

Osteoporosis & Bone Health: An Overview

Hazel Buller
Development Manager, N. Ireland

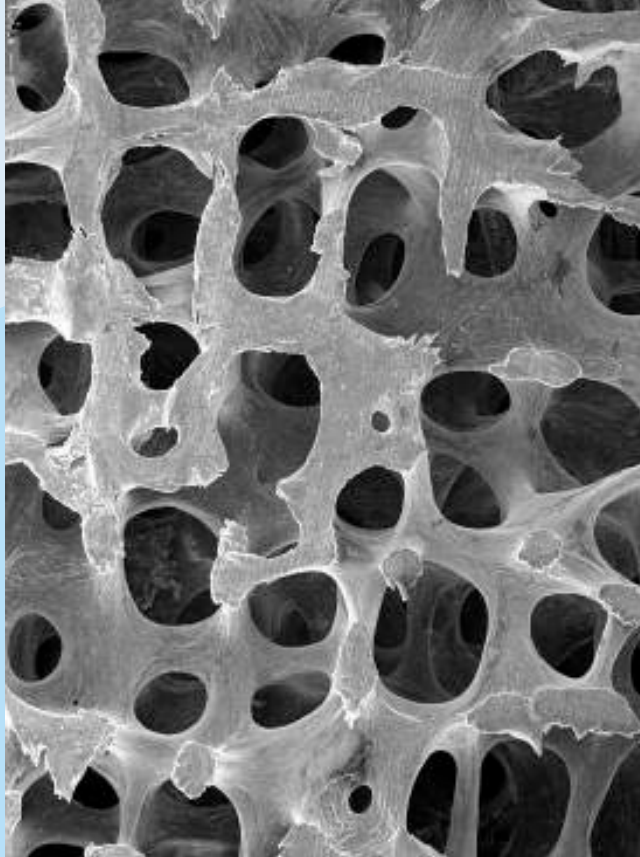
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Topic areas

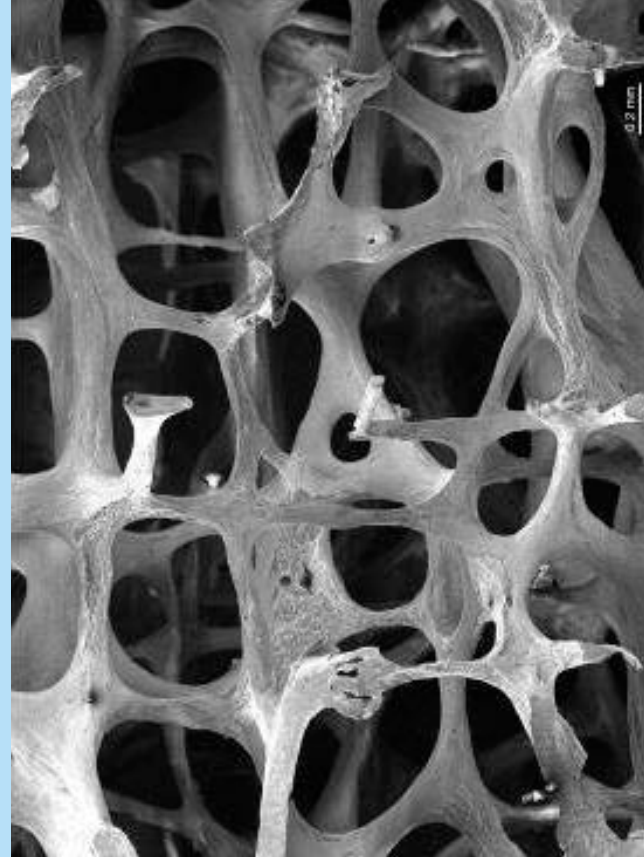
- **What is osteoporosis?**
- **Bone health / lifestyle changes / 'Prevention'**
- **Diagnosis / 'fracture risk assessment'**
- **Drug treatments**
- **Living with fragility fractures / broken bones**
- **New support initiatives from the Charity**

