

Osteoporosis

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- Update on Guidelines
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Bingo PCPA Committee

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Laura Buckley
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Graham Stretch
Katie Norris
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184cm
165cm
170cm
165cm
177ccm
165cm
170cm
167cm
161cm
172cm
177cm
170cm
175cm

Latest News

Press release

New bone scanners to help prevent fractures and cut waiting times

Patients across England will benefit from new bone scanners to diagnose fragile bones earlier and prevent painful, life-changing fractures.

From: [Department of Health and Social Care](#), [NHS England](#) and [The Rt Hon Wes Streeting MP](#)

Published 1 March 2026



Co-ordinated frailty care for better outcomes

Guidance for providing effective acute care to older people living with frailty

September 2025

Fracture liaison services: Towards universal coverage in England by 2030

Published Tuesday, 30 September, 2025

In Focus [Health](#)

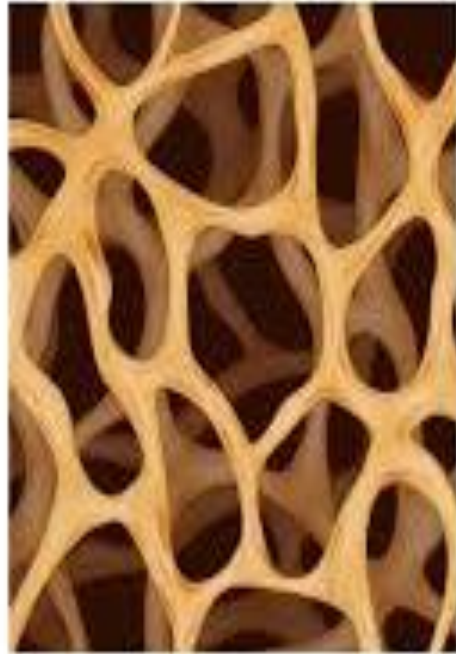
[Eve Collyer Merritt](#)

Fracture liaison services proactively identify people at risk of fractures caused by osteoporosis. Patients can then be assessed and treated to prevent future fractures. The provision of fracture liaison services in England has been called a 'postcode lottery' by the Royal Osteoporosis Society, and evidence shows variation in quality and reach. The government has committed to 100% coverage by 2030.

Osteoporosis



Normal Bone



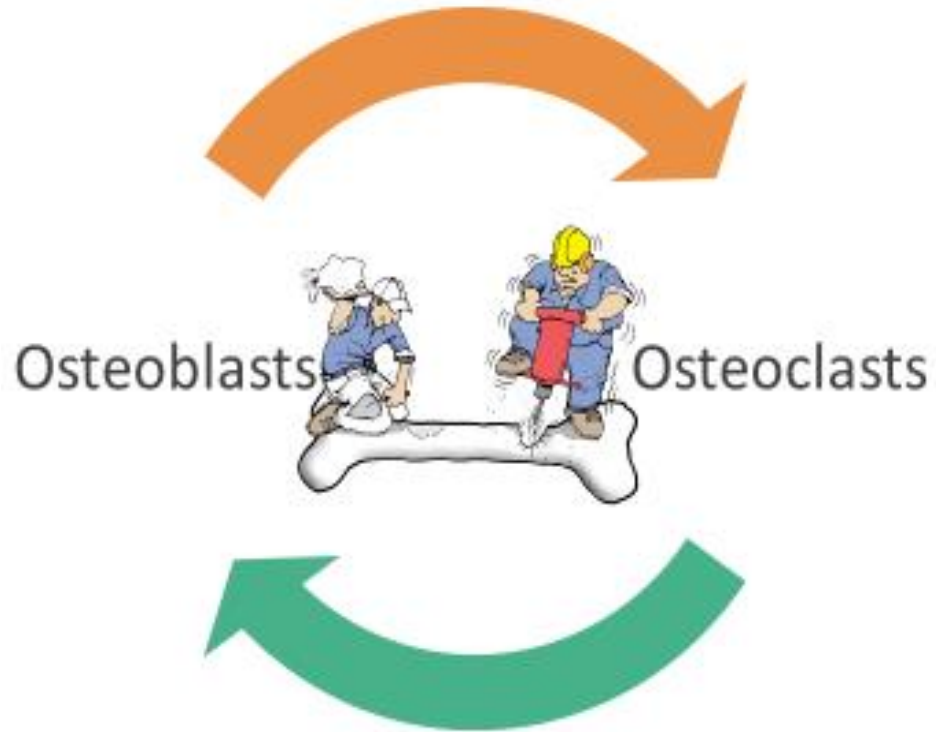
Bone with Osteoporosis

- Osteoporosis is a disease characterized by low bone mass and structural deterioration of bone tissue, with consequent increase in fragility and susceptibility to fracture. Often asymptomatic and may be undiagnosed until development of a fragility fracture

 **WOMEN OVER 50 WILL EXPERIENCE** 
OSTEOPOROTIC FRACTURES. AS WILL  **MEN.**



Bones are a living tissue



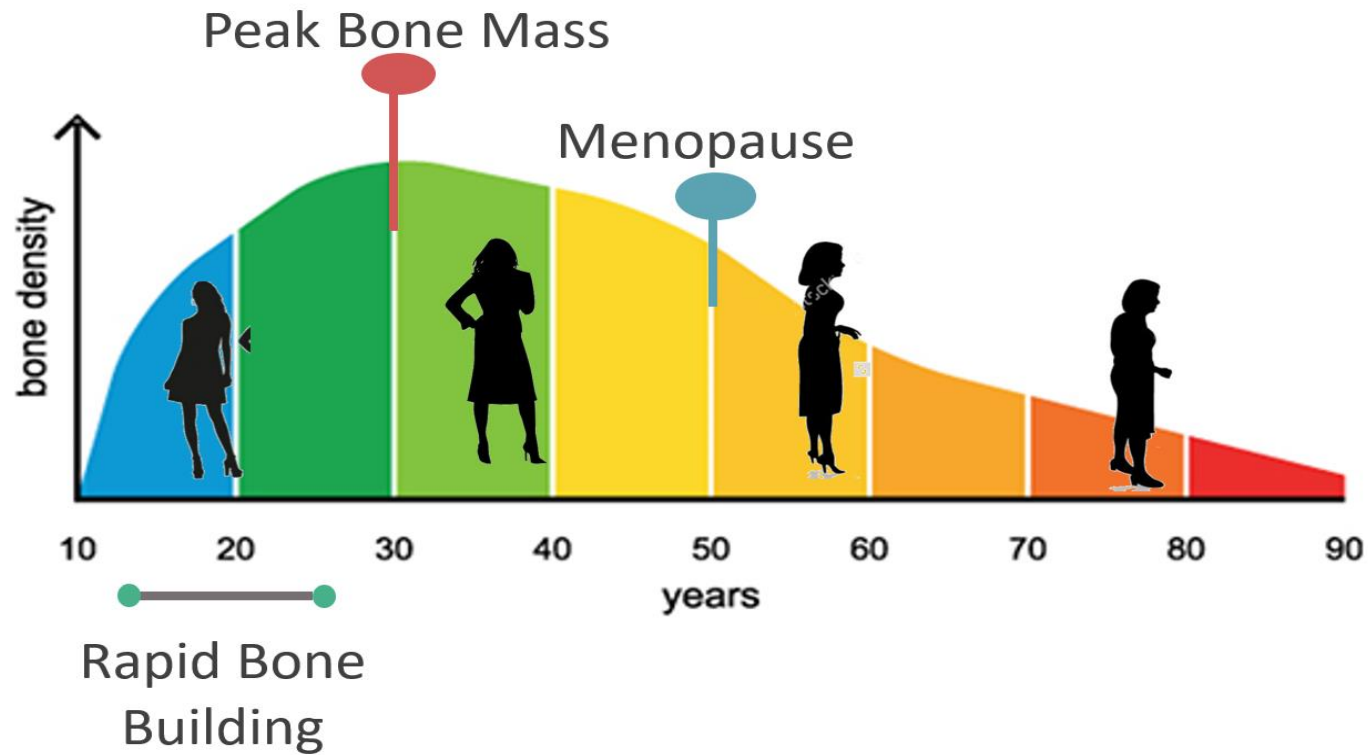
Bone remodeling means you have the opportunity to have new bones every 7-10 years!

