Sample Strength Activity Plan for Beginners



About Strength Exercise

To do most of the strength exercises in this plan, you will need to lift or push weights (or your own body weight), and gradually increase the amount of weight used. Dumbbells and hand/ankle weights sold in sporting goods stores as well as resistance tubing can be purchased. Get creative and use things in your home like milk or water jugs filled with sand or water, or socks filled with beans and tied shut at the ends. You can also use the special strength-training equipment at a gym or fitness center. There are so many ways to participate in strength training!

How Much, How Often

- Do strength exercises for all of your major muscle groups at least twice a week, but no more than 3 times per week.
- Don't do strength exercises of the same muscle group on any 2 days in a row.
- Depending on your condition, you might need to start out using 1 or 2 pounds of weight or no weight at all. Sometimes, the weight of your arms or legs alone is enough to get you started.
- Use a minimum weight the first week, and then gradually add weight. Starting out with weights that are too heavy can cause injuries.
- Gradually add a challenging amount of weight to your strength routine. If you don't challenge your muscles, you won't get much benefit.

How to do Strength Exercises

- Do 8–12 repetitions in a row. Wait a minute, and then do another "set" of 8–12 repetitions of the same exercise.
- Take 3 seconds to lift or push a weight into place; hold the position for 1 second, and take another 3 seconds to lower the weight. Don't let the weight drop or let your arms or legs fall in an uncontrolled way. Lowering slowly is very important.
- It should feel somewhere between hard and very hard (15–17 on the Borg Scale) for you to lift or push the weight. It should not feel very, very

hard. If you can't lift or push at least 8 times in a row, it's too heavy for you. Reduce the amount of weight. If you can lift more than 12 times in a row without much difficulty, then it's too light for you. Try increasing the amount of weight you are lifting. A little extra weight goes a long way!

- Stretch after strength exercises, as this is when your muscles are warmed up. If you stretch before strength exercises, be sure to warm up your muscles first by light walking and arm pumping.

Safety

- Don't hold your breath or strain during strength exercises. Breathe out as you lift or push, and breathe in as you relax; this may not feel natural at first. Counting out loud helps.
- If you have had your hip or knee joint replaced, check with your doctor to see if there are some lower body exercises that you should skip.
- Avoid jerking or thrusting weights into position or "locking" the joints in your arms and legs. This can cause injuries. Use smooth, steady movements.
- Muscle soreness lasting up to a few days and slight fatigue are normal after muscle-building exercises. Exhaustion, sore joints, and unpleasant muscle pulling are not. These problems mean you are overdoing it.
- None of the exercises should cause pain.

Progressing

- Gradually increasing the amount of weight you use is crucial for building strength.
- When you are able to lift a weight more than 12 times, increase the amount of weight you use at your next session.
- Here is an example of how to progress gradually:
  - Start out with a weight that you can lift only 8 times.
  - Keep using that weight until you become strong enough to lift it 12 to 15 times.
  - Add more weight so that, again, you can lift it only 8 times.
  - Use this weight until you can lift it 12 to 15 times, and then add more weight. Keep repeating.

Sample Schedule

Perform the following exercises, in order, at the recommended frequency.

Detailed instructions for each exercise are provided at the end of this handout. Some of this content is adapted from *Exercise: A Guide from the National Institute on Aging*.

REPETITIONS, SETS, AND SESSIONS PER EXERCISE

Strength and Balance Exercises	# of repetitions per set	# of sets per session	# of sessions per week
Arm Raise	8–12	2	2–3
Chair Stand	8–12	2	2–3
Biceps Curl	8–12 per side	2 per side	2–3
Plantar Flexion	8–12	2	2–3
Triceps Extension	8–12 per side	2 per side	2–3
Alternative Dip	8–12	2	2–3
Knee Flexion	8–12 per side	2 per side	2–3
Hip Flexion	8–12 per side	2 per side	2–3
Shoulder Flexion	8–12	2	2–3
Knee Extension	8–12 per side	2 per side	2–3
Hip Extension	8–12 per side	2 per side	2–3
Side Leg Raise	8–12 per side	2 per side	2–3

EXAMPLES OF STRENGTH EXERCISES

Arm Raise



Strengthens shoulder muscles.

