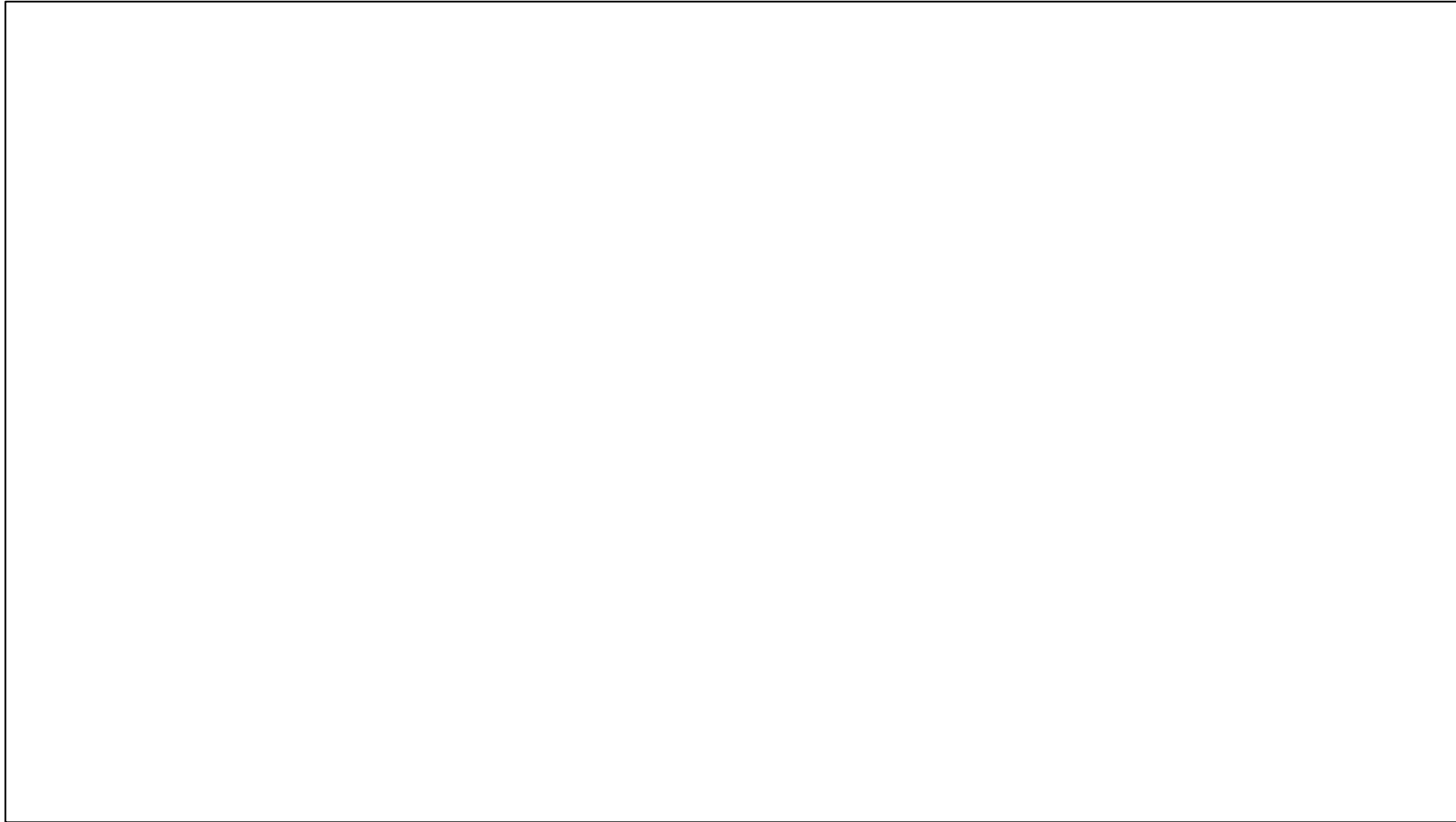


BONE HEALTH

After A Fracture



STARTER ACTIVITY



Video
courtesy of
Osteoporosis
Canada

Agenda

1. Low Trauma Fractures
2. After the Fracture
3. The Day-to-Day After a Spine Fracture
4. Hip Movement Precautions

LEARNING OBJECTIVES

I will be able to...

