

Exercise Program for the Management of Osteoporosis

Why are these exercises important?

Bone loss is a common side effect of certain types of breast cancer treatment. It can lead to lower bone density, osteoporosis, and higher risk for fracture. Specific exercises are important to maintain your bone strength. The three types of bone-healthy exercises are:

- 1) Aerobic weight-bearing
- 2) Strengthening
- 3) Balance and posture training

Perform a combination of these exercises on a regular basis to maintain your bone strength and reduce your risk for falls and fractures. In addition to keeping your bones healthy, this exercise program can help manage some treatment side effects. This program includes exercises to improve your posture, strength, balance, and flexibility.

When should I do these exercises?

This exercise program is for those who have osteoporosis. This exercise program can be done before, during, and after breast cancer treatment, **unless**:

- You have difficulty moving your arm or shoulder on the treatment side.
- You have been specifically informed by your healthcare team to stop exercising

Consult a physiotherapist before starting this exercise program, especially if you have lymphedema, metastatic cancer, chronic injury, or movement restrictions.

How should I do these exercises?

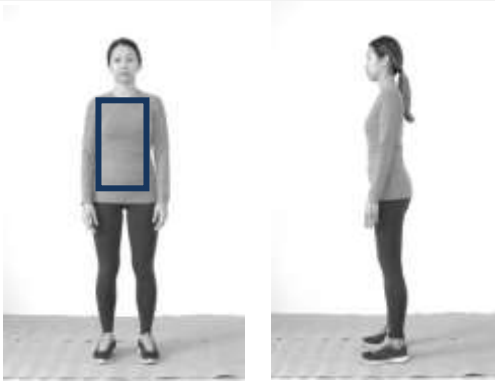
- For maximal benefit, this exercise program should be done in addition to regular aerobic weight-bearing exercise, such as brisk walking or stair climbing. Work toward doing 150 minutes of moderate intensity aerobic weight-bearing exercise each week.
- Aim to perform this exercise program two to three times a week.
- Use a lymphedema sleeve, if required.
- When you are doing these exercises, dress comfortably in loose clothing, do them slowly, and breathe deeply. Listen to your body and progress at your own pace.
- Some exercises have more advanced versions. Progress to the more advanced version when the initial version is no longer challenging.
- These exercises can be done safely at home or at your local gym. If you need help getting started, a kinesiologist is an exercise specialist who can help you.
- Talk to your care team if you have any changes or discomfort, such as pain, swelling, or dizziness when exercising.

What should I keep in mind?

- When you have osteoporosis, it is important to maintain good posture reduce fractures in your spine. You should try to limit or avoid bending forward, bending sideways, and twisting your back. A physiotherapist should be consulted to see if your other forms of physical activities/sports require modification.

POSTURE EDUCATION

1. The Box



- Imagine your torso is a box. The corners of the box are at your shoulders and hips.
- Lift breast bone slightly as if to show off a necklace/bowtie.
- Keep box intact as you go about your daily activities.

2. Hip Hinging



- Start by standing with good postural alignment.
- Place hands in the crease of your hips.
- Bend at the hips over your hands while sticking your bottom back slightly.

3. Unloaded position



- Lie flat on your back with your knees bent and arms by your side, palms face up.
- Make sure chin is pointing straight up to the ceiling.
- Relax in position.

HOLD: 5 minutes REPEAT: 2 times per day

STRENGTHENING

1. Sit to Stand



- Place feet hip-width apart, hands in crease of hips.
- Push your hips backwards and stick your bottom out.
- Slowly bend your knees and lower yourself gently into a sitting position in the middle of the chair.
- Lean body forward and push off to stand.

SETS: 2 REPETITIONS: 8 – 12

2. Wall Push Up



- Place hands on wall a little wider than shoulder-width apart and just below shoulder height.
- Bend at the elbows and stop before your forehead touches the wall.
- Go back to start position.
- Keep your spine in a straight line throughout the entire movement.