- Sit in armless chair with your back supported by back of chair.
- Keep feet flat on floor even with your shoulders.
- Hold hand weights straight down at your sides, with palms facing inward.
- Raise both arms to side, shoulder height.
- Hold the position for 1 second.
- Slowly lower arms to sides. Pause.
- Repeat 8 to 12 times.
- Rest, then do another set of 8 to 12 repetitions.

Chair Stand







Strengthens muscles in abdomen and thighs. Your goal is to do this exercise without using your hands as you become stronger.

- Place pillows on the back of chair.
- Sit toward front of chair, knees bent, feet flat on floor.
- Lean back on pillows in half-reclining position. Keep your back and shoulders straight throughout exercise.
- Raise upper body forward until sitting upright, using hands as little as possible (or not at all, if you can). Your back should no longer lean against pillows.
- Slowly stand up, using hands as little as possible.
- Slowly sit back down. Pause.
- Repeat 8 to 12 times.
- Rest, then do another set of 8 to 12 repetitions.

Biceps Curl



Strengthens upper-arm muscles.

- Sit in armless chair with your back supported by back of chair.
- Keep feet flat on floor even with your shoulders.
- Hold hand weights straight down at your sides, with palms facing inward.
- Slowly bend one elbow, lifting weight toward chest. (Rotate palm to face shoulder while lifting weight.)
- Hold position for 1 second.
- Slowly lower arm to starting position. Pause.
- Repeat with other arm.
- Alternate arms until you have done 8 to 12 repetitions with each arm.
- Rest, then do another set of 8 to 12 alternating repetitions.

Plantar Flexion



Strengthens ankle and calf muscles. Use ankle weights if you are ready.

- Stand straight, feet flat on floor, holding onto a table or chair for balance.
- Slowly stand on tiptoe, as high as possible.
- Hold position for 1 second.
- Slowly lower heels all the way back down. Pause.
- Do the exercise 8 to 12 times.
- Rest, then do another set of 8 to 12 repetitions.

Variation:

As you become stronger, do the exercise standing on one leg only, alternating legs for a total of 8 to 12 times on each leg. Rest, then do another set of 8 to 12 alternating repetitions.

Triceps Extension

Strengthens muscles in back of upper arm. Keep supporting your arm with your hand throughout the exercise. (If your shoulders aren't flexible enough to do this exercise, focus on shoulder stretching exercises. Ask for guidance.)

- Sit in chair with your back supported by back of chair.
- Keep feet flat on floor even with shoulders.
- Hold a weight in one hand. Raise that arm straight toward ceiling, palm facing in.
- Support this arm, below elbow, with other hand.
- Slowly bend raised arm at elbow, bringing hand weight toward same shoulder.
- Slowly straighten arm toward ceiling.
- Hold position for 1 second.
- Slowly bend arm toward shoulder again. Pause.
- Repeat the bending and straightening until you have done the exercise 8 to 12 times.
- Repeat 8 to 12 times with your other arm.
- Rest, then do another set of 8 to 12 alternating repetitions.





Knee Flexion

Strengthens muscles in back of thigh. Use ankle weights if you are ready.

- Stand straight holding onto a table or chair for balance.
- Slowly bend knee as far as possible. Don't move your upper leg at all; bend your knee only.
- Hold position for 1 second.
- Slowly lower foot all the way back down. Pause.
- Repeat with other leg.
- Alternate legs until you have done 8 to 12 repetitions with each leg.
- Rest, then do another set of 8 to 12 alternating repetitions.



Hip Flexion

Strengthens thigh and hip muscles. Use ankle weights, if you are ready.



- Stand straight to the side or behind a chair or table, holding on for balance.
- Slowly bend one knee toward chest, without bending waist or hips.
- Hold position for 1 second.
- Slowly lower leg all the way down. Pause.
- Repeat with other leg.
- Alternate legs until you have done 8 to 12 repetitions with each leg.
- Rest, then do another set of 8 to 12 alternating repetitions.

Shoulder Flexion

Strengthens shoulder muscles.