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Healthy bone

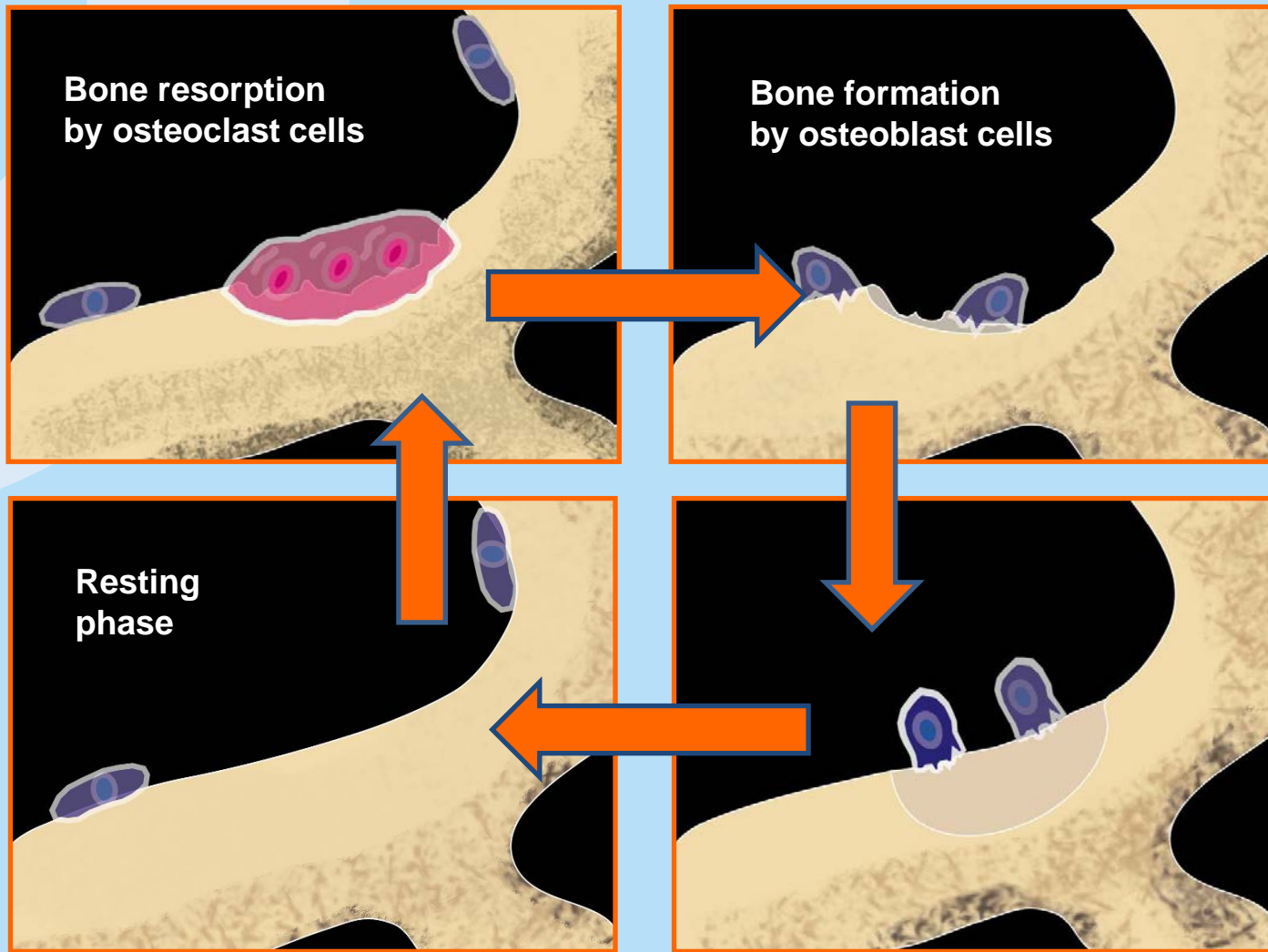


Osteoporotic bone



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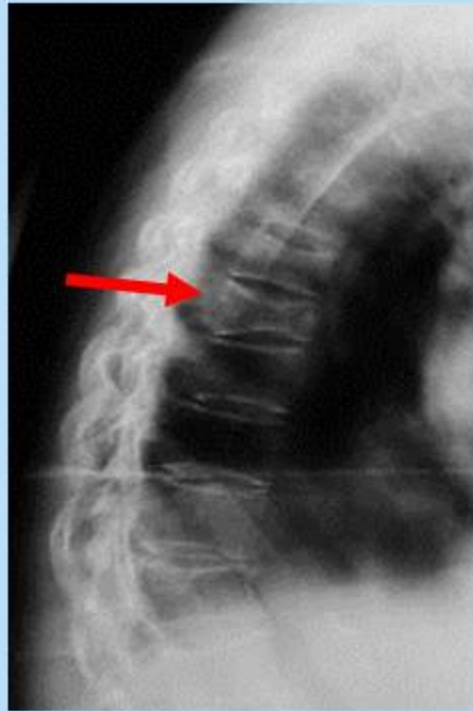
The Living Skeleton

