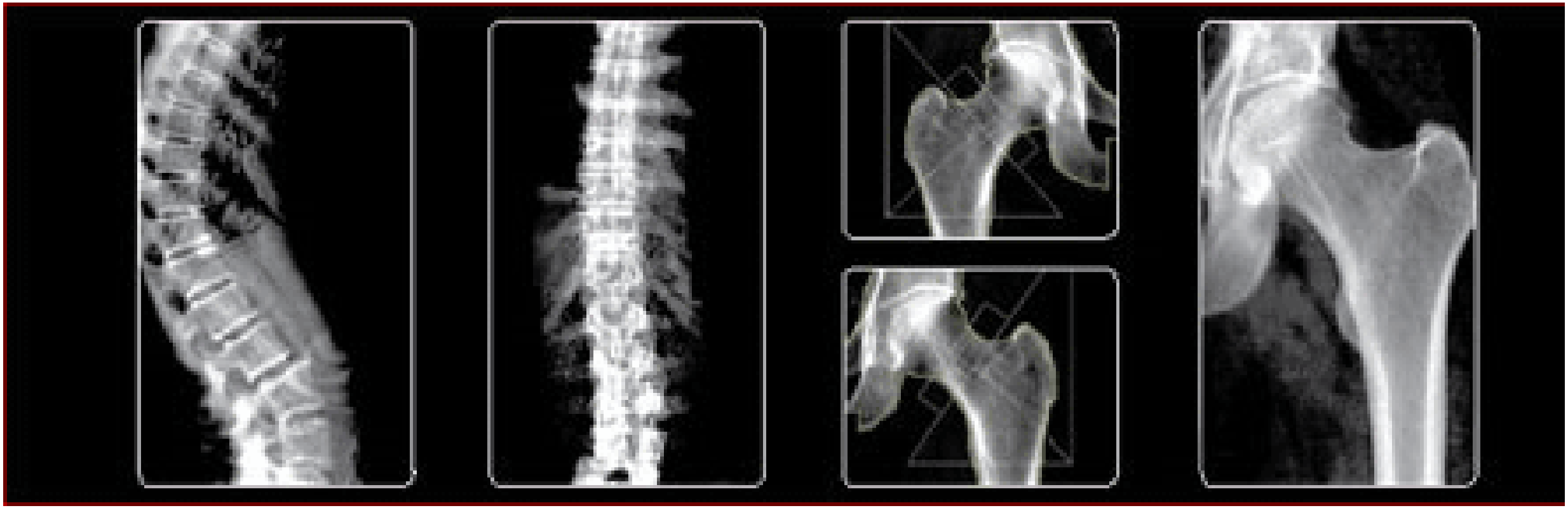


Osteoporosis

Nipa Patel

Lead PCN pharmacist SASSE 2 & 3

Regional Vice President - London and S.E

Contents

- Update on Guidelines
- Treatment Options
- Osteoporosis reviews
- Case Studies

Bingo PCPA Committee

Robin Conibere	184cm
Helen Williams	165cm
Gareth Malson	170cm
Laura Buckley	165cm
Emma Smith	177ccm
Graham Stretch	165cm
Katie Norris	170cm
Jenani Umasuthan	167cm
Sue Alldred	161cm
Brendon Jiang	172cm
Annie Stirling	177cm
Hadeel Mohamed	170cm
Sarah Baig	175cm