Osteoblasts- build new bone

Osteoclasts- remove old or damaged bone

How the skeleton Changes

How the Skeleton Changes



With credits to American Bone Health

Risk factors for Osteoporosis

Modifiable



Non-modifiable



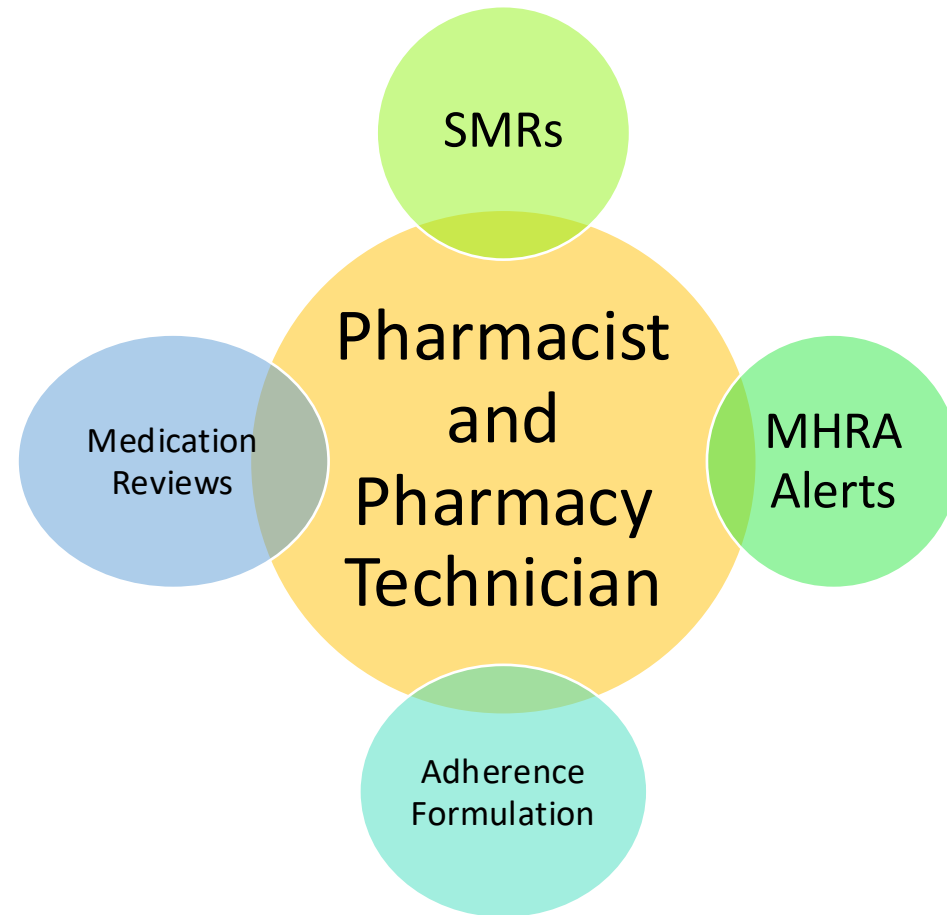
Coexisting disease



Pharmacological factors



Involvement



Structured Medication Reviews

7.2. Structured Medication Review and Medicines Optimisation

7.2.1. From the 1 October 2020, a PCN is required to:

- a. use appropriate tools to identify and prioritise the PCN's Patients who would benefit from a structured medication review (referred to in this Network Contract DES Specification as a "**SMR**"), which must include patients:
 - i. in care homes⁴⁵;
 - ii. with complex and problematic polypharmacy, specifically those on 10 or more medications;
 - iii. on medicines commonly associated with medication errors⁴⁶;
 - iv. with severe frailty⁴⁷, who are particularly isolated or housebound patients, or who have had recent hospital admissions and/or falls; and
 - v. using potentially addictive pain management medication;
- b. offer and deliver a volume of SMRs determined and limited by the PCN's clinical pharmacist capacity, and the PCN must demonstrate reasonable ongoing efforts to maximise that capacity;
- c. ensure invitations for SMRs provided to patients explain the benefits of, and what to expect from SMRs;
- d. ensure that only appropriately trained clinicians working within their sphere of competence undertake SMRs. The PCN must also ensure that these professionals undertaking SMRs have a prescribing qualification and

NICE CG146: Osteoporosis: assessing the risk of fragility fracture (Feb 2017)

Targeting risk assessment

- Consider assessment of fracture risk:
 - In all women aged 65 years and over and all men aged 75 years and over
 - In women aged under 65 years and men aged under 75 years in the presence of risk factors:
 - Previous fragility fracture
 - Current use or frequent recent use of oral or systemic glucocorticoids
 - History of falls
 - Family history of hip fracture
 - Other causes of secondary osteoporosis
 - Low body mass index (BMI) (less than 18.5 kg/m²)
 - Smoking
 - Alcohol intake of more than 14 units per week for women and more than 21 units per week for men
- Do not routinely assess fracture risk in people aged under 50 years unless they have major risk factors because they are unlikely to be at high risk

Calculation Tool

Please answer the questions below to calculate the ten-year probability of fracture with or without BMD.

Continent Country

Local Reference

About the risk factors ?

Individuals with fracture risk assessed since 1st June 2011 : 11,056,499

Questionnaire

1. Age (between 40 and 90 years)

2. Sex Female Male

3. Weight kg kg/cm

4. Height cm

5. Previous Fracture

6. Parent Fractured Hip

7. Current smoking

8. Glucocorticoids

9. Rheumatoid arthritis

10. Secondary osteoporosis

11. Alcohol 3 or more units/day

12. Femoral neck BMD

Age : 72 BMI : 19.5 without BMD

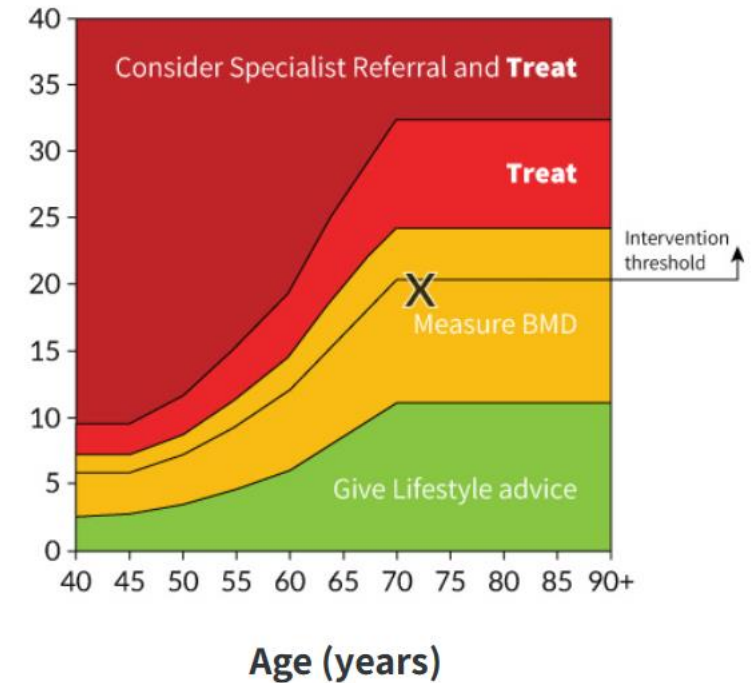
THE TEN-YEAR PROBABILITY OF FRACTURE

| | |
|--------------------|------|
| Major osteoporotic | 20 % |
| Hip Fracture | 11 % |

Adjust your results, try FRAXplus®

[What does FRAXplus® do? Click here](#)

(%) 10-year probability of Major Osteoporotic Fracture



What does my T-score mean?

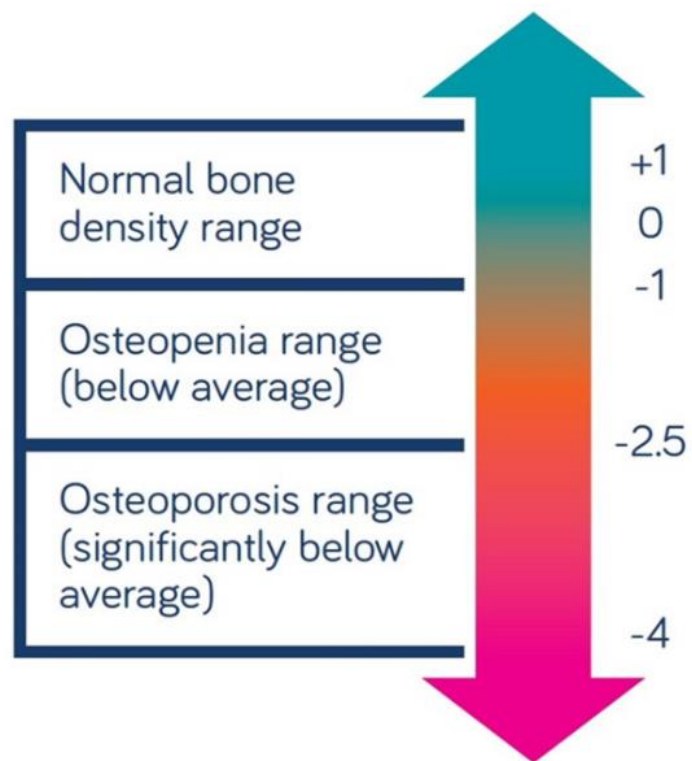
The result of your bone density scan may be given as a number called a T-score. A T-score compares your bone density to the normal range found in young healthy adults:

Normal (+1 to -1) - Your bone density is in the normal range for a young adult.

Low bone density (-1 to -2.5) - Your bone density is slightly below the normal range for a young adult. This is also known as the osteopenia range. This score is expected in older adults.

Osteoporosis (-2.5 and below) - Your bone density is much lower than the normal range for a young adult. This is also known as the osteoporosis range.

The scores help guide if you may benefit from a medicine. Usually, the lower the score the more likely you are to benefit from an osteoporosis medicine. But your bone density scan results do not give a complete picture of your bone strength. This means you could be told you are in the osteoporosis range but would **not** benefit from medicine. Or you could be in the osteopenia range and be recommended medicine. This is why a full fracture risk assessment is so important.



What does a Z-score mean?

You may be given your results as a Z-score, alongside your T-score.

