

# **Your bones and osteoporosis:** What every man, woman and child should know



Building **stronger** bones

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# Foreword

A great deal of progress has been made since the National Osteoporosis Society was established in 1986: scientific understanding of osteoporosis has improved immeasurably, scanning machines used to diagnose osteoporosis are now more widespread than ever before and a wide range of effective treatments has been developed.

However, as this report very clearly demonstrates, there is still a lot of work to be done. Osteoporosis is poorly understood, particularly by younger people. If we are to reduce the growing number of fragility fractures, it is absolutely vital that younger people learn about the importance of regular exercise and a healthy diet and understand the links between these and their future bone health. We must take action now to ensure that these and future generations understand that their lifestyle choices could leave a lasting legacy on their bones.

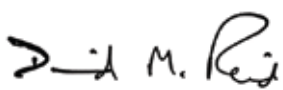
The National Osteoporosis Society plays a crucial role in raising the profile of this silent disease.

We continue to fund vital research and provide information and essential support networks to those with osteoporosis across the UK, whilst working to give osteoporosis the profile it needs and deserves.

I wholeheartedly welcome this Report.

Two thirds of people now know what osteoporosis is - this news is encouraging and demonstrates the huge developments that the National Osteoporosis Society and its members have made over the last twenty three years. Yet we still have a lot more to do to ensure that people understand how their bones gain and lose strength.

Most of all, we must look to the future and do all that we can to help young people to protect themselves now from broken bones later in life.



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National Osteoporosis Society

# Executive summary

Osteoporosis is a common disease which leads to bones becoming increasingly fragile and more susceptible to fracture.

Three million people in the UK have or are at risk of osteoporosis. While it can affect people of any age, one in two women and one in five men over the age of 50 will break a bone mainly because of osteoporosis<sup>1</sup>. There are about 230,000 fragility fractures in the UK every year<sup>2,3</sup>. Fractures of the wrist, hip and spine are most common and can lead to chronic pain, loss of mobility and independence, and in some cases, death.

As well as the potentially devastating effects of this disease on the people who have osteoporosis, fragility fractures place a growing burden on the NHS. In the UK, hip fractures alone cost health and social services over £1.7 billion a year<sup>3</sup>. These costs will continue to rise with the UK's ageing population unless greater steps are taken to ensure that osteoporosis is appropriately prevented, diagnosed and treated.

In June 2008, the National Osteoporosis Society commissioned YouGov to conduct a UK-wide survey of adult awareness and understanding of osteoporosis and bone health. The survey's findings confirm our fears that awareness of the risks of osteoporosis, and the steps that each of us could take to ensure that our bones stay strong into later life, is poor.

Most worryingly, awareness of the disease amongst young people (aged 18-24) is particularly limited, a fact which is highlighted by the large proportion of respondents in this age group who selected 'don't know' in response to

our questions. The bone strength we enjoy for the rest of our lifetime is largely determined by the time we are thirty. Yet our survey demonstrates that this age group has the poorest understanding of the steps they could take to reduce their chance of developing osteoporosis in later life:

- 67% of people do not realise that there are steps they can take to improve their bone health;
- Only 35% of people recognise that physical inactivity increases the risk of osteoporosis;
- Only 21% of people know that being under-weight will put them at greater risk of osteoporosis;
- 70% of people under the age of 30 do not know when they will start to make the lifestyle changes they need to ensure strong bones, have no intention of doing so, or will leave it too late.

Without conscious intervention, more people will suffer fractures as a result of osteoporosis in future, eroding their quality of life and placing a growing burden on finite Health and Social Care resources.