Latest News

GIRFT
GETTING IT RIGHT FIRST TIME

BGS
British Geriatrics Society
Improving healthcare for older people

NHS England

Co-ordinated frailty care for better outcomes

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

September 2025

GOV·UK

Home > Health and social care > Public health > Health conditions

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

Fracture liaison services: Towards universal coverage in England by 2030

Published Tuesday, 30 September, 2025

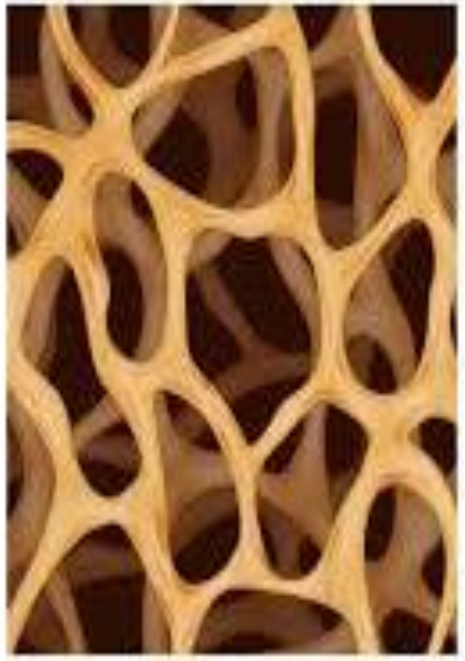
In Focus | Health

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



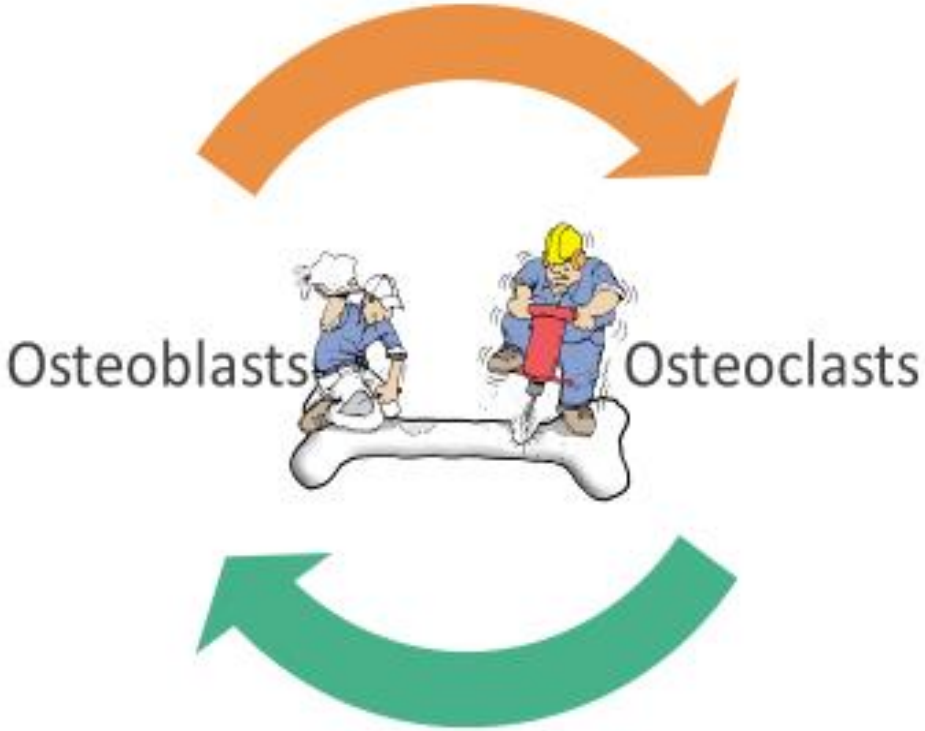
Bone with Osteoporosis

- 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

IOF International Osteoporosis Foundation

https://www.iofbonehealth.org/what-is-osteoporosis

Bones are a living tissue

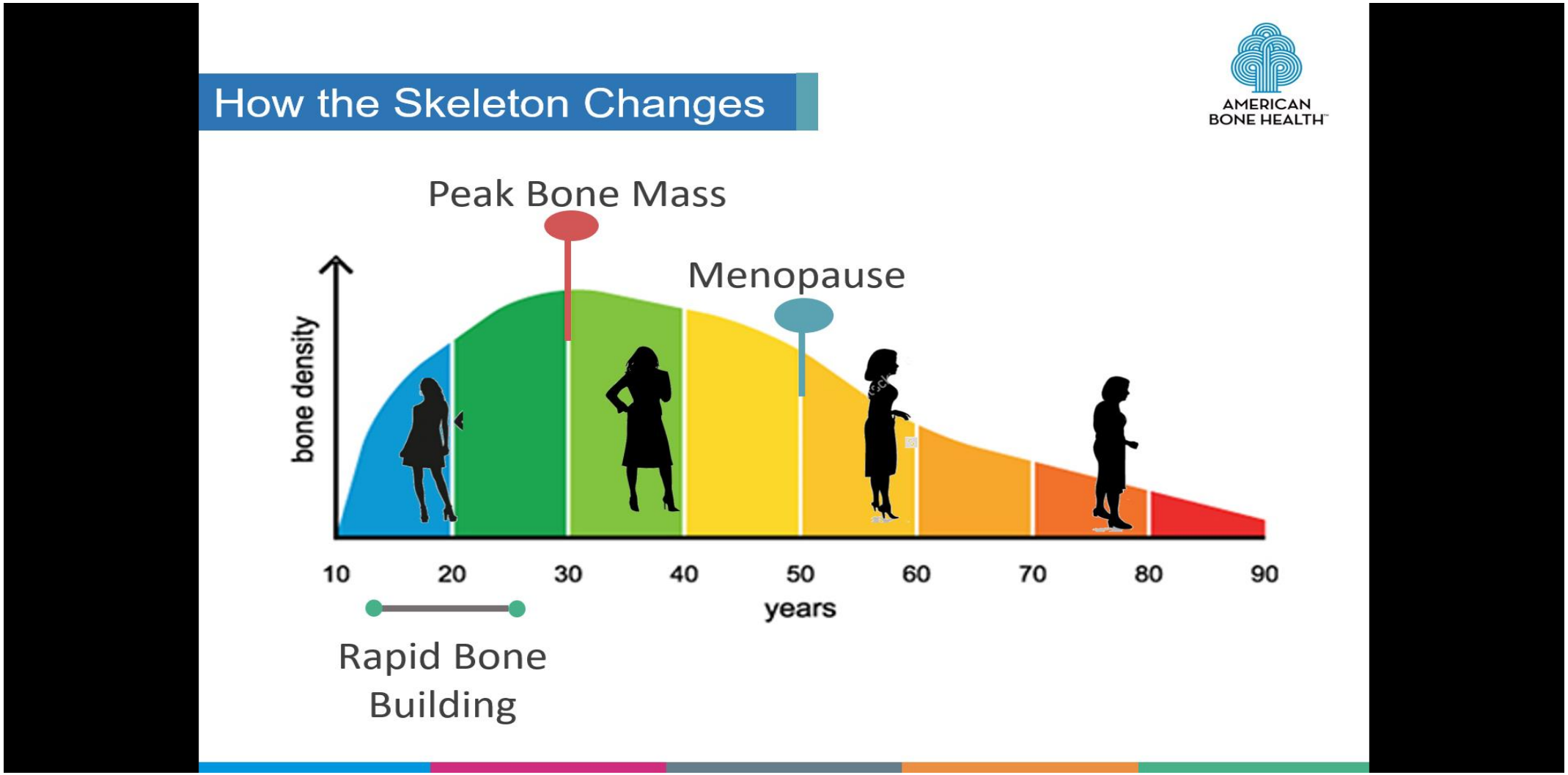


Bone remodeling means you have the opportunity to have new bones every 7-10 years!