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Common fracture sites



Wrist



Compressed
vertebrae
in spine

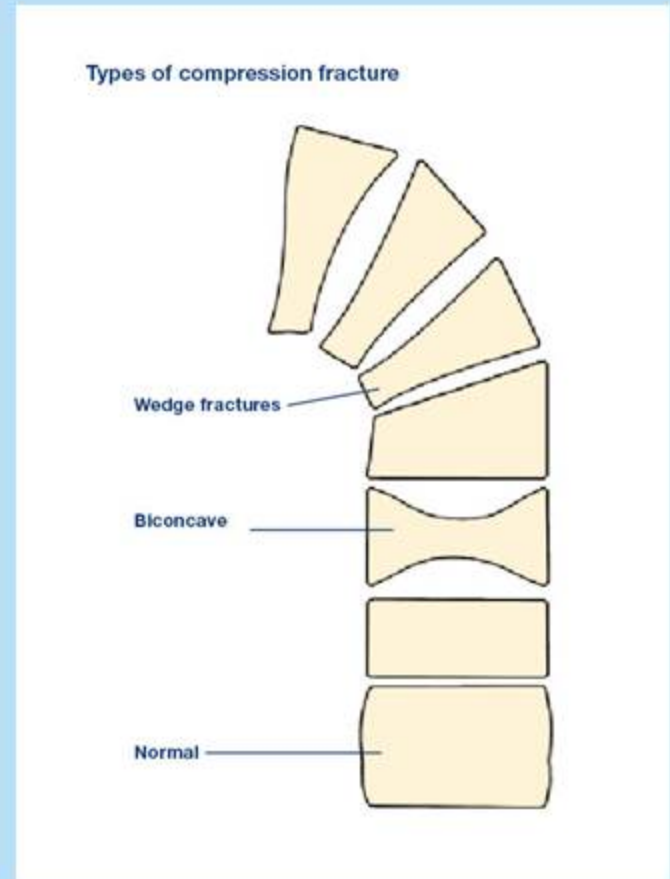


Hip

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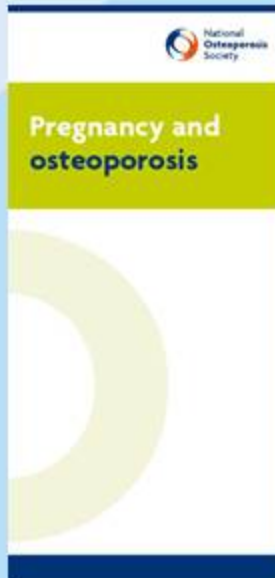
What effects do fragility fractures have?

- Pain
- Disability
- Loss of independence
- Lack of self esteem



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Less common types of osteoporosis



- Osteoporosis in children
- Osteoporosis associated with pregnancy

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What can I do to keep my bones strong and prevent fractures?

- Well balanced calcium rich diet
- Weight-bearing exercise
- Maintain appropriate body weight
- Not smoking
- Not excessive alcohol
- Adequate vitamin D



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The eatwell plate



Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



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Department of Health in association with the Welsh Assembly Government, the Scottish Government and the Food Standards Agency in Northern Ireland.

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UK recommended daily calcium intake (mg): COMA report 1998

Children aged 7-12	550
Teenagers – males	1000
Teenagers – females	800
Adult males	700
Adult females	700
Pregnant women	700
Lactating women*	1250

*May not be necessary

A daily intake of about 1000mg may benefit those with osteoporosis on treatment, but excessive amounts taken as a supplement could be harmful

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Exercise



- Load/weight bearing exercise prevents bone loss and improves bone density
- High impact exercise in early years to increase bone mass

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Exercise

- Exercise to prevent falls should increase muscle strength and improve balance
- Being active in later life - on your feet for at least 4 hours a day - prevents fractures
- Exercise improves mood, mental health and well being and prevents or delays many other medical conditions
- Choose something you enjoy and keep doing it!



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UK Government recommendations for physical activity

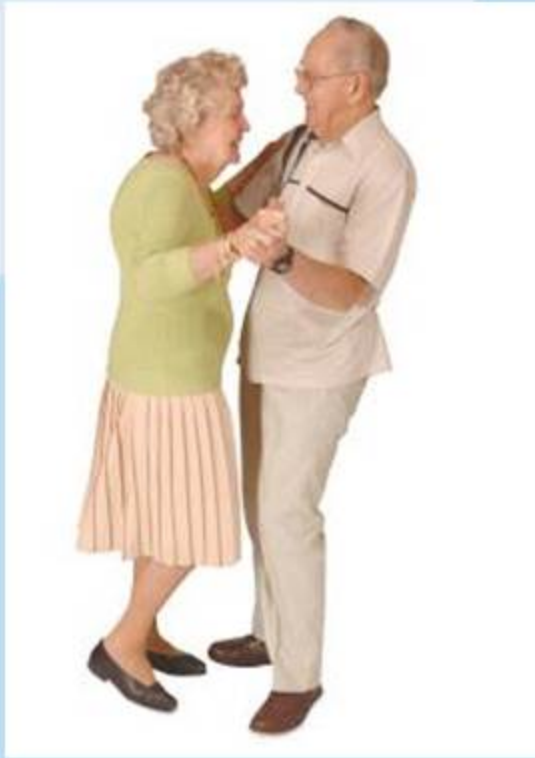


- **Adults:** 30 minutes of moderate-intensity physical activity at least five days a week (or 150 minutes or more in total)
- **Children:** 60 minutes of moderate-intensity physical activity each day

Dept. of Health 2009 & 2011 recommendations from Chief Medical Officer

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UK Government recommendations for physical activity



- **Older adults:** 30 minutes of moderate-intensity physical activity at least five days a week (or 150 minutes or more in total)

....PLUS strength and balance exercises at least twice a week

Dept. of Health 2009 & 2011 recommendations from Chief Medical Officer

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Bone health / lifestyle changes to prevent fractures

- *How much calcium do I need?*
- *Do I need a supplement?*
- *What about vitamin D?*
- *What exercise can I do?*
- *What can I do to stop falls?*



- **Charity publications:**
 - *Exercise & osteoporosis;*
 - *Healthy Living for strong bones*
 - *Vibration therapy & osteoporosis*
 - *Further food facts*

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Risk factors for osteoporosis and fractures



- Age
- Race
- Gender
- Some medicines
e.g. corticosteroids, breast
and prostate cancer drugs