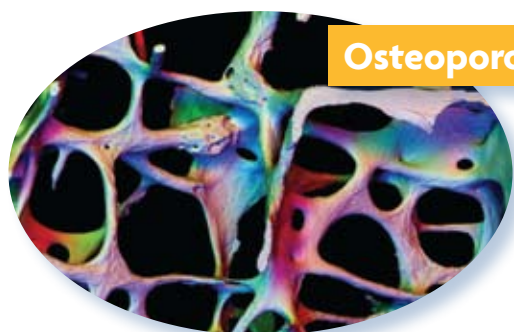
We call on the UK government and the devolved administrations to tackle public awareness through a public health campaign which highlights the importance of bone health and the steps we can all take to ensure strong bones throughout life. We urge them to address the lack of understanding of the disease in young people by including osteoporosis and bone health in all aspects of the national curriculum relating to exercise, diet and healthy lifestyles. Finally, we press them to make osteoporosis a national clinical priority to bring about the changes required to reduce fracture rates.

## We urge the UK and devolved administrations to:

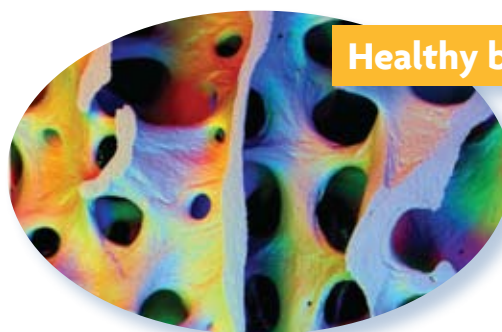
- **Make osteoporosis a national clinical priority;**
- **Include osteoporosis and bone health in all aspects of the National Curriculum relating to exercise, diet and healthy lifestyles;**
- **Commence a public health campaign about osteoporosis and bone health as we have seen for other health issues such as obesity.**

# Introduction

As we age, our bones become less dense as the structures inside them gradually break down. This is a natural process. In people with osteoporosis, however, this process is exaggerated, leading to their bone structure becoming fragile and making them more susceptible to broken bones.



Osteoporotic bone



Healthy bone

Images: Alan Boyde

Osteoporosis is common. Three million people in the UK have or are at risk of osteoporosis, and, while it can affect people of any age, one in two women and one in five men over the age of 50 will break a bone mainly because of osteoporosis<sup>1</sup>. There are about 230,000 osteoporotic fractures in the UK every year<sup>2,3</sup>. Fractures of the wrist, hip and spine are most common and can lead to chronic pain, and loss of mobility and independence.

Fractures can change a person's life forever, often leaving them unable to perform basic day to day activities without assistance and reliant on family or social care:

**12 months after a hip fracture, 60% of patients are limited in activities such as feeding, dressing and using the toilet; 80% are no longer able to perform activities such as shopping, gardening and climbing stairs<sup>4</sup>;**

**80% of older women would rather die than experience the reduced quality of life that follows a serious hip fracture and subsequent admission to a nursing home<sup>5</sup>;**

**40% of patients diagnosed with a vertebral (spinal) fracture will have constant pain and the majority will have difficulties with activities of daily living<sup>6</sup>.**

For some, a hip fracture is fatal. Hip fractures cause more than 1,150 premature deaths each month in the UK<sup>7</sup>.

As well as the potentially devastating effects of osteoporosis on the people who have it, the disease places a growing burden on the NHS. In 2001, hip fractures in the UK were reported to cost health and social services £1.7 billion a year<sup>8</sup>. In the next 20 years, the number of people over 85 in England will double<sup>8</sup> – this age group is at the greatest risk of hip fracture, the incidence of which

is projected to increase by 50% by 2020<sup>9</sup>. The costs of fragility fractures will continue to rise as the UK's population ages unless more is done to ensure that osteoporosis is appropriately prevented, diagnosed and treated.

The National Osteoporosis Society is concerned at the lack of public awareness of the risks of osteoporosis, and the steps that each of us can take to ensure that our bones stay strong into later life.

In June 2008, we commissioned YouGov to conduct a survey of UK adults' awareness and understanding of osteoporosis. The survey found that:

- Little more than half of people know that calcium rich foods are important for bone health;
- Less than a quarter of people realised that they need to start looking after their bones before the age of 30, despite the fact that our bone strength actually peaks during our 20s.