Osteoblasts- build new bone

Osteoclasts- remove old or damaged bone

How the skeleton Changes



With credits to American Bone Health

Risk factors for Osteoporosis

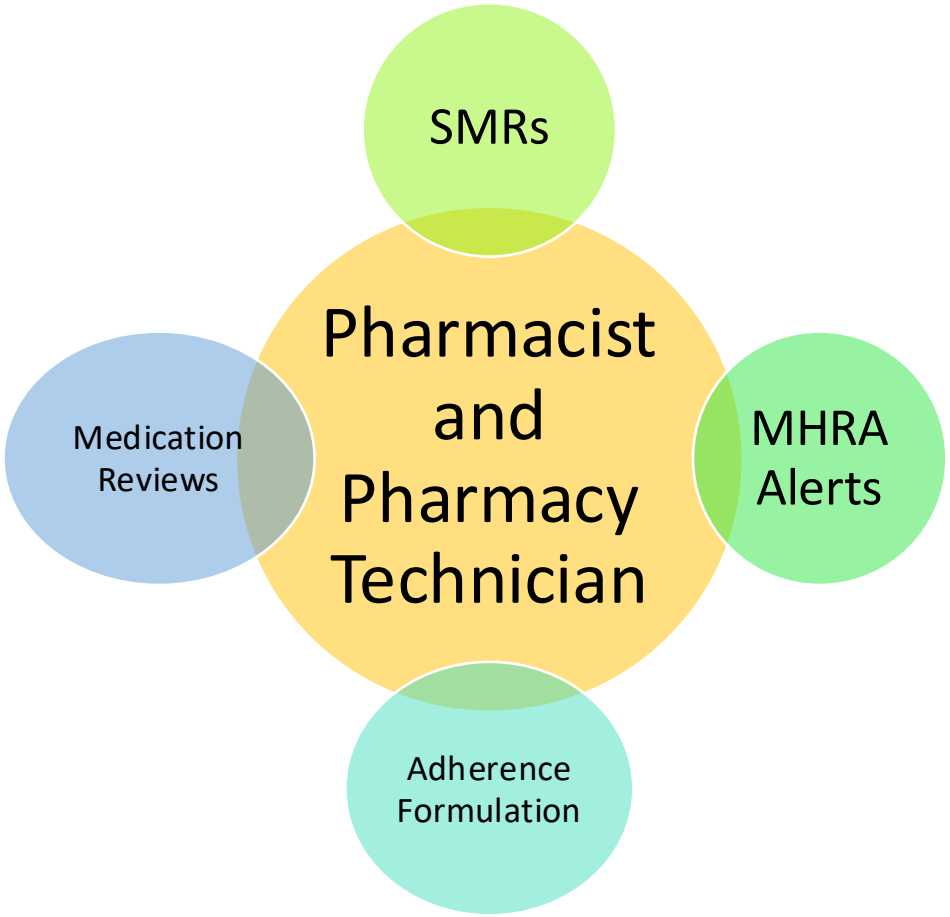
Modifiable

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 homes[45];

ii. with complex and problematic polypharmacy, specifically those on 10 or more medications;

iii. on medicines commonly associated with medication errors[46];

iv. with severe frailty[47], 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

https://www.england.nhs.uk/wp-content/uploads/2020/03/network-contract-des-specification-pcn-requirements-entitlements-2020-21.pdf

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/m^2)
    - 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

https://www.nice.org.uk/guidance/cg146 [Accessed March 2026

Calculation Tool

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

Continent United Kingdom **Country** UK

Local Reference No options

About the risk factors

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

Questionnaire

1. Age (between 40 and 90 years) 72
2. Sex Female Male
3. Weight kg 53 kg / cm
4. Height cm 165
5. Previous Fracture X
6. Parent Fractured Hip X
7. Current smoking ✓
8. Glucocorticoids X
9. Rheumatoid arthritis X
10. Secondary osteoporosis X
11. Alcohol 3 or more units/day ✓
12. Femoral neck BMD Select BMD