A Z-score compares your bone density to people of the same age as you. It is normally only useful for looking at the bone strength of children and young adults.

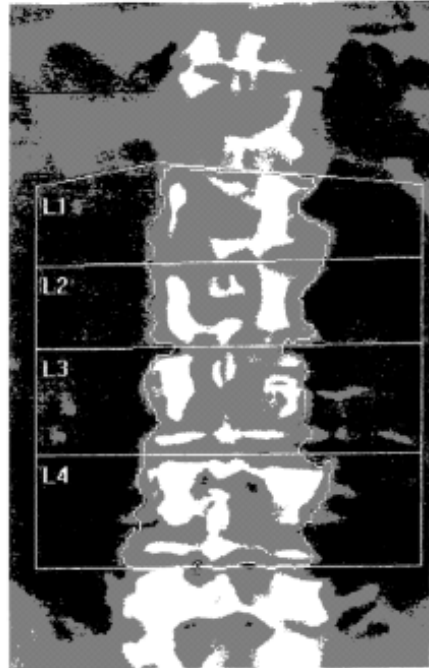
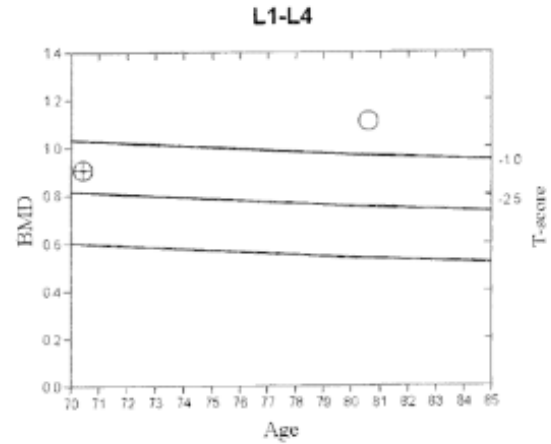


Image not for diagnostic use
116 x 123
DAP: 2.0 cGy*cm²

Scan Information:

Scan Date: 04 March 2026 ID: A03042601
 Scan Type: f Lumbar Spine
 Analysis: 04 March 2026 11:02 Version 13.6.1.3
 Spine
 Operator: KP
 Model: Horizon A (S/N 305648M)
 Comment:



T-score vs. White Female. Source:2012 BMDCS/Hologic Z-score vs. White Female. Source:2012 BMDCS/Hologic

DXA Results Summary: L1-L4

| Scan Date | Age | BMD (g/cm ²) | T-score | BMD Change vs Baseline | BMD Change vs Previous |
|------------|-----|--------------------------|---------|------------------------|------------------------|
| 04.03.2026 | 80 | 1.111 | 0.6 | 22.4%* | 22.4%* |
| 08.01.2016 | 70 | 0.908 | -1.3 | | |

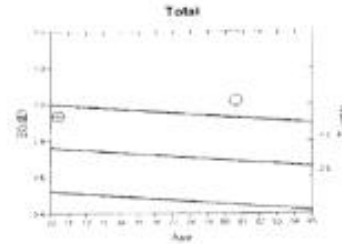
* Denotes significance at 95% confidence level, LSC is 0.022 g/cm²



Image not for diagnostic use
 97 x 101
 NECK: 49 x 15
 DAP: 1.5 cGy*cm²

Scan information:

Scan Date: 04 March 2026 ID: A0304260J
 Scan Type: f Left Hip
 Analysis: 04 March 2026 11:06 Version 13.6.1.3
 Hip
 Operator: KP
 Model: Horizon A (S/N 305648M)
 Comment:



T-score vs. White Female. Source:2012 BMDCS/NHANES White Female. Z-score vs. White Female. Source:2012 BMDCS/NHANES White Female.

10-year Fracture Risk

FRAX not reported because:

Treated for osteoporosis

DXA Results Summary:

| Scan Date | Age | BMD (g/cm ²) | T-score | BMD Change vs Baseline | BMD Change vs Previous |
|------------|-----|--------------------------|---------|------------------------|------------------------|
| 04.03.2026 | 80 | 1.019 | 0.6 | 8.9%* | 8.9%* |
| 08.01.2016 | 70 | 0.936 | -0.1 | | |

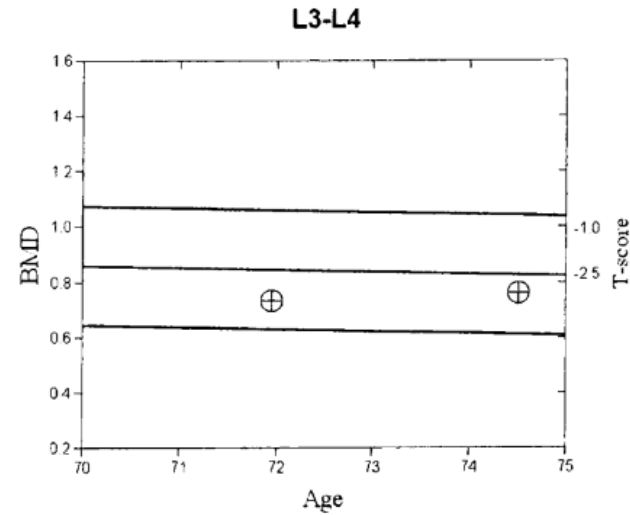
* Denotes significance at 95% confidence level, LSC is 0.027 g/cm²



Image not for diagnostic use
116 x 134
DAP: 2.0 cGy*cm²

Scan Information:

Scan Date: 20 February 2024 ID: A0220240E
 Scan Type: f Lumbar Spine
 Analysis: 20 February 2024 13:32 Version 13.6.1.3
 Spine
 Operator: KP
 Model: Horizon A (S/N 305648M)
 Comment:



T-score vs. White Female. Source:Hologic White Female. Z-score vs. White Female.
 Source:Hologic White Female.

DXA Results Summary: L3-L4

| Scan Date | Age | BMD (g/cm ²) | T - score | BMD Change vs Baseline | BMD Change vs Previous |
|------------|-----|--------------------------|-----------|------------------------|------------------------|
| 20.02.2024 | 74 | 0.761 | -3.1 | 3.9%* | 3.9%* |
| 30.07.2021 | 71 | 0.733 | -3.3 | | |

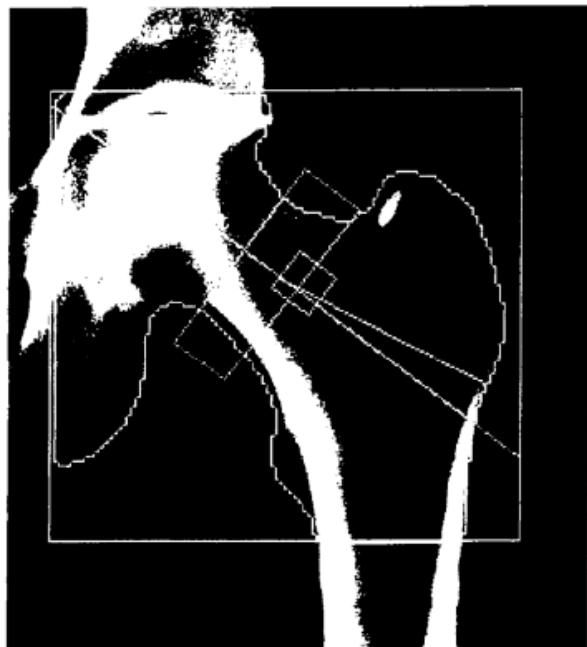
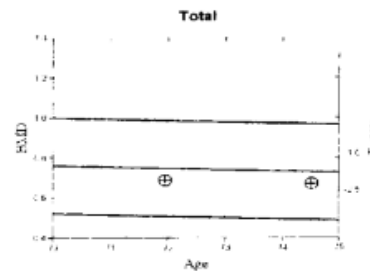


Image not for diagnostic use
 103 x 100
 NECK: 48 x 15
 DAP: 1.4 cGy*cm²

Scan Information:

Scan Date: 20 February 2024 ID: A0220240F
 Scan Type: f Left Hip
 Analysis: 20 February 2024 13:35 Version 13.6.1.3
 Hip
 Operator: KP
 Model: Horizon A (S/N 305648M)
 Comment:



T-score vs. White Female. Source:2012 BMDCS/NHANES White Female. Z-score vs. White Female. Source:2012 BMDCS/NHANES White Female.

