

# osteoporosis & coeliac disease

THE COELIAC SOCIETY



coeliac disease  
& osteoporosis



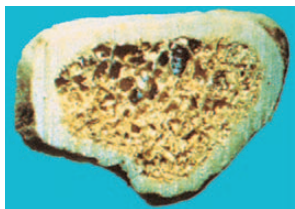
**TheCoeliacSociety**

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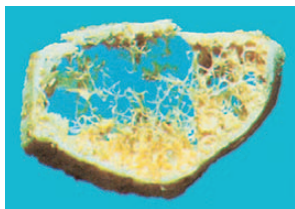
## What is Osteoporosis?

Osteoporosis is a condition in which the bones become fragile and brittle, leading to a higher risk of fracture than in normal bone. This occurs when bones lose minerals, such as calcium, leading to a loss of bone density. There are no obvious symptoms of osteoporosis until a fracture occurs. Consequently, a person will not know that they have osteoporosis unless it is diagnosed by clinical tests or if they have an osteoporotic fracture. Fractures in the spine are commonly missed as they may cause no or minimal symptoms. These are often picked up when X-rays are done for other reasons or by noticing a loss of height.

Bone density increases through childhood, teenage and young adult years, until peak bone density is reached. Bone is a dynamic substance which is continually being remodelled by bone formation and bone resorption. From the age of about 30, bones start to deteriorate in strength as bone resorption exceeds bone formation. This is a natural part of the ageing process. Women are at greater risk of developing osteoporosis than men. The hormone oestrogen is important for maintaining healthy bones, and when oestrogen levels suddenly decline after menopause, bone resorption occurs at a much faster rate resulting in a decrease in bone density and eventually osteoporosis. Although men lose bone strength at a more gradual rate, they are also at risk of developing osteoporosis. Other risk factors contributing to osteoporosis are certain medications, smoking, heavy alcohol consumption, a poor diet, a family history of osteoporosis, a lack of exercise, small stature and certain diseases (including coeliac disease).

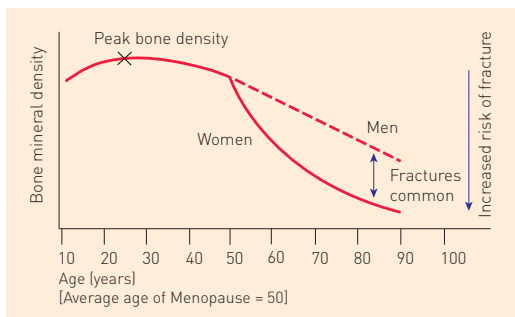


*Normal Bone*



*Osteoporotic Bone*

*Photographs courtesy of Professor C Nordin*



## What is an Osteoporotic Fracture?

A fracture simply means a broken bone. An osteoporotic fracture is a broken bone which occurs after minimal force. Any bone can be affected by osteoporosis, but the most common sites of osteoporotic fracture are bones in the ribs, wrist, spine, pelvis, upper arm and hip. Osteoporotic fractures are commonly caused by falling, coughing, sneezing and lifting.

Once a person has one osteoporotic fracture, the risk of having future fractures rises significantly.

## What is Coeliac Disease?

Coeliac disease (pronounced seel-ee-ak) is a genetic autoimmune disease. Autoimmune means the body mistakenly produces antibodies that damage its own tissues. It is a permanent intestinal intolerance to dietary gluten. A number of serious health consequences can result if the condition is not diagnosed and treated properly.

In those with untreated coeliac disease the mucosa (lining) of the small bowel (intestine) is damaged: The tiny, finger-like projections which line the bowel (villi) become inflamed and flattened (villous atrophy). Healthy villi are responsible for the digestion and absorption of nutrients from food. Villous atrophy diminishes the large surface area created by the villi. This can lead to gastrointestinal and malabsorptive symptoms. Long term consequences of untreated coeliac disease can include osteoporosis, infertility and miscarriage, depression and cancer.

Coeliac blood tests are used for initial screening ("coeliac serology and IgA"). If the results are positive or your doctor feels further testing is warranted, a referral to a gastroenterologist will be necessary. The diagnosis must be confirmed by performing a gastroscopy (an endoscope is passed through the mouth into the small bowel), to collect

tiny samples (biopsies) from the small bowel. These biopsies are studied under a microscope to determine if coeliac disease is present. A gastroscopy is done in a hospital or day-procedure centre while the patient is sedated (most people find it very straight forward). Taking small bowel biopsies is an essential part of diagnosing coeliac disease as the blood test alone is not definitive. For the blood test and biopsy to be meaningful, gluten must be included in the diet for at least six weeks prior to testing (the equivalent amount of gluten from four slices of standard bread daily for adults).

## Notes about the Gluten Free Diet

The only treatment for coeliac disease is a strict, lifelong gluten free diet.

Gluten is the rubbery and elastic protein found in wheat, rye, barley and oats. Gluten is responsible for the cooking and baking properties of these grains.

There are obvious foods which contain gluten e.g. bread, cakes and pasta, but there are also a whole range of ingredients within prepared and commercial foods which can come from a gluten source. To become "ingredient aware" is essential.

Initially the gluten free diet may seem overwhelming. With the information and support available with membership of The Coeliac Society, it will become much easier.

It is recommended you seek the guidance of an Accredited Practising Dietitian with experience in coeliac disease to help you manage your gluten free diet and ensure your diet is nutritionally balanced.

