

# Osteoporosis and the Menopause

What is it?

What is osteopenia?

Who is at risk of osteoporosis?

How is it diagnosed?

What are T and Frax Scores?

How is it prevented/treated?

## What is Osteoporosis?

Osteoporosis is a serious and often preventable health condition where bones become weaker and more likely to fracture (break) even with a simple fall. Osteoporosis can cause fractures of the bones in the spine result in back pain, loss of height and curvature of the spine as well as fractures of other bones, commonly the hip, pelvis and wrist resulting in significant impacts on quality of life in older years.

Osteoporosis usually does not cause any symptoms before a fracture occurs and it is common for women to be diagnosed with the condition only after suffering a major fracture.

Women are more at risk of developing osteoporosis than men particularly after the menopause with 1 in 3 women suffering an osteoporotic fracture in their lifetime.

Around 2% of women have osteoporosis around the age of 50 increasing to 25% by the age of 70.

Women can rapidly lose bone around the time of the menopause with some losing as much as 3-5% of bone mass per year due to the drop in oestrogen levels.

The earlier women go through the menopause the greater the risk of developing osteoporosis meaning that women who are menopausal under the age of 40 years with POI (premature ovarian insufficiency) are at greatest risk.

## What is Osteopenia?

Osteopenia is where the bone density is lower than normal and can progress to osteoporosis if no measures are taken.

It is very important for women diagnosed with osteopenia to look at ways to prevent the future development of osteoporosis.

## Who is at risk?

As well as the menopause there are several other risk factors that make it more likely to develop osteoporosis. These include:

Increasing age

Low vitamin D and calcium due to lack of UV sunlight exposure and not enough calcium in the diet

Lack of weight bearing exercise

Current smoking

Alcohol intake of 3 units/day or more

Low weight and BMI <18kg/m<sup>2</sup> or previous anorexia

Genetic/hereditary factors (risk doubles if a parent has had a hip fracture)

Previous broken bones

Medication eg: high dose steroids

Medical conditions eg: thyroid and parathyroid disease, COPD, inflammatory bowel disease, rheumatoid arthritis, type 1 diabetes etc:

## How is it diagnosed?

A DEXA bone density scan will diagnose both osteoporosis and osteopenia. This is a safe and quick way of measuring bone density with levels of radiation much less than a standard Xray. The DEXA scan will measure the density of both the spine and the hip and compares bone density with that of a healthy young adult. The results will also indicate a risk of fracture in the next 10 years and do not require medical knowledge to interpret.

The results of a DEXA scan are given as a T score and Frax score.

## What is a T score?

A T score is used to indicate the presence of osteoporosis or osteopenia

Levels above 1 are normal

Levels between -1 and -2.5 indicate osteopenia

Levels of -2.5 or less indicate osteoporosis

## What is a Frax Score?

The Frax score takes into account 12 different risk factors as well as the T score and is a calculated percentage risk of having an osteoporotic fracture and a hip fracture in the next 10 years. The DEXA scanner will use the answers you provide in the questionnaire filled in before the scan to calculate the Frax score. The Frax score gives a better idea of your own personal risk of a broken bone in the next 10 years.

The DEXA scan printout will also contain a coloured chart of the T score where a cross in the green zone is normal, a cross in the yellow zone indicates osteopenia and a cross in the red zone indicates osteoporosis.  
(picture of chart here?)

## How is osteoporosis prevented/treated?

It is important for all women to be aware of the risk of osteoporosis following the menopause and look at ways of maintaining healthy, strong bones to help to prevent osteoporosis from developing.

### Calcium and Vitamin D

Calcium and Vitamin D are both important in maintaining healthy bones.

Calcium is the building block of bones and it is important to ensure a good dietary calcium intake by eating/drinking calcium rich foods such as dairy products, nuts, green vegetables and tofu.

Vitamin D allows the bones to absorb calcium and is mainly made in the body in response to UV light exposure to the skin. Adequate sunlight exposure is often difficult in the winter months and absorption can be worsened by using sun blocks and having darker pigmented skin.

Both calcium and vitamin D can be taken as a supplement with a recommended daily dose of calcium being 700mg and the recommended daily dose of vitamin D being 400iu.

### Lifestyle Changes

Stopping smoking and reducing alcohol intake can both help to reduce the risk of osteoporosis as well as increasing exercise levels.

Weight bearing exercise which put weight through your legs and feet such as walking, running and aerobics/HIT are recommended as well as resistance exercise such as free weights, resistance bands and body weight squats.

### HRT

Multiple studies have shown that oestrogen in HRT reduces the risk of osteoporosis and osteopenia in post menopausal women and is of particular benefit early in the menopause and below the age of 60 years.

HRT not only helps to protect from bone loss in the menopause but can also help to treat women who have already developed osteoporosis.

The very small increase in breast cancer risk with HRT is usually outweighed by the benefits of HRT in reducing osteoporosis and cardiovascular risk as well as helping to reduce menopausal symptoms in most women.

All women with a very early menopause (under the age of 40 years) should be prescribed HRT at least until the age of 50 to prevent osteoporosis and cardiovascular disease.

Although not all women wish to take HRT it is recommended to have an understanding of the risks and benefits of HRT and discuss this with a Doctor and/or look at the mymenopause centre website

([www.mymenopausecentre.com](http://www.mymenopausecentre.com)) particularly if you are diagnosed with osteopenia or osteoporosis.

### **BioDensity Machine**

An exciting new development in the treatment and prevention of osteoporosis is the biodensity machine. There is evidence that bone density and muscle strength are both improved by applying a loading force through the bones. This can be achieved safely with a biodensity machine in short weekly, supervised sessions and is available at the dexastrong clinic.

### **Bisphosphonates**

These are a type of medication normally prescribed by an osteoporosis specialist and are given either as a tablet or an intravenous infusion. Bisphosphonates are usually only prescribed to women to treat established osteoporosis particularly over the age of 60 years but can be prescribed alongside HRT.

### **Other Medications:**

The other medications prescribed by osteoporosis specialists include: Strontium renelate, selective estrogen receptor modulators (serms), teriparatide and denosumab.