10-year Fracture Risk

FRAX not reported because:

Some T-score for Spine Total or Hip Total or Femoral Neck at or below -2.5
 Treated for osteoporosis

DXA Results Summary:

| Scan Date | Age | BMD (g/cm ²) | T - score | vs Baseline | BMD Change vs Previous |
|------------|-----|--------------------------|-----------|-------------|------------------------|
| 20.02.2024 | 74 | 0.671 | -2.2 | -2.4% | -2.4% |
| 30.07.2021 | 71 | 0.688 | -2.1 | | |

Guidelines

| NICE CG 146 2012 updated February 2017 | NOGG 2017 Updated December 2024 | SIGN 142 2015 Revised January 2021 |
|--|--|---|
| <p>This guideline covers assessing the risk of fragility fracture in people aged 18 and over with osteoporosis. It aims to provide guidance on the selection and use of risk assessment tools in the care of adults at risk of fragility fractures in all NHS settings.</p> <p>https://www.nice.org.uk/guidance/cg146</p> | <p>Clinical guideline for the prevention and treatment of osteoporosis.</p> <p>https://www.nogg.org.uk/full-guideline</p> | <p>Management of osteoporosis and the prevention of fragility fractures.</p> <p>https://www.sign.ac.uk/media/1812/sign-142-osteoporosis-v3.pdf</p> |

Please also refer to local guidelines

Treatment of osteoporosis

- Non – Pharmacological: Address alcohol /smoking and increase exercise (resistance/weight bearing).
- Calcium
- Vitamin D
- Pharmacological

Quick guide:
visual reference

01761 471771

For full Expert Consensus Statement visit theros.org.uk/HCPexercise

Key recommendations: physical activity and exercise for osteoporosis

| Strong | Steady | Straight |
|---|---|---|
| <p>Build bone and muscle strength</p> <p>Weight-bearing/impact exercise for bones</p> <p>50 impacts per session Frequency: Most days</p> <p>With osteoporosis Moderate impact</p> <p>Lower impact</p> <p>Low impact - weight bearing Frequency: Most days</p> <p>Build muscle Weights & resistance bands Frequency: 2-3 days / week</p> <p>3 sets, 8-12 reps of max weight Progressive resistance training ↑</p> <p>Sports and everyday activities</p> <p>Build up gradually</p> | <p>Improve balance</p> <p>Activities like tai chi or dance Frequency: 2-3 days / week</p> <p>Or a challenging balance class</p> | <p>Improve pain, posture and movements</p> <p>Manage pain from vertebral fractures Daily back muscle strengthening exercises Frequency: Daily</p> <p>Improve posture and movements Learn safe moving and lifting Hip hinge for safe bending Posture exercises Frequency: 2-3 days / week</p> |
| <p>Vertebral or multiple fractures, or less able</p> <p>Some extra caution Exercise up to lower impact Individualised advice Ensure safe technique</p> | <p>Positive approach</p> <p>Reassurance - 'how to' not 'don't do' Benefits of exercise for osteoporosis Keep active - something is better than nothing</p> | <p>Use alternatives Extreme or loaded flexion</p> <p>Avoid Inactivity and prolonged sitting</p> |
| <p>● Build bone and muscle strength ● Improve balance ● Improve pain, posture and movements</p> <p>↓</p> <p>Aiming for fewer fragility fractures and improved wellbeing</p> | | |



Anti-fracture efficacy of approved drug treatments for postmenopausal women, and men, with osteoporosis when given with calcium and vitamin D

| Intervention | vs. Placebo | | | vs. Another drug treatment | | | Licensed for use in Men |
|--------------------|--------------------|------------------------|--------------|--|---|-------------------------------|-------------------------|
| | Vertebral fracture | Non-Vertebral fracture | Hip fracture | Vertebral fracture | Non-Vertebral fracture | Hip fracture | |
| Romosozumab | Ib | IIb | IIb | Superior to Alendronate (Ib)* | Superior to Alendronate (Ib)* | Superior to Alendronate (Ib)* | No |
| Teriparatide | Ia | Ia | Ia | Superior to Alendronate (Ia) Risedronate (Ia) Denosumab (Ia) | Superior to Alendronate (Ia) | NAE | Yes |
| Abaloparatide | Ia | Ia | IIb | Superior to Raloxifene (Ia) | Superior to Teriparatide (Ia) | NAE | No |
| Alendronate | Ia | Ia | Ia | Inferior to Teriparatide (Ia) & Romosozumab (Ib) | Inferior to Teriparatide & Abaloparatide (Ia) | Inferior to Romosozumab (Ib) | Yes |
| Ibandronate | Ib | Ib | NAE | NAE | NAE | NAE | No |
| Risedronate | Ia | Ia | Ia | Inferior to Teriparatide (Ia) | Inferior to Abaloparatide (Ia) | NAE | Yes |
| Zoledronate | Ia | Ia | Ia | NAE | NAE | NAE | Yes |
| Calcitriol | IIa | NAE | NAE | NAE | NAE | NAE | Yes |
| Denosumab | Ia | Ia | Ia | Inferior to Teriparatide (Ia) | NAE | NAE | Yes |
| HRT | Ia | Ia | NAE | NAE | NAE | NAE | No |
| Raloxifene | Ia | NAE | NAE | Inferior to Teriparatide & Abaloparatide (Ia) | NAE | NAE | No |
| Strontium ranelate | Ia | Ia | IIb | NAE | NAE | NAE | Yes |

Denosumab

Denosumab 60mg/ml injection (Prolia®) has lost its patent and in line with national guidance around using best value biological medicines,.

In line with MHRA advice, biosimilar products should be prescribed by **brand name**.

- Please prescribe one of these brands and **change** generic and other branded prescriptions (e.g. Prolia® or Zadenvi®) to this product. A Patient Information Sheet is attached for you to give any patients changing to the new product.
- The Medicines Optimisation team will be getting in touch with you shortly to support you in changing to one of these products and an OptimiseRx message will be enabled.
- Please use up any stock of Prolia® you may have if you use the personally administered system and claim on FP34s.
- To support you in your choice you may wish to review the prescribing information below

| Product name | Wholesaler | Training |
|-------------------|---|---|
| Jubbonti 60mg/1ml | Phoenix UK and AAH (Practices may wish to contact Phoenix for information about a possible discount for buying direct) | https://www.patients.my-sandoz.com/uk-en/public/medicines/ (admin details in PIL) |
| Stoboclo 60mg/1ml | AAH | Celltrion Healthcare - Stoboclo (denosumab) Request materials from Kathryn.Carr@celltrionhc.com |

| | Jubbonti | Stoboclo |
|-------------------------------|----------|----------|
| Excipients of interest | | |
| sorbitol | ✓ | ✓ |
| polysorbate 20 | ✓ | ✓ |
| sodium | x | x |
| latex | x | x |
| needle size | 29G | 27G |
| Shelf life | 3y | 4y |

Denosumab 60mg biosimilar: Patient Information Sheet

What is denosumab?

Denosumab is a medicine used to treat bone loss in postmenopausal women with osteoporosis or in men at high risk of broken bones. Denosumab can also be used to treat bone loss that results from surgery, or treatment with medicines for prostate cancer or long-term glucocorticoids.

It belongs to a group of medicines called monoclonal antibodies and is given by an injection under the skin (subcutaneous).

How does denosumab work?

Denosumab is a protein (monoclonal antibody) that works by blocking a specific protein called RANKL. This protein usually helps certain cells (called osteoclasts) break down bone. By stopping RANKL, denosumab prevents these cells from forming and working, which means less bone is broken down. Treatment with denosumab makes bone stronger and less likely to break.

How is denosumab made?

Denosumab is a biological medicine. Biological medicines are medicines made or derived from living cells. Biological medicines were first used to treat people with serious illnesses in the UK over 20 years ago and they have improved the lives of millions of people worldwide.

What versions of denosumab are available in the UK?

Until recently, only one pharmaceutical company (Amgen) made denosumab. Now other companies can make biosimilar denosumab and these have become available for use as the patent protecting the Amgen product (Prolia) has expired.

What is biosimilar denosumab?

Biosimilar denosumab is a highly similar copy of the original denosumab medicine. The World Health Organisation (WHO) defines a biosimilar as a medicine that is similar in terms of quality, safety and effectiveness to the original licensed medicine.

Original version prepared the NHS Specialist Pharmacy Service: 25.07.2025. Adapted by Surrey Heartlands ICB 19.2.26

Are biosimilars safe?

The Medicines and Healthcare products Regulatory Agency (MHRA) is the organisation in the UK who regulate medicines. All medicines, including biosimilars, must pass rigorous tests for quality, biological activity, safety and effectiveness.

What does treatment with biosimilar denosumab mean for you?

Whether you are due to start treatment with denosumab for the first time or your treatment is changing from Prolia to biosimilar denosumab (*Subbont or Stobocio*), you can expect the same results.

Biosimilar denosumab devices and packaging may look different to Prolia. If you are injecting yourself, ensure you are familiar with the new device and know how to use it and what dose to inject. However, most people visit their surgery every 6 months for the injection and you should receive the patient information leaflet.

The National Institute for Health and Care Excellence (NICE) produces guidance for healthcare. If NICE recommends the original biological medicine in their guidance, the same recommendation applies to the biosimilar medicines.

All versions of denosumab can cause similar side effects. If you experience any problems with your treatment, report it promptly to your treating clinician, nurse or pharmacist.

What are the benefits of biosimilars?

Biological medicines are often expensive and the number of conditions the NHS can treat with them is increasing. Biosimilar medicines are highly similar to the original medicines and have the same quality, safety and effectiveness as well as usually being less expensive.

