



Information Guide

Your Health and Fitness



Chair-based strength exercises (weighted ball)

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, keeping you active and independent.

Strength training is performed after a thorough warm-up, and is followed by a cool-down. Please see the following free AllActive® information guide for information on creating your own chair-based exercise workout to see where strength training 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 using weighted balls, but we have produced other free information guides showing strength exercises using resistance bands, dumbbells, and with no equipment at all.

"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?

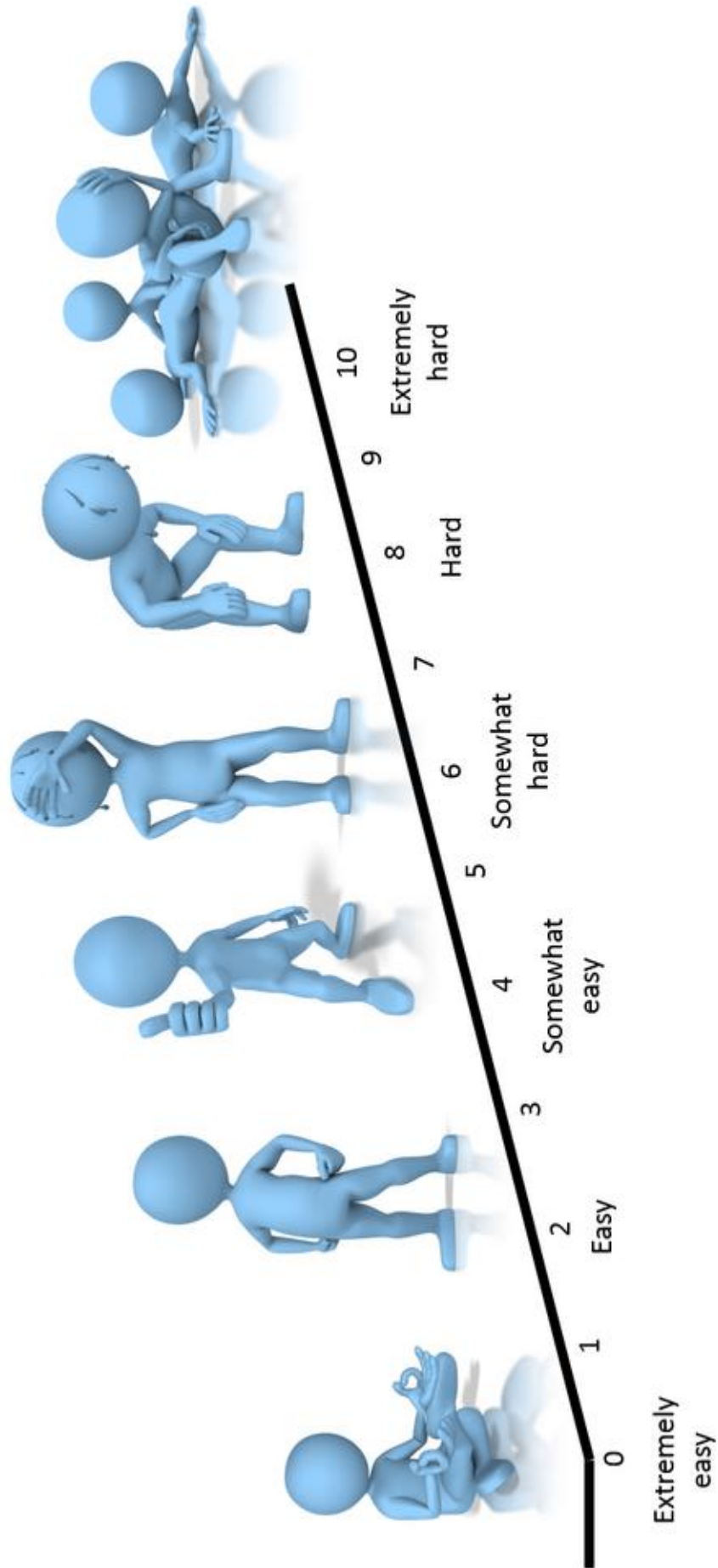
The Department of Health (2011) recommend adults (19 to 64 years) and older adults (65+ years) should carry out physical activity to improve muscular strength on at least two days a week.

