Exercises

These activities will help you build strength, maintain bone density, improve balance, coordination, and mobility, reduce your risk of falling, and help you maintain independence in performing activities of daily life. As you'll see, strength training requires little time and minimal equipment. And it's safe, even for people with health problems. The strength training "prescription" featured here—the motivational tips, safety precautions, and specific exercises—were developed at the exercise research laboratory at Tufts University. Whatever your age, medical condition, or current level of activity, you are likely a perfect candidate for this gentle but powerful regimen of strengthening exercises.

The goal of this program is to help you make strength training a lifelong habit. By so doing, you will be on your way to a strong, independent, and vibrant life!

- Warm-up
- Stage 1
- Stage 2
- Stage 3
- Cool down
- More Exercises
Warm-Up

5-minute Walk

To get your muscles warm and loose for strength training, walk for five to ten minutes outside if weather permits, or inside around the house or on a treadmill if you have one. Walking will help direct needed blood flow to your muscles and prepare your body for exercise. Warming up is important for preventing injury as well as gaining maximal benefit from the exercise, because loose, warm muscles will respond better to the challenge of lifting weights.

If you have another piece of aerobic exercise equipment available to you, such as a bike, rowing machine, or stair stepper, this will serve as an adequate warm up as well.

- Stage 1
- Stage 2
- Stage 3
- Cool down
- More Exercises

Stage 1

The following four exercises comprise Stage 1 of the Growing Stronger Program. When you've been doing the exercises of this stage for at least two weeks, OR if you are fairly fit right now, you can add the exercises in Stage 2. Remember to always do the Warm-up and Cool down as part of each exercise session.

- Squats
- Wall Pushups
- Toe Stands
- Finger Marching
Squats

A great exercise for strengthening hips, thighs, and buttocks. Before long, you'll find that walking, jogging, and climbing stairs are a snap!

1. In front of a sturdy, armless chair, stand with feet slightly more than shoulder-width apart. Extend your arms out so they are parallel to the ground and lean forward a little at the hips.

2. Making sure that your knees NEVER come forward past your toes, lower yourself in a slow, controlled motion, to a count of four, until you reach a near-sitting position.

3. Pause. Then, to a count of two, slowly rise back up to a standing position. Keep your knees over your ankles and your back straight.

4. Repeat 10 times for one set. Rest for one to two minutes. Then complete a second set of 10 repetitions.

**Note 1:** If this exercise is too difficult, start off by using your hands for assistance. If you are unable to go all the way down, place a couple of pillows on the chair or only squat down four to six inches.

**Note 2:** Placing your weight more on your heels than on the balls or toes of your feet can help keep your knees from moving forward past your toes. It will also help to use the muscles of your hips more during the rise to a standing position.

**Make sure you:**

- Don't sit down too quickly.
- Don't lean your weight too far forward or onto your toes when standing up.
Wall Pushups

This exercise is a modified version of the push-up you may have done years ago in physical education classes. It is less challenging than a classic push-up and won’t require you to get down on the floor—but it will help to strengthen your arms, shoulders, and chest.

1. Find a wall that is clear of any objects—wall hangings, windows, etc. Stand a little farther than arm’s length from the wall.

2. Facing the wall, lean your body forward and place your palms flat against the wall at about shoulder height and shoulder-width apart.

3. To a count of four, bend your elbows as you lower your upper body toward the wall in a slow, controlled motion, keeping your feet planted.

4. Pause. Then, to a count of two, slowly push yourself back until your arms are straight—but don’t lock your elbows.

5. Repeat 10 times for one set. Rest for one to two minutes. Then complete a second set of 10 repetitions.

Make sure you:

- Don't round or arch your back.
If a walk in the park no longer seems easy or enjoyable, the "toe stand" exercise is for you! A good way to strengthen your calves and ankles and restore stability and balance, it will help make that stroll in the park fun and relaxing.

1. Near a counter or sturdy chair, stand with feet shoulder-width apart. Use the chair or counter for balance.
2. To a count of four, slowly push up as far as you can, onto the balls of your feet and hold for two to four seconds.
3. Then, to a count of four, slowly lower your heels back to the floor.
4. Repeat 10 times for one set. Rest for one to two minutes. Then complete a second set of 10 repetitions.