Even more significant are the worryingly low levels of awareness in young people (aged 18-24), the group of people who are able to do most to increase their bone strength for later life:

- Almost half (49%) of young people do not know that there are steps that you can take to reduce the risk of osteoporosis;
- More than half (56%) of young people do not know that exercise can help to reduce the risk of developing osteoporosis;
- 1 in 3 do not know about the role that diet can play in minimising risk.

This report explores the myths and realities of osteoporosis. It provides the information we all need to help our bones stay healthy and strong throughout life.

# Osteoporosis – The myths are

## What is osteoporosis?

Osteoporosis is a disease that makes bones fragile and prone to break more easily. Our bones contain collagen, calcium salts and other minerals. Each bone is made up of a thick outer shell known as cortical bone and a strong inner mesh of trabecular bone which looks like honeycomb with blood vessels and bone marrow in the spaces between the struts of bone. Osteoporosis occurs when the struts that make up this structure become thin causing bones to become fragile and break easily.

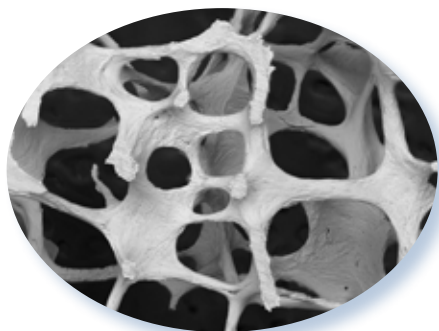


Image: Alan Boyde

Two cells are constantly at work in our bones, building new bone and breaking down old bone. Up to our mid-20s, the construction cells work harder, building strength into our skeleton. From our 40s onwards, the demolition cells become more active and our bones gradually lose their density. In people with osteoporosis, this process happens more quickly.

Two cells are constantly at work in our bones, building new bone and breaking down old bone. Up to our mid-20s, the construction cells work harder, building strength into our skeleton. From our 40s onwards, the demolition cells become more active and our bones gradually lose their density. In people with osteoporosis, this process happens more quickly.

Osteoporosis is common. There are currently three million people with or at risk of osteoporosis in the UK, and, while osteoporosis can affect people of any age, one in two women and one in five men over the age of 50 will break a bone, mainly because of osteoporosis<sup>1</sup>.

## Understanding the risk factors

A number of factors put an individual at greater risk of osteoporosis. Some of these are pre-determined, but many can be tackled through simple lifestyle changes.

The factors that increase your risk of osteoporosis and fracture include:

- **Genes** – Our bone health is largely dependent on the genes we inherit from our parents. If one of your

### FACT:

#### Osteoporosis:

- Is very common;
- Weakens bones by making them more fragile;
- Affects men and women of all ages;
- Is more common in older people and in women;
- Leads to painful, debilitating fractures, most commonly of the hip, wrist and spine.

### SURVEY RESULT:

#### Awareness of our ability to strengthen our bones until the age of 30 is poor:

- **Only 22% of people said they would start to look after their bone health before the age of 30.**
- **70% of under 30s surveyed didn't know when they would start to make the lifestyle changes they need to ensure strong bones, had no intention of doing so, or will leave it too late.**

### CASE STUDY: Robert, 49



"I was enjoying a family holiday in the Dominican Republic when three of my vertebrae shattered. Initially doctors suspected bone cancer, but after almost a year I was finally diagnosed with osteoporosis. They told me I had the bones of an 80 year old. I was only 43."

parents has broken a hip, you are more likely to have a fracture yourself.

- **Age** – Bone loss increases in later life so by the age of 75 about half of the population will have osteoporosis. As you get older, bones become more fragile and generally more likely to break, whatever your bone density.
- **Gender** – Women have smaller bones than men and they also experience the menopause which accelerates the process of bone turnover.

# and realities

- **Ethnic background** – People of Black African and Caribbean origin are at lower risk than those of Caucasian or Asian origin because their bones are bigger and stronger.
- **Low body weight** – If you have low BMI (Body Mass Index) below 19kg/m<sup>2</sup> you are at greater risk of developing osteoporosis and fractures.
- **Falling** – Older people who are at risk of falling are more likely to have fractures, especially of the hip, after the age of 75 years.
- **Previous fractures** – If you have already broken bones easily, including in the spine, then you are much more likely to have fractures in the future.