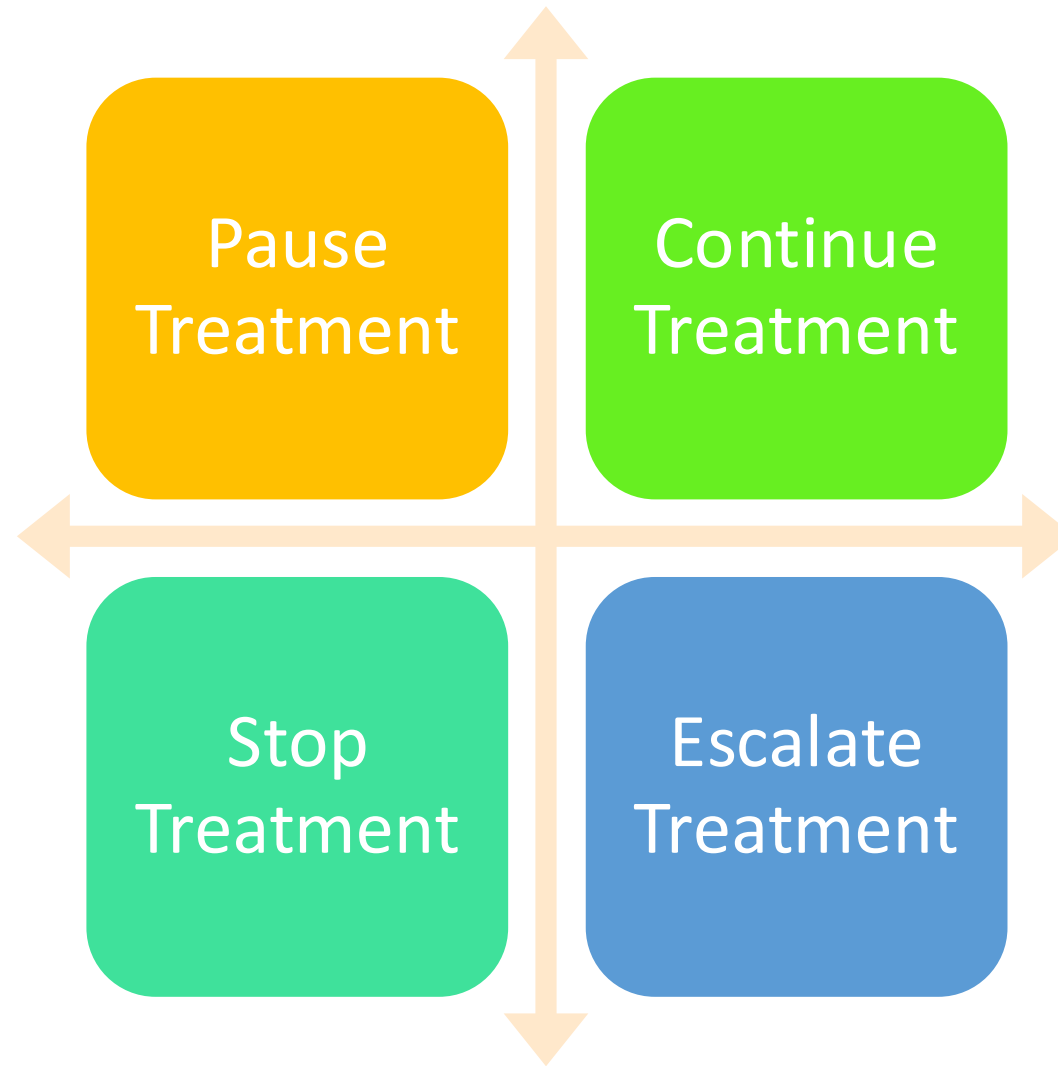
Therefore, the savings made by using biosimilars allow the NHS to treat more patients and invest in new medicines to further improve patient care.

Further advice

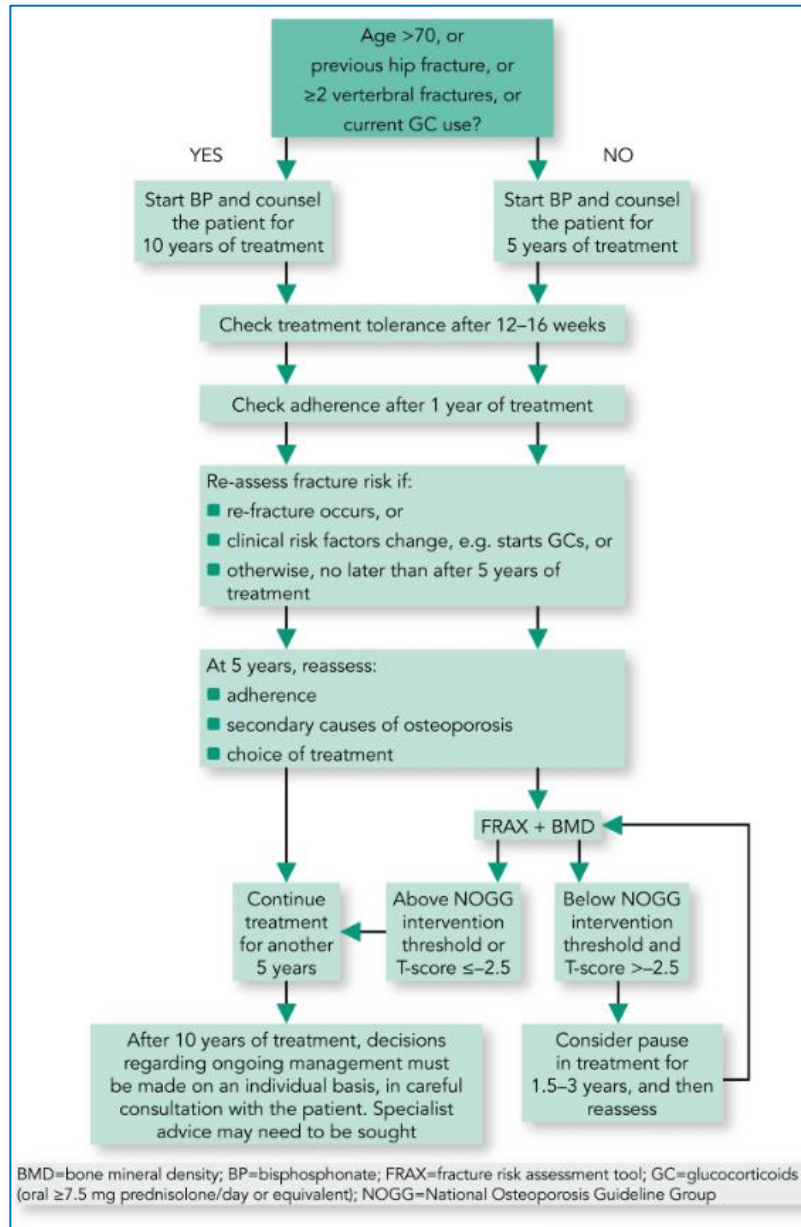
If you have further questions about denosumab or biosimilars, then please speak to a member of your clinical or pharmacy team.

Original version prepared the NHS Specialist Pharmacy Service: 25.07.2025. Adapted by Surrey Heartlands ICB 19.2.26

