Royal Osteoporosis Society
Better bone health for everybody

Exercises for bone and muscle strength
3

Exercises to promote bone and muscle strength

Important: Please read our *Before and after exercise* fact sheet (2) before you start this routine. If you are new to exercise and at all concerned about other health issues speak to your doctor, a healthcare professional or an exercise instructor.

Who: Follow these exercises if:

- you have had a diagnosis of osteoporosis
- you have reduced bone strength
- you have an increased fracture risk
- you are looking for exercises to strengthen your bones and muscles

They focus on bone and muscle strength in the spine, wrists and hips and are safe to do with osteoporosis.

Why: Bones stay strong if you give them work to do. Keeping physically active and doing exercise will help you maintain bone density and strength as you age. If you are able to do more intense impact and muscle strengthening exercise based on the ones in this routine, research studies show you may improve bone density and this could potentially reduce your risk of broken bones.

What you need: Some hand weights or resistance bands, a chair and an exercise mat if you can get down to the floor to carry out the moves.

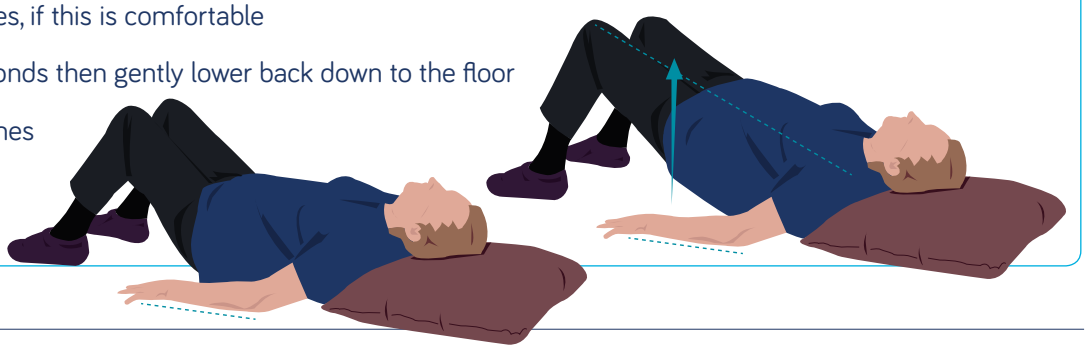
When and how: **Do these exercises on two or three days a week (non-consecutive) and work up to carrying out three sets of the routine.** Slowly move into the desired positions, as far as possible without pain. Carry out each exercise for the recommended number of times, using the correct technique. You can adapt these exercises based on your level of wellness and fitness - and choose the modifications if they are better for you. Relax between each move and take your time. Don't forget to breathe!

Remember to warm up properly before exercising to get your joints and muscles ready and to prevent injury. You can use the *Before and after exercise* fact sheet (2) where you'll find a helpful warm up routine theros.org.uk/exercise/WarmUp

1

Bridge

- Lie down on your back, knees bent, hip distance apart and feet flat on the floor - use a pillow under your head for comfort if needed
- Keep arms relaxed by your side with your palms down and tighten your tummy muscles
- Lift your bottom up from the floor, towards the ceiling, pushing through your feet and squeeze your bottom
- Keep your shoulders on the floor and your knees close together, and aim for a straight line between your shoulders and knees, if this is comfortable
- Hold for 3 – 5 seconds then gently lower back down to the floor
- Repeat up to 10 times



0808 800 0035 - Specialist nurse Helpline
nurses@theros.org.uk
@RoyalOsteoSoc

This fact sheet forms part of a range of nine fact sheets on exercise for osteoporosis and bone health. Further resources including general information about osteoporosis and bone health are available at theros.org.uk or call 01761 471771

