Instruction to your Bank or Building Society to pay by Direct Debit

Please complete this form and return it to:
FREEPOST RTJH-ERRL-ZEBK
The Membership Department,
National Osteoporosis Society,
Camerton, Bath, BA2 0PJ

Name and full postal address of your Bank or Building Society
To: The Manager Bank/Building Society

Address

Postcode

Name(s) of account holder(s)

Bank/Building Society account number

Branch sort code

Reference (For office use only)

Instruction to your Bank or Building Society
Please pay the National Osteoporosis Society Direct Debits from the account detailed in this Instruction subject to the safeguards assured by the Direct Debit Guarantee. I understand that this Instruction may remain with the National Osteoporosis Society and, if so, details will be passed electronically to my Bank or Building Society. Banks and Building Societies may not accept Direct Debit Instructions for some types of account.

Signature(s)

Date

The Direct Debit Guarantee
This Guarantee is offered by all Banks and Building Societies that take part in the Direct Debit Scheme. The efficiency and security of the Scheme is monitored and protected by your own Bank or Building Society.

If an error is made by the National Osteoporosis Society, you are guaranteed a full and immediate refund from your branch of the amount paid. You can cancel a Direct Debit at any time by writing to your Bank or Building Society. Please also send a copy of your letter to us.

For osteoporosis information and support contact our Helpline:

- Freephone 0808 800 0035
- nurses@nos.org.uk

To order an information pack or other publications:

- 01761 471771
- info@nos.org.uk

Our publications are available free of charge, but as a charity, we would appreciate any donation you are able to give to support our work. Or why not join us as a member to receive our quarterly magazine, packed with useful information, tips and the latest medical news?

- 01761 473287
- www.nos.org.uk

An introduction to osteoporosis
A short guide to bone health, fragile bones and fractures

Camerton, Bath, BA2 0PJ
General email: info@nos.org.uk
National Osteoporosis Society is a registered charity No. 1102712 in England and Wales and no. SC039755 in Scotland.
Registered as a company limited by guarantee in England and Wales no. 4985013
NOS 00268 First published October 2015.
What is osteoporosis?

Our bones contain collagen (protein), 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 a honeycomb, with blood and bone marrow 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.

Osteoporosis is commonly linked to post menopausal women. However men, younger women, children and pregnant women can also be affected.

Did you know?
Almost one in two women and one in five men over the age of 50 will break a bone, mainly due to poor bone health.

What causes osteoporosis?
Two types of cell 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.

Women lose bone density faster in the years following the menopause when oestrogen

Our magazine
Osteoporosis News

By becoming a member you will receive:

Four copies of our magazine Osteoporosis News a year.

Money-saving discounts on products and services from partner companies.

Access to discussion forums and a special members-only area of our website.

Your membership fee will help us to:

Provide a Helpline service staffed by a team of osteoporosis nurses.

Fund vital research in the field of osteoporosis.

Lobby governments and health bodies to provide better treatments for people with osteoporosis.

Provide up to date publications on all aspects of osteoporosis.

You can join the National Osteoporosis Society today for just £18 or £25 for joint membership.

Become a member or make a donation

1. Your name and address (Please use block capitals)

   Name(s):

   Address:

   Postcode: Date of birth:

   Telephone: Email:

   Please tick this box if you are happy to receive information and updates from us by email. You can unsubscribe at any time.

2. I/we would like to:

   Become a member of the National Osteoporosis Society for £18

   Become joint members for £25

   Make a donation

3. Payment details:

   (a) I enclose a cheque for £

   (b) I would like to make a regular gift to the National Osteoporosis Society by Direct Debit of £ per month per quarter per year (please make sure you’ve filled in your Bank’s details overhead).