**Make sure you:**

- Don't lean on the counter or chair—use them for balance only.
- Breathe regularly throughout the exercise.
Finger Marching

In this exercise you'll let your fingers, hands, and arms do the walking. This will help strengthen your upper body and your grip, and increase the flexibility of your arms, back, and shoulders.

1. Stand, or sit forward in an armless chair, with feet on the floor, shoulder-width apart.

2. Movement 1: Imagine there is a wall directly in front of you. Slowly walk your fingers up the wall until your arms are above your head. Hold them overhead while wiggling your fingers for about 10 seconds and then slowly walk them back down.

3. Movement 2: Next, try to touch your two hands behind your back. If you can, reach for the opposite elbow with each hand—or get as close as you can. Hold the position for about 10 seconds, feeling a stretch in the back, arms, and chest.

4. Movement 3: Release your arms and finger-weave your hands in front of your body. Raise your arms so that they're parallel to the ground, with your palms facing the imaginary wall. Sit or stand up straight, but curl your shoulders forward. You should feel the stretch in your wrist and upper back. Hold the position for about 10 seconds.
5. Repeat this three-part exercise three times.

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**Stage 2**

When you've been doing the exercises from Stage 1 for at least two weeks, OR if you are fairly fit right now, you can add these Stage 2 exercises. When you've been doing the exercises from Stages 1 and 2 for at least six weeks, you can add the exercises in Stage 3. Remember to always do the Warm-up and Cool down as part of each exercise session.

- Biceps Curl
- Step Ups
- Overhead Press
- Hip Abduction
Biceps Curl

Does a gallon of milk feel a lot heavier than it used to? After a few weeks of doing the biceps curl, lifting that eight-pound jug will seem a cinch!

1. With a dumbbell in each hand stand, or sit in an armless chair, with feet shoulder-width apart, arms at your sides, and palms facing your thighs.

2. To a count of two, slowly lift up the weights so that your forearms rotate and palms face in toward your shoulders, while keeping your upper arms and elbows close to your side—as if you had a newspaper tucked beneath your arm. Keep your wrists straight and dumbbells parallel to the floor.

3. Pause. Then, to a count of four, slowly lower the dumbbells back toward your thighs, rotating your forearms so that your arms are again at your sides, with palms facing your thighs.

4. Repeat 10 times for one set. Rest for one to two minutes. Then complete a second set of 10 repetitions.

Make sure you:

- Don't let your elbows move away from the sides of your body.
- Keep your wrists straight.
Step Ups

This is a great strengthening exercise that requires only a set of stairs. But don’t let its simplicity fool you. Step-ups will improve your balance and build strength in your legs, hips, and buttocks.

1. Stand alongside the handrail at the bottom of a staircase. With your feet flat and toes facing forward, put your right foot on the first step.

2. Holding the handrail for balance, to a count of two, straighten your right leg to lift up your left leg slowly until it reaches the first step. As you’re lifting yourself up, make sure that your right knee stays straight and does not move forward past your ankle. Let your left foot tap the first step near your right foot.

3. Pause. Then, using your right leg to support your weight, to a count of four, slowly lower your left foot back to the floor.

4. Repeat 10 times with the right leg and 10 times with the left leg for one set. Rest for one to two minutes. Then complete a second set of 10 repetitions with each leg.

Make sure you:

- Don't let your back leg do the work.
- Don't let momentum do the work.
- Press your weight through the heel rather than ball or toes of your front leg as you lift.
Overhead Press

This useful exercise targets several muscles in the arms, upper back, and shoulders. It can also help firm the back of your upper arms and make reaching for objects in high cupboards easier.

1. Stand or sit in an armless chair with feet shoulder-width apart. With a dumbbell in each hand, raise your hands, palms facing forward, until the dumbbells are level with your shoulders and parallel to the floor.

2. To a count of two, slowly push the dumbbells up over your head until your arms are fully extended—but don’t lock your elbows.