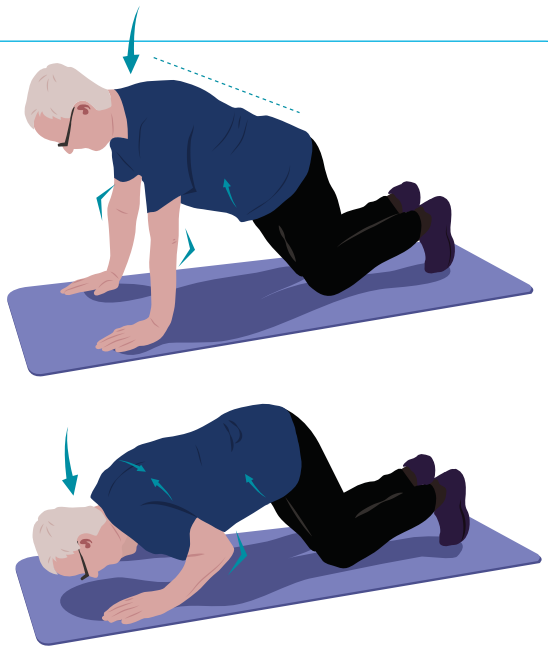
President: HRH The Duchess of Cornwall. Formerly the National Osteoporosis Society. Royal Osteoporosis Society is a registered charity no. 1102712 in England and Wales, no. SC039755 in Scotland, no. (pending) in Guernsey and no. (pending) in Isle of Man. Registered as a company limited by guarantee in England and Wales no. 4995013, and no. (pending) in Isle of Man. Registered address: Camerton, Bath BA2 0PJ

Exercises to promote bone and muscle strength

2

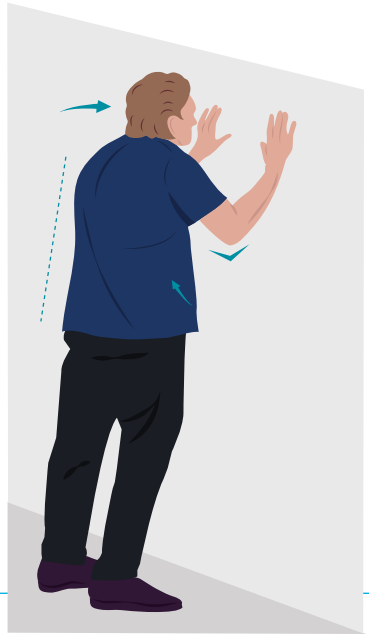
Press up

- Position yourself on all fours with your knees comfortably apart under your hips. Place your palms flat on the floor under your shoulders, pointing your fingers forwards, and look at the floor. Keep your tummy muscles tight and your back straight
- Slowly bend your elbows and lower your chest until your chin reaches, or is close to the floor, squeezing your shoulder blades back and down
- Slowly return to starting position, keeping your movements slow and controlled
- Repeat 8 – 12 times and up to three sets



Modify the move

- Face a wall and place your hands on the wall at the level of your shoulders, slightly greater than shoulder width apart, keep your tummy muscles tight and back straight
- Slowly bend your elbows and move your chest towards the wall until your chin reaches the wall, or you are as close as comfortable
- Slowly return to starting position, keeping your movements slow and controlled
- Repeat 8 – 12 times and up to three sets



0808 800 0035 - Specialist nurse Helpline
nurses@theros.org.uk
@RoyalOsteoSoc

This fact sheet forms part of a range of nine fact sheets on exercise for osteoporosis and bone health. Further resources including general information about osteoporosis and bone health are available at theros.org.uk or call 01761 471771

President: HRH The Duchess of Cornwall. Formerly the National Osteoporosis Society. Royal Osteoporosis Society is a registered charity no. 1102712 in England and Wales, no. SC039755 in Scotland, no. (pending) in Guernsey and no. (pending) in Isle of Man. Registered as a company limited by guarantee in England and Wales no. 4995013, and no. (pending) in Isle of Man. Registered address: Camerton, Bath BA2 0PJ

