

Strengthening and Resistance Exercises

Starter Activity

- Please, complete the **Get Active Questionnaire** handout.
- We will return to this questionnaire at the end of the workshop.

I will be able to identify what I am doing well and what I can improve on in terms of exercise for bone health.



Agenda

1. Exercise Guidelines
2. Lower Body Strength Exercise Routine
3. Upper Body and Upper Back Strength Exercise Routine
4. SMART Goal Setting



Learning Objectives

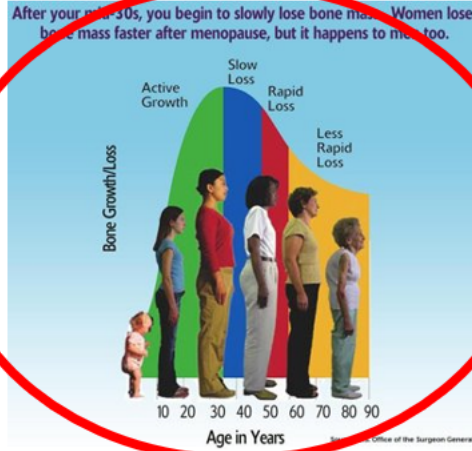
I will be able to...

- Assess my personal activity level in relation to both the Canadian Physical Activity Guidelines and the Osteoporosis Canada recommendations for bone health
- Identify what I am doing well and what I can improve on in terms of exercise for bone health
- Briefly explain the significance of strength exercises in managing my bone health
- Perform strengthening exercises safely and correctly
- Create a personal exercise routine for bone health by setting a SMART goal for strength training



How to navigate the slides

Bone Growth Cycle



bones are living tissue and are constantly changing

- This process is called "modelling"

I will be able to briefly describe the bone growth cycle

slide title

slide image

key information

learning objective



Workshop Guide

As we progress through this workshop, please ensure to complete the appropriate sections of the **Workshop Guide** provided for you.

This will be your quick reference following this workshop to aid you on your bone health journey.



Exercise Guidelines

Canadian Physical Activity Guidelines

To achieve **health benefits**, adults aged 18-64 should:

- accumulate at least 150 minutes of moderate-to-vigorous intensity aerobic physical activity per week, in bouts of 10 minutes or more
- perform muscle and bone strengthening activities using major muscle groups, at least 2 days per week

65 years and older:

- as above + physical activities to enhance balance and prevent falls

I will be able to assess my personal activity level in relation to both the Canadian Physical Activity Guidelines and the Osteoporosis Canada recommendations for bone health.



Exercise for Bone Health

Osteoporosis Canada recommends:

- at least 150 minutes of moderate-to-vigorous intensity aerobic physical activity per week, in bouts of 10 minutes or more - **weight-bearing** is better
- muscle and bone strengthening activities using major muscle groups, at least 2 days per week
- physical activities to enhance balance and prevent falls daily
- practice spine sparing strategies and good posture daily

I will be able to assess my personal activity level in relation to both the Canadian Physical Activity Guidelines and the Osteoporosis Canada recommendations for bone health.



What is Strength Training?

With the person beside you, discuss what strength training means to you and what your experience has been with strength training.

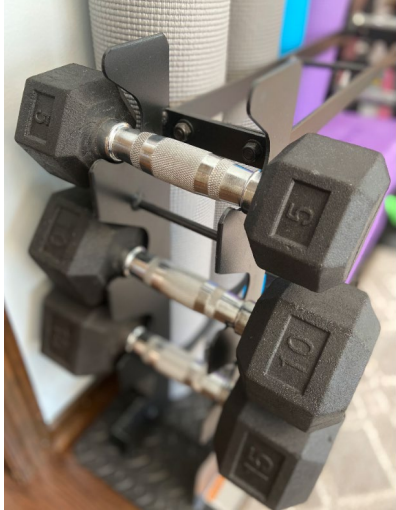
Record your ideas in your Workshop Guide.

I will be able to briefly explain the significance of strength exercises in managing my bone health.



What is Strength Training?

Movements performed **against resistance**. You can use:



- weights
- gym equipment
- exercise bands
- lifting your body against gravity

I will be able to briefly explain the significance of strength exercises in managing my bone health.



Why Should I Strength Train?

Strength training will

- build your muscle
- make your muscles stronger
- prevent falls
- protect the spine
- slow the rate of bone loss

I will be able to briefly explain the significance of strength exercises in managing my bone health.



