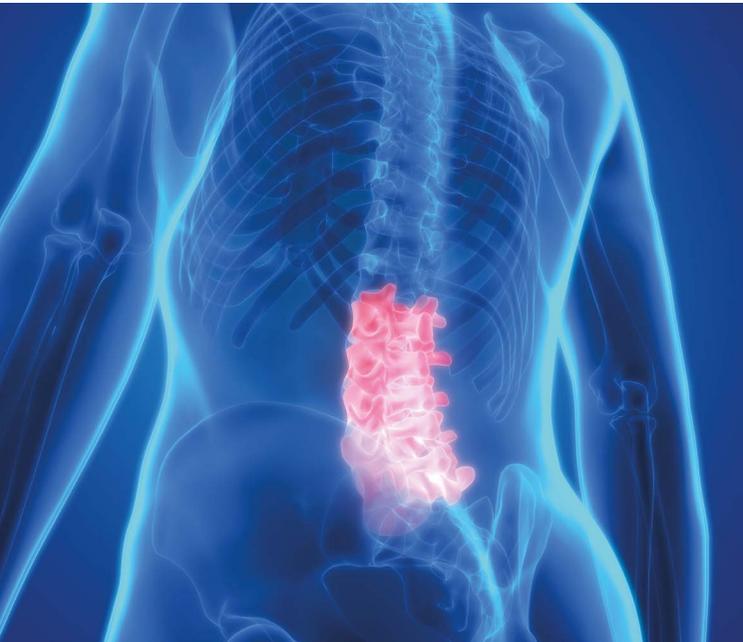
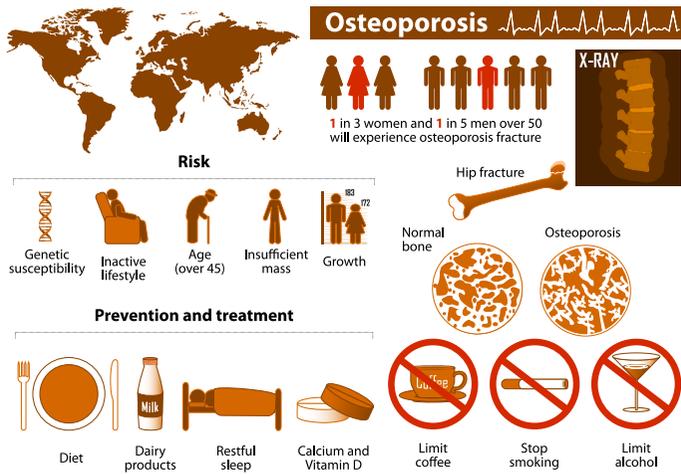


HOW IS OSTEOPOROSIS TREATED

The best treatment for osteoporosis is preventative action. Eat healthy, exercise regularly, don't smoke, and use alcohol in moderation. The use of vitamin D and calcium supplements might also have a beneficial effect. Confirmed osteoporosis will benefit from all of the above, and can be further treated by pharmacological therapy which either delays resorption or encourages new bone formation or both. Sometimes blood can be drawn at diagnosis and again later to monitor the efficacy of the drugs. Doctors refer to very reliable guidelines to decide on the mode of treatment, the efficacy of treatment and the intervals for follow-up.



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Drs Du Buisson, Kramer, Swart, Bouwer Inc./Ing.



Your consulting pathologists

OSTEOPOROSIS



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OSTEOPOROSIS

Osteoporosis is a disease of bone, therefore understanding bone is important to understand the disease.

