

Couch potatoes for cognition

Exercise for physical
and cognitive wellbeing

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V1/07/2016

Seated resistance band workout

A number of scientific studies have shown that resistance or strength training is beneficial in slowing the cognitive and physical decline of people suffering with dementia.

This workout aims to improve your upper and lower body strength, which provides benefits for walking, climbing stairs, standing from a chair, holding items in your hands and co-ordination of your arms and hands in daily tasks.

What equipment do I need?

You will need a resistance band to perform this workout. You can use different grades of resistance bands depending on your current strength and the colour of the band denotes how much resistance the band has (see opposite page).

You will also need a couch or chair – make sure it is safe to use by checking whether it is stable and will not move throughout the exercise.

Suitable clothing should be worn. Clothes should be comfortable and reasonably loose, without zips, belts or anything else that may cause injury.

When should I do the workout?

This workout only takes 30 minutes, so you can do it whenever is convenient for you. It is recommended that there is someone else with you when you are exercising – why not do the workout together with your partner or friend?

How often should I do the workout?

The workout should be completed at least twice a week to form part of your resistance exercise as recommended by the Department of Health. Find out more about exercise recommendations at: www.gov.uk/government/publications/uk-physical-activity-guidelines

How many times should I repeat each exercise?

The number of times you repeat each exercise will depend on your comfort. Repeat the exercise as many times as you can and aim to increase this number each time.

To begin with, complete the exercise once and increase this gradually, aiming to repeat the exercise 10 to 12 times (if you feel comfortable doing so).

Remember to breathe throughout, don't hold your breath!

How much rest should I take?

Rest for 60 to 90 seconds between each exercise or set of exercises. You can reduce your rest period to make the workout more difficult as you progress.

Can I make the exercises easier or harder?

Resistance bands are a great tool to make exercises easier or more difficult. Simply increase the length of the band from the resistance point to make the exercise easier, or reduce the length of the band from the resistance point to make the exercise harder. Alternatively, you can choose a band that has increased resistance.

Things to remember:

Warm up

You should briefly warm up before starting the workout so that your body is ready. This only needs to raise your body temperature and heart-rate slightly. A brief three to five minute low intensity walk would be enough.

Dizziness

When standing up from the couch between exercises, be careful not to stand too quickly to avoid feeling dizzy. If you do feel any dizziness, immediately stop the exercise and take rest on a chair. If you continue to feel dizzy during exercise, you should visit your GP.

Muscle soreness

You might feel some muscle soreness in the days after you exercise. This may happen as early as the following day and you may feel it for up to one week; however this is nothing to worry about. If the pain continues or you have any concerns, you should visit your GP.

Top tips:

- Try to hold in your stomach muscles before moving the particular limb that the exercise is aimed at – this will help with balance.
- When extending either your arms or legs, be sure not to 'lock out' your joints, keep a slight bend at the elbow or knee.
- Make sure you breathe normally throughout all exercises and try to avoid holding your breath.
- Make sure you have eaten within the last two hours, but not directly before exercising. Have a glass of water to hand in case you get thirsty.
- Try doing the exercises with a partner to help motivate you (and check you are doing the exercises right!).

Resistance band colours:

Black – heaviest resistance, hardest band to stretch and pull

Blue – heavy resistance

Green – medium to heavy resistance

Red – medium resistance

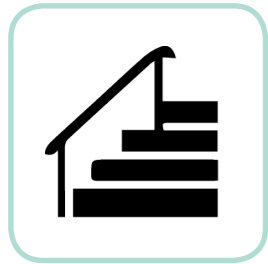
Yellow – light resistance, very stretchy

Advanced

Beginner

How will the exercises help you?

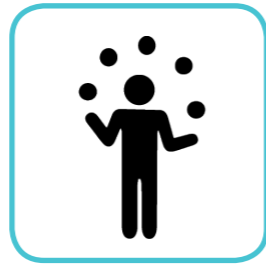
Each exercise has a set of icons associated with it showing how it can help a particular daily task.