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Risk factors (continued)



- Some medical conditions e.g. rheumatoid arthritis and early menopause
- Medical conditions causing immobility, affecting food absorption, or affecting hormone levels
- Low body weight
- Family history
- Current smoking
- Alcohol > 3 units daily
- Bones have broken easily

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Osteoporosis diagnosed on a scan



Bone density scanning of hip and spine:
dual energy X-ray absorptiometry (DXA)

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Falls Risk Assessment Tool (FRAT)

	Questions	yes	no
1	Is there a history of any fall in the previous year? How assessed? Ask the person.		
2	Is the patient/client on four or more medications per day? How assessed? Identify number of prescribed medications.		
3	Does the patient/client have a diagnosis of stroke or Parkinson's Disease? How assessed? Ask the patient.		
4	Does the patient/client report any problems with his/her balance? How assessed? Ask the person.		
5	Is the patient/client unable to rise from a chair of knee height? How assessed? Ask the person to stand up from a chair of knee height without using their arms.		

A simple tool like this can help establish whether a person needs further assessment and/or referral for investigation/intervention

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Drug treatments

- **Bisphosphonate adverse effects** – ONJ and atypical fractures
- **Duration of treatment** - ‘drug holidays’
- **Calcium and vitamin D** – risk of heart attack
- **Vitamin D** - supplements and testing
- **Strontium ranelate** - risk of blood clots; DRESS; heart attack (now only prescribed in special circumstances)
- **Denosumab** – availability & adverse effects
- **HRT** and osteoporosis
- **Generic drugs**

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Drug treatments

- When do I take my drug treatment?
- How do I take my drug treatment?
- Can I take other treatments at the same time?
- What about side effects?
- How do I know it is working?
- Is a generic drug the same as a branded version?



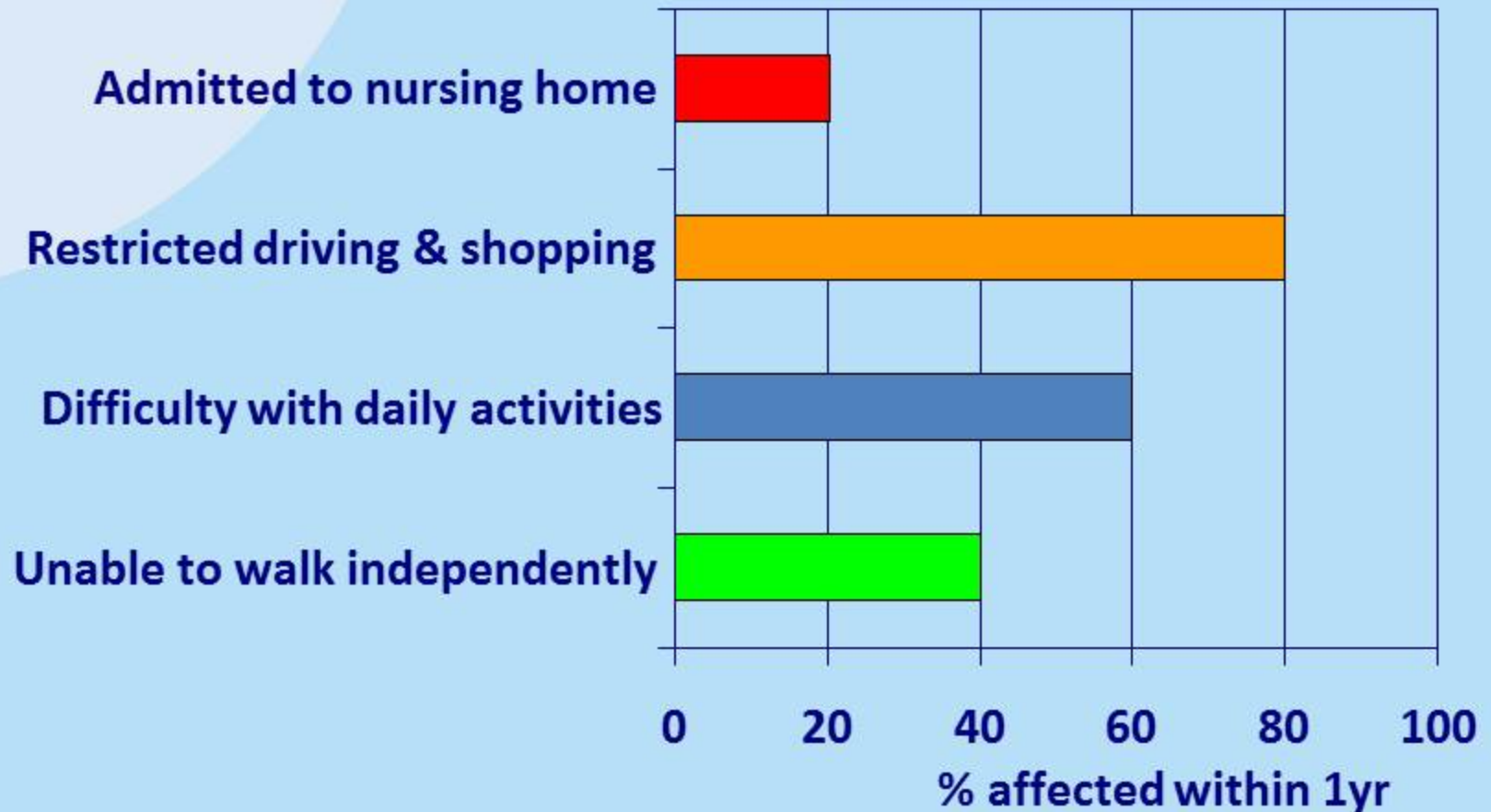
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Living with broken bones: help after a hip fracture