Exercises to promote bone and muscle strength

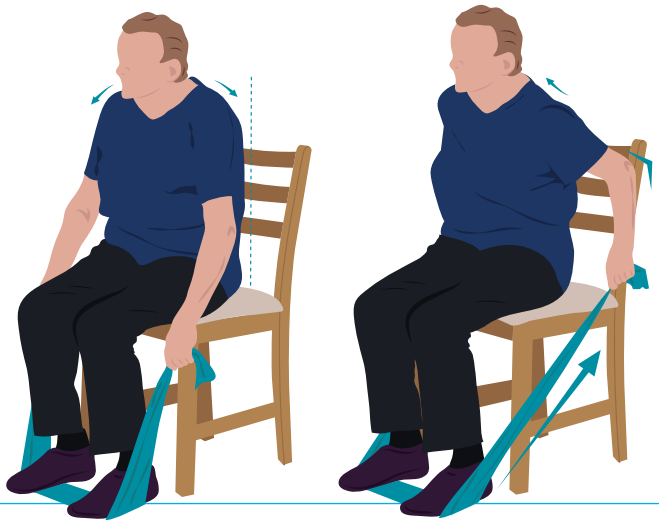
3

Upper back row

- Stand in a lunge position, with your foot forward, and use your left arm to hold a support if needed
- Hold a weight in your right arm with your palm facing in, your arm extended down by your side and keep your back straight and your neck in line with the rest of your spine
- Pull your shoulder blades together then pull the weight up to chest height, concentrating on lifting it with your back and shoulder muscles rather than your arms, and keep your elbow close to the side of your body
- Keep your chest still as you lift the weight parallel to the ceiling and keep looking forward
- Lower the weight slowly back down again
- Repeat 8 – 12 times then swap arms and legs and repeat
- Do up to three sets

Modify the move

- Sit on an armless chair with your feet flat on the floor and place the centre of a resistance band under both feet, putting your weight through your feet to secure the band
- Hold each end of the band with your hands, palms facing inwards
- Relax your shoulders and extend your arms beside your legs
- Sitting in a tall position, pulling your shoulder blades together, pull both elbows back until your hands are at your hips. Hold for one second
- Slowly return your hands to the starting position
- Repeat 8 – 12 times and up to three sets



0808 800 0035 - Specialist nurse Helpline
nurses@theros.org.uk
@RoyalOsteoSoc

This fact sheet forms part of a range of nine fact sheets on exercise for osteoporosis and bone health. Further resources including general information about osteoporosis and bone health are available at theros.org.uk or call 01761 471771

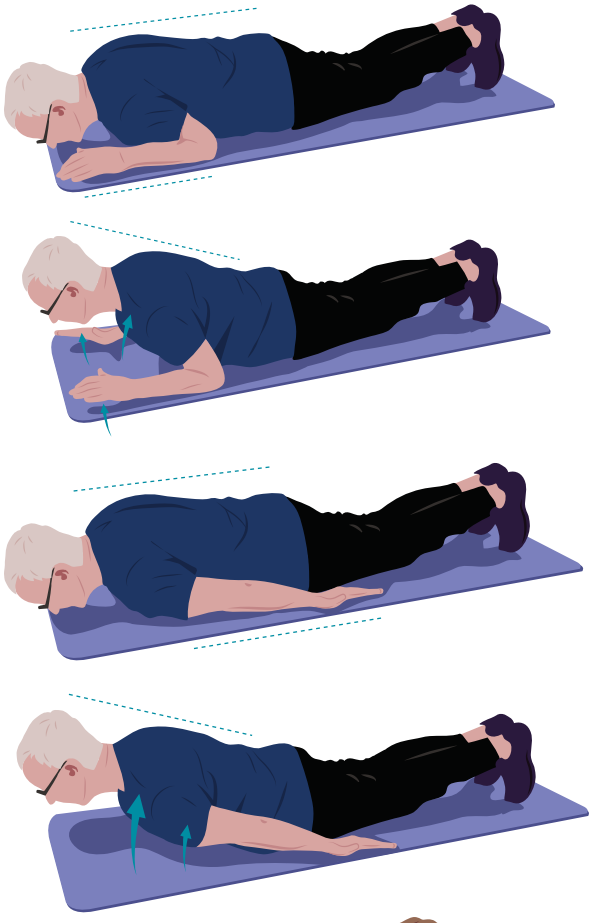
President: HRH The Duchess of Cornwall. Formerly the National Osteoporosis Society. Royal Osteoporosis Society is a registered charity no. 1102712 in England and Wales, no. SC039755 in Scotland, no. (pending) in Guernsey and no. (pending) in Isle of Man. Registered as a company limited by guarantee in England and Wales no. 4995013, and no. (pending) in Isle of Man. Registered address: Camerton, Bath BA2 0PJ