   (c) I would like to pay by credit/debit card. Please debit £

   from my Visa/MasterCard Maestro CAF card

   Card number

   Extra 3 digits (Maestro only) Issue number (Maestro only)

   Start date Expiry date last 3 digits on reverse of card

   Signature: Date:

For further details of our membership categories see www.nos.org.uk/membership

Dentaid it

I am a UK taxpayer and want the National Osteoporosis Society to claim back the tax on all my gifts made in the last four years and all future gifts until further notice. I confirm I have paid or will pay an amount of Income Tax and/or Capital Gains Tax for each tax year (6 April to 5 April) that is at least equal to the amount of tax that all the organisations that I donate to will reclaim on my gifts for that tax year. I understand that other taxes such as VAT and Council Tax do not qualify. I understand the charity will reclaim tax on every £1 that I give (currently 25p on every £1).

Please tick this box

Help support our work

There are many other ways in which you can engage with our work and help the millions of people with osteoporosis. By filling out this form you will be expressing your interest and we will send you information accordingly:

I would like information about (please tick those that apply):

- Encouraging your employer to support us or make us charity of the year
- Taking part in one of our fun challenges and events or organising your own
- Remembering us in your Will by leaving a legacy

Your preferences. We would like to keep in touch with you about our work and ways in which you can get involved. If you would prefer not to be contacted in future, please tick this box. We won’t pass your details on to other organisations. Please tick this box if you don’t want us to give your details to your local National Osteoporosis Society Support Group.
levels drop. This can lead to osteoporosis and broken bones.

**Consequences of osteoporosis**

Osteoporosis causes bones to break following a minor bump or fall. These broken bones, commonly referred to as fragility fractures, are most common in the wrist, hip and spine, although other parts of the body can also be affected.

Compressed bones in the back (spinal fractures) can lead to loss of height and spinal curvature, while a broken hip often results in both loss of independence and confidence.

Having osteoporosis does not automatically mean that your bones will break; it means that you have a ‘greater risk of fracture’. Thin, fragile bones in themselves are not painful but the broken bones that can result may cause pain and lead to other problems.

However, effective drug treatments, physiotherapy and practical support can reduce the risk of further fractures and speed recovery.

**Did you know?**

A ‘broken bone’ and ‘fracture’ are the same thing. Fractures in the spine, caused by osteoporosis, result in the bone becoming compressed or wedge shaped.
Healthy living for strong bones

Preventing fractures due to osteoporosis

Our genes are key to deciding the potential size and strength of our skeleton, but the way we live our life can also play a part in the amount of bone we invest in our ‘bone bank’ during our youth, and how much we retain in later life.

Healthy balanced eating

Whatever your age or sex, it is vital to make sure that what you eat today will help to keep your skeleton strong for the future.

Although getting enough calcium is important, a healthy, balanced diet is essential to provide all the vitamins, minerals and other nutrients that your bones need. Aim to eat meals that incorporate a wide variety of foods from the four main groups, including fruit and vegetables, carbohydrates like bread, potatoes, pasta and cereals, milk and dairy products, and protein such as meat, fish, eggs, pulses, nuts and seeds.
Calcium

Calcium is vital for strong teeth and bones because it gives them strength and rigidity. Our bodies contain about 1kg of this important mineral, 99 per cent of which is found in our bones. Most people should be able to get enough calcium through healthy eating, without the need for additional supplements. 700mg daily is recommended although those with osteoporosis taking drug treatments might benefit from around 1,000mg a day.

Here are a few examples of some calcium rich foods:

<table>
<thead>
<tr>
<th>Weight (g) (oz)</th>
<th>Food</th>
<th>Calcium content (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/3 pint (190ml)</td>
<td>Whole milk</td>
<td>224</td>
</tr>
<tr>
<td>1/3 pint (190ml)</td>
<td>Semi-skimmed milk</td>
<td>231</td>
</tr>
<tr>
<td>1/3 pint (190ml)</td>
<td>Skimmed milk</td>
<td>235</td>
</tr>
<tr>
<td>150g (5oz)</td>
<td>Low-fat yoghurt</td>
<td>225</td>
</tr>
<tr>
<td>28g (1oz)</td>
<td>Cheddar cheese</td>
<td>202</td>
</tr>
<tr>
<td>112g (4oz)</td>
<td>Baked beans</td>
<td>59</td>
</tr>
<tr>
<td>100g (31/2oz)</td>
<td>Tofu</td>
<td>480</td>
</tr>
<tr>
<td>56g (2oz)</td>
<td>Whitebait (fried)</td>
<td>482</td>
</tr>
</tbody>
</table>

Did you know?