- Effective assessment and operation to help with healing
- Adequate pain relief
- Physiotherapy and rehabilitation
- Return to own home if at all possible
- Appropriate social care
- Osteoporosis and falls risk assessment
- Drug treatment to reduce risk of further fracture
- Help to prevent further falls

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A broken hip can lead to serious disability



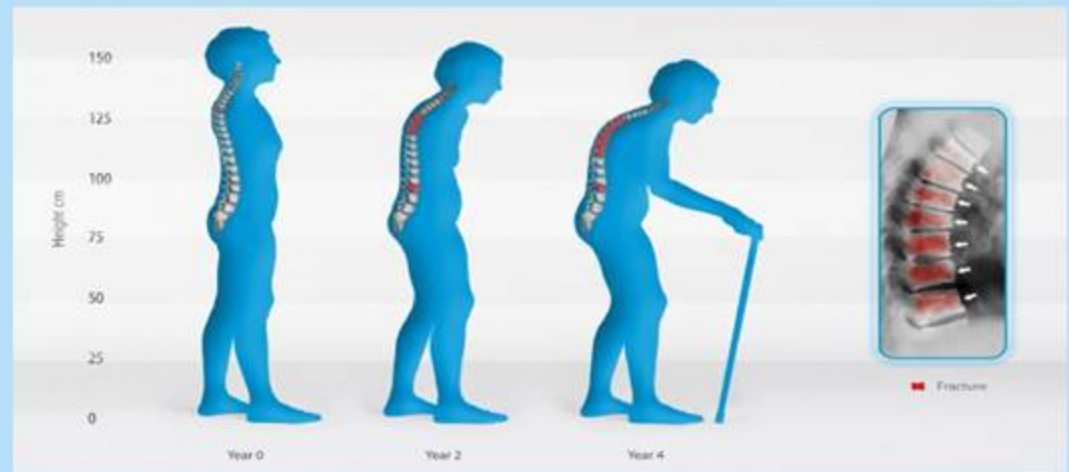
Cooper, 1997

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Vertebral compression fractures (multiple and severe)

- Back pain – acute and chronic

- Height loss and curvature



- Activities of daily living affected – eating, breathing and mobility

© IOF developed with Prof. Dieter Felsenberg for Stop the Stoop campaign

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Vertebral compression fractures (multiple and severe)

I look like I'm pregnant

My ribs are pressing on my pelvis

I've lost 12 inches

Nothing can be done about the pain

I see my mothers distress and wonder if I will be there one day

My body shape has completely changed

My clothes won't fit

It's just old age

I must have broken every bone in my body

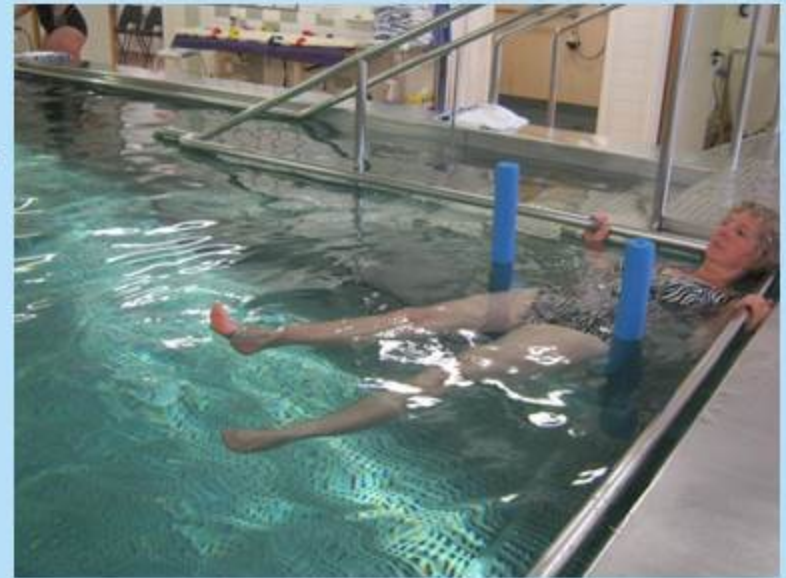


Image reprinted with permission from Medscape.com, 2011

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Living with broken bones: help after vertebral compression fractures - 1

- Pain relieving drugs
- Physiotherapy and specific exercises
- Corsets? (short-term)
- Hydrotherapy – warm water
- Complementary therapies e.g. acupuncture
- Heat and cold/massage



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Living with broken bones: help after vertebral compression fractures - 2

- TENs machines
- Pain clinics/management courses
- Self management classes (e.g. Expert Patient)
- Percutaneous vertebroplasty / balloon kyphoplasty
- Charity's website, publications and helpline



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NOS Helpline provides...