Exercises to promote bone and muscle strength

4

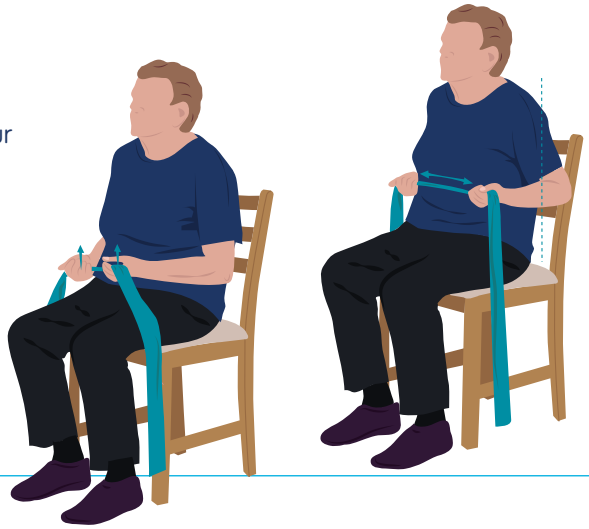
Trunk extension (Back lift)

- Lie down on your front, legs together, with your hands at the same level as your head, keeping your pelvic bones, knees and feet in contact with the floor
- Use your hands and arms to push gently into the floor, raising your head and neck slightly to get the feel of the movement
- Keep your head in line with your body taking care not to pull your neck back and slowly lift your shoulders, back, head and hands off the floor keeping eyes down to the floor
- If you can't manage to lift your hands up, keep your forearms on the floor as you lift your head and shoulders. If you find the move easy, you can progress it by placing your arms at your side with your palms down.
- Hold for one to three seconds then gently lower back down
- Repeat 8 – 12 times and up to three sets



Modify the move

- Sit on an armless chair with your feet flat on the floor and hold a resistance band in the middle with both hands, little fingers touching, palms facing up
- Sitting tall, pull the band out to the sides and taking your elbows back behind you, squeeze your shoulder blades together at the back
- Hold for one second then gently return to starting position
- Repeat 8 – 12 times and up to three sets



0808 800 0035 - Specialist nurse Helpline
nurses@theros.org.uk
@RoyalOsteoSoc

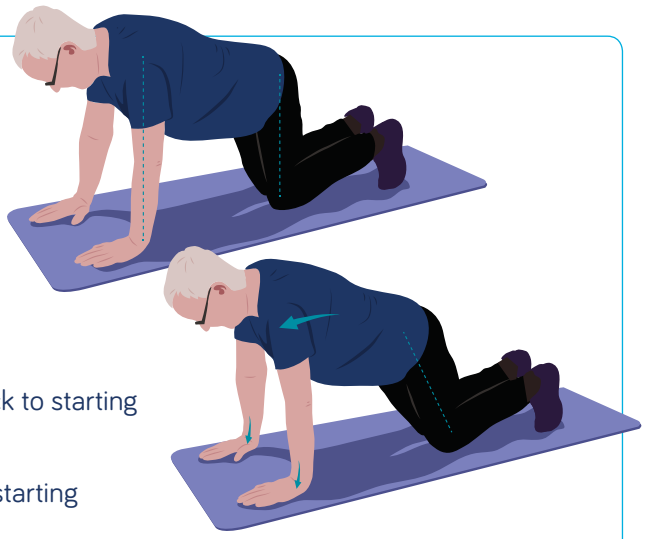
This fact sheet forms part of a range of nine fact sheets on exercise for osteoporosis and bone health. Further resources including general information about osteoporosis and bone health are available at theros.org.uk or call 01761 471771