Low fat or fat free dairy products have as much, if not more, calcium as their full fat versions.
Frailer people may need specific exercises from a physiotherapist or a referral to a falls prevention service at a local hospital.

**Vitamin D**

You need vitamin D to help your body absorb calcium. The best source is sunlight, which your body uses during the summer months to manufacture the vital vitamin in your skin. You should try to get ten minutes of sun exposure to your bare skin, once or twice a day, without sunscreen and taking care not to burn. Get outside between May and September so that your body can produce enough Vitamin D to help see you through the winter months. However, older frailer people may benefit from a calcium and vitamin D supplement.

**Stop smoking**

Smoking has a toxic effect on bone by stopping the construction cells from doing their work. It’s another good reason to try to give up.

**Reduce alcohol intake**

Excessive alcohol consumption is a significant risk factor for osteoporosis and fractures. The current daily recommended limit, as suggested by the Food Standards Agency, is two to three units for women and
three to four units for men. (A unit equals one small glass (125ml) of wine or half a pint (300ml) of beer or cider.)

**Exercise and strong bones**

Another way your skeleton can grow stronger is if you do regular weight-bearing exercise. This is any kind of physical activity where you are supporting the weight of your own body, for example jogging, aerobics, tennis, dancing and brisk walking. If you have osteoporosis and are at high risk of breaking bones, you may need to be careful of vigorous, high impact exercise and forward bending (touching your toes). Remember, it’s important to stay active and find exercise you enjoy.

Broken hips occur in older people when their bones are frail and they fall. Exercises like swimming, gardening, golf and Tai Chi may help to maintain muscle strength, balance and co-ordination and reduce your risk of falling.

**Did you know?**

Current smokers are most at risk of breaking bones easily so quitting is always worth it.
Diagnosing osteoporosis and assessing your risk of fracture

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

**Genes**
Our bone health is largely dependent on the genes we inherit from our parents. If one of your 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 more likely to break generally, whatever your bone density.

**Gender**
Women have smaller bones than men and they also experience the menopause which accelerates the process of bone turnover.

**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.

**Race**
People who are black Afro Caribbean are at a 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/m², 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.

Other factors which may put you at greater risk include:

- Rheumatoid arthritis
- Low levels of the sex hormone 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 for some cancers
- Conditions that affect the absorption of food such as Crohn’s 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
Diagnosing osteoporosis on a scan

Osteoporosis is currently diagnosed on a bone density scanning machine when the amount of bone you have, as measured on the scan, is found to be significantly lower than average. The lower your bone density the higher your risk of breaking bones.

Central dual energy x-ray absorptiometry (DXA) scanning is currently the most accurate and reliable method. It is a simple, painless procedure that uses very low doses of radiation. You will be asked to lie down for 10-15 minutes while an x-ray scanning arm passes over you to take an image of your spine and hip. These scanners are usually in hospitals although not all hospitals have one.

Bone density scans are only recommended for people who are considered to be at high risk of having a fragility fracture. Your GP will discuss your risk.
factors with you and then decide whether a referral is necessary. If you think you are at risk then talk to your GP to discuss whether a scan would be useful.

**Assessing fracture risk**

Although a diagnosis of osteoporosis will increase the risk of a fracture, many other factors will also contribute to your risk. Some of these risk factors, such as the risk of falling, may be tackled by lifestyle changes. Others relate to bone strength and may be improved by taking drug treatments.

