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 WOMEN OVER **50** WILL EXPERIENCE 
  
**OSTEOPOROTIC FRACTURES, AS WILL**  **MEN**



- **Benefits of exercise for people with osteoporosis**

- A sedentary lifestyle, poor posture, poor balance and weak muscles increase the risk of fractures. A person with osteoporosis can improve their health with exercise in valuable ways, including:

- reduction of bone loss
- conservation of remaining bone tissue
- improved physical fitness
- improved muscle strength
- improved reaction time
- increased mobility
- better sense of balance and coordination
- reduced risk of bone fractures caused by falls
- reduced pain
- better mood and vitality.



Exercise plays an important role in building and maintaining bone strength. Just like muscles, bones respond when they are stressed, in other words, when they are forced to bear more weight than they are used to. This can be achieved by weight bearing or impact exercises.



# Which types of exercise can help improve bone strength?

- The best types of exercise for decreasing the risk of developing osteoporosis are:
- regular weight-bearing exercise (such as walking, jogging and dancing); and
- strength (resistance) training (such as lifting weights, push-ups and squats).





- Exercises such as swimming and cycling help improve cardiovascular fitness and build muscle strength, but are not as effective at preventing osteoporosis as weight-bearing exercise. So if you are already swimming or cycling regularly but not doing any other forms of exercise, you should consider adding weight-bearing and/or resistance exercise to your weekly routine. Always check with your doctor before starting a new exercise regimen.



## Weight-bearing exercise

Weight-bearing exercise is exercise that's done while you are on your feet, with gravity exerting a force. According to Osteoporosis , weight-bearing exercises that are high impact (e.g. aerobics, running and jumping) have an even more beneficial effect in improving bone strength than low-impact exercises (e.g. walking).



- **Strength (resistance) training**
- Strength (resistance) training involves lifting weights with your arms or legs. Strength training helps improve your bone health by putting strain on the bones, which helps make them stronger. As your body adapts to each new level, you will need to increase the resistance to continue to improve bone strength. There is some evidence indicating that progressing to heavier resistances is most effective in preventing the loss of, and encouraging an increase in, BMD.





- **Weight-bearing and resistance training for all**
- Since the prevention of osteoporosis is a far better strategy than trying to reverse it, all adults should undertake regular weight-bearing and/or resistance training regardless of their age. In young people this will help to increase their BMD to higher peak levels, which will then reduce the risk of it declining to osteoporotic levels later in life. Continuing with this exercise throughout your life will minimise the decline in BMD that occurs with age and further reduce the risk of osteoporosis in old age.



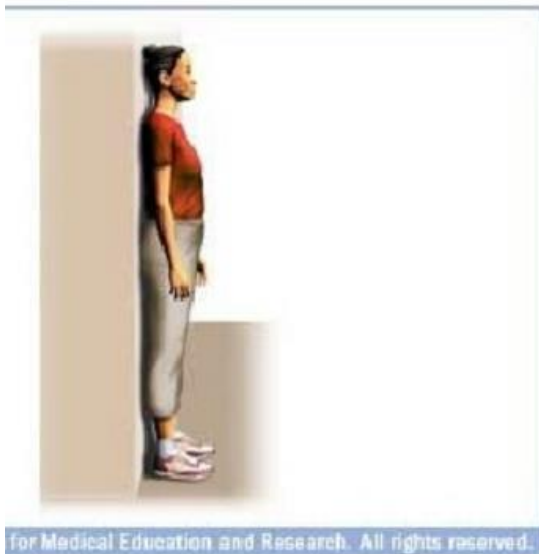
- **General precautions**
- Remember, if you are unfit or have any medical problems, you should check with your doctor before starting an exercise regimen. Almost everybody will benefit from weight-bearing and resistance exercise, but if you are unfamiliar with it, starting off with low-impact exercise and working your way up to high-impact exercise may be the best approach. If you are uncertain, seek professional advice.