## How is Osteoporosis Related to Coeliac Disease?

Inflammation of the small bowel lining in untreated coeliac disease causes malabsorption of nutrients including calcium. Calcium plays a vital role at a cellular level within the body's tissues and fluids. This requires a stable blood level of calcium. If insufficient dietary calcium is absorbed to maintain the required level of calcium in the blood, more is taken from the bones than can be replaced (increased bone resorption). This causes the bones to become weaker. If a child is malabsorbing calcium due to untreated coeliac disease, their bones may not form properly during the growing years.

## How do I find out how strong my bones are?

Bone strength can be measured using a Dual-energy X-ray Absorptiometry (DXA) scan, commonly known as a bone density test. A low level of X-ray is used to measure the density of your bones in the spine and hip. By comparing your bone density to an average young adult of the same gender, a 'T-score' is calculated. Your doctor can interpret your T-score to determine whether you have osteoporosis or whether you are at risk of developing osteoporosis. In children T-scores are not used as the child has not yet reached young adulthood. Instead the child's bone density is compared to the average for their age and gender by using the 'Z-score'.

## How do I get a Bone Density Test?

Your GP or specialist can give you a referral to a hospital or a clinic, which perform bone density tests.

## What about a Heel Ultrasound?

Heel Ultrasound is not the recommended standard test to measure your bone density and predict your risk of fracture. At present Heel Ultrasound is not covered by Medicare.

## My doctor says that I am too young to worry about Osteoporosis

It is recommended that all adults diagnosed with coeliac disease should have a bone density test regardless of age, gender or menopausal status. Many people with coeliac disease have a low bone density when diagnosed. Although this may improve after the commencement of a gluten free diet, the improvement may not be enough to prevent problems from occurring later in life. In some people with coeliac disease, there is no improvement at all. Therefore, it is important to establish what your bone density is at the age you are now, so that steps can be taken to either improve, or maintain your bone density.

*A bone density measurement being performed*



## Does a Bone Density Measurement attract a Medicare Rebate?

A person medically diagnosed with coeliac disease is entitled to a Medicare rebate for a bone density measurement under item number 12315, "a proven malabsorptive disorder". This rebate is available every two years. A number of other conditions, such as premature menopause, prednisone therapy or a previous fracture, also allow a bone density test under Medicare. A full list of eligible conditions is available from your doctor.

## How often should I have a Bone Density Test done?

Usually no more frequently than every two years, unless recommended by your doctor. Where possible, it is important to have your bone density test repeated on the same bone densitometer at the clinic or hospital you attended for your initial visit. There can be slight differences in results obtained on different machines.

## What is the Treatment for Osteoporosis?

An adequate calcium intake and weight bearing exercise are important. Additional treatments are often recommended. Specific medications are now available which have been shown to be very effective for the treatment of osteoporosis. Speak to your doctor about the different treatments. Smoking and a high intake of alcohol should be avoided.

## How much Calcium should I have?

Different amounts of calcium are needed throughout a person's life, depending on gender, menopausal status and age. In women, it also changes if you are pregnant or breastfeeding. Your doctor or dietitian can advise you on your requirements.

## I am Lactose Intolerant – how do I get enough Calcium?

People with lactose intolerance do not need to eliminate all dairy foods from their diet. Many dairy foods do not contain large amounts of lactose e.g. cheese contains virtually no lactose and yoghurt is generally well digested due to the natural bacterial culture it contains. In addition, the majority of people with lactose intolerance can consume up to two cups of milk a day without symptoms, if they consume it with food at different meal times. The amount of lactose that can be tolerated will vary from person to person. Speak to a dietitian about ways to help you include your three serves calcium each day. Calcium supplements may be necessary

if the intake of calcium from food sources is not adequate. Speak to your doctor or dietitian about whether you need to supplement your calcium intake.

### How does Exercise Help?

Weight bearing exercise helps stimulate the bone cells to build bone. It also increases muscle strength and improves coordination, which help to prevent falls. A good form of weight bearing exercise is walking. Before you commence any exercise program, talk to your doctor.

### Are there Gluten Free Medications to treat Osteoporosis?

There are several gluten free medications available that are suitable for people with coeliac disease. Speak to your doctor about the best treatment option for you.

### How do these Medications work?

Some medications prevent further bone loss by decreasing bone resorption, while others actually increase bone strength by increasing bone formation. Both of these help reduce the risk of fracturing a bone.

### What should I do if I have Osteoporosis?

Remaining active is very beneficial if you have osteoporosis. However, it is also important to avoid any activity that may cause you to fracture a bone, such as heavy lifting. Obtaining medical advice is important regardless of age. Treatment may be recommended that will help to substantially reduce the risk of fracturing a bone. It is never too late to treat osteoporosis.

### The Coeliac Society

Adult coeliacs, parents of coeliac children and those with dermatitis herpetiformis\* have formed a Coeliac Society in each Australian state. These Societies provide support and information on the disease, the gluten free diet, ingredients, where to buy, cooking and recipes, overseas travel and education and research material. Specific resources for children requiring a gluten free diet are also available.

\*Dermatitis herpetiformis is a chronic, itchy, blistering skin condition associated with coeliac disease. The Coeliac Society has a separate pamphlet "Dermatitis Herpetiformis".

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The Coeliac Society of Australia Inc is not a medical organisation.

Persons reading this material should not act solely on it. The advice of a medical practitioner should always be obtained.

If you would like to become a member or would like more information, contact your state Society on 13 ZERO ZERO GLUTEN (1300 458 836).

[www.coeliacsociety.com.au](http://www.coeliacsociety.com.au)