Information

- Excellent, independent & free
- Unbiased & balanced
- Evidence based & up to date

Support

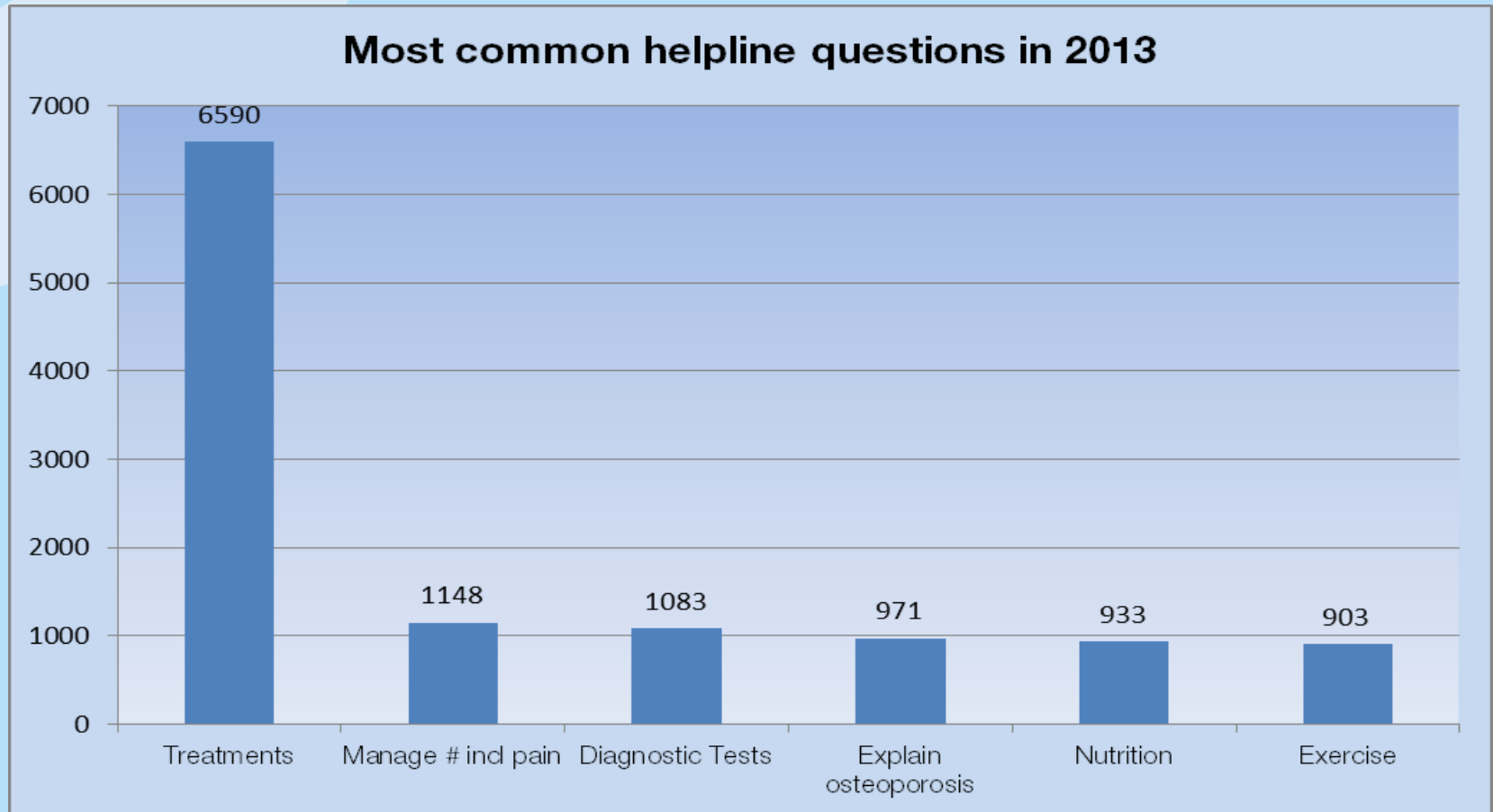
- Listening
- Caring
- Trustworthy

Help

- To make informed decisions
- To achieve a good quality of life

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What questions are we asked?



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Life with Osteoporosis: the untold story