## How Much Exercise Do You Need?

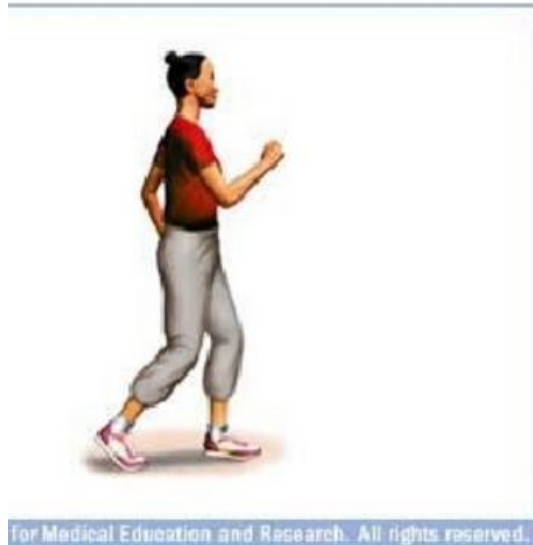
<b>Weight-bearing exercises</b>	<b>30 minutes on most days of the week.</b> Do a 30-minute session or multiple sessions spread out throughout the day. The benefits to your bones are the same.
<b>Muscle-strengthening exercises</b>	<b>Two to three days per week.</b> If you don't have much time for strengthening/resistance training, do small amounts at a time. You can do just one body part each day. For example do arms one day, legs the next and trunk the next. You can also spread these exercises out during your normal day.
<b>Balance, posture and functional exercises</b>	<b>Every day or as often as needed.</b> You may want to focus on one area more than the others. If you have fallen or lose your balance, spend time doing balance exercises. If you are getting rounded shoulders, work more on posture exercises. If you have trouble climbing stairs or getting up from the couch, do more functional exercises. You can also perform these exercises at one time or spread them during your day. Work with a physical therapist to learn the right exercises for you.

# Exercises for Osteoporosis



- **Standing posture**
- Learning to stand properly improves your seated and walking posture. To practice correct standing posture:
- Stand with your head, shoulders and buttocks against a wall, with your heels 2 to 3 inches from the wall.
- Relax your shoulders and pull in your chin. Tighten your abdomen and buttocks.
- Press your back against the wall, leaving room for your hand to fit flat behind the curve of your lower back

# Exercises for Osteoporosis

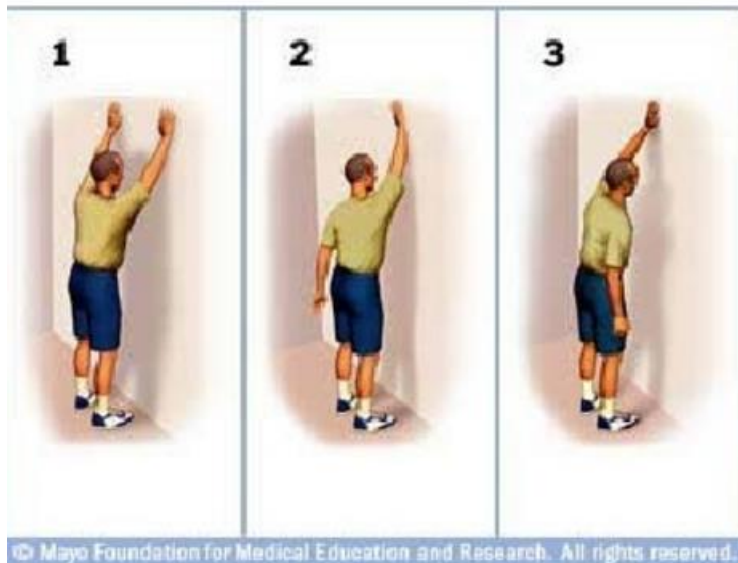


- **Walking posture**
- Walking strengthens your legs and heart and improves your balance. To maintain proper walking posture:
- Hold your head high.
- Keep your back and neck as straight as possible.
- Keep your chin parallel to the ground.
- Gently tighten your abdominal muscles.
- Let your shoulders move freely and naturally.



YouTube  
video inside.

# Exercises for Osteoporosis



- **Wall arch**
- To stretch your shoulders and calves and tone your back and abdomen:
- Stand facing the wall, arms at your sides, feet 6 inches apart and 6 inches from the wall.
- While inhaling, flatten your stomach and stretch both arms up to touch the wall (1).
- Exhale and lower both of your arms to the starting position.
- While inhaling, reach up with your right arm and stretch down with your left arm (2).
- Exhale and lower your right arm to the starting position.
- Switch arms. While inhaling, reach up with your left arm and stretch down with your right arm (3)