3. Pause. Then, to a count of four, slowly lower the dumbbells back to shoulder level, bringing your elbows down close to your sides.

4. Repeat 10 times for one set. Rest for one to two minutes. Then complete a second set of 10 repetitions.

Make sure you:

• Keep your wrists straight.
• Don’t lock your elbows.
• Don’t let the dumbbells move too far in front of your body or behind it.
• Breathe throughout the exercise.
Hip Abduction

By targeting the muscles of the hips, thighs, and buttocks, this exercise makes your lower body shapelier and strengthens your hipbones, which may be especially vulnerable to fracture as you age.

1. Stand behind a sturdy chair, with feet slightly apart and toes facing forward. Keep your legs straight, but do not lock your knees.

2. To a count of two, slowly lift your right leg out to the side. Keep your left leg straight—but again, do not lock your knee.

3. Pause. Then, to a count of four, slowly lower your right foot back to the ground.

4. Repeat 10 times with the right leg and 10 times with the left leg for one set. Rest for one to two minutes. Then complete a second set of 10 repetitions with each leg.

Make sure you:

• Don't lock your knee on the supporting leg.
• Keep your toes facing forward throughout the move.
• Don't lean to the side when you lift your leg.
• To increase the difficulty of this exercise, you may add ankle weights.

Stage 3

When you've been doing the exercises from Stage 1 and Stage 2 for at least six weeks, you can add these Stage 3 exercises. Remember to always do the Warm-up and Cool down as part of each exercise session:
Knee Extension

By targeting the quadriceps muscles in the front of the thigh (which play a primary role in bending and straightening the leg), this exercise strengthens weak knees and reduces the symptoms of arthritis of the knee. It is important to do this exercise in conjunction with Exercise 10, the "knee curl," as the muscles targeted in these two exercises—the front thigh muscles and the hamstrings—work together when you walk, stand, and climb.

1. Put on your ankle weights.
2. In a sturdy, armless chair, sit all the way back, so that your feet barely touch the ground; this will allow for easier movement throughout the exercise. If your chair is too low, add a rolled-up towel under your knees. Your feet should be shoulder-width apart, and your arms should rest at your sides or on your thighs.
3. With your toes pointing forward and your foot flexed, to a count of two slowly lift your right leg, extending your leg until your knee is straight.
4. Pause. Then, to a count of four, slowly lower your foot back to the ground.
5. Repeat 10 times with the right leg and 10 times with the left leg for one set. Rest for a minute or two. Then complete a second set of 10 repetitions with each leg.

Make sure you:

• Keep your ankle flexed throughout the move.
Knee Curl

This is an excellent exercise for strengthening the muscles of the back of the upper leg, known as the hamstrings. When done in conjunction with the knee extension, it makes walking and climbing easier.

1. Put on your ankle weights.
2. Stand behind a sturdy chair, with feet shoulder-width apart and facing forward.
3. Keeping your foot flexed, to a count of two slowly bend your right leg, bringing your heel up toward your buttocks.
4. Pause. Then, to a count of four, slowly lower your foot back to the ground.
5. Repeat 10 times with your right leg and 10 times with your left leg for one set. Rest for a minute or two. Then complete a second set of 10 repetitions with each leg.

Make sure you:

- Keep the thigh of the bending leg in line with the supporting leg at all times.
- Keep the foot on the bending leg flexed throughout the move.
Pelvic Tilt

This exercise improves posture and tightens the muscles in your abdomen and buttocks. Do this exercise in conjunction with the floor back extension to strengthen your midsection. (You should not have the ankle weights on during this exercise.)

1. On the floor or on a firm mattress, lie flat on your back with your knees bent, feet flat, and arms at your sides, palms facing the ground.

2. To a count of two, slowly roll your pelvis so that your hips and lower back are off the floor, while your upper back and shoulders remain in place.

3. Pause. Then, to a count of four, slowly lower your pelvis all the way down.

4. Repeat 10 times for one set. Rest for a minute or two. Then complete a second set of 10 repetitions.

Make sure you:

• Breathe throughout the exercise.
• Don't lift your upper back or shoulders off the ground.
Floor Back Extension

If you suffer from lower back pain, weak abdominal muscles may be to blame. The floor back extension, done in conjunction with the pelvic tilt, will strengthen these muscles and ease back pain.