Calculate Clear

Age : 72 BMI : 19.5 without BMD

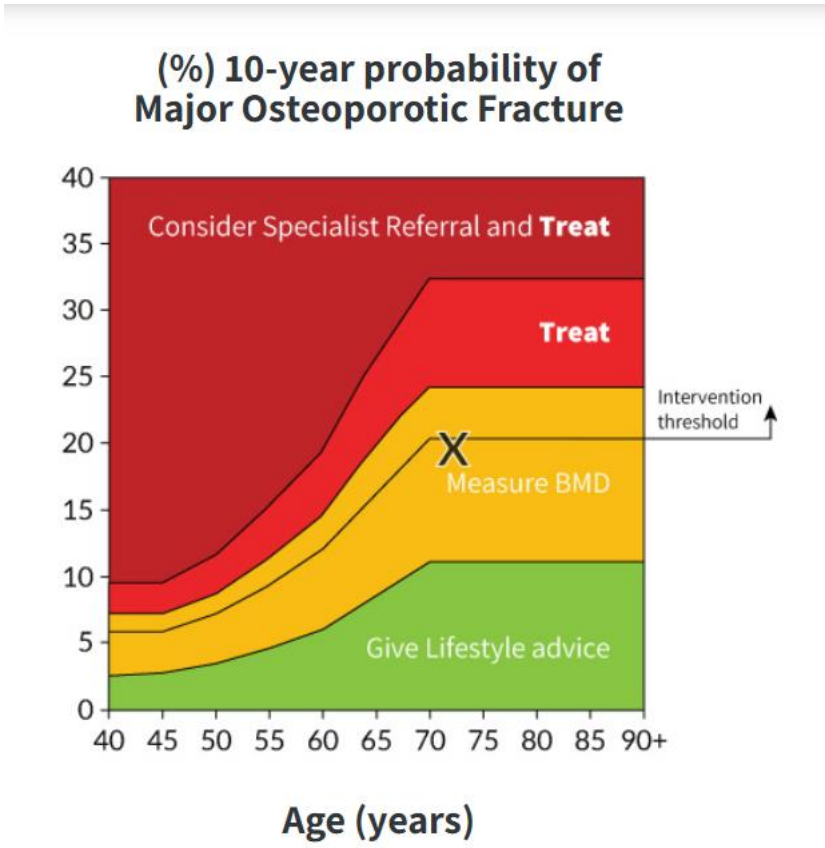
THE TEN-YEAR PROBABILITY OF FRACTURE

Major osteoporotic	20 %
Hip Fracture	11 %

View NOGG guidelines

Adjust your results, try FRAXplus®

What does FRAXplus® do ? Click here



https://www.fraxplus.org/calculation-tool Accessed 06.03.2026

What does my T-score mean?

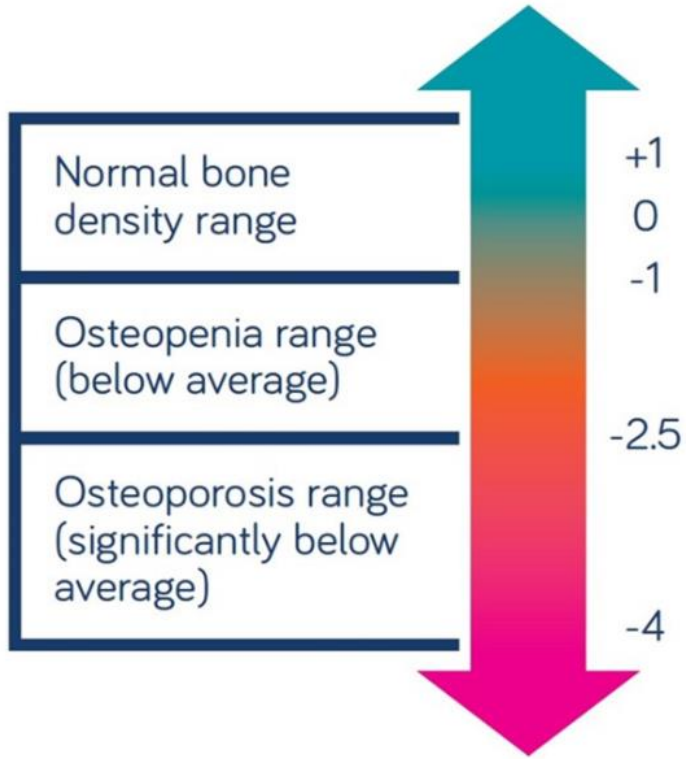
The result of your bone density scan may be given as a number called a T-score. A T-score compares your bone density to the normal range found in young healthy adults:

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.