- Identify the 3 stages of pain following a fracture
- Identify the 4 most common sites for broken bones due to osteoporosis
- Identify and demonstrate a minimum of 3 methods for maintaining a neutral spine independently, focusing on safe movements and good posture

LEARNING OBJECTIVES (CONTINUED)

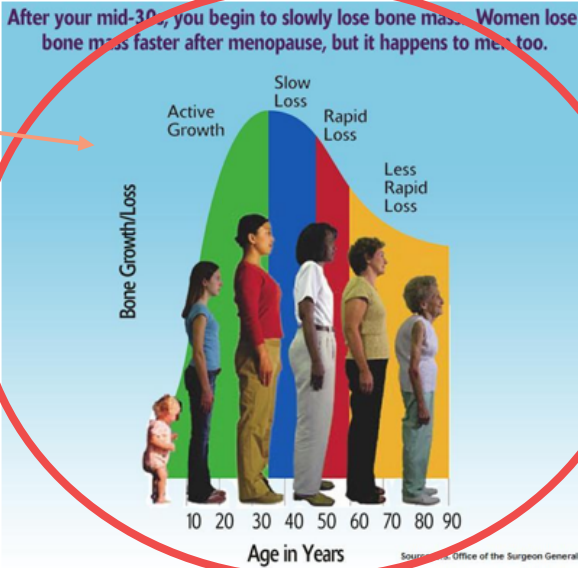
I will be able to...

- Identify 3 movement precautions for your hip following a hip fracture
- Identify 5 movement precautions for your hip following a partial or total hip replacement.

HOW TO NAVIGATE THE SLIDES

BONE GROWTH CYCLE

After your mid-30s, you begin to slowly lose bone mass. Women lose bone mass faster after menopause, but it happens to men, too.



- 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.

SECTION 1

Fragility Fractures

WHAT IS A FRAGILITY FRACTURE

- A fracture caused by an injury that would be not enough to fracture normal bone
 - a fracture with minimal to no physical damage, such as a fall from a standing height or less

SECTION 2

After the Fracture

THREE STAGES OF PAIN FROM A FRACTURE

1. Acute Pain

2. Sub-Acute Pain

3. Chronic Pain

I will be able to identify the 3 stages of pain following a fracture.

ACUTE PAIN

- occurs immediately or soon after a fracture
- medication to reduce this type of pain is often prescribed at this stage
- it will gradually decrease over time

I will be able to identify the 3 stages of pain following a fracture.

ALLOWING A BROKEN BONE TO HEAL

- it is important that you follow the instructions you are given by your doctor in terms of rest and movement
- a broken bone and surrounding tissue damage need a minimum of 6 to 12 weeks to heal
 - osteoporotic bones take longer to heal

I will be able to identify the 3 stages of pain following a fracture.

SUB-ACUTE PAIN

- in the weeks after your fracture, some pain may continue
 - this is mainly caused by the soft tissue around the injury to stiffen and the muscles to weaken
 - in addition, some inflammation may be present, making movement difficult
- physical therapy is often recommended
- medication may also be used to help control pain or inflammation

I will be able to identify the 3 stages of pain following a fracture.

CHRONIC PAIN

- for some people, pain can persist after the fracture and soft tissues were expected to fully heal
- this is managed on an individual basis
 - this may include physical therapy, exercises or medication
- it is important to talk to your healthcare provider if your pain persists

I will be able to identify the 3 stages of pain following a fracture.

FOUR MOST COMMON BROKEN BONES

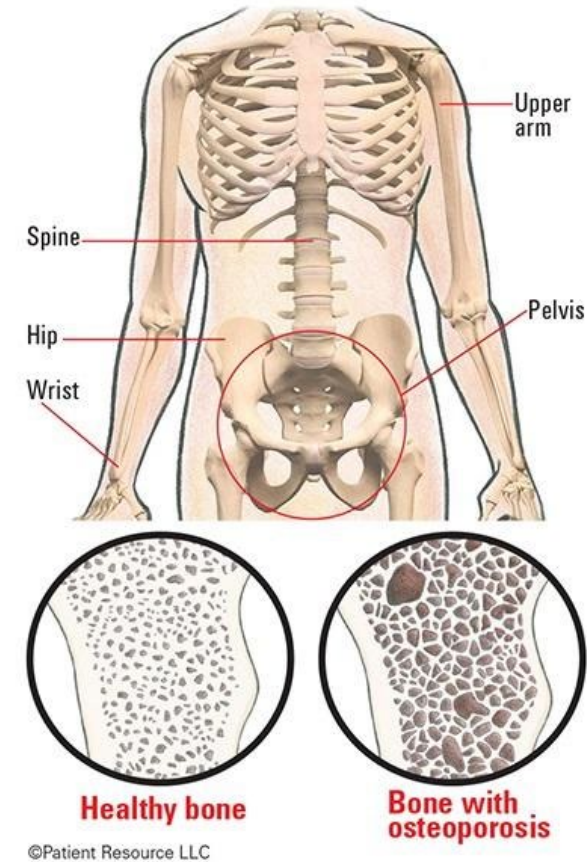
- What are the four most common sites for broken bones due to osteoporosis?

