

Bone Health and Osteoporosis

Osteoporosis is a common condition that weakens bones, making them more fragile and more likely to break (called fragility fractures). It affects around 3.8 million people in the UK and is a leading cause of broken bones in older adults.

Anyone can develop osteoporosis, but it becomes more common after age 50. Women are affected most and 1 in 2 women will experience a fracture in their lifetime.

Osteoporosis is often called a “silent disease” because there are no symptoms until a fracture occurs.

Some people may lose height or develop a curved spine due to small spinal fractures, but most people are unaware of the condition until a break happens.

Fractures

Fragility fractures can happen after a simple fall or minor knock. They often cause long-term pain, reduced mobility, and loss of independence. Hip fractures, in particular, carry high health risks and can be life-changing. Once someone has had one fracture, their risk of another rises quickly, creating what’s known as a fracture cascade.

A specialist can assess your fracture risk using tools such as FRAX and arrange bone scans such as DEXA or REMS. These tests measure bone strength and help guide an individualised plan to protect your long-term bone health.

Treatment is tailored to your needs and may include:

- Tablets (bisphosphonates): Slow bone loss; often the first treatment offered
- Six-monthly injections (Denosumab): Prevent bone breakdown if tablets aren’t suitable
- Bone-building treatments: Such as Teriparatide, Abaloparatide, or Romosozumab, used for people at higher risk to help build new, stronger bone

A consultant or a Healthcare professional specialising in osteoporosis will help you choose the right treatment to stay active, independent, and confident.

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How You Can Protect Your Bone Health?

You can support your bones by:

- **Eating** a balanced diet rich in calcium and protein
- Getting safe sunlight exposure for vitamin D
- Doing regular weight-bearing **exercise**, suited to your ability
- Avoiding **smoking** and staying within recommended **alcohol** limits
- If prescribed, taking bone-strengthening medicines
- And attending your follow-up appointments for monitoring

Information for people who had osteoporosis or had a low impact fracture

From the age of 50, the risk of breaking a bone increases sharply.

Women are especially affected, with one in two experiencing a fracture during their lifetime.

After the first fragility fracture, the risk of further fractures rises significantly. This is known as the "fracture cascade", often starting with wrist or forearm fractures in midlife and progressing to spine or hip fractures as people get older.

Fragility fractures can have a major impact on your life. They may lead to long-term pain, reduced mobility, loss of independence, and higher risks to your overall health. The chance of breaking another bone is particularly high in the early years after the first fracture: 10% of people fracture again within one year, 18% within two years, and 31% within three years. This is why early assessment and treatment are essential.

The Fracture Liaison Service (FLS)

The Fracture Liaison Service is a programme supported by the Welsh Government to help prevent repeat fractures in people aged 50 and over.

The service identifies individuals who have had a fragility fracture, assesses their bone health, and offers treatment and guidance to reduce future risk. FLS is recognised internationally as the gold standard in osteoporosis care and can reduce the risk of another fracture by up to 40%.

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How does the FLS help?

To achieve the best outcomes, FLS focuses on three key areas:

1. Early identification of fragility fractures
2. Starting the right osteoporosis treatment
3. Providing long-term follow-up and support

This coordinated approach helps people stay independent, improve quality of life, and reduce avoidable hospital admissions across Wales.

Information for people who have conditions that increase risk of osteoporosis

Some medical conditions and long-term treatments can increase your risk of developing osteoporosis, a condition where bones become weaker and more likely to break.

Common Conditions that Increase Osteoporosis Risk

Rheumatology

Lupus (SLE), ankylosing spondylitis (AS), and other inflammatory conditions.

Gastrointestinal

Coeliac disease, inflammatory bowel disease (IBD), chronic pancreatitis, liver disease, or other causes of malabsorption.

Endocrine

Hyperthyroidism, untreated hypothyroidism, untreated Cushing's disease, hyperparathyroidism, untreated low sex hormones (hypogonadism), or uncontrolled diabetes.

Respiratory

Cystic fibrosis (CF) or chronic obstructive pulmonary disease (COPD).

Haematological

Conditions such as multiple myeloma.