Reviews



Oral Bisphosphonates: Clinical Flowchart for long term treatment & monitoring

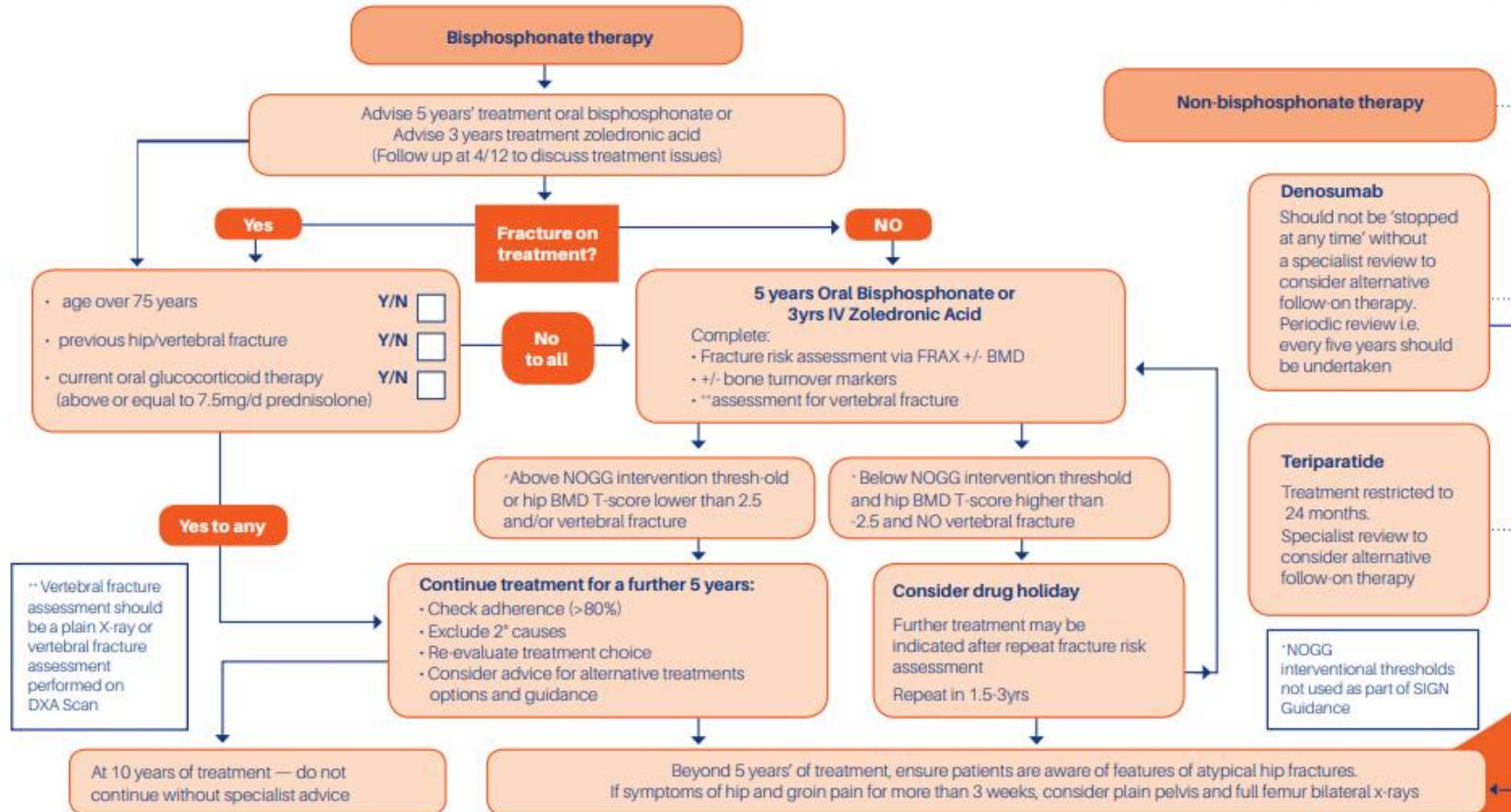


Duration of Osteoporosis Treatment

(adapted from NOGG : www.sheffield.ac.uk/NOGG/NOGG%20Guideline%202017.pdf and SIGN : www.sign.ac.uk/assets/sign142.pdf www.sheffield.ac.uk/FRAX)



Better bone health for everybody



Not all patients will fit these scenarios, and we recommend the use of Advice and Guidance to discuss with local specialists for further advice. May be adapted locally.

June 2018

theros.org.uk

Reviews

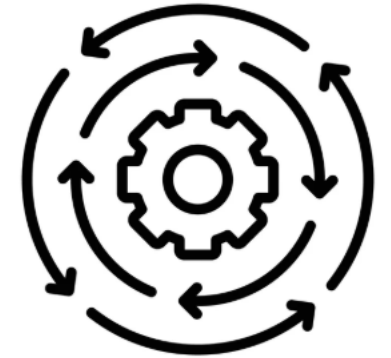


Pause – Drug Holiday.

A drug holiday should be viewed as temporary suspension of active treatment. Due to the long half-life of bisphosphonates, the anti-resorptive effect persists for a long period of time.

- The recommended duration of the drug holiday is dependent on the drug; recommence alendronate after 2 years, risedronate and ibandronate after 1 year and after 3 years for patients on zoledronic acid infusion.
- Ensure adequate intake of calcium and vitamin D in all patients including those who discontinue bisphosphonates. Patients should remain vitamin D replete when treatment with bisphosphonate has been discontinued.

Reviews



Continue treatment for high fracture risk.

- defined as:
- Age \geq 75 years.
- Previous history of a hip or vertebral fracture.
- Post treatment T score \leq -2.5 with history of fragility fracture.
- Occurrence of one or more low trauma fractures during treatment, after exclusion of poor adherence to treatment (e.g. less than 80% of treatment has been taken) and after causes of secondary osteoporosis have been excluded.
- Current treatment with oral glucocorticoids \geq 7.5 mg prednisolone/day or equivalent.

Reviews



Stop treatment

- CrCl <30 – 35 mls/min
- Improved BMD scores: T-scores better than -2.5
- Serious Adverse Effects - Atypical femoral fracture (associated with long-term bisphosphonate use)
- Osteonecrosis of the jaw (ONJ)- Jaw pain, exposed bone, poor healing after dental procedures
- Severe upper GI intolerance oesophagitis / ulceration/ dyspepsia

Reviews

Escalation Treatment- refer to secondary care

- New fragility fractures occur despite good adherence
- Significant BMD decline on repeat DXA
- Intolerable side- effects
- Creatinine clearance has fallen below cut off levels for treatment.
- Serious Adverse Effects - Atypical femoral fracture (associated with long-term bisphosphonate use)
- Osteonecrosis of the jaw (ONJ)- Jaw pain, exposed bone, poor healing after dental procedures



Bisphosphonate Template

Bisphosphonates Initiation (v19.6) (Ardens)

Prescribing considerations

Oral bisphosphonates are contraindicated in patients with hypocalcaemia, history of hypersensitivity, and in pregnancy/breastfeeding. They should not be prescribed in people with oesophagus abnormalities or if the person is unable to remain upright for at least 30 minutes (NOGG, 2021).

Drug contraindications considered *Text* No previous entry

Avoid bisphosphonates in moderate to severe renal impairment (GFR \leq 30-35 ml/min) (NOGG, 2021). Check renal function prior to starting treatment.

Latest eGFR 29-Jan-2026 84 mL/min

Correct hypocalcaemia and vitamin D deficiency before starting. Monitor plasma-calcium concentration during treatment. (BNF, 2024)

Latest Calcium 25-Apr-2022 2.26 mmol/L

Latest Vitamin D level 25-Apr-2022 76 nmol/L

Calcium and vitamin D supplementation discussed *Text*

View -> All Records *Summary*

Bisphosphonates Initiation (v19.6) (Ardens)

Patient counselling

Atypical femoral fractures, osteonecrosis of the jaw and osteonecrosis of the ear are rare adverse effects associated with long-term bisphosphonate treatment (NOGG, 2021).

Warned about risks of bisphosphonates including atypical fracture and osteonecrosis of the jaw and ear *Text*

Patient advised to have a dental check-up before starting bisphosphonate treatment and attend dentist regularly for check-ups *Text*

Advice about common side effects of drug treatment *Text* including oesophageal reactions, GI disturbances, headaches, and musculoskeletal pain No previous entry

Patient advised to stop taking and to seek medical advice if they develop symptoms of oesophageal irritation *Text*

Patient advised on how to take bisphosphonate on an empty stomach, swallowed whole with a large glass of water *Text*

Patient advised to remain upright for *Text*

View -> All Records *Summary*

Templates

Bisphosphonates Initiation (v19.6) (Ardens)

Provision of written information *Text* No previous entry

[Bisphosphonates: atypical femoral fractures \(MHRA\)](#)
[Bisphosphonates: osteonecrosis of the jaw \(MHRA\)](#)
[Bisphosphonates: very rare reports of osteonecrosis of the external auditory canal \(MHRA\)](#)

Plan and follow-up

Patients should be offered further medication reviews to support adherence (NOGG, 2021).

Medication plan No previous entry

Follow-up arranged *Text* No previous entry

[The Royal Osteoporosis Society support tool for patients taking medication - BoneMed Online](#)

Medication review

Treatment with bisphosphonate should be reviewed after 5 years, unless on oral corticosteroid therapy. Longer durations of treatment may be indicated in high risk patients (NOGG, 2021)

Bisphosphonate medication review *Text* 03-Dec-2025 ▶

Osteoporosis medication compliance review *Text* 03-Dec-2025 ▶

Bisphosphonate stopped (record reason) No previous entry

Text

View -> All Records

Summary

Osteoporosis Templates

Osteoporosis (v19.7) (Ardens)

Pages

- Risk Assessment**
- Suspected Fragility Fracture
- Fracture Risk & Investigations
- DXA Results & Management
- Referrals
- Register
- Review Completion and Recall
- Resources & Patient Messaging
- Template Info/Learning Points

Who to assess

- [NICE Osteoporosis assessment](#)
- [NOGG Risk Assessment](#)

Risk factors

| All women 65y and over, men 75y and over | |
|--|---|
| Women 50-64 and men 50-74 with any risk factor: | <ul style="list-style-type: none">• Previous osteoporotic fragility fracture• Current or frequent use of oral corticosteroids• History of falls• BMI < 18.5• Smoker• ETOH > 14units per week• Secondary cause of osteoporosis (see below) |
| People <50 with any of the following: | <ul style="list-style-type: none">• Current or frequent use of oral corticosteroids• Untreated premature menopause• Previous fragility fracture |
| People <40 with any of the following: | <ul style="list-style-type: none">• Current/recent use of oral corticosteroids >=7.5mg pred daily for 3m+• Previous fragility fracture of spine/hip/forearm or proximal humerus• History of multiple fragility fractures |

(NICE, 2017)

Fragility fracture

H/O: fragility fracture

No previous entry

No previous entry

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Summary

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Fragility fracture risk scores

Assess fragility fracture risk using FRAX or QFracture in people with risk factors, and offer DXA to measure BMD if their risk is at threshold for intervention.

Fragility fracture risk score is NOT needed if:

- >50 years and history of fragility fracture
- <40 years with major risk factor (these patients may need referral to specialists depending on their BMD)

These patients can be offered DXA scan straight away. (NICE, 2017)

Osteoporosis risk assessment done *Text* No previous entry

The two commonly used risk assessment tools are QFracture and FRAX. Please be aware of the recommended age ranges for use as specified on the websites.

