



Information Guide

Your Health and Fitness



Chair-based strength exercises (resistance bands)

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 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 using resistance bands, but we have produced other free information guides showing strength exercises using weighted balls, 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?

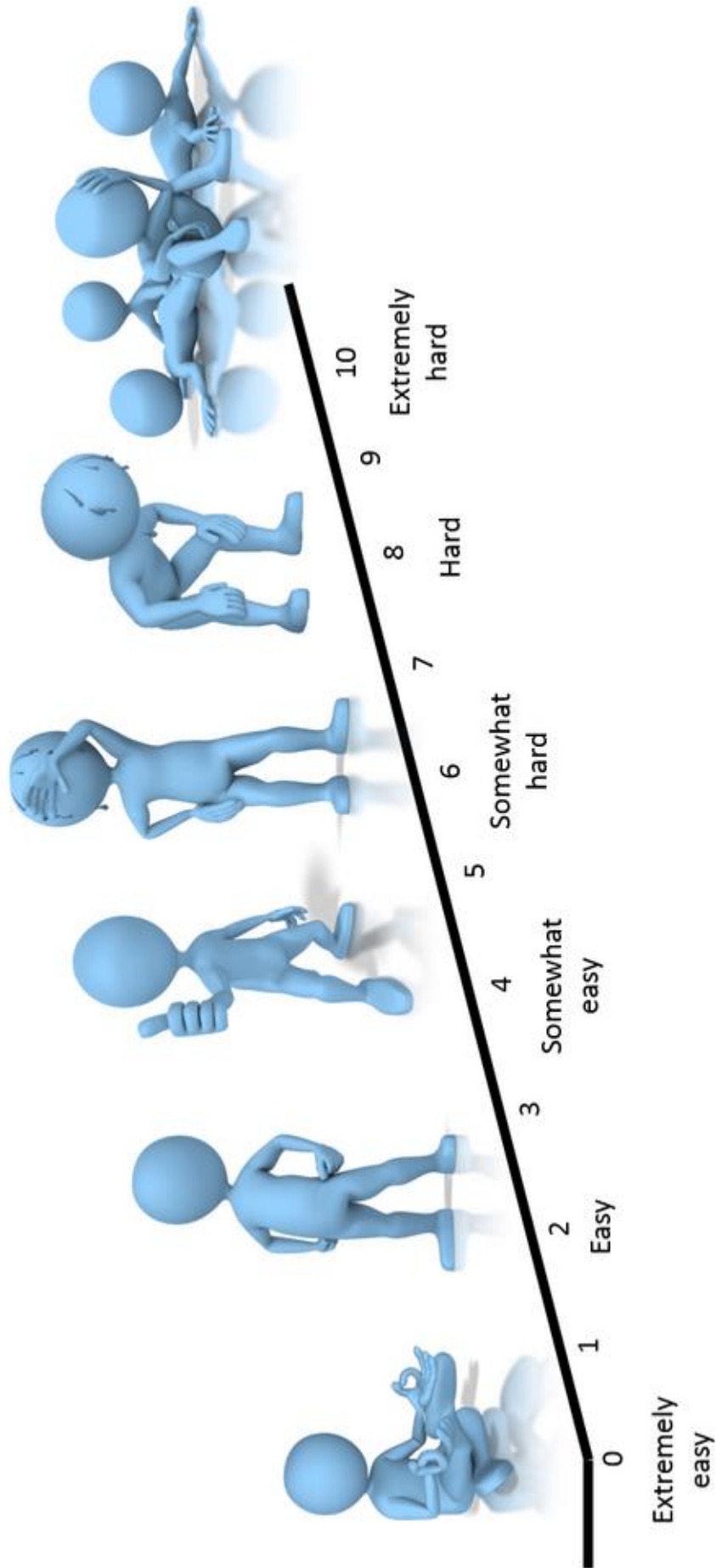
The Department of Health (2011) recommend adults (19 to 64 years) and older adults (65+ years) should carry out physical activity to improve muscular strength on at least two days a week.

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. 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 (resistance bands)

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. Wrist squeeze, twist and pull

Purpose:

- This will strengthen muscles in the forearms and improve grip strength.