# Exercises for Osteoporosis

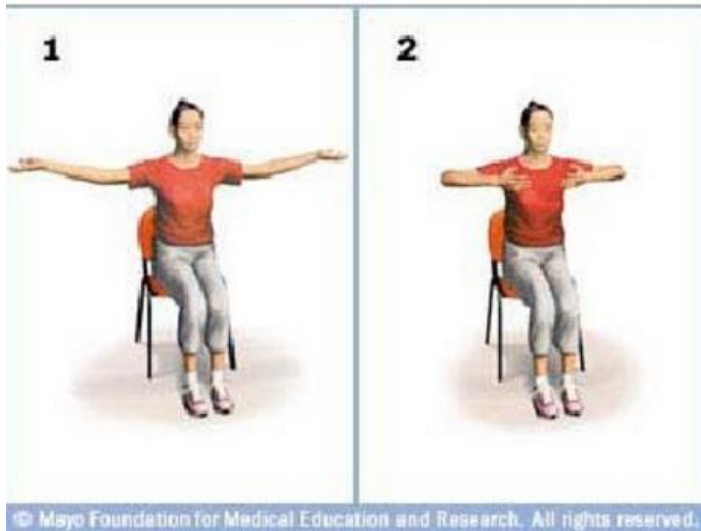


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- **Chin tuck**
- To straighten your head and shoulders:
- While seated, look straight ahead.
- Pull your chin in toward your neck, but keep looking straight ahead; don't let your head bend forward.
- Push your hands down on your thighs to help straighten your back.
- Hold this position for a few seconds. You'll feel a stretch in the back of your neck. Repeat this exercise five times.

Your **YouTube**  
video inside.

# Exercises for Osteoporosis

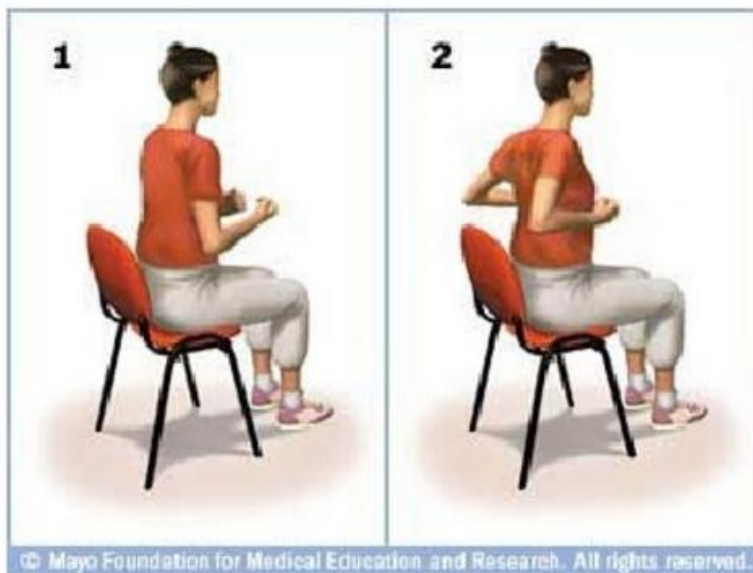


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- **Chest stretch**
- To stretch your chest and straighten your back:
- Sit with your feet flat on the floor. Keep your back erect and look straight ahead.
- Stretch your arms out to the side, keeping them level with your shoulders (1).
- Bend your arms at the elbows and bring your hands toward your chest (2).
- Repeat five to 10 times, depending on your ability.

You Tube  
video inside.

# Exercises for Osteoporosis



- **Shoulder blade squeeze**
- To stretch your chest and strengthen your upper back muscles:
- With your feet flat on the floor, sit slightly forward in a sturdy chair, keeping your back and neck straight.
- Look straight ahead, bending your arms at the elbows (1).
- Gently move your elbows and shoulder blades back as far as you can and still be comfortable (2).
- Hold the position for five seconds while breathing normally. Return your arms to the starting position. Repeat this exercise five to 10 times, depending on your ability.

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video inside.

# Exercises for Osteoporosis

1



2



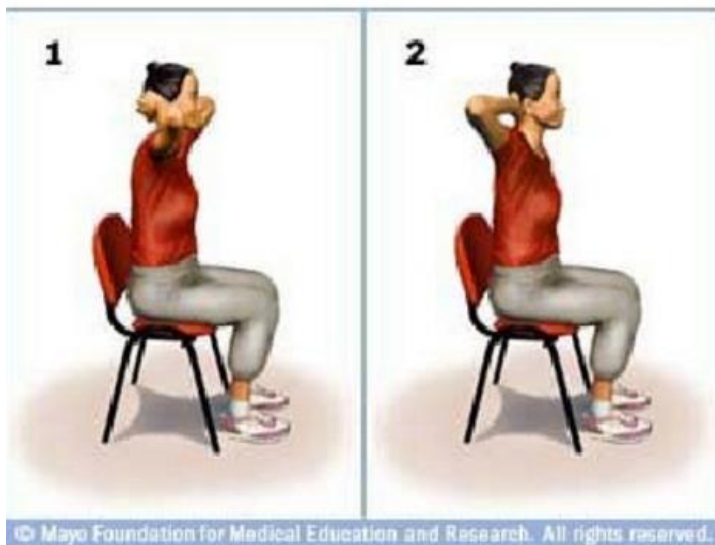
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- **Pelvic tilt**
- To strengthen your lower back and abdominal muscles:
- Lie on your back with your knees bent and your feet flat on the floor (1). Maintain a normal curve in your back; don't arch your back.
- Tighten your abdominal muscles.
- Roll your pelvis down to flatten your back against the floor (2). Avoid using your leg and buttock muscles.
- Hold the position for five seconds while breathing normally, and then relax. Repeat this exercise 10 times.