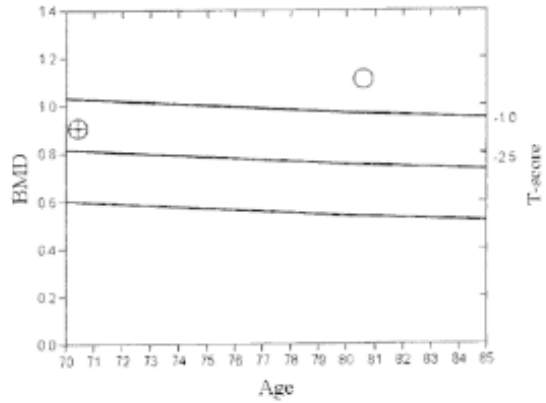
Referring Physician: [illegible]

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

Scan Information:

Scan Date: 04 March 2026 ID: A0304260I
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:

L1-L4



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/cm²)	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

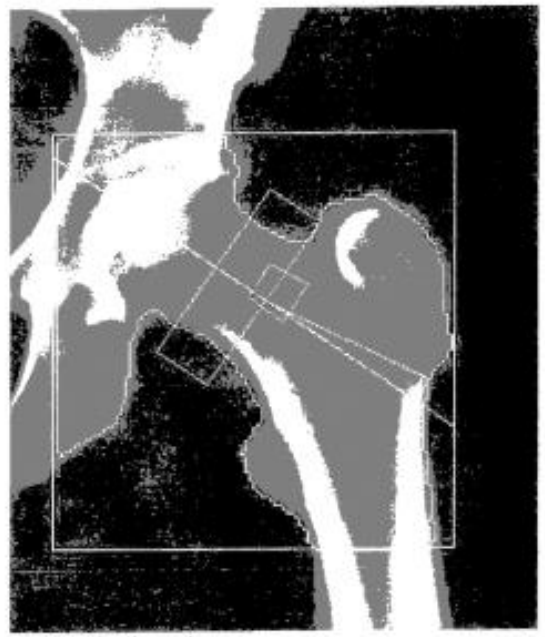
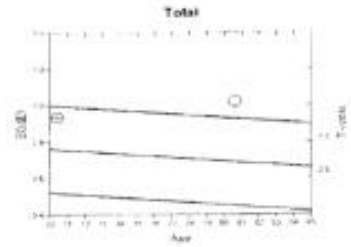


Image not for diagnostic use
97 x 101
NECK: 49 x 15
DAP: 1.5 cGy*cm²

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/cm²)	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

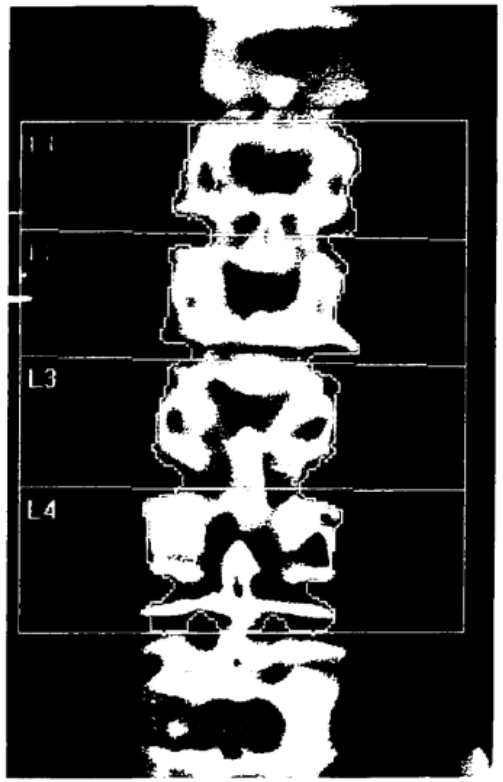
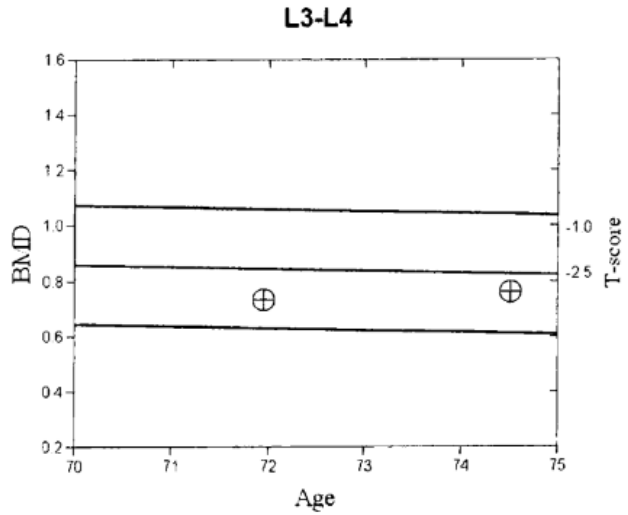


