



Information Guide

Your Health and Fitness



Chair-based strength exercises (no equipment)

What this guide is about

Maintaining a minimum amount of muscular strength is essential for performing a wide range of everyday activities as you get older. However, strength decreases with age - strength training can help to combat this loss.

Strength training is performed after a thorough warm-up, and is followed by a cool-down. Please see the following information guide for information on creating your own chair-based exercise workout to see where strength exercises fall within it:

- Building your own chair-based exercise session.

Strength training does not need to be done on expensive resistance machines or by lifting heavy weights. You do not have to go to a gym to do them either. You can do strength training at home, sitting down on a sturdy chair, with little or no equipment. In this information guide we are not using any equipment, but we have produced other free information guides showing strength exercises using resistance bands, dumbbells, and weighted balls.

"Frailty is not a contraindication to strength training but conversely one of the most important reasons to prescribe it" (ACSM, 2014)

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How much strength training should I do?

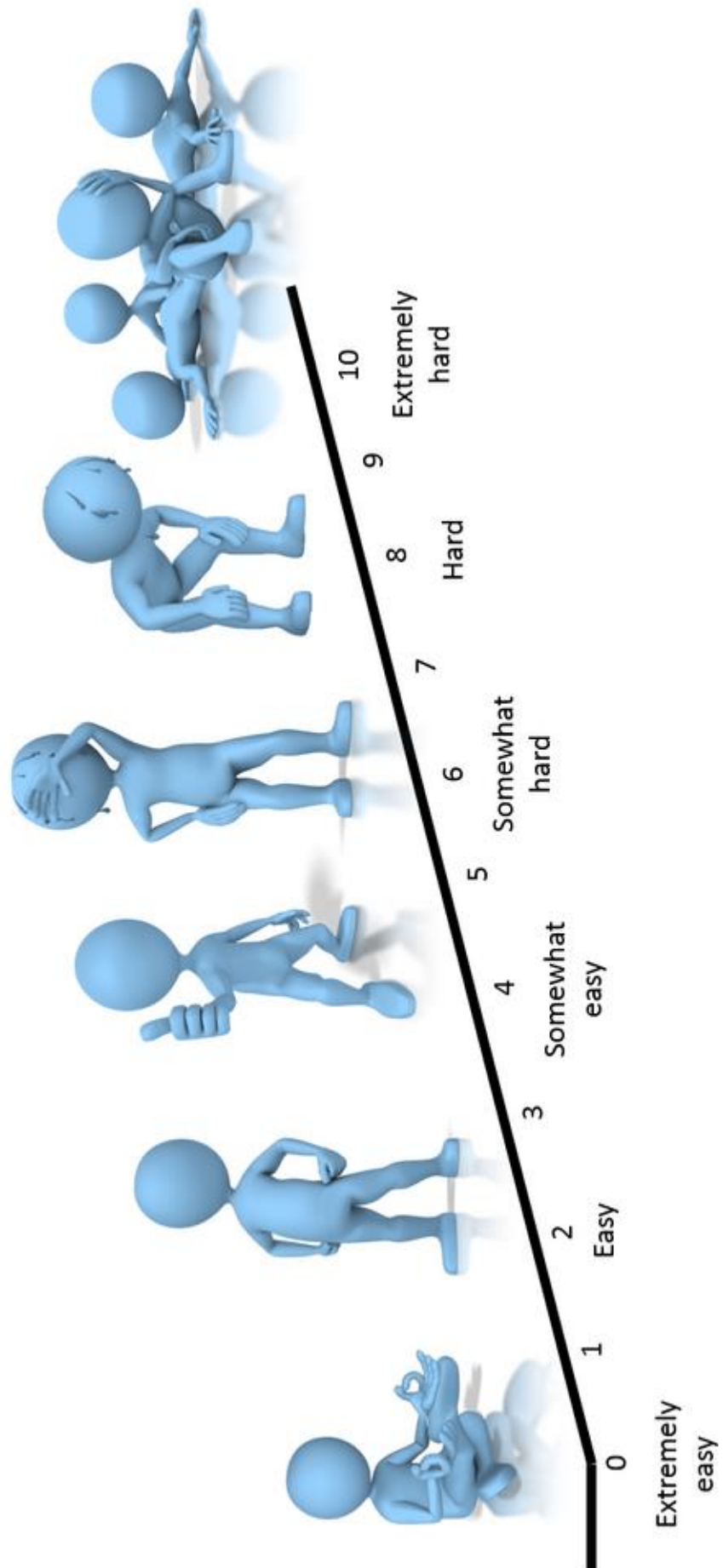
The Department of Health (2011) recommend adults (19 to 64 years) and older adults (65+ years) should carry out physical activity to improve muscular strength on at least two days a week.