You Tube  
video inside.

# Exercises for Osteoporosis



- **Back posture exercise**
- To flatten your upper back and stretch your chest:
- Sit in a chair as shown, with your hand behind your neck (1).
- Inhale while gently moving your elbows backward (2).
- Hold the position for a few seconds, breathing normally, before returning to your starting position. Repeat five to 10 times, depending on your ability.

YouTube  
video inside.

# Exercises for Osteoporosis



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- **Sitting knee extension**
- To strengthen your thigh muscles:
- Sit with your back straight and your hands on your thighs. Tighten your abdominal muscles and look straight ahead.
- Slowly straighten one knee while lifting your heel a few inches from the floor. Don't slouch or round your back.
- Hold this position for a few seconds while breathing normally. Relax and return to the starting position. Repeat five to 10 times with each leg, depending on your ability.

YouTube  
video inside.

# Exercises for Osteoporosis

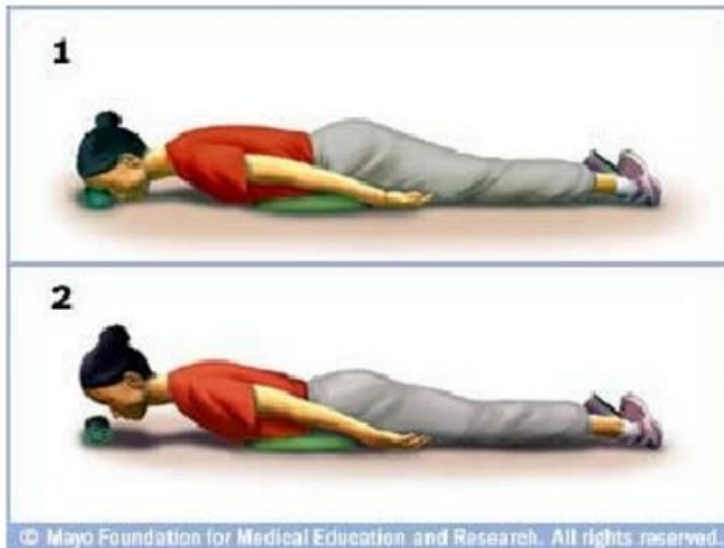


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- **Calf stretch**
- To stretch your calf muscle, your heel cord and the back of your thigh:
- Stand with your feet parallel, hip-width apart. Place your hands on the back of a chair for balance.
- Bend your knees, flatten your stomach and straighten your back and shoulders.
- Slide one foot backward, keeping it flat on the floor, until your back leg is straight.
- Lean your weight forward onto your bent front knee.
- Hold this position for a few seconds while breathing normally. Repeat five times with each leg.

You Tube  
video inside.