Image not for diagnostic use
116 x 134
DAP: 2.0 cGy*cm²

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/cm²)	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		

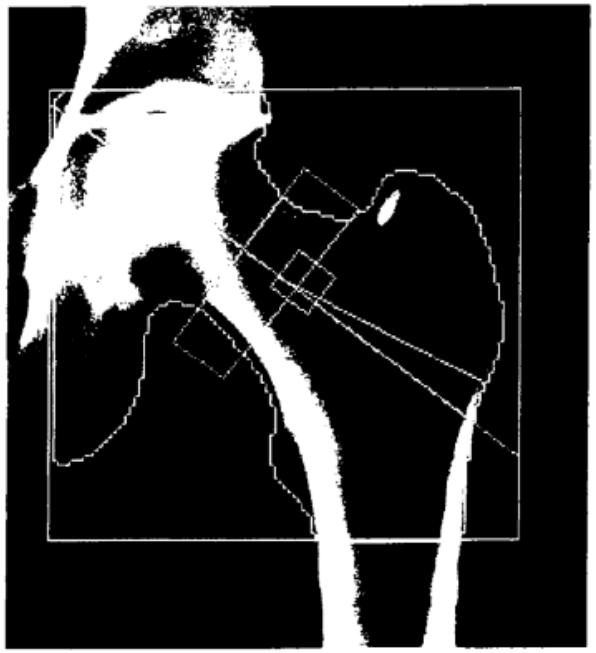
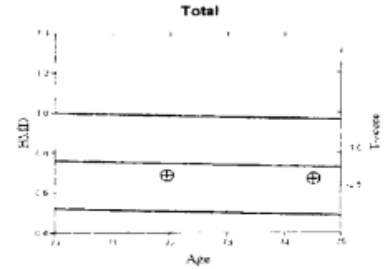


Image not for diagnostic use
103 x 100
NECK: 48 x 15
DAP: 1.4 cGy*cm²

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/cm²)	T - score	BMD Change 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		