I will be able to identify the 4 most common sites for broken bones due to osteoporosis.

FOUR MOST COMMON BROKEN BONES

- the 4 most common sites for broken bones due to osteoporosis
 - the wrist
 - the shoulder
 - the hip
 - the spine (vertebrae)

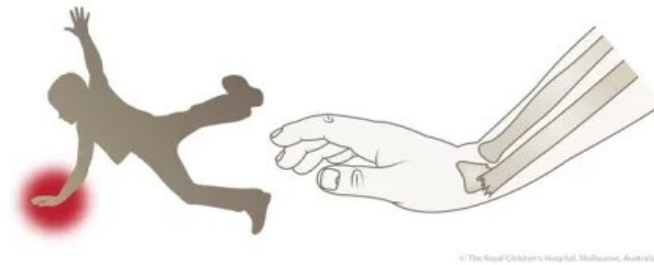
COMMON SITES OF OSTEOPOROSIS



I will be able to identify the 4 most common sites for broken bones due to osteoporosis.

WRIST FRACTURES

- may occur when someone falls with their arm outstretched to break the fall
 - causes the forearm bones near the wrist to break



- these fractures cause immediate and severe pain
- in most cases, a cast or splint are used to immobilize the bone while it heals, sometimes surgery is required

I will be able to identify the 4 most common sites for broken bones due to osteoporosis.

SHOULDER FRACTURES

- may occur when someone falls with their arm outstretched to break the fall
 - causes the upper arm bone near the shoulder to break
 - occurs more commonly in those with slower reaction time (which happens as we age)
- these fractures cause immediate and severe pain
- in most cases, a cast, splint or sling are used to immobilize the bone while it heals, sometimes surgery is required

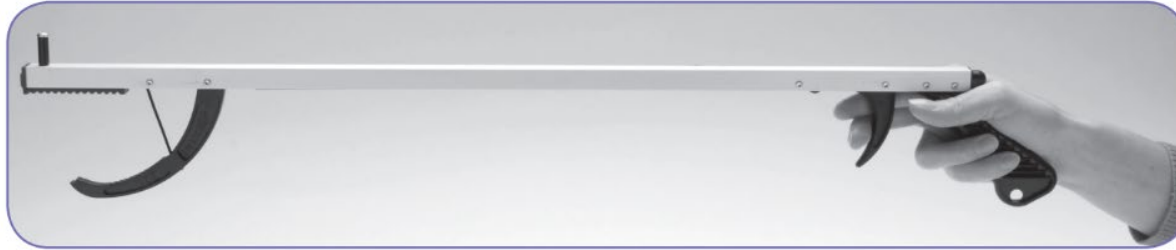
I will be able to identify the 4 most common sites for broken bones due to osteoporosis.

HIP FRACTURES

- usually the result of a fall and occurs most commonly in people in their late 70s or 80s
 - if you have had a broken hip, you are at a high risk for a future fracture, including another broken hip
- a broken hip requires hospitalization and surgery
- pain medication is often required when recovering from the surgery
- assistive devices may also be recommended

I will be able to identify the 4 most common sites for broken bones due to osteoporosis.