President: HRH The Duchess of Cornwall. Formerly the National Osteoporosis Society. Royal Osteoporosis Society is a registered charity no. 1102712 in England and Wales, no. SC039755 in Scotland, no. (pending) in Guernsey and no. (pending) in Isle of Man. Registered as a company limited by guarantee in England and Wales no. 4995013, and no. (pending) in Isle of Man. Registered address: Camerton, Bath BA2 0PJ

Exercises to promote bone and muscle strength

5

All fours



- Position yourself on all fours with your knees comfortably apart under your hips, and your palms flat on the floor under your shoulders, with your fingers pointed forwards
- Take your weight forward over your hands then bring back to starting position
- Take your weight over to one side then bring your body back to starting position
- Take your weight over to the other side then bring back to starting position
- Repeat 8 – 12 times and up to three sets

Modify the move

- Fold a resistance band into a thick tube and hold between your hands, with one hand above the other
- Twist band by twisting your wrists in towards each other. Hold the position and then pull your hands apart to stretch the band by pulling your top hand towards the ceiling and your bottom hand towards the floor
- Hold for one second and return to starting position
- Repeat 8 – 12 times and up to three sets

0808 800 0035 - Specialist nurse Helpline
nurses@theros.org.uk
@RoyalOsteoSoc

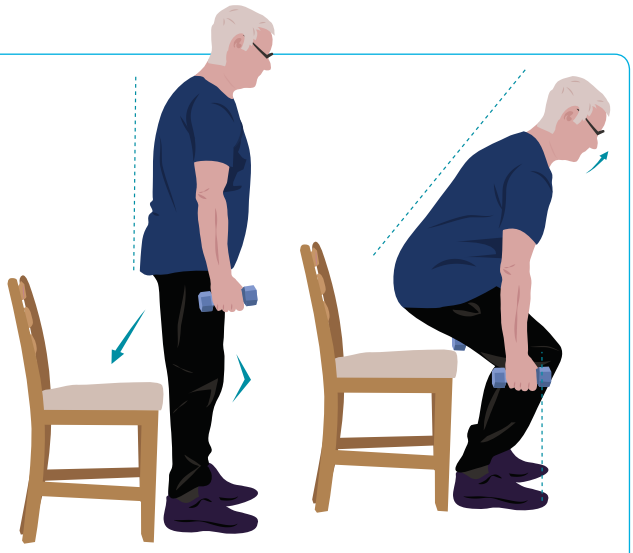
This fact sheet forms part of a range of nine fact sheets on exercise for osteoporosis and bone health. Further resources including general information about osteoporosis and bone health are available at theros.org.uk or call 01761 471771

President: HRH The Duchess of Cornwall. Formerly the National Osteoporosis Society. Royal Osteoporosis Society is a registered charity no. 1102712 in England and Wales, no. SC039755 in Scotland, no. (pending) in Guernsey and no. (pending) in Isle of Man. Registered as a company limited by guarantee in England and Wales no. 4995013, and no. (pending) in Isle of Man. Registered address: Camerton, Bath BA2 0PJ