Other factors which may put you at greater risk include:

- Rheumatoid arthritis;
- Low levels of oestrogen in women as a result of early menopause, having a hysterectomy with removal of ovaries (before the age of 45), anorexia nervosa or taking drugs such as aromatase inhibitors for breast cancer;
- Low levels of testosterone in men following surgery or treatment of some cancers;
- Conditions that affect the absorption of food such as Crohn's disease or coeliac disease;
- Conditions that cause long periods of immobility;
- Taking corticosteroid tablets such as prednisolone for other medical conditions for over three months;
- Drinking excessive amounts of alcohol;
- Smoking.

## The signs and symptoms of osteoporosis

Osteoporosis itself has no specific symptoms and can go undetected until the time of the first broken bone, which is why it is often called the “silent disease”.

However, people with osteoporosis are at greater risk of sustaining a fracture as the result of a minor bump or fall (i.e. where a person with good bone health would not normally break a bone). These are known as ‘fragility fractures’.

**Over 90% of hip fractures are falls related<sup>10</sup>. However, only a quarter of vertebral fractures are due to falls, most are caused by routine, everyday activities such as bending or lifting light loads<sup>11,12</sup>.**

Fractures can result in pain, disability and loss of independence. They can even prove fatal. There are about 230,000 fragility fractures in the UK every year<sup>2,3</sup>. Adults who sustain a fracture are over 50% more likely to have another one of a different type<sup>13,14</sup>.

### FACT:

**All fractures can result in:**

- Pain;
- Disability;
- Loss of independence;
- Low self esteem.

**Vertebral fractures can also result in:**

- Change in body shape;
- Loss of height;
- Impaired function of internal organs.

Hip fractures can lead to premature death – around one third of hip fracture patients die within a year<sup>15</sup>.

### SURVEY RESULT:

**Although 67% correctly identified a family history of osteoporosis as a risk factor, understanding of other risk factors, which could be tackled through simple lifestyle changes, was low:**

- **Only 21% of people knew that being underweight is a risk factor for osteoporosis.**
- **Only 27% correctly identified smoking as a risk factor.**
- **Just 14% cited excessive alcohol consumption as increasing risk.**
- **Only 35% of people recognised that physical inactivity increases the risk of osteoporosis.**
- **15% identified impact sports such as running as a risk factor, when actually such load bearing activity can help reduce risk.**

### CASE STUDY: Jo, 77

“I was brushing my hair when I heard a grating sound and collapsed in excruciating pain. That was my first spinal fracture. I had no idea that I had osteoporosis but over the following five months, I shattered five vertebrae and lost five inches in height.”



# Osteoporosis –

## The myths and realities continued...

### Diagnosis

Osteoporosis is currently diagnosed with bone density scanning machines, when people are found to have a significantly lower amount of bone than average. The most accurate and reliable method is central Dual Energy X-ray Absorptiometry (DXA) scanning - a simple, painless and non-invasive procedure that uses very low doses of radiation across the spine or hip.

Despite the existence of this simple procedure to assess bone density, diagnosis of osteoporosis, even in patients who have already sustained a fragility fracture, is poor.

**Only one in ten older women with a previous fragility fracture has a referral for bone density assessment in her electronic medical record. For older men this proportion is even lower, at one in fifty<sup>16</sup>.**

### Treatment

Effective drug treatments, physiotherapy and practical support can reduce the risk of further fractures and speed recovery. Treatment depends on a number of factors including age, sex, medical history and which bones have been broken.

Drug treatments aim to strengthen existing bone to help further bone loss and reduce the risk of broken bones. They can reduce fracture risk by about 50 percent and may include:

- Bisphosphonates;
- Strontium ranelate;
- Selective estrogen receptor modulators (SERMs);
- Parathyroid hormone treatments;
- Calcium and vitamin D supplements.

