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Fracture Fact :

It is important to understand the differences between osteoporosis and osteoarthritis because management will vary depending on the diagnosis.

Remember: You can live well with osteoporosis!

Osteoporosis and Osteoarthritis



Osteoporosis and osteoarthritis are frequently confused because both names start with the prefix **oste**, meaning bone.

Although both these chronic conditions occur frequently in older adults, and both cause pain and limit mobility, they are distinct for key factors such as: how they develop, body tissue and locations affected, and management of the condition.

It is important to understand the differences between osteoporosis and osteoarthritis because management will vary depending on the diagnosis, including lifestyle interventions (diet and physical activity), medication (if appropriate), and pain management. Although these are two different conditions, you can have both osteoporosis and osteoarthritis at the same time.

Osteoporosis

Osteoporosis is a chronic condition that affects bone tissue and structure: the word osteoporosis means *porous bone*. It remains unnoticed until you break a bone from a minor incident such as falling from a standing height (or less), or other minimal activities such as bumping into a countertop, turning over in bed, or even sneezing. As a result, osteoporosis is sometimes called the **“silent thief.”**

A key characteristic of osteoporosis is the deterioration of bone. Bones are composed of a thick outer layer (which is called cortical bone) that covers the fine lace-like honeycomb inner structure (called trabecular bone). Trabecular bone is found primarily inside the vertebrae (the bones of the spine) and the ends of long bones like the femur, or hip bone. Cortical bone gives bone an outer shell to keep it from breaking easily. The inside spongy or lace-like trabecular bone also contributes to bone strength by forming the core of the bone; the trabecular bone acts like the beams that support a roof, or struts of a bridge to give strength and prevent bone from collapsing. We need both types of bone tissue for overall bone strength.

However, when someone has osteoporosis, the outside cortical bone (shell) can become thinner, and the inside trabecular bone becomes less dense; that is, the lace-like structures become thinner and spaces (or gaps) can develop between the “beams or struts.” Instead of being strong with good density, bone becomes somewhat like a sieve that is very flimsy and fragile. As a result of this weakened structure, bones will break without much force. These broken bones (fractures) are called low-trauma or fragility fractures. Osteoporosis is diagnosed by a bone mineral density test, or when a fragility fracture occurs.

There are many reasons why someone may develop osteoporosis. These include:

- older age
- female sex
- family history of osteoporosis, particularly a family history of a hip fracture
- low body weight
- lifestyle factors including low calcium intake, lack of exercise, smoking and alcohol use
- use of medications that affect bone including steroids such as prednisone and drugs for breast and prostate cancer
- certain diseases including rheumatoid arthritis, malabsorption syndromes (Crohn’s, ulcerative colitis and celiac disease), sex hormone deficiency (early menopause, anorexia nervosa), kidney disease, liver disease, diabetes and primary hyperparathyroidism

Osteoarthritis

Osteoarthritis is the most common form of arthritis (*arth* meaning *joint* and *itis* meaning inflammation). It affects the joints and the surrounding tissues. Joints occur between two or more bones and allow our bodies to move. Osteoarthritis results from damage to the cartilage (tissue that cushions and protects the ends of our bones in the joints) or from overuse, or loss of fluid in the joint (synovial fluid). Osteoarthritis can occur in joints that have been injured by overuse from sports or repeated activities at work, for example. When cartilage thins or wears away, the bones rub together and cause friction. Movement becomes uneven and can cause rubbing on the injured cartilage; this can cause pain and inflammation. The flexibility of the joint becomes reduced, and bone spurs can develop (extra pieces of bone that feel like hard lumps). When inflammation occurs, the joint can become sensitive, sore and swollen. Osteoarthritis is diagnosed based on a medical history, a physical examination and X-rays of the affected joints.

Osteoarthritis mostly affects the lower spine, hips, knees, feet or fingers but can be felt in wrists, elbows and ankles. It can be very painful and debilitating, affecting a person’s ability to do everyday activities and can lead to a reduced quality of life. Thus, one significant difference between osteoporosis and osteoarthritis relates to pain. With osteoporosis, pain can result from the fragility fracture; however, with osteoarthritis, pain is the first noticeable symptom, and although it can be extremely painful, the bone is not broken.

What if you have both diseases?

If you have both osteoporosis and osteoarthritis you should talk to your healthcare provider about a treatment plan that will manage both conditions. An accurate diagnosis of the cause of pain will help to find the best pain management strategies. It is also important to pay attention to safety while exercising. People with osteoporosis may need to avoid activities such as bending, reaching, twisting the spine or lifting heavy weights, while people with osteoarthritis may need to adjust activities because of limited mobility.

If you have concerns about either of these diseases, go and see your doctor to discuss them. A fracture risk assessment to determine osteoporosis and risk of fracture, or an X-ray to determine osteoarthritis, may be suggested. For more information on osteoporosis and osteoarthritis go to [https://osteoporosis.ca/wp-content/uploads/OSTEO.Arthritis.2018.NAT .pdf](https://osteoporosis.ca/wp-content/uploads/OSTEO.Arthritis.2018.NAT.pdf)

BONE MATTERS

Take charge of your bone health

WEBINAR

Drug-Induced Osteoporosis



DATE & TIME

WEDNESDAY, SEPTEMBER 18, 2019
1:00PM - 2:00PM ET

FEATURED SPEAKER:

Nese Yuksel, BSc Pharm, Pharm D, FCSHP, NCMP

- Professor, Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta

DR. YUKSEL WILL ANSWER QUESTIONS SUCH AS

- The effects of drug-induced osteoporosis on bone loss and fracture risk
- How drug-induced osteoporosis is assessed
- The management of drugs that lead to bone loss and fractures
- Certain drugs that contribute to bone loss and increased fracture risk, including glucocorticoids, aromatase inhibitors for breast cancer and androgen deprivation therapy for prostate cancer

TO REGISTER

osteoporosis.ca/bonematters

OSTEOPOROSIS



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Feeling inspired to make a difference?

Our growing team of volunteers strives to make a real difference in the lives of Canadians at risk for and living with osteoporosis. If you are someone looking to make a difference in your community and are passionate about helping to spread the word on preventing fractures, then we need you! With your help, we teach Canadians how to improve their bone health so osteoporosis can never take hold and we support those already diagnosed, working to improve their quality of life.

Take action. Apply today at osteoporosis.ca/volunteer.
Together, we will help **make Canadians unbreakable.**

We Welcome Your Feedback

- Have a question?
- Is there an osteoporosis-related topic that you would like to see featured in the newsletter?
- Looking for a great volunteer opportunity?

Please contact us by calling Osteoporosis Canada's toll-free number **1-800-463-6842** or emailing copn@osteoporosis.ca.

FUNNY BONE:

Ever wonder: Why don't you ever see the headline 'Psychic Wins Lottery'?