SETS: 2 REPETITIONS: 8 – 12

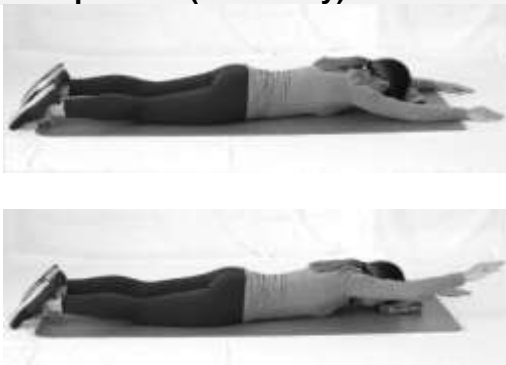
3. Bridge



- Lie with knees bent and arms placed at your sides, palms face up.
- Push lightly into the floor with the back of your shoulders.
- Squeeze your buttocks, thighs and abdominal muscles to lift your pelvis. Do not use your back.
- Lower slowly until you reach the ground.

SETS: 2 REPETITIONS: 8 – 12

4. Superman (arms only)*



- Lying down on stomach, chin is tucked in and arms are placed out in front of you.
- Gently press pelvic bones into floor and squeeze lower abdominal muscles.
- Raise one arm while keeping your core stable.
- Hold for 2-3 seconds and return to initial position.

SETS: 2 REPETITIONS: 8 – 12

5. Lift & Squeeze (Hands along sides)*



- Lying down on stomach, chin is tucked in and arms are placed along your sides, palms face up.
- Gently press pelvic bones into floor and squeeze shoulder blades together.
- Raise your breast bone and shoulders off the floor.
- Be sure to look at floor throughout exercise, do not hyperextend your neck.

SETS: 2 REPETITIONS: 8 – 12

6. Head Cradle*



- Stand with a straight back.
- Place your right hand on your right hip then place your left hand over your right hand.
- Pull the elastic up along your right side over your head while keeping your elbow bent throughout the entire movement.
- Return to start position with control.

SETS: 2 REPETITIONS: 8 – 12

7. Bow & Arrow



- Stand with a straight back and lift breast bone.
- Hold elastic in both hands and lift arms up to shoulder height.
- Keep your left arm straight and immobile.
- Pull the right arm backward by bending at the elbow and bringing your arm out to a 90° angle with your body.
- Return to start position with control.

SETS: 2 REPETITIONS: 8 – 12

8. Side Pull



- Hold elastic in both hands.
- Lift arms up to shoulder height and keep elbows straight.
- Pull elastic straight out to the side, across the chest.
- Return to start position with control.

SETS: 2 REPETITIONS: 8 – 12

9. The Overhead



- Hold elastic in both hands at hip level and shoulder-width apart.
- Keeping elbows straight and a steady tension in the elastic, bring arms overhead as far as possible.
- Keep your back completely flat on the floor during the entire movement.
- Return to initial position with control.

SETS: 2 REPETITIONS: 8 – 12

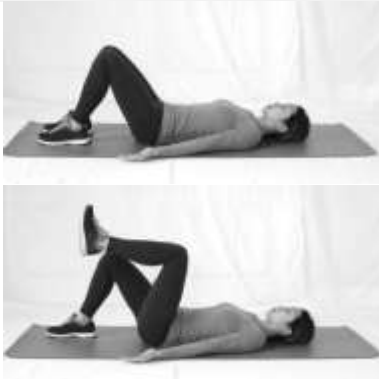
10. Arm Rotation



- Lying down on back, bend both elbows to 90° and tuck elbows into your sides.
- Pull on elastic by bringing your hand towards the ground.
- Make sure to keep elbow stuck to rib cage at all times.
- Return to initial position with control.

SETS: 2 REPETITIONS: 8 – 12

11. Knee Lift*



- Lie on your back with your knees bent, feet flat on the floor and arms at your sides.
- Tighten abdominal muscles by pulling in belly button and flattening lower back against the floor.
- Lift the leg up to 90° and lower slowly while keeping your lower back pressed into the floor.
- Repeat on the other side.