Other treatments are generally only prescribed when those above are not appropriate, including calcitonin (Miacalcic) and calcitriol (Rocaltrol). Hormone replacement therapy (oestrogen) is no longer prescribed as a first line osteoporosis treatment for women because of long term risks of blood clots and breast cancer; testosterone is prescribed to men with low hormone levels to strengthen bones.

With effective secondary prevention of osteoporosis (that is, assessing people who have already sustained a fragility fracture and treating underlying osteoporosis) the number of people who go on to have further fractures would be significantly reduced. Studies have consistently reported that half of hip fracture patients have had a fragility fracture in the past<sup>17 18</sup>. Evidence shows that if everyone who has a fragility fracture was treated for osteoporosis, half of subsequent, potentially life-threatening hip fractures would be prevented.

### What to do if you think you are at risk

If you think you are at risk of osteoporosis, talk to your GP. If you have experienced a previous fragility fracture, ask your GP for a fracture risk assessment.



#### CASE STUDY: Joan, 84



“I had my first fracture in 1979 but had to wait for five years before I was diagnosed with osteoporosis. Since then I have had more than thirty fractures and lost nearly 10 inches in height. Once, I fractured my breast bone when I reached across the table to pick up a serviette.”

# Building stronger bones

Bone is a living organ and just like any other organ in our bodies, such as our heart, there are steps we can take to keep our bones strong and healthy. Whilst our genes are key to deciding the potential size and strength of our skeleton, the way we live our lives can also play an important part in the amount of bone we invest in our 'bone bank' during our youth, and how much we retain in later life.

## Healthy living for strong bones

The things that you need to do to ensure good bone health are largely the same as the choices you would make for a general healthy lifestyle. Our survey revealed that while many people are becoming increasingly aware of the choices they can make to improve their health, some confusion exists around how they can best secure good bone health for their older age.

## Balanced diet

A healthy, balanced, calcium rich diet will help provide you with all the vitamins, minerals and energy you need to live life to the full, keep your bones healthy and reduce the risk of other chronic diseases.

### FACT:

Lifestyle changes such as improving diet, taking weight bearing exercise, reducing alcohol consumption and stopping smoking can help reduce the risk of osteoporosis.

### SURVEY RESULT:

**A staggering two thirds (67%) of people did not realise that there were steps they could take to improve their bone health.**

### CASE STUDY: Carina, 28

"Osteoporosis runs in my family so I know that I'm at an increased risk of developing it when I'm older. I'm in my twenties, which is the right age to bank my bones. I have a healthy diet with lots of calcium, I make sure that I keep my vitamin D topped up and last year I ran the Flora London Marathon for the National Osteoporosis Society, because running is a great weight bearing exercise. I'm thankful that I can do all of these things whilst I'm still at an age where it makes a difference."



# Building stronger bones continued...

## Calcium

Calcium is vital for strong teeth and bone because it gives them strength and rigidity. Most people should be able to get enough calcium through healthy eating, without the need for additional supplements. 700 mg daily is recommended although those with osteoporosis who are taking drug treatments might benefit from 1000 to 1200 mg a day.

Evidence has shown that calcium intake is likely to be inadequate in 10% of boys and 20% of girls aged 11 to 18<sup>19</sup>. There is particular concern that young women are not getting the calcium they need as they avoid dairy products because of their perceived fat content. In fact, few people are aware that skimmed milk has a greater calcium content than semi-skimmed or full fat milk, indicating the likelihood that young women are unnecessarily putting their bones at risk.



### FACT:

**As well as dairy products, calcium can be found in a wide range of other foods such as:**

- Green leafy vegetables (watercress, okra, curly kale);
- Dried fruit (dried figs, apricots and currants; five figs provide 250mg of calcium);
- Tinned fish like tinned salmon, sardines, pilchards (provided you eat the bones);
- Tofu (a type of vegetable protein made from soya beans), check the calcium content though as products may vary;
- Fried whitebait;
- Sesame seeds and tahini.