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.</p> <p>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.



5 Chair-based strength exercises (weighted ball)

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. Hand squeezes

Purpose:

- This will strengthen your forearm muscles and improve grip strength.

Instructions:

- Hold a ball with both hands, slightly in front of your body.
- Squeeze the ball, and then slowly press it with both hands (as if you are trying to deflate it).
- Hold for a couple of seconds, and then release.



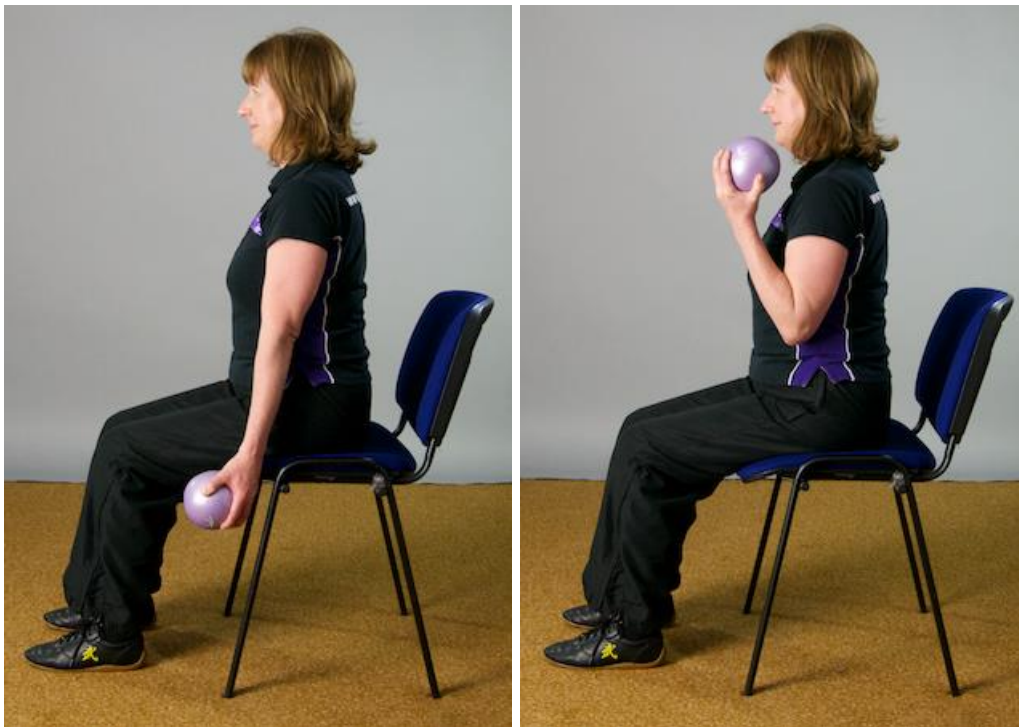
2. Arm curls

Purpose:

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

Instructions:

- With your left arm hanging down at your side, hold the ball with palm facing forwards.
- Keeping your elbow fixed into the ribs, raise your left hand up towards your left shoulder.
- After a few repetitions, perform with the right arm.



3. Overhead press

Purpose:

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

Instructions:

- Hold a ball with both hands above your head.
- Keeping your elbows fixed in place, slowly bend them to lower the ball down along the back of your neck.
- Lift the ball back to the starting position.



