.

## **What to Do**

Strength and conditioning specialist Doug Lentz developed the following program to help people build strength. It's so effective that it was provided to the military during the Gulf War to keep our troops fit when they didn't have access to strength training equipment. You can divide the exercises in half and work your upper body one day and your lower body the next. Or do them all, but every other day. Start by doing 10 repetitions of each exercise, and each week increase your repetitions by two until you can do 16. Then break the workout into two sets of eight repetitions and increase your reps again until you do two sets of 10 to 15 reps.



- You can work on your shoulder and neck muscles with **shrugs**.

With your arms at your sides, shrug your shoulders to an “I don’t know” posture, then relax and let your shoulders drop. This is more effective with resistance, but you don’t need to buy anything. Begin by holding cans of food in your hands with your arms hanging by your sides; then progress to buckets of sand, or anything you have handy that weighs a few pounds.

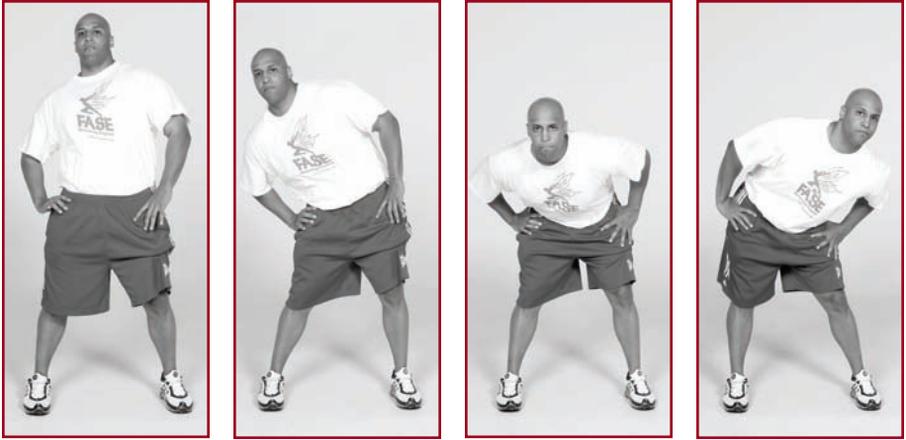
- **Push-ups** are great for your chest muscles. Here are several ways to do them:

The military-style push-up is performed with your body horizontal and nothing touching the ground except your hands and toes. An easier version of the push-up can be done with knees bent so that hands and knees touch the ground throughout the exercise.

For variety, try incline push-ups, which emphasize upper chest. Perform these with hands elevated on a couple of thick books or a box.

For lower chest emphasis, perform decline push-ups, with feet elevated instead of hands.





■ Work your trunk with a **rotational movement**. Stand with your hands on your hips, elbows pointed outward.

From the waist lean your body one way as far as you can, then rotate so that your head swings forward at about waist level, across to the other side, and then back up.

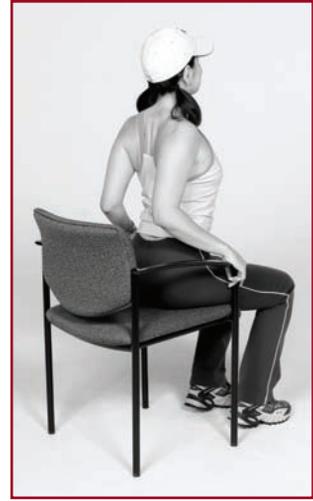
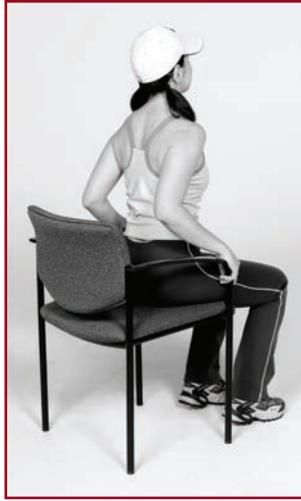


■ You can get a great **abdominal workout** with bent leg sit-ups or crunches.

Bend your knees so that your feet are comfortably flat on the floor, fold your arms across your chest, and raise your shoulders about a foot off the ground.

- Work your upper back with **scapular retractions**.

Sit upright and pull your shoulders back to squeeze your shoulder blades together, trying to make them touch in the middle of your back. Hold a few seconds, then relax.



- For your lower back, try prone **lumbar extensions**.

Lie on your stomach with your arms and legs stretched straight out. Raise your arms and legs off the ground a few inches, hold a few seconds, and then lower them.

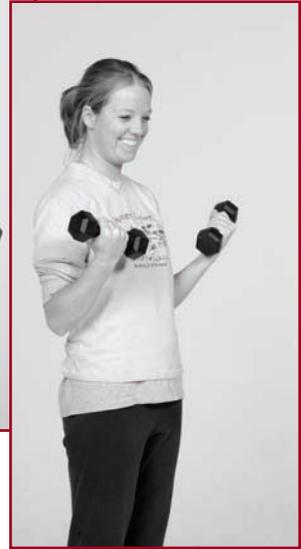
As you repeat this move, try to get your arms and legs higher off the ground.

■ Don't neglect your forearm muscles—they control wrist movement. These wrist exercises will help to keep your forearms strong:

In **wrist extension**, raise one hand as far as you can bend your wrist, and push your fingers back on the palm side, using the other hand. Now push the fingers of the first hand against this resistance until you feel the muscle tension in your lower forearm muscles.

For **wrist flexion**, bend your hand downward so that your wrist is fully bent in the opposite direction, and push on the backs of your fingers with the other hand. Push the fingers of the first hand against this resistance until you feel muscle tension in your upper forearm muscles.

Alternate extension and flexion exercises for each forearm, holding each position for several seconds.



■ You can work out your biceps with **arm curls** using either cans of food for dumbbells, or pushing with the other hand for resistance.

Rest your upper arm down the front of your body and pull your lower arm up until the clenched palm is close to your shoulder.





- For your front thigh try **wall squats**.

Stand with your back straight against a wall with your feet a thigh's width in front of your body. Slide your back down the wall until you are in a parallel squat position, thighs horizontal. Hold until your thigh muscles begin to burn, and then push up to the starting position. Repeat a few times until your quads are tired.



- **Dip exercises** are good for the triceps at the back of your upper arms.

Begin by sitting on the ground in front of a chair or stool. Reach your arms out behind you and grasp the edge of the chair, palms down. Raise your hips off the ground and straighten your body. Now lower and raise your body by bending your elbows. This is a kind of upside down push-up.





■ **Lunges** are good for your legs and front hips, favoring the hamstrings and gluteal muscles.

Stand upright and take a big stride forward. Your trunk should go down close to the floor, and your planted leg should trail straight and almost horizontal behind your body, raised on the toes. You can take several short steps to bring your front leg back to the starting position.

Repeat for the other leg.

■ You can work your calves with **toe raises** on a stair or block.

Stand on both feet, with one hand on a rail for balance and your weight on the balls of your feet at the edge of the step. Lower your heels until they are as far below the stair as you can manage. Now slowly raise your heels until they are as high above the stair as you can reach. Lower and raise your heels through the full range of motion of your ankles. A dozen of these will give your calves and Achilles tendons a good workout, and they are good for your ankles, too.