### SURVEY RESULT:

**The survey shows an alarming lack of understanding in the youngest age group (18-24 year olds):**

- **Less than half (43%) know that eating dairy foods helps reduce risk of osteoporosis.**
- **Awareness of the benefits of green leafy vegetables (21%) is also low compared with other age groups.**
- **A third of 18-24 year olds say that they do not know which types of food can help reduce the risk of osteoporosis.**

## Vitamin D

Vitamin D plays a vital role in helping the body absorb calcium, which in turn helps build healthy bones.

As we age, our skin is less able to make vitamin D from sunlight and so taking dietary supplements may be advisable for older people and particularly for people living in residential and care homes. Studies have found that 1 in 3 people living in care homes are vitamin D deficient<sup>20</sup>.

Despite the evidence that supplementation with calcium and vitamin D in elderly women in residential homes can reduce the risk of hip and other non-vertebral fractures<sup>21</sup>, sadly such simple steps to improve bone health are not widely taken.

### FACT:

- 90% of vitamin D is produced through exposure of the skin to sunlight.
- About 15 to 20 minutes of sun exposure to the face and arms without sunscreen, three or four times a week, between April and October, should provide enough Vitamin D for the year.

### SURVEY RESULT:

**There is confusion about the best sources of vitamin D. 60% of people correctly identify sunlight as the best source of vitamin D.**

**However:**

- **Only 18% of people identify a lack of exposure to sunlight as a risk factor for osteoporosis.**



# Building stronger bones continued...

## Exercise

Physical activity helps the body stay healthy which enables it to work properly. Regular weight bearing exercise (where the weight of our bodies is taken by our bones) such as jogging, aerobics, dancing and walking are all great ways to help your bones grow stronger.

Exercise helps to ensure strong bone development in young people and can also delay the rate at which bone density is reduced from our late 20s onwards. Those with osteoporosis may need to be careful of vigorous high-impact exercise but it is important to stay active as this can help to maintain balance and coordination, so reducing the risk of falling.

### EVENTS:

The importance of exercise to bone health is being promoted by the National Osteoporosis Society through two major initiatives:

Dance is invigorating, engaging and a great weight bearing exercise. This year, we will inspire people of all ages and all abilities across the UK to **Boogie for Your Bones**, at an event which will be held at London's **Royal Festival Hall on Monday 20th October** - World Osteoporosis Day.

Walking is a great way of improving bone health. This year a series of **Big Bone Walks** have been taking place around the UK, with flagship walks in the Lake District, Belfast, Cardiff and Glasgow.



### FACT:

Bone is a living tissue and needs to be exercised. Your skeleton grows stronger if you do weight bearing exercise. This is any kind of physical activity where you are supporting the weight of your own body such as:

- Dancing
- Walking
- Skipping
- Aerobics
- Tennis
- Squash
- Badminton
- Netball
- Volleyball
- Football
- Jogging
- Running up and down the stairs

Try to exercise at least three times a week for a minimum of twenty minutes.

### SURVEY RESULT:

**When asked which forms of exercise could help reduce the risk of osteoporosis, 44% correctly identify walking as being beneficial for bone strength, however:**

- **Less than a quarter of people think that dancing could be beneficial.**
- **Just 18% recognise that running can help to reduce the risk of osteoporosis.**
- **46% believe that swimming is beneficial for preventing osteoporosis. Whilst swimming is a good form of exercise for general health, it is not weight bearing and does not help to build stronger bones.**

### SURVEY RESULT:

**Knowledge of how to reduce the risk of osteoporosis through exercise is lowest among 18–24 year olds, the group that can do most to improve their bone density through exercise:**

- **Over half of young people do not think that exercise can help reduce the risk of osteoporosis, or do not know which forms of exercise will help.**

# A misunderstood disease

Our survey reveals alarming levels of misunderstanding about the prevalence and causes of osteoporosis. More worryingly, it highlights a lack of knowledge about the steps we can all take to help our bones stay strong throughout life.

## Osteoporosis and young people

People under the age of 30 are the group most able to make a difference to their bone strength. Yet our survey demonstrates that they have the least understanding of the steps they could be taking to reduce their chance of developing osteoporosis in later life.