General Rules of Strength Training

Strength exercises should

- target
 - shoulders and arms
 - upper and lower legs
 - upper back and chest
- be performed **at least** 2 days per week
- be challenging so that you can only do **8 to 12 repetitions** in a row
- make your muscles feel tired

I will be able to perform strengthening exercises safely and correctly.



Before You Start Exercising

For almost everyone the benefits of exercise far outweigh the risks!

- complete a **Get Active Questionnaire** before you start a new exercise program and...
- if you have any questions or concerns check with your doctor, a physiotherapist, a qualified exercise professional (Canadian Society for Exercise Physiology) or a BoneFit™ trained professional

I will be able to perform strengthening exercises safely and correctly.



Osteoporosis and Spine Fracture

If you have had a spine fracture:

- focus on your posture and technique/alignment, rather than how hard you are exercising
- speak with a physiotherapist, a qualified exercise professional (Canadian Society for Exercise Physiology) or a BoneFit™ trained professional
- a tailored or supervised program is recommended

I will be able to perform strengthening exercises safely and correctly.



When Exercising

Remember to...

- wear comfortable, supportive footwear
- be aware that muscle soreness after exercise is normal
- use a firm, stable chair for support
- learn to perform the exercise with proper technique
- control the speed of your movement

I will be able to perform strengthening exercises safely and correctly.



Lower Body Strength Routine

Squat

Repeat up to 15 times



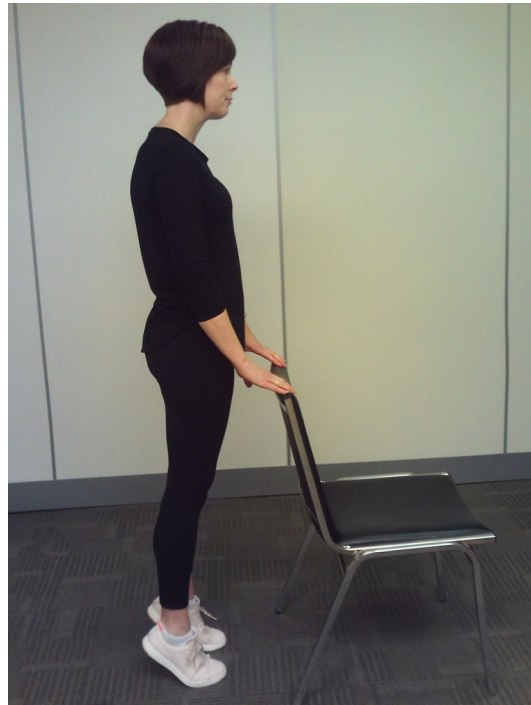
- Begin in a standing upright position in front of a chair.
- Lower yourself into a squatting position, hinging at your hips and knees, until you lightly touch the chair.
- Return to starting position and repeat.

I will be able to perform strengthening exercises safely and correctly.



Heel Raise

Repeat on each leg up to 15 times



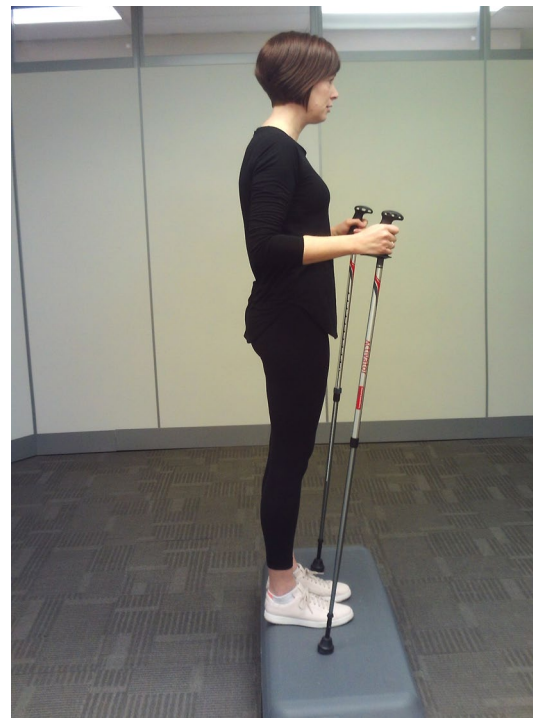
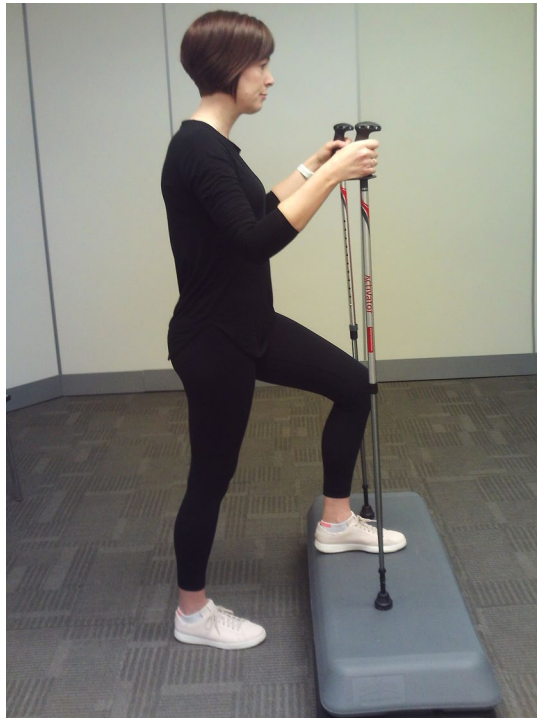
- Begin in standing holding onto a chair for support
- Slowly raise your heels off the ground
- Lower back to the floor and repeat