Key findings from research into the realities of life with osteoporosis

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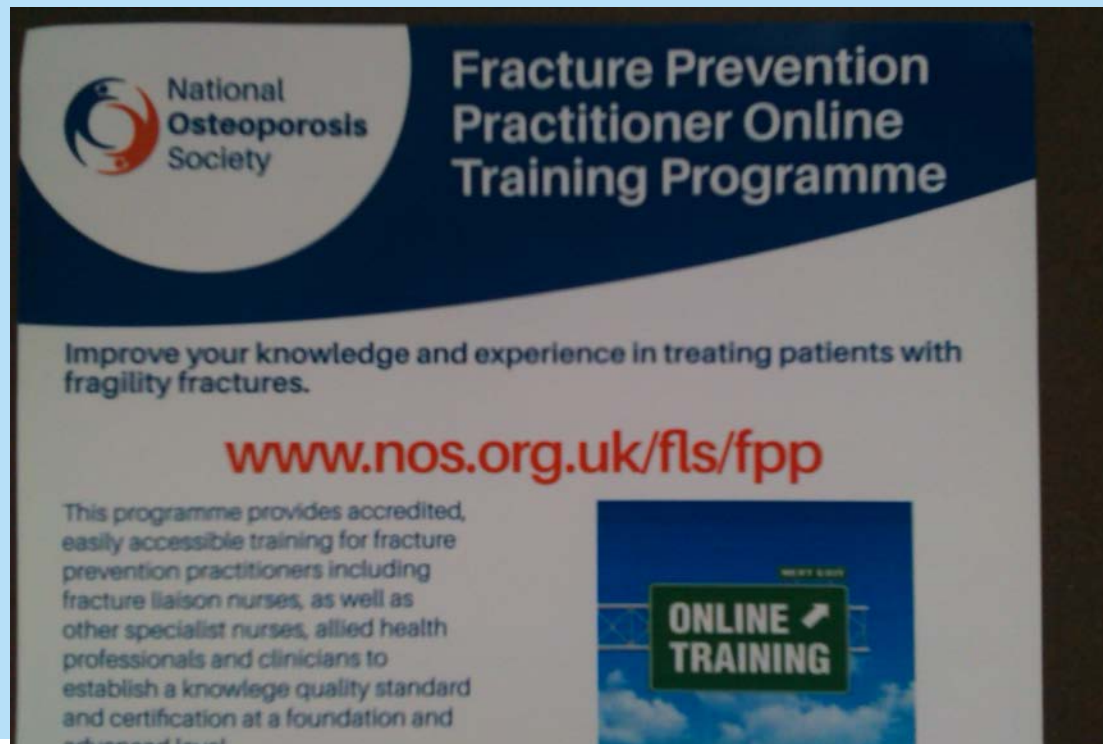
‘Life with Osteoporosis’ Report

- Landmark research project intended to promote a greater understanding of the lives of people with osteoporosis
- 3228 people completed a detailed questionnaire about the real impact of osteoporosis on their quality of life
- 52 were involved in either face to face interviews or keeping reflective diaries
- Many spoke movingly about the devastating consequences which osteoporosis and fragility fractures has had on their lives

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New NOS Service Support Initiatives

- Fracture Prevention Practitioner online training programme



The poster features the National Osteoporosis Society logo in the top left corner. The main title is 'Fracture Prevention Practitioner Online Training Programme'. Below the title, it states 'Improve your knowledge and experience in treating patients with fragility fractures.' and provides the website 'www.nos.org.uk/fls/fpp'. A small inset image shows a green sign that says 'ONLINE TRAINING' with an arrow pointing right.

National Osteoporosis Society

Fracture Prevention Practitioner Online Training Programme

Improve your knowledge and experience in treating patients with fragility fractures.

www.nos.org.uk/fls/fpp

This programme provides accredited, easily accessible training for fracture prevention practitioners including fracture liaison nurses, as well as other specialist nurses, allied health professionals and clinicians to establish a knowledge quality standard and certification at a foundation and advanced level.

ONLINE TRAINING

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New NOS Service Support Initiatives

- Fracture Liaison Service (FLS) Implementation Toolkit
- Fracture Liaison Service: Support Managers
- Peer Review
- Clinical standards for FLS
- Osteoporosis resources for primary care clinicians –online resource supported by RCGP www.osteoporosis-resources.org.uk

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What is your role?

Has your patient had a fracture and is over 50 years old?



- Give exercise, nutritional and health & wellbeing advice, with referral as appropriate
- Signpost them to our publications, NOS helpline
- Signpost them to Trust services and information including PWT (Trust's Promoting Wellbeing Team) e.g. smoking cessation clinics, strength and balance classes, falls clinics, falls directory

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Do they need help with medication compliance?



- Make use of the health professional section of the NOS website. Share with your colleagues
- Signpost them to our publications

Identification of patients at risk of osteoporosis and who may need a DEXA? - role of the Trust FLS

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How can we help you?

- Helpline is also for health professionals
- Professional publications e.g. Osteoporosis Review
- E-newsletter and website news section
- Professional membership of the Charity
- UK Allied Health Professional Network
- Osteoporosis resources website
- Free patient publications and factsheets (downloadable from our website)

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Free publications and website resources

National Osteoporosis Society

Anti-epileptic drugs and osteoporosis

What is osteoporosis?

Osteoporosis is a condition where the bones are weak and brittle. This means they are more likely to break. It is a common condition, especially in older people. It is caused by a loss of bone mass over time. There are many factors that can lead to osteoporosis, such as age, diet, and lifestyle. It is important to know if you have osteoporosis so you can take steps to prevent further bone loss and reduce the risk of fractures.

How do anti-epileptic drugs affect bones and increase the risk of osteoporosis and broken bones?

Anti-epileptic drugs (AEDs) can affect the way your body absorbs calcium. Calcium is essential for strong bones. If your body does not absorb enough calcium, your bones can become weaker. This can lead to osteoporosis and a higher risk of broken bones. Your doctor should be aware of this if you are taking AEDs. They can advise you on how to get enough calcium from your diet or supplements.