When doctors decide who needs drug treatment to reduce their risk of a fracture, they are moving towards using ‘fracture risk assessment’ rather than simply diagnosing osteoporosis. For this they use a fracture risk assessment tool called FRAX. Measurement of bone density may form part of this assessment but may not always be necessary.
Drug treatments to reduce risk of fractures

The treatment of osteoporosis depends on a number of factors including your age, sex, medical history and which bones you have broken. Osteoporosis drug treatments aim to strengthen existing bone, to help prevent further bone loss and, most importantly, reduce the risk of broken bones.

The following are the main drug treatments for osteoporosis:

**Bisphosphonates** *Alendronic acid / alendronate (Fosamax), risedronate (Actonel), ibandronate (Bonviva) and zoledronic acid (Aclasta)*

Available in tablet form on a daily, weekly or monthly basis. Ibandronate is also given as a three monthly injection. Zoledronic acid is given as a yearly infusion via a drip in the arm.

**Selective Estrogen Receptor Modulator (SERM)** *Raloxifene (Evista)*

Prescribed to reduce the risk of spinal fractures in women after the menopause.

**Strontium ranelate (Protelos)**

Appears to affect both cells that build bone and those that break it down thus reducing the risk of hip and spinal fracture. It is unclear how this works to reduce the risk of broken bones. It comes in powder form that is mixed in water and taken daily and has been recently restricted to those without heart problems and for whom there are no alternative treatments.
Denosumab (*Prolia*)
Given as an injection under the skin twice a year.

Parathyroid hormone (PTH) treatment
*Teriparatide (Forsteo), Preotact*
Prescribed to reduce the risk of spinal fracture. The drugs are self administered as daily injections, given over a period of 18-24 months. They are only available from specialists and are generally prescribed to those who have suffered a number of spinal fractures.

**Calcium and vitamin D**
Often prescribed to older people to help prevent broken hips.

There are other treatments generally only prescribed when others are not appropriate, such as calcitriol (*Rocaltrol*). **Hormone replacement therapy** is not generally used as a treatment for osteoporosis because of long-term risks of blood clots, heart disease, strokes and breast cancer. In younger post-menopausal women it may be considered after careful consideration of risks and benefits. Testosterone may be prescribed to men with low hormone levels to strengthen their bones.

**Drug treatments for fragile bones and osteoporosis can reduce fracture risk by about 50 per cent.**
Recovering from broken bones

Bones heal in 6-8 weeks but pain and other problems may continue for longer. Recovering from a broken hip can be a long process and you may need a referral to a physiotherapist and social services to help you recover.

Compressed or wedge shaped bones in the spine (spinal fractures) are sometimes very painful, but not always. Long term chronic pain may continue even after bones have healed due to changes in posture and the strain this puts on muscles and ligaments. Exercises to help strengthen the muscles that support the spine can be helpful.

Simple over-the-counter pain relievers, or stronger pain relieving drugs prescribed by your GP, can also make a big difference if taken properly. A referral to an NHS pain clinic may sometimes be necessary. Drug free ways to manage pain include physiotherapy, hydrotherapy (exercise in water) or using a TENs (transcutaneous electrical nerve stimulation) machine. Self management courses such as the ‘Expert Patient Programme’ may be helpful.

Therapies like acupuncture, homeopathy, the Alexander Technique and aromatherapy may also be of some benefit.

Some specialists sometimes use a surgical procedure called percutaneous vertebroplasty or kyphoplasty to help with painful spinal fractures.
Joan Hutchings

Joan had both ovaries removed before the age of 40 and suffered a compression fracture in the spine at 55. At the time, Joan received very little support from her GP and was prescribed pain killers and bed rest to help alleviate the pain.

Over the years, Joan’s condition deteriorated and since her very first fracture she has suffered as many as 30 broken bones (including both wrists, 12 vertebrae, a number of ribs as well as her breast bone).