- Sit in armless chair with your back supported by back of chair.
- Keep feet flat on floor even with your shoulders.
- Hold hand weights straight down at your sides, with palms facing inward.
- Raise both arms in front of you (keep them straight and rotate so palms face downward) to shoulder height.
- Hold position for 1 second.
- Slowly lower arms to sides. Pause.
- Repeat 8 to 12 times.
- Rest, then do another set of 8 to 12 repetitions.

Knee Extension

Strengthens muscles in front of thigh and shin. Use ankle weights if you are ready.



- Sit in chair. Only the balls of your feet and your toes should rest on the floor. Put rolled towel under knees, if needed, to lift your feet. Rest your hands on your thighs or on the sides of the chair.
- Slowly extend one leg in front of you as straight as possible.
- Flex ankle so that toes are pulled back towards head.
- Hold position for 1 to 2 seconds.
- Slowly lower leg back down. Pause.

- Repeat with other leg.
- Alternate legs until you have done 8 to 12 repetitions with each leg.
- Rest, then do another set of 8 to 12 alternating repetitions.

Hip Extension



Strengthens buttock and lower-back muscles. Use ankle weights, if you are ready.

- Stand 12 to 18 inches from a table or chair, feet slightly apart.
- Bend forward at hips at about 45-degree angle; hold onto a table or chair for balance.
- Slowly lift one leg straight backwards without bending your knee, pointing your toes, or bending your upper body any farther forward.
- Hold position for 1 second.
- Slowly lower leg. Pause.
- Repeat with other leg.
- Alternate legs until you have done 8 to 12 repetitions with each leg.
- Rest, then do another set of 8 to 12 alternating repetitions.

Side Leg Raise



Strengthens muscles at sides of hips and thighs. Use ankle weights, if you are ready.

- Stand straight, directly behind table or chair, feet slightly apart.
- Hold onto a table or chair for balance.
- Slowly lift one leg 6–12 inches out to side. Keep your back and both legs straight. Don't point your toes outward; keep them facing forward.
- Hold position for 1 second.
- Slowly lower leg. Pause.
- Repeat with other leg.
- Alternate legs until you have done 8 to 12 repetitions with each leg.
- Rest, then do another set of 8 to 12 alternating repetitions.

EXAMPLES OF STRENGTH/BALANCE EXERCISES

Balance exercises can help you stay independent by helping you avoid disability that may result from falling. As you will see, there is a lot of overlap between strength and balance exercises; very often, one exercise serves both purposes.

Any of the lower-body exercises for strength shown in the previous strength section also are balance exercises. They include plantar flexion, hip flexion, hip extension, knee flexion, and side leg raise. Just do your regularly scheduled strength exercises and they will improve your balance at the same time. Also do the knee-extension exercise, which helps you keep your balance by increasing muscle strength in your upper thighs.

Safety

Don't do more than your regularly scheduled strength exercise sessions to incorporate these balance exercises. Remember that doing strength exercises too often can do more harm than good. Simply do your strength exercises, and incorporate these balance techniques as you progress.

Progressing

These exercises can improve your balance even more if you add the following steps. These exercises instruct you to hold onto a table or chair for balance, so start by holding onto the table with only one hand. As you progress, try holding on with only one fingertip. Next, try these exercises without holding on at all. If you are very steady on your feet, move on to doing the exercises using no hands, with your eyes closed. Have someone stand close by if you are unsteady.

Plantar Flexion

Do plantar flexion as part of your regularly scheduled strength exercises, and add these modifications as you progress. Hold table with one hand, then one fingertip, then no hands; then do exercise with eyes closed, if steady.

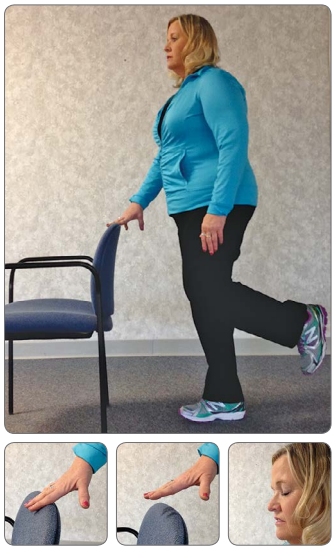
- Stand straight; hold onto a table or chair for balance.
- Slowly stand on tip toe, as high as possible.
- Hold position for 1 second.
- Slowly lower heels all the way back down. Pause.
- Repeat 8 to 12 times.
- Rest, then do another set of 8 to 12 repetitions.
- Add modifications as you progress.