Squeeze:

- Roll or fold the resistance band into a tube and hold it vertically at stomach or chest height by grasping it with one hand on top of the other.
- Squeeze the band as tightly as possible for up to five seconds before releasing.

Squeeze/twist and pull:

- This can be performed in a variety of ways.
- Perform as above, but with one or more of the following variations:
 - Squeeze and then pull
 - Squeeze and then twist.
 - Twist and pull.
 - Squeeze, twist and pull.
 - Hold the band horizontally and perform any of the above.



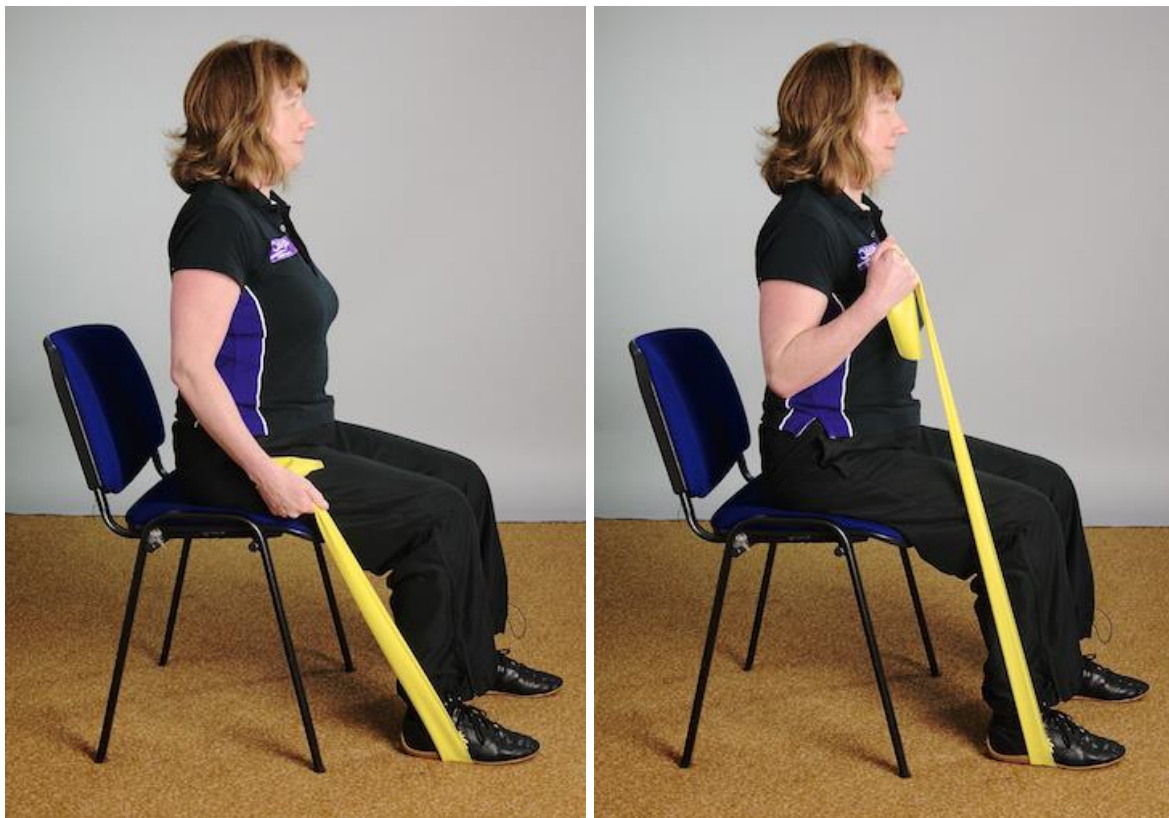
2. Arm curl

Purpose:

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

Instructions:

- Hold the band in your right hand, with the other end securely trapped under your feet.
- Fix the right elbow into your ribs and rest the right hand by the right thigh with thumb uppermost.
- Bend the right arm up towards the shoulder (pulling the band taut), making sure the wrist is kept rigid throughout.
- Lower back down under control.
- After a few repetitions, repeat on the left arm.



