



Dairy  
Food for Life



A GUIDE TO  
**Osteoporosis**







## Foreword

*Osteoporosis is called “the silent disease” as it often goes un-detected until it is too late and the patient has suffered multiple fractures and may already have lost independence. Crucially however, the disease is preventable in the majority of people and can be treated.*

*This new information leaflet is designed to inform, guide and educate women and men of all ages and children about Osteoporosis, and to help them adopt a ‘bone-healthy’ lifestyle by highlighting the potential risk factors and promoting a healthy diet.*

*Bones require normal sex hormones, calcium, vitamin D and 30 minutes regular weight bearing exercise daily.*

*Vitamin D is essential for the absorption of calcium and is available in some milk products as well as oily fish and sunlight.*

*Calcium is the most abundant mineral found in our bones and helps to give bones strength and rigidity. Calcium is also required for muscles and nerves to function, including those in the heart.*

*Milk, cheese and yoghurt are some of the best sources of calcium available to us, particularly in Ireland.*

*Remember, maintaining optimal bone health is a lifelong process for men and women that begins in childhood.*

*The Irish Osteoporosis Society is delighted to be working in partnership with the National Dairy Council in the promotion of bone health and osteoporosis awareness.*

**Professor Moira O’Brien**

*Founder and President of the Irish Osteoporosis Society*

## What is Osteoporosis?

Osteoporosis is the leading bone disease in the world. It affects both men and women and can even affect children. It is a disease in which the quality of the inside of the bone weakens, leading to an increased risk of fractures (broken bones). It is a silent disease which is largely treatable, and even preventable in the majority of people. However, without prevention or treatment, osteoporosis can progress causing pain, disability and loss of independence. The most common bones to break are the wrist, hip and spine, however it can affect any bone. One in three women over the age of 50 years (one in two over 65 years) and one in five men over the age of 50 years will be affected by osteoporosis. However, people of all age groups, including children, can also be affected.

## What is Osteopenia?

This is the early stage of osteoporosis when it is essential that the cause of bone loss be found and addressed. Research shows that most people break bones in the moderate to marked osteopenia range.



## Bone Development

Childhood, adolescence and the teenage years are critical life stages for bone development, with about 90% of peak bone mass achieved by the late teens. Therefore, specific efforts should be made to address bone health during these stages of life. However, and also of significant importance, during later adulthood bone loss exceeds the rate of bone formation, and therefore efforts to address bone health are still required to slow down or delay the progression of bone loss. The key is following a 'bone-friendly' diet and lifestyle throughout life.

It is essential that during childhood, and indeed throughout life, that people consume sufficient daily intakes of calcium and vitamin D. Also, throughout childhood, weight bearing exercises (exercise during which our bodies carry our weight e.g. dancing, jogging, etc.) and strengthening exercise (appropriate to the individual) can significantly benefit bone development and reduce the risk of developing osteoporosis in later life. Maintaining a physically active lifestyle and engaging in weight-bearing activities during adulthood remains important for bone health.

## Why does Osteopenia/Osteoporosis Develop?

Bone is a living, growing tissue. Like other tissues in the body, bone is continually being renewed - old bone is broken down and replaced with new bone. Any imbalance in this process can lead to the development of weak or brittle bones, increasing the risk of fracture(s).

## Signs and Symptoms of Osteoporosis

- A broken bone caused by a trip and fall from a standing position: It is not usually normal to break a bone at any age from a trip and fall. If a person's bones are healthy they should not break.
- Loss of height: Many people believe that it is normal to lose height as you get older. However, if a person



loses more than two centimetres, it is a red flag that they should get a DXA scan to rule out osteoporosis. A DXA scan is a simple, painless scan used to diagnosis osteoporosis.

- A hump developing on the upper back: If this is from osteoporosis, the bones in the spine are collapsing and will continue to collapse unless prevention methods are put in place.
- Sudden, severe upper, mid or low back pain: This could be a sign that a fracture has occurred, especially if the person has any of the signs or symptoms mentioned above.

## Diagnosis

Osteoporosis is known as a ‘silent disease’ as it usually develops without any symptoms. A DXA scan of the hips and spine (which is a simple, painless scan) is currently the most accurate and reliable means of assessing bone mass and the presence or risk of osteoporosis.