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Women's Health

Long-term absent periods, premature menopause (before 45), surgical menopause, or long-term Depo-Provera use.

Neurological

Conditions causing frequent falls, such as Parkinson's disease, stroke, or multiple sclerosis.

Renal

Chronic kidney disease (CKD-MBD) or kidney transplant recipients.

Medications

SSRIs, anti-epileptics, PPIs, aromatase inhibitors, GnRH agonists, and anti-retroviral drugs.

Other Factors

Prolonged immobility, BMI below 19 kg/m², eating disorders, heavy smoking, or drinking more than 3 units of alcohol daily.

If you have one of these conditions, it is important to be aware of other common lifestyle-related risk factors and think about changes you can make to reduce your personal risk.

Lifestyle-related risk factors can further increase your risk of bone loss. These include:

- having an unhealthy or unbalanced **diet**,
- not doing regular weight-bearing **exercise**,
- lack of safe and appropriate sunlight exposure,
- **drinking** more alcohol than the recommended limit (14 units per week),
- **smoking** (as any amount of smoking can weaken bones).

When a DXA scan is appropriate

If you have one of these conditions, it does not automatically mean that you need a bone density scan (DXA). A referral for a DXA scan is usually recommended only when your overall fracture risk is considered clinically very high.

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Your healthcare professional may use tools such as FRAX (a fracture risk calculator) or rely on their clinical judgement to decide whether a DXA scan is appropriate for you.

A DXA scan may be recommended if you are an adult with:

- One or more secondary risk factors and
- A high risk of fracture based on FRAX or clinical assessment.

This approach ensures that people who would benefit the most from treatment receive timely access to care, while avoiding unnecessary testing for those unlikely to have changes in management.

Information for people with osteoporosis on cancer treatment

Some cancer treatments can weaken bones and increase the risk of osteoporosis or fractures. If you are living with osteoporosis, or are at risk of it, it is important to understand how your cancer treatment may affect your bone health and what support is available to you.

Breast Cancer Treatments

Certain breast cancer therapies can reduce oestrogen levels, which is essential for maintaining bone strength. You may be at higher risk if you are:

- Taking aromatase inhibitors (e.g., letrozole, anastrozole, exemestane)

These treatments can speed up bone loss, so you may be offered a bone health assessment, lifestyle advice, medication to strengthen bones, and regular follow-up.

Other reasons

- Have had both ovaries removed (bilateral oophorectomy) for any reason
- Have gone through early or treatment--induced menopause

Prostate Cancer Treatments

Some men receiving treatment for prostate cancer may also experience bone loss, especially if they are:

- Having hormone (androgen deprivation) therapy
- Receiving hormone ablation treatments at home

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These therapies lower testosterone levels, which can weaken bones over time. Monitoring bone health is an important part of your overall cancer care.

Myeloma and Other Blood (Haematological) Conditions

Conditions such as multiple myeloma or other blood disorders can directly weaken the bones. Some people may experience:

- Skeletal-related events (SREs) such as fractures, spinal collapse, or severe bone pain
- Bone damage caused by the condition itself or by some treatments

People with these conditions often require specialist bone-strengthening medication from the start, as well as regular review. This is usually done through their cancer or haematology team.

How You Can Protect Your Bone Health?

Regardless of your cancer treatment, you can support your bones by:

- **Eating** a balanced diet rich in calcium and protein
- Getting safe sunlight exposure for vitamin D
- Doing regular weight-bearing **exercise**, suited to your ability
- Avoiding **smoking** and staying within recommended **alcohol** limits
- If prescribed, taking bone-strengthening medicines
- And attending your follow-up appointments for monitoring

Acknowledgement and Declaration

The information on bone health and osteoporosis has been prepared by Dr Inderpal Singh, National Clinical Lead, Bone Health Wales. This work has been co-produced through extensive discussions and partnership working with Welsh Government colleagues, key stakeholders, patients, FFFAP Clinical Leads, the Royal Osteoporosis Society, and colleagues across Welsh Health Boards.

This content is fully aligned with the Welsh Government Quality Statement for Osteoporosis and Bone Health, and reflects shared clinical priorities across Wales.

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