EXAMPLES OF ASSISTIVE DEVICES



Long-handled reacher



Long-handled sponge



Raised toilet seat



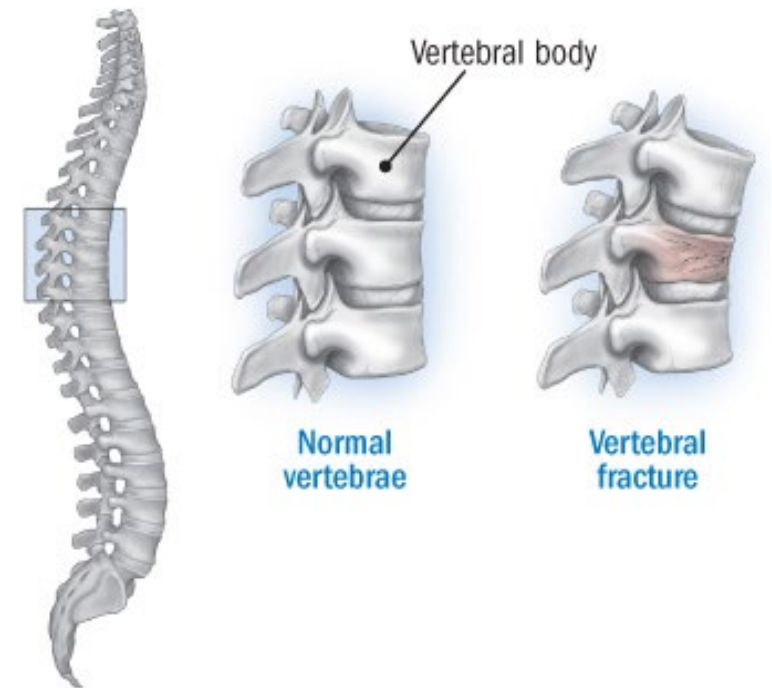
Shower chair



Sock aid

SPINE FRACTURES

- broken bones in the spine are referred to as vertebral fractures or compression fractures
 - imagine each bone in your spine as a square block
 - when the bone breaks, it is like the “box” becomes squashed or compressed or flattened
- one of the most common sites of broken bones as a result of osteoporosis



I will be able to identify the 4 most common sites for broken bones due to osteoporosis.

SPINE FRACTURES

- these fractures can happen very suddenly
 - as a result of a fall or something minor like sneezing, coughing, reaching, lifting or carrying
- some fractures do cause pain which can vary from mild to excruciating back pain
- two-thirds of spine fractures occur without pain and are only discovered either
 - on an x-ray for another purpose
 - because a healthcare provider thinks you might have lost height

I will be able to identify the 4 most common sites for broken bones due to osteoporosis.

SECTION 3

The Day-to-Day After a Spine Fracture

WHAT IS A NEUTRAL SPINE?

- Having proper posture can be identified when your ear, shoulder and hip are in alignment
- This alignment is called a neutral spine
 - it is the strongest and safest position for the spine

In your **Workshop Guide**, write down a brief description of a neutral spine that will be easy for you to remember.

I will be able to identify and demonstrate a minimum of 3 methods for maintaining a neutral spine independently, focusing on safe movements and good posture.



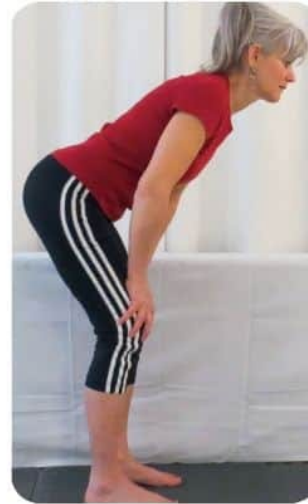
BENDING WITH A NEUTRAL SPINE

- There are many daily activities that require us to bend over or lean forward - such as brushing our teeth or washing our face
- A helpful movement to know is called the hip hinge, which significantly reduces the strain on the spine

I will be able to identify and demonstrate a minimum of 3 methods for maintaining a neutral spine independently, focusing on safe movements and good posture.

THE HIP HINGE

- Bend your knees slightly while keeping your back straight from hip to shoulder
- Stick out your tailbone behind you to bend forward from the hips



Hip hinge



Hip hinge training,
correct neutral spine



Hip hinge not correct, spine
is rounded, not in good
neutral position

COURTESY SHARRON STEEVES, PHYSIO FITNESS

I will be able to identify and demonstrate a minimum of 3 methods for maintaining a neutral spine independently, focusing on safe movements and good posture.

STANDING AND SITTING

- Standing and walking puts less strain on the spine than sitting

When standing...

- maintain your spine in the neutral position
- keep your feet pointed straight with your knees lined up over your second toe

I will be able to identify and demonstrate a minimum of 3 methods for maintaining a neutral spine independently, focusing on safe movements and good posture.

STANDING AND SITTING

When sitting...

- maintain your spine in the neutral position
- use a rolled towel or pillow to support your lower back
- keep your head, hips and back in alignment
- keep your hips higher than your knees - perch position
- have your feet rest flat on the floor
 - if they do not reach the floor, use a small footstool
- if at a desk, prop up what you are working on so it slants towards you

I will be able to identify and demonstrate a minimum of 3 methods for maintaining a neutral spine independently, focusing on safe movements and good posture.