Below are just a <u>few</u> of the many risk factors for developing osteoporosis	
1. A family history of osteoporosis	8. Eating disorders e.g. anorexia, bulimia or binge eating, over exercising with insufficient calorie intake, irregular or loss of periods (not due to pregnancy)
2. A menopause before age 45 years	
3. Low levels of oestrogen in women which results in irregular periods or loss of periods	9. Certain medical conditions including Crohn’s Disease, Coeliac Disease, Ulcerative Colitis, Haemochromatosis
4. A broken bone from a trip and fall from a standing position	10. People who are wheelchair or bed bound for 6 weeks or long term
5. Steroid therapy – for a variety of conditions e.g. rheumatoid arthritis or use of oral steroids for asthma	11. Radiation, chemotherapy, arimedex, warfarin, and heparin
6. Smoking	12. In Men: low levels of testosterone
7. Alcohol abuse	

## Prevention

Awareness of osteoporosis and following a lifestyle that promotes bone health is the greatest form of prevention. Risk factors for osteoporosis fall into two main categories; fixed and modifiable.

## Fixed Factors

Fixed factors include age, gender and family history. These factors largely determine whether a person is at increased risk of osteoporosis. However, modifiable factors are very important in optimising bone health and helping to prevent the development of osteoporosis and associated fractures.

## Modifiable Factors

### Diet

Dairy is particularly important as milk, cheese and yogurt are sources of calcium. A national food intake survey reported that these foods provide almost half the calcium in the diet of Irish adults. The Department of Health and Children recommend three portions of dairy per day for adults and children. As calcium requirements increase during the teenage years and during pregnancy/breastfeeding, people during these life stages should aim for five servings of dairy per day (1 serving =  $\frac{1}{3}$  pint milk, 1 carton of yogurt or 1oz of hard cheese - about a matchbox size).

Some calcium-rich snacks	
A Glass of Milk	Cheese Sandwich
Cheese and Crackers	Yogurt/Yogurt Drink
Smoothie	Breakfast Cereal with Milk
Portion of Lasagne/Pizza	Hot Chocolate made with Milk

A national survey revealed that 23% of Irish women do not consume enough calcium, therefore dairy intake is essential. Unfortunately, dairy may be avoided due to the misconception that it is fattening. However, Irish whole milk is usually standardised at 3.5% fat and reduced-options are also available;

semi-skimmed milk contains 1.5 - 1.8% fat and skimmed milk contains no more than 0.5% fat. In general, the calcium content of reduced-fat options is relatively similar to respective whole milk equivalents.

Vitamin D is also essential for bone health as it plays an important role in calcium absorption. Vitamin D comes from two sources: through the skin following direct exposure to sunlight (15 minutes before applying sunblock is sufficient) and from the diet. Although dietary sources are limited, examples include oily fish, fortified milk and dairy products and eggs.

## Lifestyle

**Exercise** - Weight bearing/strengthening exercise is essential for all age groups especially when bone is being laid down. By exercising children can significantly increase their bone density, which can decrease their risk of developing osteoporosis later in life. Children are advised to participate in at least one hour of moderate physical activity every day, and adults are advised to participate in at least 30 minutes of moderate physical activity every day.

Exercise is also associated with a range of other health benefits such as reducing the risk of obesity and type 2 diabetes. It is very important for exercise to be part of everybody's daily routine. No matter what limitations a person has, an exercise programme can be adjusted to suit each individual, this should be discussed with your GP/consultant.



**Alcohol** - Excess consumption of alcohol can increase the risk of fracture and reduce bone formation. Women should limit their alcohol intake to 14 units per week and men to 21 units per week. It is important to spread these out over the week, ensuring to include alcohol free days each week. One unit is roughly equal to half a pint of beer or one pub measure of spirits or one small glass of wine.

**Smoking** - The toxins in cigarettes negatively affect bone and therefore should be avoided in order to promote bone health and overall health and wellbeing.

**Safety** - Wearing good walking shoes in the home, removing loose rugs and having regular medication reviews can help all senior citizens to maintain their independence.



## Body Weight

A healthy body weight is recommended for bone health. Restrictive dieting leading to excessive weight loss can negatively affect bone health. Women who suffer from absent or infrequent periods are also at risk and should seek medical advice.

# Treatments for Osteopenia and Osteoporosis

There are many treatment options, however they should be based on the following:

1. The reason why you developed osteopenia and/or osteoporosis
2. The DXA results of your spine and hips
3. Your risk of fracture or re-fracture
4. Your age
5. Your medical history

Healthy eating, including the recommended dietary allowances for calcium and vitamin D, and engagement in weight-bearing/strengthening exercise should be included in all treatment plans.

## Summary

Osteoporosis, once regarded as an illness associated with natural old age, is now the leading bone disease in the world affecting both sexes and all ages. Although there are a number of unmodifiable factors influencing bone health, compliance with appropriate lifestyle and dietary guidelines can contribute to optimising bone health and reduce the risk or delay the onset/progression of osteoporosis.

For more information including an extensive list of risk factors please contact  
The National Dairy Council or the Irish Osteoporosis Society.  
*(see back cover for contact details)*



## Notes & Useful Contacts

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