



WorldOsteoporosisDay  
October20



# EXERCISE

## FOR BONE HEALTH AND OSTEOPOROSIS

As you strengthen your muscles through exercise, you also build and strengthen your bones. In combination with a bone-healthy diet, exercise is a key way to help prevent osteoporosis in later life and helps maintain and support bone health at all ages.



[www.worldosteoporosisday.org](http://www.worldosteoporosisday.org)

# EXERCISES TO IMPROVE YOUR BONE AND MUSCLE STRENGTH

Regardless of your age or physical condition, exercise can benefit your bone health, strength and mobility.

**Weight-bearing exercises** (exercises with some level of impact) and **muscle-strengthening** (also known as 'resistance') exercises are the most effective types of physical activity to build bone and muscle strength.

Also important are exercises that **train your balance and posture**. Good balance will help you stay steady on your feet and prevent falls. Maintaining good posture can support the health of your spine, and help with balance.

## EXERCISE CAN BENEFIT YOUR BONE HEALTH!



WEIGHT-BEARING  
EXERCISE



MUSCLE-STRENGTHENING  
EXERCISE



EXERCISE TO TRAIN  
BALANCE & POSTURE



## SHOULD I EXERCISE IF I HAVE OSTEOPOROSIS?

**YES!** Don't let fear of 'breaking' or falling keep you from staying active. Muscle-strengthening and balance exercises are very important as they can help you stay strong and steady on your feet and reduce the risk of falls.

There's no one-size-fits-all prescription, so it's best to consult a physiotherapist or fitness professional who can recommend a targeted exercise program that is appropriate for you, based on your falls and fracture risk, other health conditions you may have, fitness, strength, and balance.

### SPINAL FRACTURES

If you have had or are at risk of **spinal fractures**, keep spine-sparing strategies in mind when you exercise and in your daily activities and movements, such as lifting and bending.

**Generally, the following types of exercises may not be suitable for people who have, or are at increased risk of, spine fractures:**

- 1** Sit-ups (movements with excessive bending at the waist)
- 2** Twisting movements (such as a golf swing)
- 3** Exercises that involve abrupt or explosive movement
- 4** High-impact loading (like jumping)

If you have spinal fractures you should consult specific exercise and **safe-movement guidance** designed to support people with spinal fractures, as provided by different national guidance listed on page 8.

# WEIGHT-BEARING EXERCISE

Bones and muscles respond and strengthen when they are 'stressed' by weight bearing or impact exercises. Weight-bearing exercise means you are standing on your feet, with some level of impact added (for example when you walk, climb stairs or jump).

Generally, if you have osteoporosis you should avoid high impact exercises, and if you have spinal fractures the exercises with lower impact are recommended.

## EXAMPLES OF DIFFERENT TYPES OF WEIGHT-BEARING EXERCISES WITH IMPACT



LOWER IMPACT

- Walking
- Marching/Hiking
- Nordic walking
- Stair climbing
- Gentle heel drops/stamping
- Dancing (low impact)



MODERATE IMPACT

- Jogging
- Low level jumping
- Skipping and hopping
- Racket sports
- Vigorous heel drops or stamping
- Dancing (e.g. with jumps)



HIGH IMPACT

- Basketball
- Volleyball
- Track events
- Hockey
- Star or tuck jumps
- High level jumps

# MUSCLE-STRENGTHENING EXERCISE

To strengthen your muscles you need to move them against some resistance, either by doing bodyweight exercises, such as push-ups and pull-ups, or by using elastic resistance bands, weight machines or free weights.

With regular training your muscles will get stronger and you will find the exercises easier to do. It is important to gradually increase the intensity of the resistance training.

**A good rule to follow is that you may advance to a higher level of difficulty when you can do more than 10 repetitions of an exercise easily.**

Consulting or training with a fitness professional can be a helpful way to learn and practice the right technique.

## EXAMPLES OF SIMPLE MUSCLE-STRENGTHENING EXERCISES



WALL PUSH UP

The wall push up strengthens your shoulders and your core muscles.



ROW

The row exercise strengthens the muscles of your shoulders and back.