MOVING BETWEEN STANDING AND SITTING



Video courtesy
of Osteoporosis
Canada

SECTION 4

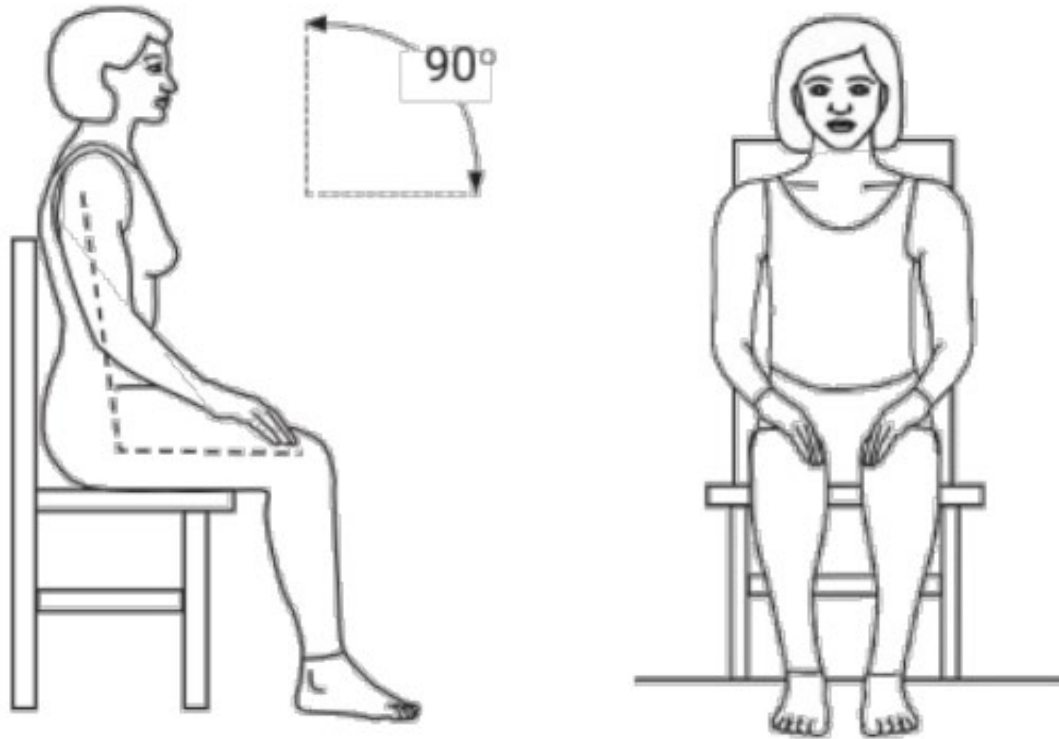
Hip Movement Precautions

HIP MOVEMENT PRECAUTIONS

- After a hip fracture, your surgeon, nurse or therapist will let you know how much weight you can put on your repaired hip
 - known as your weight bearing status
- Depending on what surgery you had, you may have some movement precautions, such as
 - do not bend your hip more than 90 degrees
 - do not twist your body
 - do not cross your legs or ankles

I will be able to identify 3 movement precautions for your hip following a hip fracture.

HIP MOVEMENT PRECAUTIONS



- when sitting in a chair
 - sit with a neutral spine
 - keep your legs uncrossed

I will be able to identify 3 movement precautions for your hip following a hip fracture.

PARTIAL OR TOTAL HIP REPLACEMENT

- If you have had a partial or total hip replacement, do not do any of the following for at least 3 months after surgery



- do not twist your body



- do not bend your hip more than 90 degree
- do not bring your knee higher than your hip
- do not reach forward towards your feet
- do not reach for objects on the floor

I will be able to identify 5 movement precautions for your hip following a partial or total hip replacement.

WHAT DOES THIS MEAN TO YOU?

With the person beside you, discuss what these movement precautions mean to you and your daily activity.

- Are these precautions that you are already taking?
- How will these precautions affect your routine?

Record your ideas in your **Workshop Guide**.

I will be able to identify 5 movement precautions for your hip following a partial or total hip replacement.

COOL-DOWN ACTIVITY

Complete the Cool-down Activity in your **After A Fracture - Workshop Guide** by identifying:

- 3 new facts that you learned in this workshop
- 2 topics you want to learn more about

ADDITIONAL RESOURCES

Osteoporosis Canada

- osteoporosis.ca

Dr. David Hanley Osteoporosis Centre

- osteoporosiscalgary.com

National Osteoporosis Foundation

- nof.org

SPONSORS



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Osteoporosis Canada. (2013). *After the Fracture: Information about Pain and Practical Tips for Movement*.

My Health Alberta. (2018). Your Guide After a Hip Fracture: Hip Movement Precautions. Retrieved from <https://myhealth.alberta.ca/Alberta/Pages/hip-fracture-movement-precautions.aspx>.

Alberta Health Services. (2013). *Osteoporosis/Bone Health Education Program*. (pp. 55-58).