[Intervention thresholds \(NOGG\)](#)

QFracture

| | | | |
|--------------------------------------|----------------------|---|-------------------|
| QFracture risk calculator score | <input type="text"/> | % | No previous entry |
| 10 year hip fracture QFracture score | <input type="text"/> | % | No previous entry |

[QFracture \(ClnRisk\)](#)

Summary

Register

Review Completion and Recall

Resources & Patient Messaging

Template Info/Learning Points

View -> All R

FRAX

| | | |
|----------------------|----------------------|-------------------|
| FRAX score using BMI | <input type="text"/> | No previous entry |
| FRAX score using BMD | <input type="text"/> | No previous entry |

[FRAX Calculation Tool](#)

Investigations

Referral for DXA scan of hip and spine *Text* No previous entry

If relevant, DXA pre-appointment questionnaire given to patient and advised them to complete and take *Text*

Osteoporosis Template

» **Osteoporosis (v19.7) (Ardens)**

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View -> All Records

DXA scan results

Record DXA scan results below:

| | | |
|---------------------------------|----------------------|-------------------|
| Lumbar spine DXA result | <input type="text"/> | No previous entry |
| Lumbar spine DXA scan T score | <input type="text"/> | No previous entry |
| Hip DXA result | <input type="text"/> | No previous entry |
| Hip DXA scan T score | <input type="text"/> | No previous entry |
| Femoral neck DXA result | <input type="text"/> | No previous entry |
| Femoral neck DXA scan T score | <input type="text"/> | No previous entry |
| Forearm / heel DXA result | <input type="text"/> | No previous entry |
| Forearm / heel DXA scan T score | <input type="text"/> | No previous entry |
| Additional comments | <input type="text"/> | |

Summary

Suspected Fragility Fracture

Fracture Risk & Investigations

DXA Results & Management

Referrals

Register

Review Completion and Recall

Resources & Patient Messaging

Template Info/Learning Points

View -> All Records

Review following DXA

If the DXA reveals osteopenia, please code this in the section above. If it shows osteoporosis, then please code this on the National Contracts page.

| | | | |
|---|------|----------------------|-------------------|
| <input type="checkbox"/> DXA results discussed with patient | Text | <input type="text"/> | |
| <input type="checkbox"/> Health education - osteoporosis | Text | <input type="text"/> | No previous entry |
| <input type="checkbox"/> Self-help advice leaflet given | Text | <input type="text"/> | No previous entry |
| Lifestyle advice | | <input type="text"/> | No previous entry |
| Further management | | <input type="text"/> | |

[Osteoporosis - patient information](#)

Summary

Osteoporosis template

Osteoporosis (v19.7) (Ardens)

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If a fragility fracture is suspected, please consider emergency hospital admission or specialist referral if appropriate.

Referral indicated 22-Jul-2020 [Orthopaedic r...](#)

Referrals

Non-pharmacological management of osteoporosis includes dietary, smoking and alcohol advice. Regular weight-bearing and muscle-strengthening exercise is also recommended, with consideration of referral to exercise programmes in those at risk of falls. (NOGG, 2021)

Multidisciplinary referrals No previous entry

Secondary care referrals:

Referral 22-Jul-2020 [Referral to mu...](#)

Signposting

Signposting to emergency services No previous entry

Signposting to practice staff No previous entry

Signposting to elderly service No previous entry

Signposting to lifestyle service No previous entry

Signposting to healthcare service No previous entry

Signposting to mental wellbeing service No previous entry

A Referral to osteoporosis clinic
B Referral to rheumatology service
C Referral to endocrinology service
D Referral to musculoskeletal clinic
E Referral for further care

View -> All Records

Summary

Osteoporosis Template

Osteoporosis (v19.7) (Ardens)

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Osteoporosis review

Treatment with bisphosphonate should be reviewed after 3-5 years, unless on oral corticosteroid therapy. (BNF, 2024)

| | | | | | |
|--------------------------|---|------|--|-------------------|---|
| <input type="checkbox"/> | Follow-up osteoporosis assessment | Text | | No previous entry | |
| <input type="checkbox"/> | Osteoporosis medication compliance review | Text | | 03-Dec-2025 | ▶ |
| <input type="checkbox"/> | Bisphosphonate review | Text | | 03-Dec-2025 | ▶ |
| | Bisphosphonate use | | | No previous entry | |

Good oral hygiene and routine dental care is recommended for patients on bisphosphonate or denosumab therapy. (NOGG, 2021)

| | | | | | |
|--------------------------|-----------------------|------|--|-------------|---|
| <input type="checkbox"/> | Oral health education | Text | | 03-Dec-2025 | ▶ |
| <input type="checkbox"/> | Referred to dentist | Text | | 03-Dec-2025 | ▶ |

Summary

Osteoporosis (v19.7) (Ardens)

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Osteoporosis review

A rare adverse effect of bisphosphonate or denosumab treatment is the development of an atypical femoral fracture. Patients are therefore advised to report any unexplained thigh, groin or hip pain. (NOGG, 2021)

| | | | | | |
|--------------------------|---|------|--|--|--|
| <input type="checkbox"/> | Advised to report unexplained thigh, groin or hip pain whilst on bisphosphonate/denosumab treatment | Text | | | |
| | Further review | | | | |

Diary Recall

The Ardens Recall System uses the EMIS diary to help automate the recall of patients for annual and interim reviews (as well as blood tests, hospital tests, injections and procedures).

[Ardens Diary Recall System](#)

If you would like to arrange an interim or annual review please record the diary date:

| | | | | | |
|--------------------------|---|-----------|-------------|---|-------------------|
| <input type="checkbox"/> | Follow-up osteoporosis assessment diary entry | Follow Up | 19-Mar-2026 | ▶ | No previous entry |
|--------------------------|---|-----------|-------------|---|-------------------|

Summary

MHRA

1. MHRA Drug Safety Update (Dec 2015) Osteonecrosis of the external auditory canal

Issue: **Very rare cases of osteonecrosis of the external auditory canal** associated with bisphosphonates.

Advice: Patients should report **ear pain, discharge, or infection**. Consider risk especially with **steroid use, chemotherapy, or trauma**.

2. MHRA Drug Safety Update (Nov 2010 article, published page updated Dec 2014) Oesophageal cancer risk review

Issue: Possible association between **oral bisphosphonates and oesophageal cancer**.

Conclusion: Evidence **insufficient to confirm a causal link**. Continue prescribing with awareness of oesophageal irritation risk.

MHRA

3. MHRA Drug Safety Update (Jun 2011) Atypical femoral fractures

Issue: Rare **atypical subtrochanteric and femoral shaft fractures** with long-term bisphosphonate therapy.

Key advice : Monitor for **thigh or groin pain**. Evaluate need for continued therapy in long-term use.

4. MHRA Drug Safety Update (Nov 2009) Osteonecrosis of the jaw (ONJ)

Issue: **Osteonecrosis of the jaw** associated with bisphosphonates.

Advice: Dental examination before treatment (especially cancer patients).

Maintain good oral hygiene and dental monitoring.

Case Study 1

- MJ is 72 years old .
- HPC :One morning while vacuuming the house she developed severe back pain. She struggled to move, stand and walk due to severe back pain. She saw her GP who initially diagnosed a back strain and prescribed strong pain killers. Unfortunately the analgesia made her feel generally unwell and constipated with little relief of her pain. Her only relief was on lying down. She also noticed that she was more bent forwards when trying to stand.
- Went back to GP who now referred her for X-ray. Two weeks later an X-ray confirmed a compression fracture in her lower back.
- Next Steps: ?
- Further BT revealed low Vitamin D levels of 20 mcg and was advised OTC vitamin D
- FRAX score performed

Questionnaire

1. Age (between 40 and 90 years)

2. Sex

Female Male

3. Weight

kg

kg/cm



4. Height

cm

5. Previous Fracture



6. Parent Fractured Hip



7. Current smoking



8. Glucocorticoids



9. Rheumatoid arthritis



10. Secondary osteoporosis



11. Alcohol 3 or more units/day



12. Femoral neck BMD



Calculate

Clear

Age: 72

BMI: 29.5

without BMD

THE TEN-YEAR PROBABILITY OF FRACTURE

Major osteoporotic 26 %

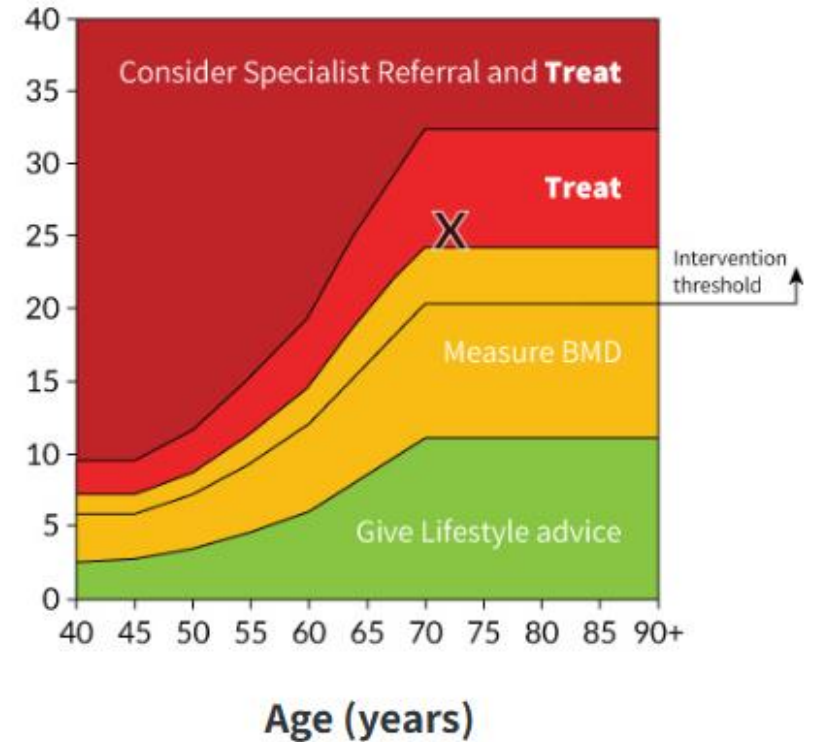
Hip Fracture 8.2 %

[View NOGG guidelines](#)

Adjust your results, try FRAXplus®

[What does FRAXplus® do? Click here](#)

(%) 10-year probability of Major Osteoporotic Fracture



Next Steps: ?