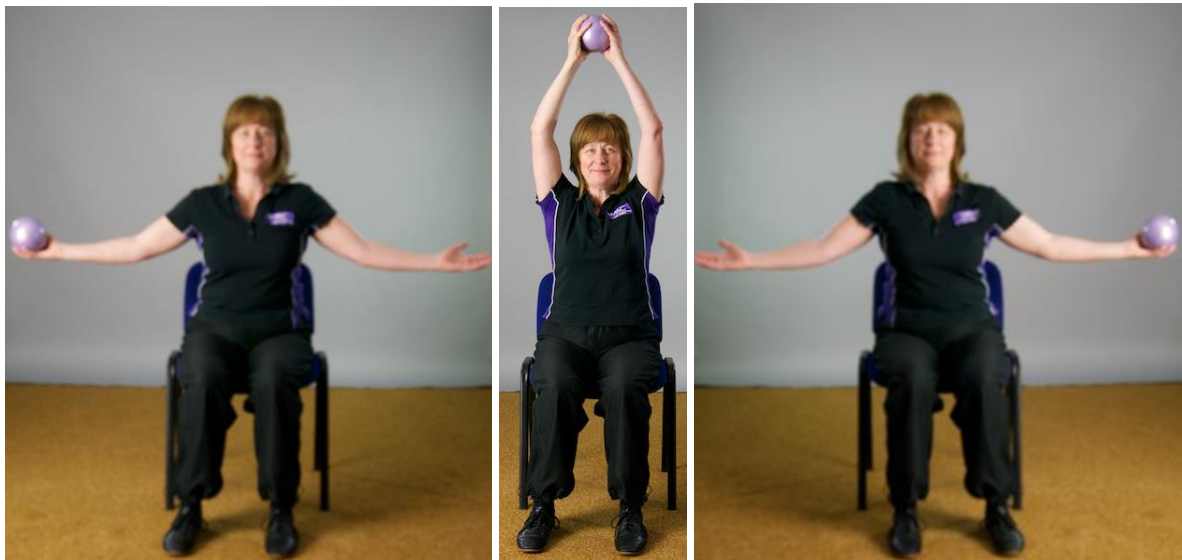
4. Ball exchanges

Purpose:

- This will strengthen your shoulder muscles.

Instructions:

- Hold a ball in your right hand down at your side.
- Raise both arms up at the sides, until you can pass the ball to your left hand overhead.
- Lower your arms back down.
- Repeat, passing the ball from side to side.



5. Wing squeezes

Purpose:

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

Instructions:

- Bend your left arm and place a ball underneath in your armpit region.
- Squeeze the upper arm onto the ball.
- Hold for a couple of seconds, and then slowly release.
- After a few repetitions, repeat with the other arm.



6. Around the world

Purpose:

- This will strengthen your shoulder and postural muscles.

Instructions:

- Hold a ball with both hands at stomach height.
- Let go with one hand and pass the ball behind your back.
- Reach behind with the other hand and grab the ball; then bring it back to the front and start again.
- After a few repetitions, repeat going the other way.



7. Trunk twists

Purpose:

- This will strengthen your abdominal muscles.

Instructions:

- Hold a ball with both hands in front of your stomach.
- Slowly twist your body to the left as far as you can comfortably.
- Hold for a couple of seconds and then return to centre, before twisting to the other side.



8. Side bends

Purpose:

- This will strengthen your abdominal muscles.

Instructions:

- Hold a ball in your left hand and let the arm hang down at the side.
- Tighten your stomach slightly, and then lean to the left as far as you can comfortably – do not lean forwards or backwards, or twist your torso.
- Return to an upright position.
- After a few repetitions, perform side bends to the other side.



9. Inner thigh squeezes

Purpose:

- This will strengthen muscles of the inner thighs.

Instructions:

- With feet together, place a ball between your thighs (close to your knees).
- Squeeze your knees together.
- Hold for a couple of seconds and then slowly release.



10. Ball taps

Purpose:

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

Instructions:

- Place a ball on the floor near your feet, and hold onto the seat of the chair (or place hands on your thighs as shown in the photos – slightly harder).
- Lift your left foot off the floor and tap the toes on the top of the ball, pressing them down as you do so.
- Return your left foot to the floor, and repeat with the right foot.



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.

More free information guides can be found at www.allactive.co.uk



Amacsports Ltd, 2 Denne Hill Business Centre, Womenswold, Canterbury, Kent, CT4 6HD
www.allactive.co.uk | info@allactive.co.uk

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