I will be able to perform strengthening exercises safely and correctly.



Step Up

Repeat on each leg up to 15 times



- Begin in an upright standing position with a step in front of you, holding a chair or railing for support
- Step forward onto the step with one foot, then step up with your other foot
- Step back to the ground in reverse order and repeat

I will be able to perform strengthening exercises safely and correctly.



Upper Body and Upper Back Strength Routine

Wall Push Ups

Repeat up to 15 times



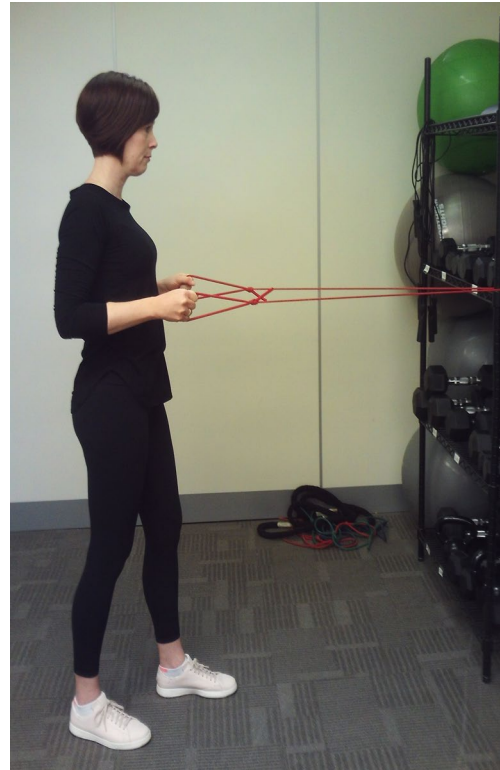
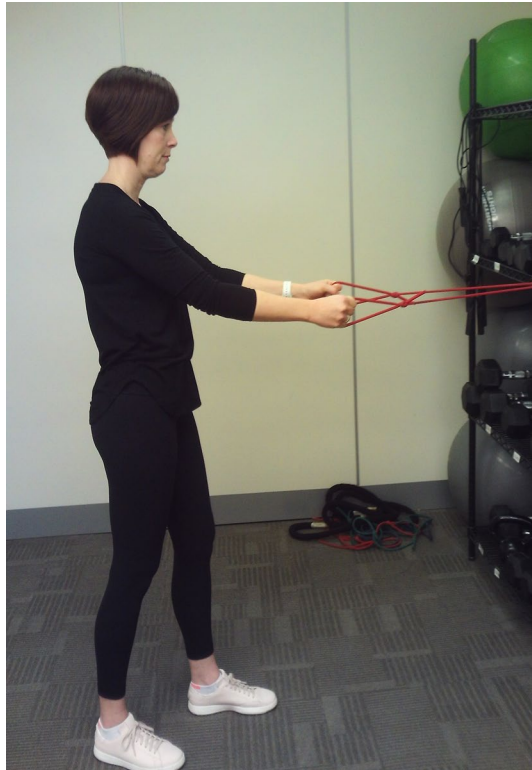
- Begin in an upright standing position with your arms straight and hands resting on a wall at/just below shoulder height
- Bend your elbows, leaning in towards the wall, then push back into the starting position and repeat

I will be able to perform strengthening exercises safely and correctly.