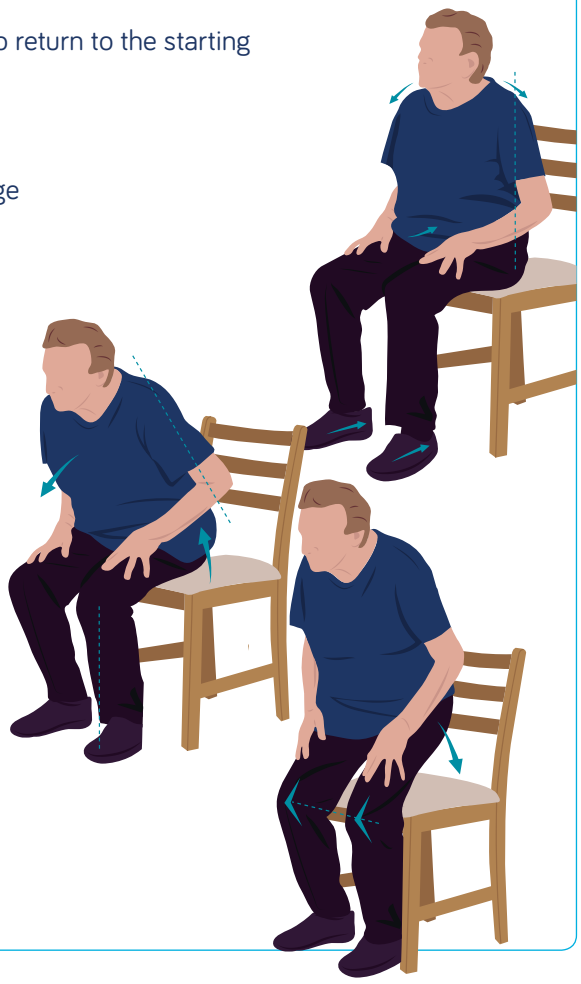
Exercises to promote bone and muscle strength

6

Squat



- Stand in front of a chair with your feet slightly wider than hip width apart, toes pointing forward
- Keep your back in a neutral position, keep your knees centred over your feet and look straight ahead
- Keeping your weight on your heels and balls of your feet (not your toes), slowly push your hips and bottom back as though you are preparing to sit on the chair
- Lower gently, bending your knees, but not actually completing the sit down – just hover above the chair
- Keep looking forward, not down, and drive through your heels to return to the starting position
- Repeat 8 – 12 times and up to three sets
- Hold weights in both arms, by your sides, for more of a challenge



Modify the move

- Sit on the front of an armless chair with your spine tall, your lower tummy muscles pulled in and your shoulders down and relaxed
- Keep your heels on the floor and slide your feet back, knees width apart so your toes are underneath your knees
- Lean forward a little from your hips, keep your spine long and push up in to standing, trying not to use your hands (use your hands for support if needed)
- To sit down, feel the chair against the back of your legs, bend at the knees and lower slowly down with control, taking care not to bump down
- Repeat 8 – 12 times and up to three sets

0808 800 0035 - Specialist nurse Helpline
nurses@theros.org.uk
@RoyalOsteoSoc

This fact sheet forms part of a range of nine fact sheets on exercise for osteoporosis and bone health. Further resources including general information about osteoporosis and bone health are available at theros.org.uk or call 01761 471771

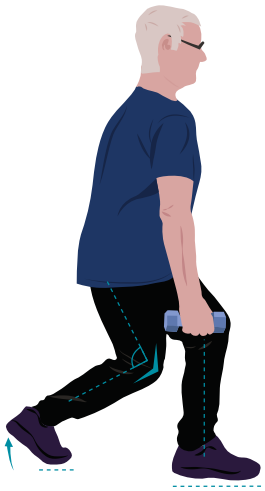
President: HRH The Duchess of Cornwall. Formerly the National Osteoporosis Society. Royal Osteoporosis Society is a registered charity no. 1102712 in England and Wales, no. SC039755 in Scotland, no. (pending) in Guernsey and no. (pending) in Isle of Man. Registered as a company limited by guarantee in England and Wales no. 4995013, and no. (pending) in Isle of Man. Registered address: Camerton, Bath BA2 0PJ

Exercises to promote bone and muscle strength

7

Lunge

- Stand with feet hip-width apart, knees soft
- Keep your upper body straight, your shoulders back and relaxed and look directly ahead
- Step forward with one leg, placing your leading foot flat on the floor. Lower your hips until both knees are bent towards a 90-degree angle – your back heel will come off the floor
- Make sure your front knee is directly above your ankle, not pushed out too far and make sure the other knee doesn't touch the floor
- Keep the weight in your front heel as you push back up to the starting position
- Repeat 8 – 12 times on each leg and complete up to three sets