The American College of Sports Medicine, or ACSM for short, developed these guidelines further. In the table below you will find their 2014 recommendations for strength training for both adults and older adults:

Frequency (how often)	Each major muscle group should be trained on 2-3 days every week, so that any single muscle group has at least 48 hours rest between strength training sessions.
Intensity (how hard)	<p><u>For adults:</u></p> <ul style="list-style-type: none"> Moderate-intensity strength training (60-70% of 1RM) is recommended for novice and intermediate adults to improve strength. Vigorous-intensity strength training (80% or more of 1RM) is recommended for experienced adults to improve strength. <p><u>For older adults:</u></p> <ul style="list-style-type: none"> Light-intensity strength training (40-50% of 1RM) is suitable for older adults starting strength training. Moderate-intensity strength training (60-70% of 1RM) is recommended to improve strength. Progress as tolerated to vigorous-intensity (80% of 1RM). <p>If repetition maximums are not measured, resistance intensity is determined using the 0-10 scale (see page 5 of this pack). On this scale, if a rating of 5-6 ('somewhat hard') is given, this equates to moderate intensity, and a rating of 7-8 ('hard') denotes vigorous intensity.</p>
Time (how long)	<p>No specific duration for strength training has been identified. We should perhaps substitute 'time' for 'volume' (how much) here:</p> <ul style="list-style-type: none"> 2-4 sets of 8-12 repetitions each are recommended to improve strength in most adults. 1 or more sets of 10-15 repetitions each are recommended for older adults.
Type (what to do)	<p>Exercises involving each major muscle group should be performed. A wide variety of exercise equipment (such as resistance bands, dumbbells, weighted balls, and resistance machines) and/or body weight exercises can be used to improve strength.</p>

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¹ 1RM stands for 1 Repetition max. This is the maximum amount of weight you can lift once only.



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Seated Posture



There are a lot of key points to remember here. Do not worry about remembering them all at once – focus on a couple each time you exercise and they will soon become a habit.

Feedback from another person or from looking at yourself in a mirror is a good way of checking and improving your seated posture.



**BREATHE COMFORTABLY
AT ALL TIMES**

1. Resisted arm curls

Purpose:

- This will strengthen muscles on the front of your arms.

Instructions:

- Place your right hand on your right knee, palm facing up and arm straight.
- Place your left hand on your right wrist and push down throughout to add resistance.
- Keeping your elbow fixed into ribs, raise your right hand to the right shoulder.
- After a few repetitions, perform with the other arm.



2. Resisted tricep press

Purpose:

- This will strengthen muscles on the back of your arms.

Instructions:

- Bend your right arm so the right hand is in front of your right shoulder, palm facing forward.
- Grasp your right wrist with your left hand, and push throughout to add resistance.
- Keeping the upper left arm still, straighten the arm, and then return to the starting position.
- After a few repetitions, perform with the other arm.



3. Resisted lateral raises

Purpose:

- This will strengthen muscles on the side of your shoulders.