SETS: 2 REPETITIONS: 8 – 12

12. Plank (on chair)



- Place hands on chair directly under shoulders.
- Contract abdominals and lift yourself up in a straight line from head to toes.
- Do not arch your lower back.
- Hold position for required time.

SETS: 2 HOLD: _____seconds

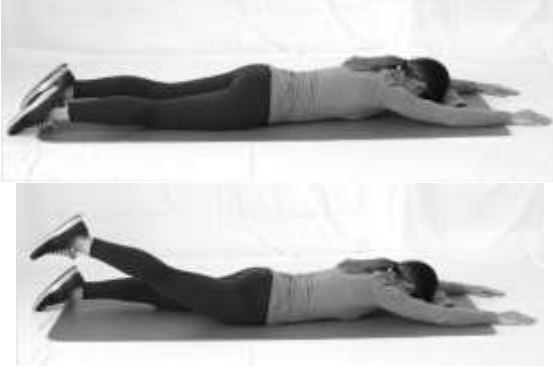
*Advanced – The Salute



- Hold elastic with both hands and place your left hand over your right hand on your left hip.
- Pull the elastic up along left side over your head with left arm.
- Return to start position with control.
- To change sides, place right hand over the left hand on your right hip.

SETS: 2 REPETITIONS: 8 – 12

*Advanced - Superman (legs only)



- Lying down on stomach, chin is tucked in and arms are placed out in front of you.
- Gently press pelvic bones into floor and squeeze lower abdominal muscles.
- Raise one leg while keeping your core stable.
- Hold for 2-3 seconds and return to initial position.

SETS: 2 REPETITIONS: 8 – 12

*Advanced - Superman (arm and leg)



- Lying down on stomach, chin is tucked in and arms are placed out in front of you.
- Gently press pelvic bones into floor and squeeze lower abdominal muscles.
- Raise opposite arm and leg while keeping your core stable.
- Hold for 2-3 seconds and return to initial position.

SETS: 2 REPETITIONS: 8 – 12

*Advanced – Lift & Squeeze (hands in back)



- Lying down on stomach, chin is tucked in and arms are placed in your lower back, palms face up.
- Gently press pelvic bones into floor and squeeze shoulder blades together.
- Raise your breast bone and shoulders off the floor.
- Be sure to look at floor throughout exercise, do not hyperextend your neck.

SETS: 2 REPETITIONS: 8 – 12

***Advanced – Lift & Squeeze (arms in a “T”)**



- Lying down on stomach, chin is tucked in and arms are placed straight out to the sides at shoulder height, palms face down.
- Gently press pelvic bones into floor and squeeze shoulder blades together.
- Raise your breast bone and shoulders off the floor.
- Be sure to look at floor throughout exercise, do not hyperextend your neck.

SETS: 2 REPETITIONS: 8 – 12

***Advanced – Lift & Squeeze (arms in a “W”)**



- Lying down on stomach, chin is tucked in and arms are placed out to the sides at shoulder height, elbows bent to 90°, palms face down.
- Gently press pelvic bones into floor and squeeze shoulder blades together.
- Raise your breast bone and shoulders off the floor.
- Be sure to look at floor throughout exercise, do not hyperextend your neck.

SETS: 2 REPETITIONS: 8 – 12

***Advanced – Lift & Squeeze (arms out in front)**



- Lying down on stomach, chin is tucked in and arms are placed straight out in front of you, palms face down.
- Gently press pelvic bones into floor.
- Raise your breast bone and shoulders off the floor.
- Be sure to look at floor throughout exercise, do not hyperextend your neck.