- More than half (56%) of young people do not know that exercise can help to reduce the risk of osteoporosis.
- Almost half (49%) of young people do not know that there are steps that you can take to reduce the risk of developing osteoporosis.
- 1 in 3 do not know about the role that diet can play in minimising risk.
- 32% of young people know nothing about the prevalence of osteoporosis.
- 27% of young people do not know what the risk factors are for osteoporosis.
- 21% of young people do not know what osteoporosis is.

Whilst teaching about bone health is included in the National Curriculum for 8 and 9 year olds, it is not included in the curriculum for older children. Incorporating bone health in all educational objectives that include exercise, diet and healthy lifestyles would help to raise awareness

in young people. The National Osteoporosis Society is keen to work with the UK government and the devolved administrations to develop educational materials to this end.

## Raising awareness of osteoporosis

As the only UK-wide charity dedicated to improving the diagnosis, treatment and prevention of osteoporosis, raising awareness of the disease and the steps people can take to improve their bone health is crucial to the work of the National Osteoporosis Society.

Encouragingly, the powerful effect that government-led public health campaigns have had is also demonstrated by our survey. When asked about diet, people were aware of the benefits of eating oily fish and 5 portions of fruit and vegetables, and drinking plenty of water.

A public health campaign about osteoporosis, coupled with greater efforts to inform people about how they can help keep their bones healthy would have a significant impact on the general public's understanding of the disease.

## A national clinical priority

Osteoporosis has potentially devastating effects. Billions of pounds are spent every year treating fragility fractures and providing care and support for the people who suffer them.

Life expectancy within the UK rises year on year, and the personal and financial costs of osteoporosis will continue to rise unless steps are taken to ensure that diagnosis and treatment meet the same high standards throughout the UK. We believe that making osteoporosis a national clinical priority would bring about the changes required to reduce fracture rates, helping the government to deliver its aim to 'add life to years'.

### We urge the UK and devolved administrations to:

- **Make osteoporosis a national clinical priority;**
- **Include osteoporosis and bone health in all aspects of the National Curriculum relating to exercise, diet and healthy lifestyles;**
- **Commence a public health campaign about osteoporosis and bone health as we have seen for other health issues such as obesity.**

# About the National Osteoporosis Society

The National Osteoporosis Society is the only UK-wide charity dedicated to improving the prevention, diagnosis and treatment of osteoporosis.

It was established in 1986 and has since grown into a well respected national charity. We represent both health professionals and patients and currently have approximately 25,000 members in total, with a network of over 100 support groups across the UK.

A key part of our work is to ensure that support and information are available for all those people who have been diagnosed as having osteoporosis, those who have had a fragility fracture and all those who are worried for themselves or loved ones. We provide a wide range of services to help people learn how to prevent osteoporosis or to manage living with the disease and the fractures it causes.

We are an independent charity. Our funding base consists of legacies, personal donations, membership fees, fundraising programmes and modest contributions from industry. We do not receive funding from government or the NHS.

## Further Information

Anyone who is concerned about osteoporosis should consult their GP.

For further information about osteoporosis visit [www.nos.org.uk](http://www.nos.org.uk) or call the National Osteoporosis Society Helpline on **0845 450 0230 or 01761 472 721** (weekdays between 9am and 5pm).

The Helpline is staffed by a team of nurses who have specialist knowledge of osteoporosis and bone health. You can also contact the Helpline nurses at [nurses@nos.org.uk](mailto:nurses@nos.org.uk)

The charity also produces a wide range of booklets and leaflets on osteoporosis and related issues for both the general public and health professionals.