1. Lie on the floor facedown, with two pillows under your hips. Extend your arms straight overhead on the floor.

2. To a count of two, slowly lift your right arm and left leg off the floor, keeping them at the same level.

3. Pause. Then, to a count of four, slowly lower your arm and leg back to the floor.

4. Repeat 10 times for one set, and then switch to left arm with right leg for another 10 repetitions.

5. Rest for a minute or two. Then complete a second set of 10 repetitions.

Make sure you:

- Keep your head, neck, and back in a straight line.

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Cool down

- Quadriceps Stretch
- Hamstring/Calf Stretch
- Chest and Arm Stretch
- Neck, Upper Back, and Shoulder Stretch
This excellent stretch should be a regular part of your cool down. Strength training exercises such as squats, step-ups, and knee extensions focus on strengthening the quadriceps muscles. This stretch will help these muscles relax and make them more flexible.

1. Stand next to a counter or sturdy chair with your feet about shoulder-width apart and your knees straight, but not locked.

2. With your left hand, hold a chair or counter for balance. Bend your right leg back and grasp your right ankle in your right hand until your thigh is perpendicular to the ground. Make sure you stand up straight—don't lean forward. (If you can't grasp your ankle in your hand, just keep your leg as close to perpendicular as possible and hold the bend, or place your foot on the seat of a chair.) You should feel a stretch in the front of the thigh.

3. Hold the stretch for a slow count of 30 to 30, breathing throughout.

4. Release your right ankle and repeat with the other leg.

Make sure you:

- Breathe throughout the stretch, concentrating on relaxing.
- Stand up straight and look straight ahead.
- Don't lock your supporting knee.
Hamstring/Calf Stretch

If touching your toes with straight legs seems an impossible task, you're not alone. Many people have tight hamstring and calf muscles in the back of the leg. This stretch will give these muscles more flexibility and make it easier for you to bend over.

1. Sit forward in a chair with your knees bent and feet flat on the floor.

2. Extend your right leg in front of you, placing your right heel on the floor, and keeping your ankle relaxed. Don't lock your knee. Slowly lean forward at the hips, bending toward your right toes, trying to keep your back straight.

3. Hold the stretch for a slow count of 20 to 30, breathing throughout.

4. Sit up straight again and flex your right ankle so that your toes are pointing up toward the ceiling. Again, lean forward at the hips, bending toward your right toes and hold the stretch for a slow count of 20 to 30, breathing throughout.

5. Release the stretch and repeat with your left leg.

*Note:* You should feel the first part of this stretch in the back of the upper leg and the second part in the calf.

**Make sure you:**

- Breathe throughout the stretch, concentrating on relaxing.
- Keep your back straight and head lifted as you lean forward toward your toes.
- Don't push the stretch too far—it shouldn't be painful.
Chest and Arm Stretch

This simple reaching stretch will improve the flexibility in your arms and chest and in the front of your shoulders.

1. Stand with your arms at your sides and your feet about shoulder-width apart.
2. Extend both arms behind your back and clasp your hands together, if possible, retracting your shoulders.
3. Hold the stretch for a slow count of 20 to 30, breathing throughout.
4. Release the stretch and repeat.

Make sure you:

- Breathe throughout the stretch.
- Keep your back straight and look straight ahead.
Neck, Upper Back, and Shoulder Stretch

This easy stretch targets another group of muscles particularly vulnerable to tension and stress—the neck, back, and shoulders. Do it often—after strength training, and during any activity that makes you feel stiff, such as sitting at a desk or at a computer. You'll find it rejuvenating.

1. Stand with your feet shoulder-width apart, your knees straight but not locked, and your hands clasped in front of you.

2. Rotate your hands so that your palms are facing the ground; then raise your arms to about chest height.

3. Gently press your palms away from your body. You should feel a stretch in your neck and upper back and along your shoulders.