Climbing stairs



Standing



Co-ordination



Getting dressed



Preventing falls



Shopping



Washing/
taking a shower



Standing from
a chair



Gardening



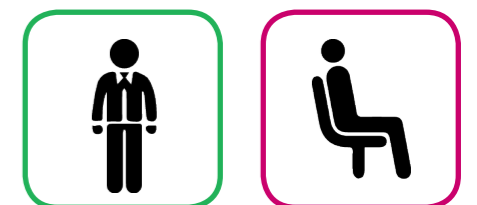
Tummy rotation

1. Sit on your chair with your legs comfortably bent and your feet flat on the floor. Wrap your resistance band underneath your feet and hold the ends of the band in each hand.
2. Pull the band with your right hand and turn your torso to the right at the same time so that you feel your stomach muscles working.
3. Slowly return to the middle until the resistance band is held evenly with each hand.
4. Repeat the process on the other side, pulling the band with your left hand and turning your torso to the left
5. Slowly return to the middle until the resistance band is held evenly with each hand and repeat on both sides.



Straight arm pull

1. Sit on your chair with your feet shoulder-width apart. Wrap your resistance band underneath your feet and hold the ends of the band in each hand.
2. Slowly begin to pull the band outwards on either side of your body, making sure you do not sit forward in your chair.
3. Raise your arms until they are at shoulder height, ensuring you do not 'lock out' your elbows.
4. Slowly begin to lower your arms.
5. Bring your arms back down to your side at hip height and repeat the exercise.



Cross and pull

1. Sit on your chair with your legs shoulder-width apart. Wrap your resistance band underneath your feet and hold the ends of the band in each hand.
2. Cross the band over in each hand.
3. Pull the band up to shoulder height with your elbows pointing out. You should be able to feel your back muscles under your armpit tighten as you perform the movement. Try to avoid leaning forward in your chair.
4. As you begin to straighten your arms, try to slow the movement down and avoid 'locking out' your elbows.
5. Repeat the exercise.



Leg press

1. Sit on your chair with your feet shoulder-width apart and your back straight. Bend one knee towards you and loop your resistance band around the bottom of your foot, holding one end of the band in each hand.
 2. Push your leg out straight in front of you without 'locking out' your knee, squeeze your leg muscles as hard as you can throughout the movement.
 3. Bend your knee again to repeat the movement and ensure you do an even number of movements on each leg.
- Note the images also show a side view of how to perform the exercise.





Find out more

Dementia research at Loughborough

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References

1. Ahn N, Kim K, (2015), Effects of an elastic band resistance exercise program on lower extremity muscle strength and gait ability in patients with Alzheimer's disease. *J Phys Ther Sci.* 27(6):1953-5
2. Bossers WJ, van der Woude LH, Boersma F, Hortobágyi T, Scherder EJ, van Heuvelen MJ, (2015), A 9-Week Aerobic and Strength Training Program Improves Cognitive and Motor Function in Patients with Dementia: A Randomized, Controlled Trial. *Am J Geriatr Psychiatry.* 23(11):1106-16
3. Wittwer J., (2015), Gait improves after 12 weeks of intensive resistance and functional training in people with mild to moderate dementia. *J Physiother.* 61(2):97

Useful links

Alzheimer's Research UK

W: www.alzheimersresearchuk.org

Dementia Friends

W: www.dementiafriends.org.uk

Mind For You

W: www.mindforyou.co.uk

Please note

Loughborough University strongly recommends that you consult with your physician before commencing any exercise programme. You should be in good physical condition and be able to participate in any exercises.

Loughborough University is not a licensed medical care provider and represents that it has no expertise in diagnosing, examining, or treating medical conditions of any kind, nor in determining the effect of any specific exercise on a medical condition.

You should understand that when participating in any exercise or exercise programme there is the possibility of physical injury. If you engage in any of the exercises in this leaflet, you agree to do so at your own risk, are voluntarily participating in these activities, assume all risk of injury to yourself, or caused to others through your actions and agree to release and discharge Loughborough University from any and all claims or causes of action, known or unknown, arising out of the content of this leaflet, whether through Loughborough University's negligence or otherwise.