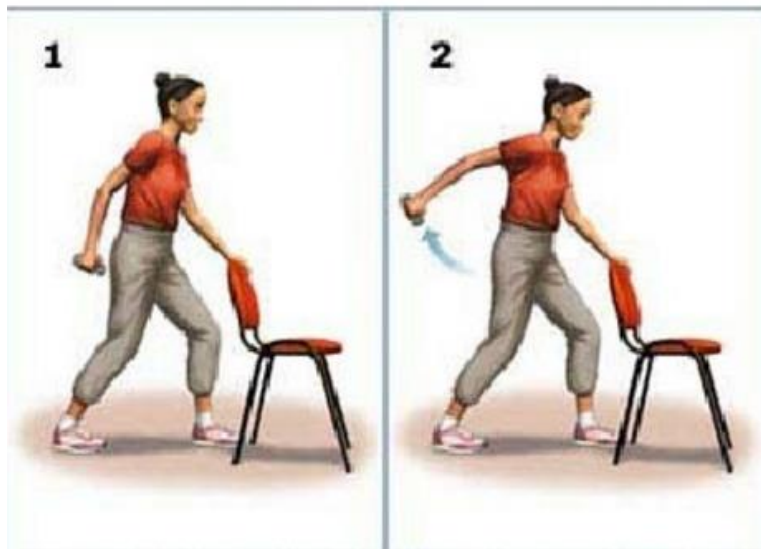
# Exercises for Osteoporosis



- **Upper back lift**
- To strengthen your back muscles:
- Lie facedown on the floor with a pillow under your abdomen and hips (1). Use a rolled towel to cushion your forehead, if you wish.
- Keep your arms at your sides as you tighten your abdominal muscles.
- Keep your head in line with your neck and torso. Focus on keeping your shoulders down — don't let them shrug up toward your ears.
- Inhale and raise your head and chest a few inches from the floor (2).
- Hold for five seconds, breathing normally, before returning to your starting position. Rest for a few seconds. Repeat five to 10 times, depending on your ability.

YouTube  
video inside.

# Exercises for Osteoporosis



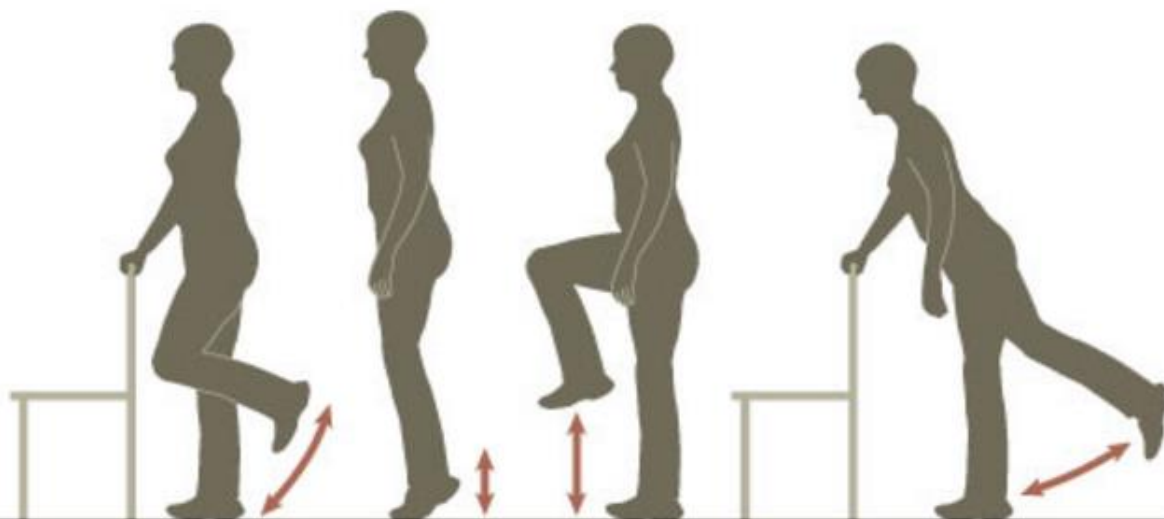
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- **Shoulder strengthening**
- To strengthen the muscle along the back of your shoulder, the muscle on the back of your upper arm (triceps) and your upper back muscles:
- Stand with one leg in front of the other, your hand on the back of a chair. Bend your front knee while holding a 1- to 2-pound weight in your opposite hand (1).
- Move the hand with the weight backward and hold for a few seconds (2).
- Return to your starting position and repeat five to 10 times.
- Perform the exercise with the weight in your other hand and with your opposite knee bent. Repeat on this side five to 10 times.
- If your doctor approves, you can gradually increase the weight, but don't exceed 5



## Exercises to Improve Your Balance

- Move slowly.
- Hold each position for one second.
- Repeat 8 to 15 times.
- Hold onto a chair with one hand for balance. Try no hands if steady, then with eyes closed.






One  
Fingertip



No Hands



Eyes Closed

# Low Back Pain Exercises



Standing hamstring stretch



Cat and camel



Pelvic tilt



Quadruped arm/leg raise



Partial curl



Extension exercise



Side plank



Gluteal stretch

- **Deciding on an exercise program for people with osteoporosis**
- Always consult with your doctor, physiotherapist or health care professional before you decide on an exercise program. Factors that need to be considered include:
  - your age
  - the severity of your osteoporosis
  - your current medications
  - your fitness and ability
  - other medical conditions such as cardiovascular or pulmonary disease, arthritis, or neurological problems
  - whether improving bone density or preventing falls is the main aim of your exercise program.
  - A combination of weight-bearing aerobic and muscle-building (resistance) exercise is best, together with specific balance exercises

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**Thanks for attention**