4. Hold the stretch for a slow count of 20 to 30, breathing throughout.

5. Release the stretch and repeat.

Make sure you:

- Breathe throughout the stretch.
- Don't curve your back or arch it.
More Exercises

The following exercises can be added to your routine after you are comfortable doing the Stage 3 exercises:

- Abdominal Curl
- Chest Press
- Lunge
- Upright Row
- Gaining Grip Strength

Abdominal Curl

The abdominal muscles provide bracing and stability to the trunk. Strengthening this group of muscles can help your posture.

1. Lie on your back on the floor, knees bent and feet flat on the floor.
2. Place your hands behind your head, elbows pointing out.
3. Slowly raise your shoulders and upper back off of the floor to the count of two.
4. Pause. Slowly lower your shoulders back to the floor to the count of two.
5. Repeat 10 times for one set. Rest for one to two minutes. Then complete a second set.

Make sure you:

- Breathe during the movement. Try to exhale as you raise and inhale as you lower.
- Don’t pull on your head or neck with your hands.
- Keep your chin lifted toward the ceiling and elbows pointed out throughout the exercise.
Chest Press

This exercise targets the muscles of the chest and shoulders.

1. Lie on your back on the floor, knees bent and feet flat on the floor.
2. Hold a dumbbell in each hand at chest level, about shoulder width apart. Your elbows should be bent and your palms should face your knees.
3. Slowly straighten your arms toward the ceiling, directly above your chest to a count of two.
4. Pause. Slowly lower the dumbbells back to your chest, to a count of four.
5. Repeat 10 times for one set. Rest for one to two minutes. Then complete a second set.

Make sure you:

- Raise the dumbbells directly above your chest. Don’t let your arms move toward your head or your waist as you lift.
Lunge

The lunge strengthens the muscles of the upper leg and hips.

1. Stand next to a counter or sturdy chair with your feet about shoulder-width apart. Hold the counter or chair with your right hand for balance.
2. Take a large step forward with your right foot.
3. Bend your right knee and lower your hips toward the floor. Make sure that your right knee stays above your right ankle as you lower.
4. Push against the floor with your right foot to raise yourself up and step back to the starting position.
5. Repeat 10 times with your right leg for one set.
6. Rest for one to two minutes. Then repeat with your left leg.

Make sure you:

- Don't allow your front knee to move forward past your toes.
- Keep your upper body straight and erect during the exercise. Don't lean forward or backward.
- Try to lower your hips until your front thigh is parallel to the floor. If that's too difficult, just lower as far as you can.
Upright Row

This exercise strengthens upper arms and upper back muscles.

1. Stand with feet about hip-width apart, holding a dumbbell in each hand.
2. Hold the dumbbells in front of your thighs, palms facing your thighs.
3. Bend your elbows and raise the dumbbells in front of your body, to the count of two, until they are at shoulder height. Raise your elbows slightly higher than the dumbbells
4. Pause. Lower the dumbbells, to the count of four, to the starting position.
5. Repeat 10 times for one set. Rest for one to two minutes, then complete a second set.

Make sure you:

• Keep your back straight throughout the exercise.
Gaining Grip Strength

If you have arthritis, you may have trouble picking up things with your hands or keeping a grip on them. Some of the exercises in this program will help strengthen your hand muscles. If you’re concerned about grip strength, you may also want to add a grip exercise to increase strength and decrease stiffness in your hands. The exercise is simple; it can be done easily while reading or watching TV, and most people already have the equipment at home.

**Equipment:** Racquetball, tennis ball, or "stress" ball.
**Time:** Less than 5 minutes.
**Exercise:** Grasp a ball in one hand while sitting or standing. Slowly squeeze it as hard as you can and hold the squeeze for three to five seconds. Slowly release the squeeze. Take a short rest, then repeat the exercise 10 times. Switch hands, and do two sets of 10 squeezes with the other hand.
**Frequency:** You may do this exercise every day or every other day, depending on how your hands feel. If they feel stiff or painful, you may want to skip a day.

**Source:**
www.cdc.gov/physicalactivity/growingstronger/exercises/index.html

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