



IIHO

INSTITUTE FOR IMPROVED
HEALTH OUTCOMES

Data-Driven. People-Led. Outcome-Focused.

BONE HEALTH

Medications that Decrease Bone Health

STARTER ACTIVITY

- Please, find the “Medications that Decrease Bone Health” Quiz on the first page of your **Medications that Decrease Bone Health - Workshop Guide**
- Complete the LEFT SIDE of the chart indicating how familiar you are with the topics that will be discussed today
- We will return to this quiz at the end of the workshop

Agenda

1. Corticosteroids
2. Anti-Seizure Medication
3. Proton Pump Inhibitors

LEARNING OBJECTIVES

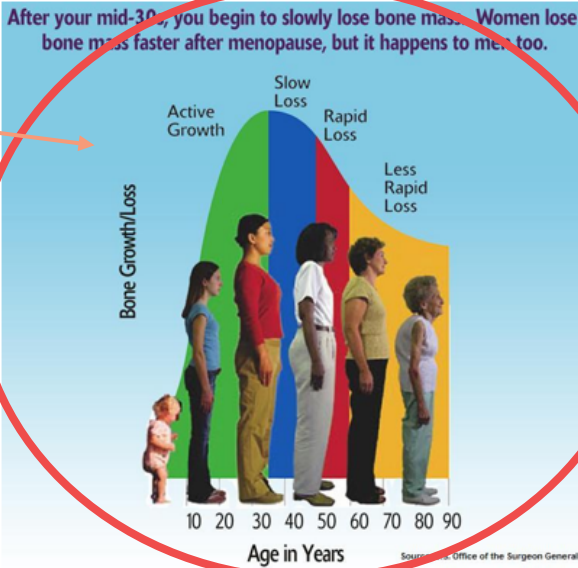
I will be able to...

- Briefly describe how each medication or therapy works
- Describe how these medications are taken
- Identify common side effects for each medication or therapy
- Identify medications that increase my risk of having a fracture

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

Corticosteroids

WHAT ARE CORTICOSTEROIDS?

- These are also called steroid medications, such as prednisone or cortisone
- Corticosteroids are usually taken orally or with an inhaler
 - are also available as solutions, creams, ointments and injections
- Used to treat many conditions and diseases, such as:
 - asthma
 - rheumatoid arthritis
 - lupus
 - inflammatory bowel disease

I will be able to briefly describe how each medication or therapy works.
I will be able to describe how these medications are taken.

WHAT ARE CORTICOSTEROIDS?

- Your healthcare and pharmacist will give you exact instructions for taking a corticosteroid
 - Each disease and situation might be unique so the prescription is often tailored for each patient
- A short course is usually between 1 and 2 weeks
- A longer course (greater than 3 weeks) eventually requires a slow reduction in your dose under the supervision of your doctor

I will be able to briefly describe how each medication or therapy works.
I will be able to describe how these medications are taken.

ARE THERE ANY SIDE-EFFECTS?

- Corticosteroids are prescribed when the benefits outweigh the side-effects
 - always read the information leaflet that comes with your medication and discuss your concerns with the pharmacist to ensure you understand the potential side-effects

I will be able to identify common side effects for each medication or therapy.
I will be able to identify medications that increase my risk of having a fracture.

ARE THERE ANY SIDE-EFFECTS?

- Some common side-effects include:
 - weight gain
 - increased chance of infection
 - increase in blood pressure
 - high blood sugar
 - muscle weakness
 - mood and behavioural changes
 - thinning of bones (osteoporosis)

I will be able to identify common side effects for each medication or therapy.
I will be able to identify medications that increase my risk of having a fracture.

HOW DO CORTICOSTEROIDS AFFECT MY BONES?

- Corticosteroids have an effect how our bones respond to calcium and vitamin D
 - this can lead to bone loss
 - when used in high doses, bone loss can happen rapidly
- Long-term use (3 or more months) of corticosteroids are more commonly associated with bone loss

I will be able to identify common side effects for each medication or therapy.
I will be able to identify medications that increase my risk of having a fracture.

SECTION 2

Anti-Seizure Medication

WHAT ARE ANTI-SEIZURE MEDICATIONS?

- Anti-seizure medications are used to prevent seizures and can be used to treat a range of different types of seizures
 - medications include carbamazepine or phenytoin
- To be effective, a constant level of the prescribed medication must be in the blood
 - dosage is dependent on the type of seizure, frequency and other factors (e.g. other medications you take, how old you are, how large you are)

I will be able to briefly describe how each medication or therapy works.
I will be able to describe how these medications are taken.

ARE THERE ANY SIDE-EFFECTS?

- Common side effects include:
 - drowsiness
 - dizziness
 - lethargy
 - unsteadiness
 - confusion
 - alteration of behaviour
 - tremors
 - sleep disturbances

I will be able to identify common side effects for each medication or therapy.
I will be able to identify medications that increase my risk of having a fracture.

DO ANTI-SEIZURE MEDICATIONS AFFECT MY BONES?

- Some anti-seizure medications have been associated with a reduction in bone density
 - believed to be a result of how quickly these medications break down vitamin D
- There is more research with medications that have been available for a long time, but we are still learning more about newer anti-seizure medicines

I will be able to identify common side effects for each medication or therapy.
I will be able to identify medications that increase my risk of having a fracture.

SECTION 3

Proton Pump Inhibitors

PROTON PUMP INHIBITORS (PPI)

- PPI are used to suppress acid and treat symptoms of heartburn and protect your stomach from an ulcer
 - These medications are one of the most common classes of medicine used in Canada
- By lowering acid in the stomach the medication affects how calcium is absorbed
 - Over a long period of time this leads to weaker bones.

COOL-DOWN ACTIVITY

- Review your “Medications that Decrease Bone Health” Quiz from the starter activity in your **Medications that Decrease Bone Health - Workshop Guide**
- Complete the RIGHT SIDE of the chart to identify what you have learned during the workshop
- With the person next to you, discuss:
 - what you learned in the workshop
 - what you found surprising in the workshop
 - what do you want to learn more about
 - what you will do next with this new knowledge

ADDITIONAL RESOURCES

Osteoporosis Canada

- osteoporosis.ca

Dr. David Hanley Osteoporosis Centre

- osteoporosiscalgary.com

National Osteoporosis Foundation

- nof.org

SPONSORS



BIBLIOGRAPHY

(n.d). Medications that can cause bone loss, falls and/or fractures. Retrieved from <https://osteoporosis.ca/about-the-disease/what-is-osteoporosis/secondary-osteoporosis/medications-that-can-cause-bone-loss-falls-andor-fractures/>.

Ziemba, K. (2019). Bone Health. Retrieved from <https://www.epilepsy.com/learn/challenges-epilepsy/bone-health>.

(2018). Epilepsy: Medications. Retrieved from <https://epilepsyontario.org/about-epilepsy/treatments/medications/>.

(2017). Oral Steroids. Retrieved from <https://patient.info/treatment-medication/steroids/oral-steroids>.

(2016). Osteoporosis FAQs. Retrieved from <https://https://www.osteoporosiscalgary.com/for-patients/osteoporosis-faqs.html>.

BIBLIOGRAPHY

(2015). Osteoporosis and Steroid Medications. Retrieved from <https://www.health.ny.gov/publications/1985/index.htm>.

Osteoporosis Canada. (2013). *Beyond the Break, Module 3: Osteoporosis & Nutrition [PDF]*. Retrieved from https://www.osteoporosis.ca/wp-content/uploads/2013-03-08-POSTED-Beyond-the-Break_Nutrients-fo-Bone-Health-SAtkinson.pdf