LUNGE

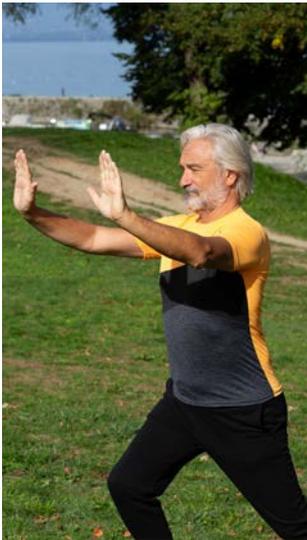
This exercise is designed to strengthen the muscles of your thighs and buttocks.

# EXERCISES TO TRAIN YOUR BALANCE

As we get older, our balance, coordination and muscle strength may all not be as good as they once were. Improving balance together with muscle strength is a way to gain stability and confidence in your movements, and so reduce the risk of falls and potential injury.

**It is recommended that you practise balance exercises on two or three days a week.**

## EXAMPLES OF EXERCISES THAT IMPROVE BALANCE



TAI CHI

Tai Chi not only trains balance, but it also gently stretches and strengthens your muscles.



STANDING ON ONE LEG

Standing on one leg is a classic way to train balance - try it while standing at the sink at home!



STANDING HEEL RAISES/TOE RAISES

These exercises work to strengthen the muscles in the front (toe raises) and back (heel raises) of your lower leg.



**If you have poor balance, be sure to have sturdy support nearby (for example a chair, countertop or wall) that you can hold on to if needed!**

## EXERCISES TO PRACTICE GOOD POSTURE



Good posture is important to support your spine health, reduce strain on joints and muscles, and help with balance. There are different ways to train your posture, including holding your shoulders back, neck rotation, and generally pulling your lower tummy muscles in and lengthening your spine when sitting or standing. To learn how to do specific exercises, consult a fitness professional or view national guidance listed on page 8.

## HOW MUCH AND HOW OFTEN SHOULD I EXERCISE TO IMPROVE BONE AND MUSCLE STRENGTH?

Although specific recommendations vary, generally, you should aim to exercise for **around 30 to 40 minutes at least three to four times each week**, with a mix of weight-bearing and muscle-strengthening exercises in the program. **Practice exercises to improve balance and posture at least two or three days a week.**



**30-40**

MINUTES 3-4 DAYS A WEEK



**3-4**

DAYS A WEEK  
WEIGHT-BEARING &  
MUSCLE-STRENGTHENING



**2-3**

DAYS A WEEK  
BALANCE & POSTURE

## IMPORTANT TO REMEMBER

**No matter what your age or the state of your bone health, regular exercise will benefit you!**

-  Set achievable goals - and then gradually and progressively advance in difficulty.
-  Warm up (for e.g. stretching) before exercising and listen to your body. While some muscle soreness after exercise is normal, sharp pain is not.
-  Find types of physical activity you enjoy - that way you'll be more likely to continue in the long term.
-  If you have fragile bones due to osteoporosis, or are frail, it's a good idea to consult a physiotherapist or fitness professional who can help you plan a targeted, safe and effective exercise program.

## FURTHER READING AND VISUAL INSTRUCTIONS

Your national osteoporosis society may provide specific recommendations or offer targeted exercise programs for people with osteoporosis, including through patient support groups.

English-language exercise recommendations for bone health and osteoporosis, some with instructional videos, are provided by the following osteoporosis societies:

### Royal Osteoporosis Society (UK)

<https://theros.org.uk/information-and-support/osteoporosis/living-with-osteoporosis/exercise-and-physical-activity-for-osteoporosis/>

### Osteoporosis Canada (Too Fit to Fracture)

<https://osteoporosis.ca/exercise-recommendations/>

### Bone Health and Osteoporosis Foundation (USA)

<https://www.bonehealthandosteoporosis.org/preventing-fractures/exercise-to-stay-healthy/>

### Healthy Bones Australia

<https://healthybonesaustralia.org.au/your-bone-health/exercise-bone-health/>

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Reference: Partly adapted from Royal Osteoporosis Society (UK) exercise recommendations