She has also lost nearly nine inches in height. In the early 1980s, Joan moved house and her new GP referred her to a specialist. This was when she was finally diagnosed with osteoporosis and started to receive the treatment she so desperately needed.

Joan now leads a healthy life, taking regular exercise and maintaining a balanced diet. If you would like to help people like Joan, please follow the simple steps on the following pages and join us in our work, or make a donation towards the fight against osteoporosis.

“I shall be forever grateful to the National Osteoporosis Society and its Helpline for all the encouragement and help they have given me, especially in those early years when I was in such pain.”
About the National Osteoporosis Society

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

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 need your help!

As an independent charity, the National Osteoporosis Society can only continue to provide our services with the generosity of our supporters and members of the public. Donations are always welcome! Please complete the attached form or visit www.nos.org.uk

Alternatively, how about holding or taking part in a sponsored event, or getting your company involved? We can help you with ideas, fundraising advice and provide a range of materials to publicise your activities.

To find out more about fundraising please contact us:

☎ 01761 473 137
✉ fundraising@nos.org.uk
Our Helpline

Our osteoporosis nurses are here to give you the specialist information and support you need through a confidential service. The Helpline is available for the general public, as well as health and social care professionals. You don’t need to have a medical problem to use the service – you are welcome to ask any question you may have, via letter, email or via our freephone number. Our Helpline is supported by scientific and medical advisers to ensure our information is based on the most accurate, independent and up to date knowledge.

Over 13,000 responses are provided each year on drug treatments; risks for fracture; scans and tests; exercise; healthy eating and other lifestyle changes; managing pain and other problems caused by fragility fractures and other issues relating to osteoporosis and bone health.
We campaign on behalf of the millions of people affected by osteoporosis. An important part of our work is to influence governments and policy-makers to ensure that osteoporosis is prioritised in health and social care policy.

You can contact the Helpline nurses in the following ways:

- **Freephone** 0808 800 0035
- **Email** nurses@nos.org.uk
- **Forum** nos.org.uk/forum
- **Write** National Osteoporosis Society, Camerton, Bath BA2 0PJ

Calls are answered between 9am and 5pm on Monday, Wednesday, Thursday and Friday and 11am to 7pm on Tuesdays. Hard of hearing callers can use Typetalk; a translation service is provided for calls via Language Line.

Calls may be monitored or recorded for quality and training purposes. The service complies with the Data Protection Act 1998.
Free publications

We produce a range of free information on osteoporosis and related issues in printed and electronic form for both the general public and health professionals. For a full listing of our extensive range of publications, visit our website or ask for a publications order form.

To order an information pack or any of our publications:

01761 471771
info@nos.org.uk
www.nos.org.uk
Support Groups

We have a network of Support Groups across the UK. Our Groups provide essential support and information to their local communities by organising regular meetings with talks by external speakers and through sharing experiences about living with osteoporosis. They also undertake a range of other activities such as awareness raising and campaigning.

If you would like to get involved with your local Group, please get in touch:

📞 01761 473 122
✉️ groups@nos.org.uk
What do Support Groups do?

- Support people affected by osteoporosis and fragility fractures
- Raise awareness of the condition
- Organise public and professional education events
- Fundraise for local and national projects
- Work with the charity to influence local healthcare providers and politicians for better services
- Meet each other socially

They make a real difference!

“At the Support Group meeting I met people who experience similar problems, helping one another by sharing experiences, knowledge and practical support. One unexpected benefit of the Support Group is the emotional support. So valuable when recently diagnosed.”

“Last year when I was feeling at my lowest after several spinal fractures, I joined my local Support Group. The group reassured me and made me feel that there was hope.”

Local Support Group volunteer
Become a member

Join the National Osteoporosis Society today and support the only UK-wide charity dedicated to improving the diagnosis, prevention and treatment of osteoporosis. Our members play a key part in the charity, supporting our efforts to improve treatment and adding their voice to our campaigns.

Find out more...
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