Modify the move

- Stand near to a stable surface with one hand on the support if required and take smaller steps or lunges

8

March

- Stand on the spot, feet hip width apart
- Standing tall, raise one knee as high as comfortable, but no higher than hip level, and swing your opposite arm toward the ceiling
- Lower your foot back to the ground and repeat on your other leg
- Continue to march, stamping your feet as they land on the floor
- Aim to continue for two minutes – reducing the height of your knees if necessary

Modify the move

- Stand near to a stable surface with one hand on the support if required and take gentler steps ensuring your toes land on the floor first

0808 800 0035 - Specialist nurse Helpline
nurses@theros.org.uk
@RoyalOsteoSoc

This fact sheet forms part of a range of nine fact sheets on exercise for osteoporosis and bone health. Further resources including general information about osteoporosis and bone health are available at theros.org.uk or call 01761 471771

President: HRH The Duchess of Cornwall. Formerly the National Osteoporosis Society. Royal Osteoporosis Society is a registered charity no. 1102712 in England and Wales, no. SC039755 in Scotland, no. (pending) in Guernsey and no. (pending) in Isle of Man. Registered as a company limited by guarantee in England and Wales no. 4995013, and no. (pending) in Isle of Man. Registered address: Camerton, Bath BA2 0PJ

Exercises to promote bone and muscle strength

9

Jump

- If you have had spinal fractures, a good place to start is with the modification of this move. If this feels comfortable, and you feel steady and pain free, progress to try a small jump.
- Stand on the spot, feet hip width apart
- Standing tall, with your knees soft, swing your arms back
- Next, swing your arms forward and take a small jump into the air, lifting both feet off the floor, landing with soft knees
- Repeat 5 – 10 times and complete up to three sets

Modify the move

- Stand near to a stable surface with one hand on the support if required and keep your toes on the floor, raising your heels and dropping them back down to the floor
- **Tip:** For both of the above exercise variations, end with a march, and then walk on the spot to cool down

It's a good idea to do some further cool down moves too, if you need to return your breathing and heart rate back to resting levels. You can use the *Before and after exercise* fact sheet (2) where you'll find a helpful cool down routine theros.org.uk/exercise/CoolDown.

Well done in completing your exercises to help strengthen your bones and muscles. As you get used to these exercises aim to carry out more sets of the routine, up to three sets at any one time. You'll be amazed at how quickly you find the moves more comfortable and how quickly you progress! Progression is important for your bone health.

Tip: Gradually increase the weight or strength of resistance band, as it becomes easier to use during the exercises. You should be using a weight or band that you can lift or stretch 8-12 times, up to 3 sets, but not much more. If you find you can easily do more, increase the weight or band strength you are using as this is how to best promote your bone strength. See the accompanying video to these exercises at theros.org.uk/exercise/Strength

If you find you are unsteady at times during these exercises it's important that you work on improving your balance to reduce the risk of falling. Use our fact sheet (4) *Exercises to improve balance and muscle strength* theros.org.uk/exercise/Balance to help.

0808 800 0035 - Specialist nurse Helpline
nurses@theros.org.uk
@RoyalOsteoSoc

This fact sheet forms part of a range of nine fact sheets on exercise for osteoporosis and bone health. Further resources including general information about osteoporosis and bone health are available at theros.org.uk or call 01761 471771

President: HRH The Duchess of Cornwall. Formerly the National Osteoporosis Society. Royal Osteoporosis Society is a registered charity no. 1102712 in England and Wales, no. SC039755 in Scotland, no. (pending) in Guernsey and no. (pending) in Isle of Man. Registered as a company limited by guarantee in England and Wales no. 4995013, and no. (pending) in Isle of Man. Registered address: Camerton, Bath BA2 0PJ