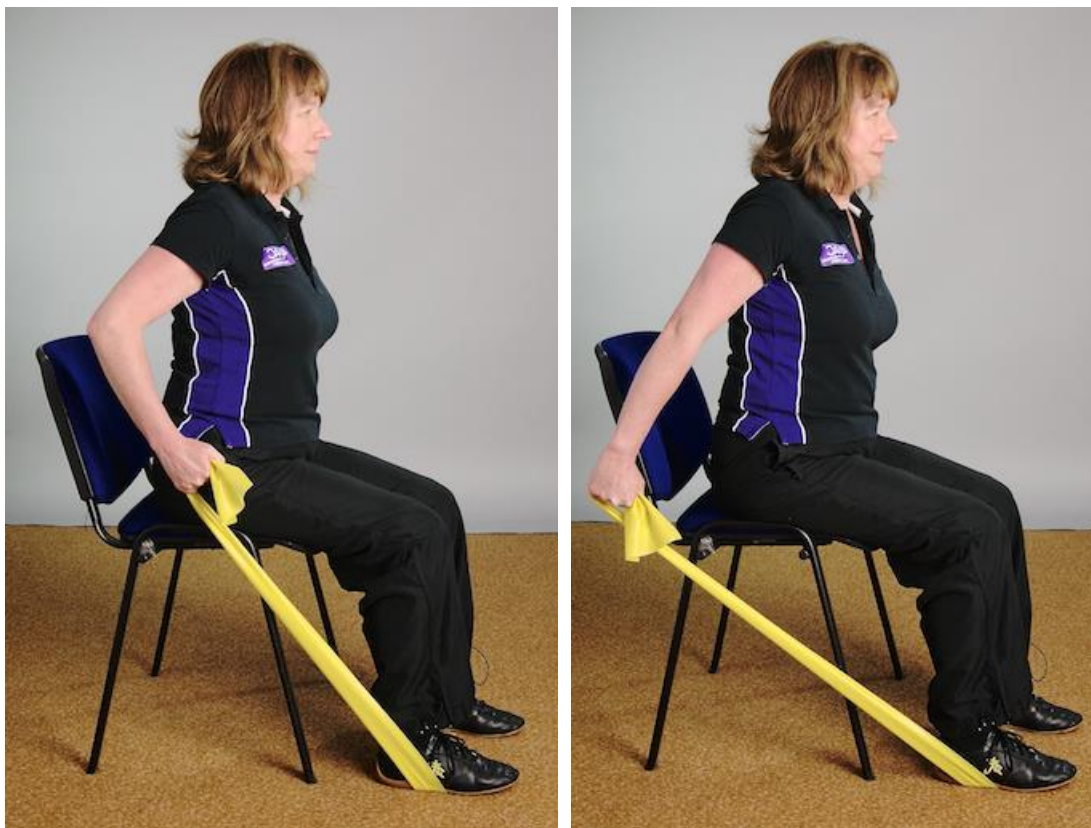
3. Tricep kickbacks

Purpose:

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

Instructions:

- Hold the band in your right hand, with the other end securely trapped under your feet.
- With your right arm hanging down at the side, grasp the band with thumb uppermost and palm facing the chair.
- Keeping your chest lifted and right arm close to the body, pull the band upwards until your elbow points backwards.
- From this position, straighten your arm, pause, and then let it bend once again.
- After a few repetitions, repeat on the other arm.



4. Shoulder squeezes

Purpose:

- This will strengthen muscles in your upper back.

Instructions:

- Lay the band across your thighs, and grasp it with palms face-up and little fingers touching.
- Keeping elbows fixed into your sides, pull the band apart, squeezing your shoulder blades together as you do so.
- Release tension on the band, and return to the starting position.