SETS: 2 REPETITIONS: 8 – 12

***Advanced – Beginner Deadbug**



- Lie down on back with both feet flat on the floor and one arm raised straight above your head.
- Flatten your lower back on the floor by pulling your navel slightly in.
- Raise arm over your head as you lift the opposite leg up to 90°, then lower your arm and leg without losing the abdominal contraction.
- Repeat and switch foot.

SETS: 2 REPETITIONS: 8 – 12

BALANCE AND AGILITY

1. Tandem Stance



- Stand beside a steady chair or wall.
- Place heel of one foot in front of toes of the other foot.
- Hold position for 20 seconds.
- To increase difficulty, try with eyes closed

2. Single Leg Stance



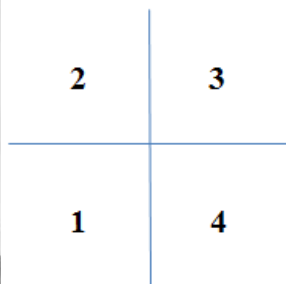
- Stand beside a steady chair or wall.
- Transfer weight to one foot and lift other foot off the ground.
- Hold position for 20 seconds.
- To increase difficulty, try with eyes closed.

3. Tandem Walk



- Make sure to perform this exercise near a wall or counter top for increased safety.
- Walk forwards by placing one foot directly in front of the other, heel to toe.
- To increase difficulty, try to walk backwards.

4. Four Square*



- Start in square 1, facing square 2.
- Step into each square as fast as possible following this sequence:
1-2-3-4-1-4-3-2-1
- Be sure that both feet must step into each box.

SETS: 2 – 3 REPETITIONS: 3 – 5

*Advanced - Front Step Over



- Place elastic on floor.
- Stand facing elastic and take a big step forward to step over the elastic.
- Continue to face forward while you take a big step backwards to return to initial position.

SETS: 2 – 3 REPETITIONS: 3 – 5

*Advanced - Side Step Over



- Place elastic on floor.
- Stand with the elastic at your side and take a big step sideways to step over the elastic.
- Continue to face forward while you take a big step sideways to return to initial position.

SETS: 2 – 3 REPETITIONS: 3 – 5

*Advanced - Karaoke Step



- Make sure to perform this exercise near a wall or counter top for increased safety.
- Walk sideways by crossing one foot directly in front of the other.
- Repeat in opposite direction by crossing the other foot in front.

STRETCHING

1. Hamstring*



- Sit at the front edge of the chair with back straight.
- Place leg straight out in front of you with your heel on the ground and toes pointing up.
- Lean forward to feel pull behind leg while keeping knee straight.

SETS: 2 HOLD: 30 seconds

2. Hip



- Sit at the front edge of the chair with back straight.
- Place outside of ankle on knee.
- Lean forward to feel pull in hip.

SETS: 2 HOLD: 30 seconds

3. Quadriceps



- Stand close to a chair for support with back straight.
- Grab top of ankle and bring heel to bottom until you feel a gentle stretch in front of the thigh.

SETS: 2 HOLD: 30 seconds

4. Chest



- Stand straight in front of the wall.
- Place your forearm against the wall with elbow bent to 90°. Your elbow should be at shoulder height.
- Slowly rotate your body away from the wall until you feel a gentle pull in front of the shoulder and chest.

SETS: 2 HOLD: 30 seconds

5. Triceps



- Stand straight in front of the wall.
- Place your forearm against the wall with elbow bent to 90°. Your elbow should be at shoulder height.
- Slowly rotate your body away from the wall until you feel a gentle pull in front of the shoulder and chest.

SETS: 2 HOLD: 30 seconds

6. Chest (hands behind back)



- Stand up straight with your shoulders back and back straight.
- Place both hands behind your back and interlock your fingers.
- Slowly raise your arms until you feel a gentle stretch across your chest and in front of your shoulders.

SETS: 2 HOLD: 30 seconds

This information should not be considered as medical advice. It is not to be used in place of a visit with a doctor, nurse, physiotherapist, or other healthcare professional. If you have questions about your individual medical situation, please consult with your healthcare professional.