Instructions:

- Reach across your body with your left arm and grasp your upper right arm, just above the elbow – pull throughout to add resistance.
- Raise your right arm out to the side (do not raise above shoulder height).
- Lower back down to the starting position.
- After a few repetitions, perform with the other arm.



4. Resisted front raises

Purpose:

- This will strengthen muscles on your chest and front of shoulders.

Instructions:

- Reach across your stomach with your left arm and grasp your right forearm, just below the elbow – push downwards throughout to add resistance.
- Raise your right arm up in front (to about shoulder height), and then lower back down.
- After a few repetitions, perform with the other arm.



5. Head shave

Purpose:

- This will strengthen muscles of the upper back, shoulders and back of arms.

Instructions:

- Place your fingertips behind your head with elbows out and pointing to the side.
- Squeeze your shoulder blades together.
- Keeping your elbows out, raise your arms up the back of your head and up towards the ceiling, and then lower back down.



6. Resisted knee lifts

Purpose:

- This will strengthen the muscles on the front of your hips and thighs.

Instructions:

- Place your palms face down on your left thigh, just above the knees – push down to add resistance throughout.
- Raise your left knee as high as you can comfortably, and then lower back down.
- After a few repetitions, perform with the other knee.



7. Sit to stand

Purpose:

- This will strengthen muscles of your thighs and bottom.

Instructions:

- Take feet back slightly until knees are above the toes (keep both heels on the floor) – place palms on your thighs, just above the knees, and fingers pointing in.
- Lean forwards slightly, and tense the leg muscles as you push down through the heels to rise to a standing position.
- To sit back down, make sure the back of the legs are touching the chair, and then push your bottom backwards before lowering it down under control.



8. Resisted leg circles

Purpose:

- This will strengthen muscles on the front of your hips and thighs.

Instructions:

- Place your left hand on your left thigh, just above the knee – push down throughout to add resistance (the photos show pressing down with both hands – harder).
- Straighten the left leg, and circle it from the hip in a clockwise direction.
- After a few repetitions, circle the other way.
- Repeat on the other leg.



9. Leg extension

Purpose:

- This will strengthen muscles on the front of the thighs.

Instructions:

- Keeping the knee still, straighten the left leg, and then lower under control.
- After a few repetitions, perform with the other leg.



10. Static leg curls

Purpose:

- This will strengthen muscles on the back of your thighs.

Instructions:

- Sit with heels pressed against the chair legs.
- Push your heels back against the chair legs.
- Keep pushing for a few seconds, and then release.



11. Resisted inner thigh squeezes

Purpose:

- This will strengthen muscles of your inside thighs.

Instructions:

- Sit with feet together – let your knees separate naturally.
- Place your hands on the inside of each thigh (just above the knee), and push outwards throughout to add resistance.
- Bring your knees together, and back out.



12. Resisted outer thigh squeezes

Purpose:

- This will strengthen the muscles on the side of your hips.

Instructions:

- Sit with feet and knees together.
- Place your hands on the outside of each knee, and push inwards throughout to add resistance.
- Separate the knees, and then bring them back together.



13. Resisted calf raises

Purpose:

- This will strengthen your calf muscles.

Instructions:

- Lean forwards and rest your forearms on your thighs (just above the knees).
- Raise both heels off the floor as far as you can comfortably, and then lower back down under control.



Links

American College of Sports Medicine, and Pescatello, L. S. (2014). *ACSM's guidelines for exercise testing and prescription*. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins Health.

American College of Sports Medicine, and Swain, D. P. (2014). *ACSM's resource manual for guidelines for exercise testing and prescription*. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.

Department of Health (2011) *Start Active, Stay Active*.

<https://www.gov.uk/government/publications/start-active-stay-active-a-report-on-physical-activity-from-the-four-home-countries-chief-medical-officers>

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Please don't throw this guide away when you have finished with it; perhaps pass it on to a friend, health professional or to your local GP surgery.

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