SMR case study



Susan and the sub-optimal pathway



- **Susan** is 58, a receptionist at a primary school, she **loves to dance** and met Bob, her husband, at a dance
- Susan's osteoporosis journey starts after she trips over the vacuum cleaner lead and an A&E X-ray confirms that she has **broken her wrist**
- A few years later at a dance evening (after a spin) Susan feels pain across her back. Her GP diagnoses **muscle pain rather than a vertebral fracture**
- Pain exacerbates again years later from a stretch across the kitchen and even with physiotherapy classes the pain doesn't go away; Susan **has to stop dancing**
- Susan tumbles out of her chair and breaks her other wrist and '**loses her purpose in life**' when she has to retire from her school reception work due to back pain at the age of 67
- Her back pain is debilitating & leads to **isolation** at home and it shrinks Bob's life too
- They **never do make it to their dream holiday** for their 50th wedding anniversary as planned. Bob passes away the following year
- With her condition and no Bob, **life is almost unbearable**
- A few years later while gardening, Susan slips on the patio and breaks her hip, **never regains her mobility** and never returns home
- Three months in a nursing home and **Susan dies following a chest infection aged 81**

SMR case study

Susan and the optimal pathway



As in the sub-optimal scenario shown earlier, Susan **breaks her wrist** whilst vacuum cleaning at the age of 58

- But then Susan is **contacted by the pharmacist for a SMR.**
- A **risk assessment** takes place including a **DXA scan** to measure bone density
- The pharmacist is very supportive and provides the reassurance Susan needs at diagnosis – **she can keep on dancing!** Bone protection medication is started.
- Susan is encouraged to engage with the **local support group**
- Five years after her broken wrist, Susan visits her GP for a **treatment review**
- A **second fall** occurs, but the bone strengthening treatment means a **bruised rather than broken** second wrist
- Aged 70 (rather than 67) Susan **decides to retire** from work to spend more time with Bob
- On their 50th wedding anniversary they return to Seville (where they first honeymooned) a **special time** (a year before Bob's death)
- 20 years later (with **20 years of back pain and trauma saved**) Susan experiences her first vertebral fracture stretching in the kitchen. With the appropriate treatment, Susan still gets to see her **grandson graduate from University**

CQC

The Care Quality Commission (CQC) has issued a public alert following a serious incident. This involved a patient treated with Bisphosphonates who sustained bilateral atypical femoral fractures due to inadequate clinical monitoring.

In response, the CQC has implemented a new set of prescribing safety searches within the *medicines usage bundle* aimed at reducing risks associated with long-term bisphosphonate therapy.

New Safety Searches Introduced

To aid clinicians in identifying patients at risk due to prolonged bisphosphonate use, the following automated searches have been added to the medicines usage bundle:

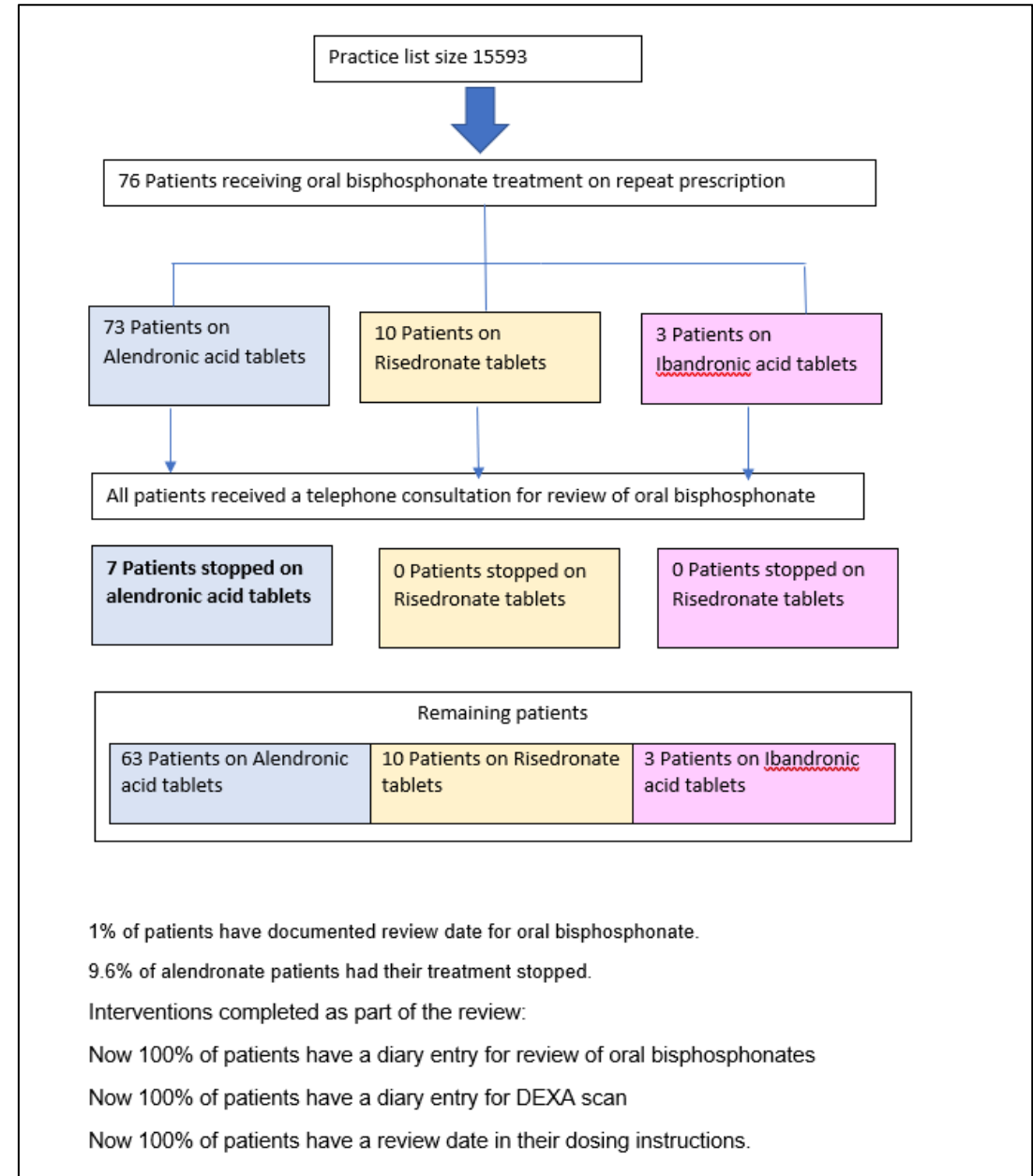
1. On Bisphosphonate – Check as first issued >5 years ago
2. On Bisphosphonate – Check as first issued >5 years ago + no DEXA in last 5y

These searches are designed to flag patients who may be overdue for review or reassessment, ensuring timely interventions and enhanced prescribing safety.

EMIS Ardens

| Name | Population Count | % |
|--|------------------|-----|
|  ^eGFR <30 and currently taking oral bisphosphonate | 0 | 0% |
|  Alendronate | 63 | 1% |
|  1. More than 5 years | 17 | 27% |
|  1. More than 5 years Auto Report | 17 | |
|  2. 3-5 years ago | 7 | 11% |
|  3. Less than 3 years | 39 | 62% |
|  Alendronate Auto Report | 63 | |
|  Ibandronic | 3 | 1% |
|  1 . More than 5 years | 0 | 0% |
|  2. 3-5 years ago | 1 | 33% |
|  3. Less than 3 years ago | 2 | 67% |
|  Iban Auto Report | 3 | |
|  Risedronate | 10 | 1% |
|  1. More than 5 years | 2 | 20% |
|  2. 3-5 years ago | 1 | 10% |
|  3. Less than 3 years ago | 7 | 70% |
|  risedro Auto Report | 10 | |

Case study: Bisphosphonate Audit





184cm



170cm



172cm



177cm



167cm



170cm



161cm



175cm



165cm



165cm



165cm



177cm



170cm

Final Thoughts.....

Height loss of $\geq 2\text{cm}$ or a total loss of $\leq 6\text{cm}$ over time indicates potential vertebral fractures and requires further evaluation. Regular, consistent monitoring—ideally in the morning, without shoes—is recommended.

Measuring height is a crucial, low-cost tool to identify structural, often painless, spine fractures

Thank you and Questions