### National Osteoporosis Society

Camerton, Bath, BA2 0PJ

Tel: 01761 471 771 or 0845 130 3076  
(Mon – Thu 9am to 4.30pm; Friday 9am to 4pm)

General email: [info@nos.org.uk](mailto:info@nos.org.uk)

## About the research

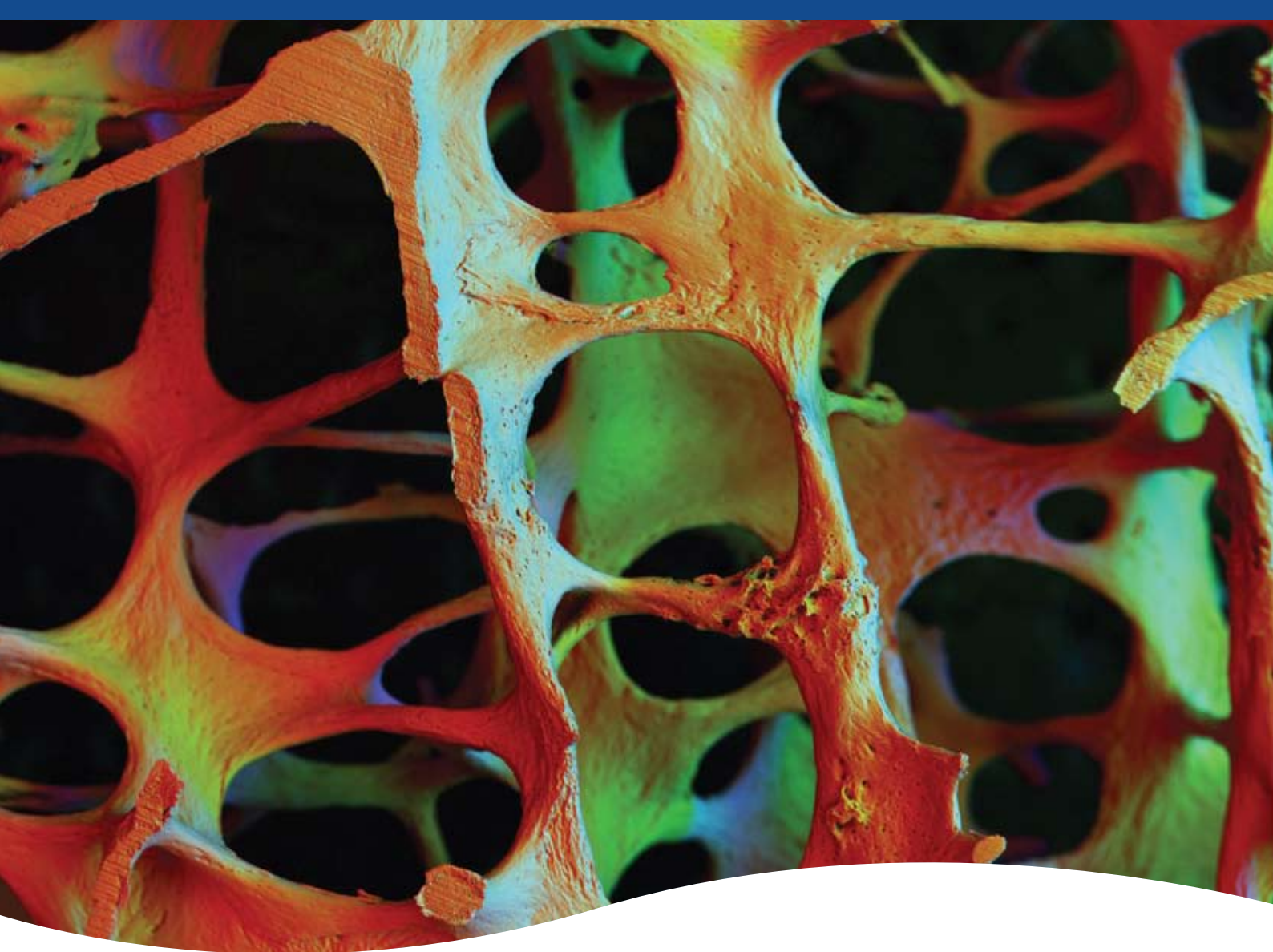
This survey was carried out by YouGov plc on behalf of the National Osteoporosis Society. Total sample size was 2,615 adults. Fieldwork was undertaken between 27th - 30th June 2008. The survey was carried out online. The figures have been weighted and are representative of all UK adults (aged 18+). For further information, please contact the National Osteoporosis Society on 01761 471771.



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