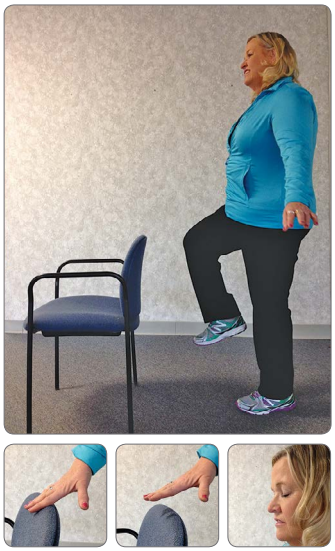
Knee Flexion

Do knee flexion as part of your regularly scheduled strength exercises, and add these modifications as you progress: Hold table with one hand, then one fingertip, then no hands; then do exercise with eyes closed, if steady.

- Stand straight; hold onto a table or chair for balance.
- Slowly bend knee as far as possible, so foot lifts up behind you.
- Hold position for 1 second.
- Slowly lower foot all the way back down. Pause.
- Repeat with other leg.
- Alternate legs until you have done 8 to 12 repetitions with each leg.
- Rest, then do another set of 8 to 12 alternating repetitions.
- Add modifications as you progress.



Hip Flexion



Do hip flexion as part of your regularly scheduled strength exercises, and add these modifications as you progress: Hold table with one hand, then one fingertip, then no hands; then do exercise with eyes closed, if steady.

- Stand straight; hold onto a table or chair for balance.
- Slowly bend one knee toward chest, without bending waist or hips.
- Hold position for 1 second.
- Slowly lower leg all the way down. Pause.
- Repeat with other leg.
- Alternate legs until you have done 8 to 12 repetitions with each leg.
- Rest, then do another set of 8 to 12 alternating repetitions.
- Add modifications as you progress.

Hip Extension



Do hip extension as part of your regularly scheduled strength exercises, and add these modifications as you progress: Hold table with one hand, then one fingertip, then no hands; then do exercise with eyes closed, if steady.

- Stand 12 to 18 inches from a table or chair, feet slightly apart.
- Bend forward at hips at about 45-degree angle; hold onto a table or chair for balance.
- Slowly lift one leg straight backwards without bending your knee, pointing your toes, or bending your upper body any farther forward.
- Hold position for 1 second.
- Slowly lower leg. Pause.
- Repeat with other leg.
- Alternate legs until you have done 8 to 12 repetitions with each leg.
- Rest, then do another set of 8 to 12 alternating repetitions.
- Add modifications as you progress.

Side Leg Raise

Do leg raises as part of your regularly scheduled strength exercises, and add these modifications as you progress: Hold table with one hand, then one fingertip, then no hands; then do exercise with eyes closed, if steady.



- Stand straight, directly behind table or chair, feet slightly apart.
- Hold onto table or chair for balance.
- Slowly lift one leg to side 6–12 inches out to side. Keep your back and both legs straight. Don't point your toes outward; keep them facing forward.
- Hold position for 1 second.
- Slowly lower leg all the way down. Pause.
- Repeat with other leg.
- Alternate legs until you have done 8 to 12 repetitions with each leg.
- Rest, then do another set of 8 to 12 alternating repetitions.
- Add modifications as you progress.

"ANYTIME, ANYWHERE" BALANCE EXERCISES

These types of exercises also improve your balance. You can do them almost anytime, anywhere, and as often as you like, as long as you have something sturdy nearby to hold onto if you become unsteady.

Examples:

- Walk heel-to-toe. Position your heel just in front of the toes of the opposite foot each time you take a step. Your heel and toes should touch or almost touch. (See illustration.)
- Stand on one foot (for example, while waiting in line at the grocery store or at the bus stop). Alternate feet.
- Stand up and sit down without using your hands.