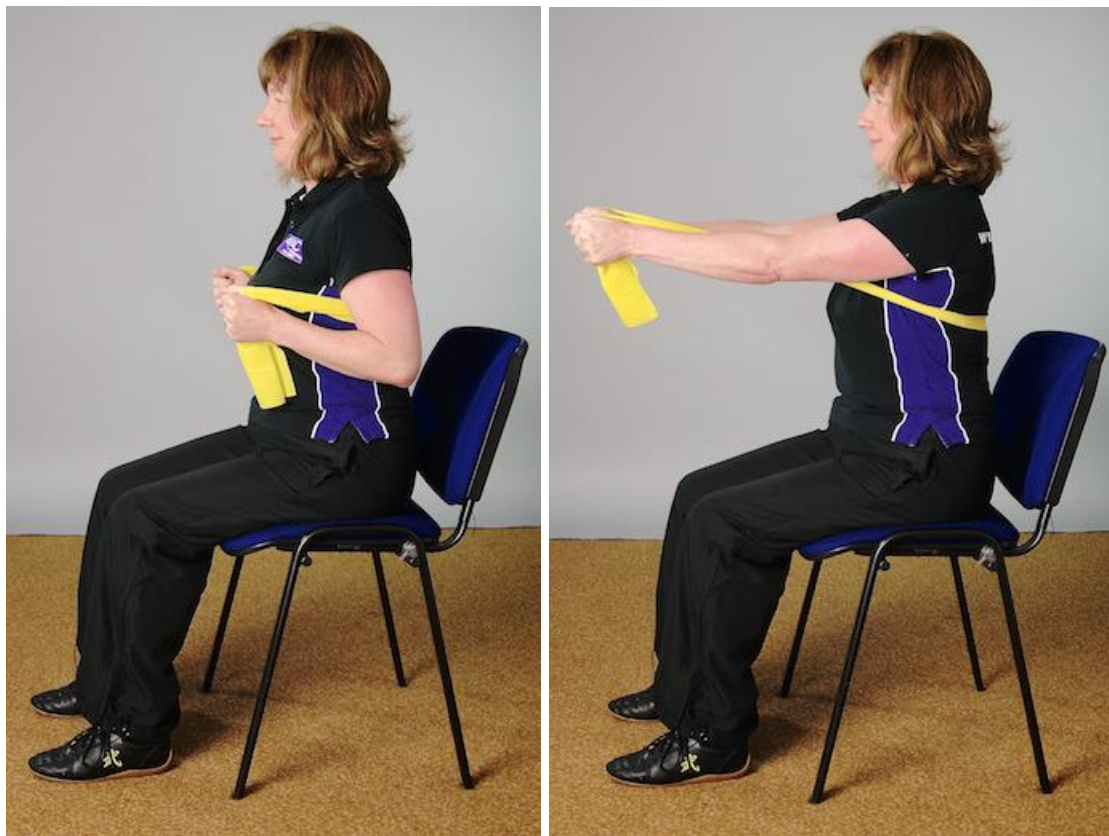
5. Chest press

Purpose:

- This will strengthen muscles of the chest and back of the arms.

Instructions:

- Wrap the band around your middle back and thread each end under your armpits, holding them in each hand - your hands should start by the side of your chest.
- Press both hands forwards until the arms are straight (but do not lock your elbows).
- Squeeze your shoulder blades together as you pull your hands back to your chest.



6. Seated row

Purpose:

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

Instructions:

- Straighten your left leg and loop the band around it, holding an end in each hand, palms facing each other (with arms straight).
- Keeping the elbows down throughout, pull your hands towards your ribs - your elbows should skim your body as you do this.
- Return to the starting position.



7. Seated abductors

Purpose:

- This will strengthen muscles on the side of the hip.

Instructions:

- Start with knees touching and feet slightly apart.
- Wrap a band once or twice around your thighs, and hold it securely in place with both hands.
- Keep feet on the floor and stretch the band by spreading the knees further apart as far as you can comfortably.
- Hold, and then return to the start position.



8. Leg press

Purpose:

- This will strengthen your thigh muscles and your bottom.

Instructions:

- Straighten your right leg out in front, resting the heel on the floor so toes point upwards - wrap the resistance band around the ball of this foot.
- Grasp the band either side of the knee, and then lift the knee whilst pulling the hands back to the hips.
- Keeping the hands fixed into the hips, straighten the knee until the heel of the right foot just touches the floor (the photo shows a harder version where the foot remains raised throughout).
- Pause, and then bend the right leg.
- After several repetitions, repeat on the left leg.



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>

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



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