BONE

Bone is indispensable to our bodies. It carries the very important responsibilities of:

- Movement (imagine doing anything if muscles were not attached to bone)
- Protection (it provides sturdy protection for vital organs)
- Metabolism (it serves as a very important reserve for essential minerals like calcium and phosphate)

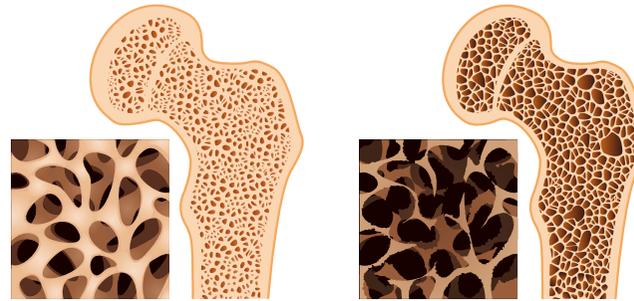
The elasticity (or lack thereof) of bone is essential for carrying weight and withstanding impact. Imagine a very wet twig which will not break at any effort but bends much too easily when it carries weight, as opposed to a very dry twig which snaps at the slightest touch.

Bone consists of a mesh of soft tissue (mostly collagen and bone cells) which is packed with minerals (mostly calcium and phosphate). This delicate combination gives bone the perfect blend to be as hard as it needs to be while being as flexible as it needs to be to withstand daily impact. To keep that vital balance between the soft tissue and the minerals, bone constantly renews itself. This is referred to as bone turnover. The entire skeleton is renewed every 25 years through a continuous process of resorption (bone dissolves itself), formation and mineralization.



WHAT HAPPENS TO BONE IN OSTEOPOROSIS?

As the name suggests (“osteo” meaning bone; “poros” meaning pores), bone resorption happens faster than new bone is formed. This means less bone is available for mineralization. In essence, bone mass is less, bone density is less and bones are soft, leaving them fragile and vulnerable to fractures.



Healthy bone

Osteoporosis

WHY DOES OSTEOPOROSIS HAPPEN?

Osteoporosis can be an age-related development, but can also be associated with other treatable causes which, if treated, will resolve the osteoporosis. Below is a short list of such causes.

- Primary hyperparathyroidism
- Multiple myeloma
- Malabsorption
- Diabetes mellitus
- Inflammatory bowel disease

Age-related osteoporosis, however, occurs most commonly.

WHO GETS OSTEOPOROSIS?

Osteoporosis is responsible for around nine million fractures worldwide annually. The lifetime risk of sustaining an osteoporotic fracture is 40% for females and 20% for men above the age of 50 years.

Certain factors (listed below) indicate a greater risk for the possible development of osteoporosis:

- Advanced age
- Gender (females more likely than men)
- Race (caucasian patients have the highest risk)
- Obesity
- Inactivity
- Family history of osteoporotic fracture
- Poor nutrition, smoking and alcohol misuse

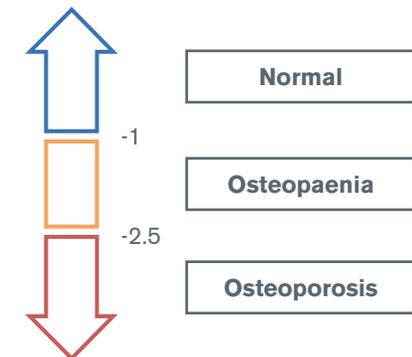
SYMPTOMS OF OSTEOPOROSIS

Unfortunately, the only way to know whether you have osteoporosis (without having the necessary screening tests done) is when you get a fracture. Wrist, hip and spine fractures occur most commonly. You don't have to have a fracture for the diagnosis to be made. This means going for regular check-ups and preventative screening is of the utmost importance.

DIAGNOSIS OF OSTEOPOROSIS

In the same manner we screen for breast cancer by going for mammograms regularly or screen for prostate cancer by going for rectal examinations and blood tests regularly, osteoporosis should be screened for on a regular basis by making use of a DEXA scan which measures bone mass density (BMD). This is given as a T-score which classifies bone disease as seen in the table below:

Category	T-score
Normal	More than -1
Osteopaenia	Between -1 and -2.5
Osteoporosis	Less than -2.5
Severe osteoporosis	Less than -2.5 PLUS One or more fragility fractures



(Osteopaenia is a medical condition in which the protein and mineral content of bone tissue is reduced, but less severely than in osteoporosis.)