What can be done?

People who take AEDs should be aware of the risk of osteoporosis. They should get regular calcium and vitamin D supplements. They should also exercise regularly to help strengthen their bones. It is important to talk to your doctor about the best way to manage your osteoporosis risk while taking AEDs.

What drug are you taking?

There are many different types of AEDs. Some are more likely to affect your bones than others. Your doctor can help you understand the risks of the AEDs you are taking and what you can do to protect your bones.

Building stronger bones

A central collage of various leaflets from the National Osteoporosis Society. The leaflets cover a wide range of topics related to osteoporosis, including:

- Healthy for Strong Bones
- An Introduction to Osteoporosis
- Other Bone Health and Bone Support
- Treatments and
- Arthritis and Osteoporosis
- Osteoporosis in Men
- Your children and bone health
- All about osteoporosis
- Living with broken bones
- Drugs treatments for osteoporosis
- Living with broken bones
- An introduction to osteoporosis
- Are you at risk of osteoporosis and fractures?
- Healthy for Strong Bones
- Living with broken bones
- Building stronger bones

National Osteoporosis Society

Vitamin D and osteoporosis

What is osteoporosis?

Osteoporosis is a condition where the bones are weak and brittle. This means they are more likely to break. It is a common condition, especially in older people. It is caused by a loss of bone mass over time. There are many factors that can lead to osteoporosis, such as age, diet, and lifestyle. It is important to know if you have osteoporosis so you can take steps to prevent further bone loss and reduce the risk of fractures.

What is Vitamin D?

Vitamin D is a nutrient that is essential for strong bones. It helps the body absorb calcium. Without enough Vitamin D, your bones can become weaker. This can lead to osteoporosis and a higher risk of broken bones. Your doctor should be aware of this if you are taking Vitamin D supplements.

How do you get Vitamin D?

You can get Vitamin D from your diet and from sunlight. Some foods, like fatty fish and fortified dairy products, contain Vitamin D. Spending time outdoors in sunlight can also help your body produce Vitamin D. If you are not getting enough Vitamin D from these sources, your doctor may recommend a supplement.

What can be done?

People who are at risk of osteoporosis should get enough Vitamin D. This can help strengthen their bones and reduce the risk of fractures. Your doctor can help you understand the best way to get enough Vitamin D.

What drug are you taking?

There are many different types of Vitamin D supplements. Your doctor can help you choose the best one for you.

Building stronger bones

National Osteoporosis Society

Hormone therapy and osteoporosis in men and women

What is osteoporosis?

Osteoporosis is a condition where the bones are weak and brittle. This means they are more likely to break. It is a common condition, especially in older people. It is caused by a loss of bone mass over time. There are many factors that can lead to osteoporosis, such as age, diet, and lifestyle. It is important to know if you have osteoporosis so you can take steps to prevent further bone loss and reduce the risk of fractures.

What is hormone replacement therapy (HRT)?

HRT is a treatment that replaces the hormones that are lost during menopause. It can help reduce the risk of osteoporosis and fractures. However, HRT also has some risks, such as an increased risk of blood clots and heart disease. Your doctor should discuss the benefits and risks of HRT with you.

What are the benefits associated with taking HRT?

For women, HRT can help reduce the risk of osteoporosis and fractures. It can also help with other symptoms of menopause, such as hot flashes and mood changes. For men, HRT can help with symptoms of low testosterone, such as fatigue and weight gain.

What are the risks associated with taking HRT?

For women, HRT can increase the risk of blood clots, heart disease, and stroke. For men, HRT can increase the risk of prostate cancer and breast cancer.

What can be done?

People who are considering HRT should talk to their doctor. They should discuss the benefits and risks of HRT and whether it is the right treatment for them.

Building stronger bones

National Osteoporosis Society

Vibration therapy and osteoporosis

What is osteoporosis?

Osteoporosis is a condition where the bones are weak and brittle. This means they are more likely to break. It is a common condition, especially in older people. It is caused by a loss of bone mass over time. There are many factors that can lead to osteoporosis, such as age, diet, and lifestyle. It is important to know if you have osteoporosis so you can take steps to prevent further bone loss and reduce the risk of fractures.

What is vibration therapy?

Vibration therapy is a treatment that uses low-frequency vibrations to stimulate the body. It is thought to help improve bone density and reduce the risk of osteoporosis. However, more research is needed to confirm these benefits.

What can be done?

People who are considering vibration therapy should talk to their doctor. They should discuss the benefits and risks of vibration therapy and whether it is the right treatment for them.

Building stronger bones

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Contacting the helpline

Telephone:

0845 450 0230 or 01761 472721
(Monday to Friday 9.00 – 17.00 hours)

Email:

nurses@nos.org.uk
(Replied to within 5 working days)

Letter:

National Osteoporosis Society,
Camerton, Bath BA2 0PJ
(Replied to within 7 working days)

Discussion Forum:

www.nos.org.uk 'Ask the Nurses' Forum
(Open for 48 hours a week, replied to within 2
working days)

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