Standing Row

Repeat up to 15 times



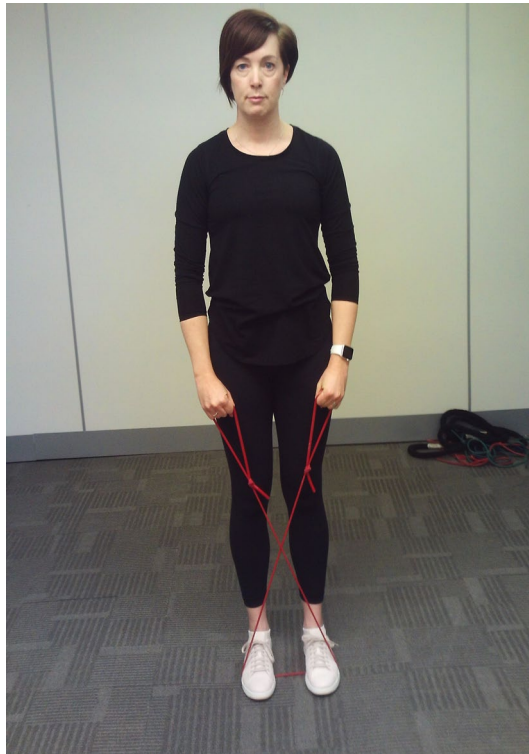
- Begin in a standing upright position holding both ends of a resistance band that is anchored in front of you at chest height
- Pull back against the resistance, bending your elbows, squeeze your shoulder blades
- Slowly return to the starting position and repeat

I will be able to perform strengthening exercises safely and correctly.



Upright Row

Repeat up to 15 times



- Begin standing in an upright position holding both ends of a resistance band that is looped under your feet
- Pull up on the band, keeping your hands close to your body, bending your elbows until your hands are at chest height
- Lower hands back to starting position and repeat

I will be able to perform strengthening exercises safely and correctly.



SMART Goal Setting

Planning and Goal Setting

In your **Strengthening and Resistance - Workshop Guide**, consider the following:

This week...

- decide how you want to continue with safe movement and bone health exercise
- identify how you will take action to benefit from the information you have learned
- identify goals that will help you stay motivated

I will be able to create a personal exercise routine for bone health by setting a SMART goal for strength training.



How do I set goals?

Setting **SMART** goals helps you make clear, successful changes

Specific

How will I do it? What, how much, when, how often?

Measurable

How will I measure it? What will it look like to achieve my goal?

Achievable

Can I do it? Can I keep doing it? Start small and build momentum.

Realistic

Is it within reach? Does my goal fit into your everyday life?

Time-oriented

When will I meet my goal?

I will be able to create a personal exercise routine for bone health by setting a SMART goal for strength training.



Hints to Stay Motivated

- schedule exercise into your week
- use the words “I will”, not “ I will try...”
- choose a goal that is meaningful to you
- big goals need to be broken down into smaller steps
 - but always keep your big goals in mind
- reach out for support - recruit a “cheer team”

I will be able to create a personal exercise routine for bone health by setting a SMART goal for strength training.



Cool-down Activity

- Review your **Get Active Questionnaire** from the Starter Activity. In your **Workshop Guide**, consider
 - what changes do you need to make to your daily routine?
 - how can you make these changes?
 - which areas should you focus on first?
- Create a SMART goal for improving your exercise routine that you can work towards over the next week

I will be able to identify what I am doing well and what I can improve on in terms of exercise for bone health.



Additional Resources

Osteoporosis Canada

- osteoporosis.ca

Dr. David Hanley Osteoporosis Centre

- osteoporosiscalgary.com

National Osteoporosis Foundation

- nof.org



Bibliography

Osteoporosis Canada. (2018). *Too Fit to Fracture: Managing Osteoporosis through Exercise*.

Alberta Health Services. (2013). *Osteoporosis/Bone Health Education Program*. (pp. 51).

Alberta Health Services. (2012). *Better Bones 4 Life: Learning to Exercise and Move with Osteopenia or Osteoporosis*. (pp. 36-45)

Osteoporosis Australia. (2011). *Australia Strengthening for Bone Health*.