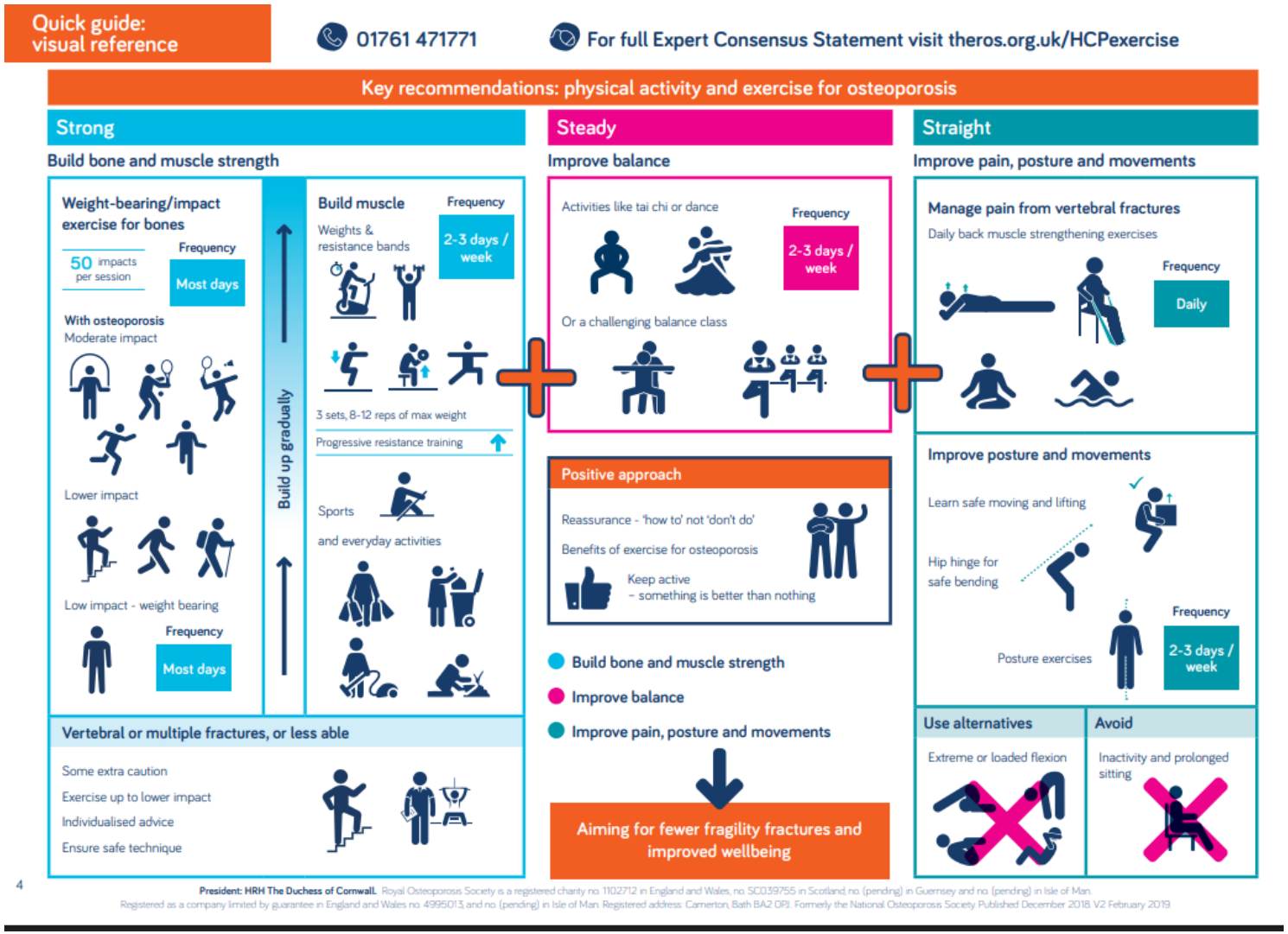
Guidelines

NICE CG 146 2012 updated February 2017	NOGG 2017 Updated December 2024	SIGN 142 2015 Revosed January 2021
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. https://www.nice.org.uk/guidance/cg146	Clinical guideline for the prevention and treatment of osteoporosis. https://www.nogg.org.uk/full-guideline	Management of osteoporosis and the prevention of fragility fractures. https://www.sign.ac.uk/media/1812/sign-142-osteoporosis-v3.pdf

Please also refer to local guidelines

Treatment of osteoporosis

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



https://theros.org.uk/media/0o5h1l53/ros-strong-steady-straight-quick-guide-february-2019.pdf

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

https://www.nogg.org.uk/full-guideline/section-6-pharmacological-treatment-options

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	×	×
latex	×	×
needle size	29G	27G
Shelf life	3y	4y

With thanks to Surrey Heartlands ICS Team

NHS
Surrey Heartlands

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

NHS
Surrey Heartlands

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 *Jubbonti or Stoboclo*, 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.

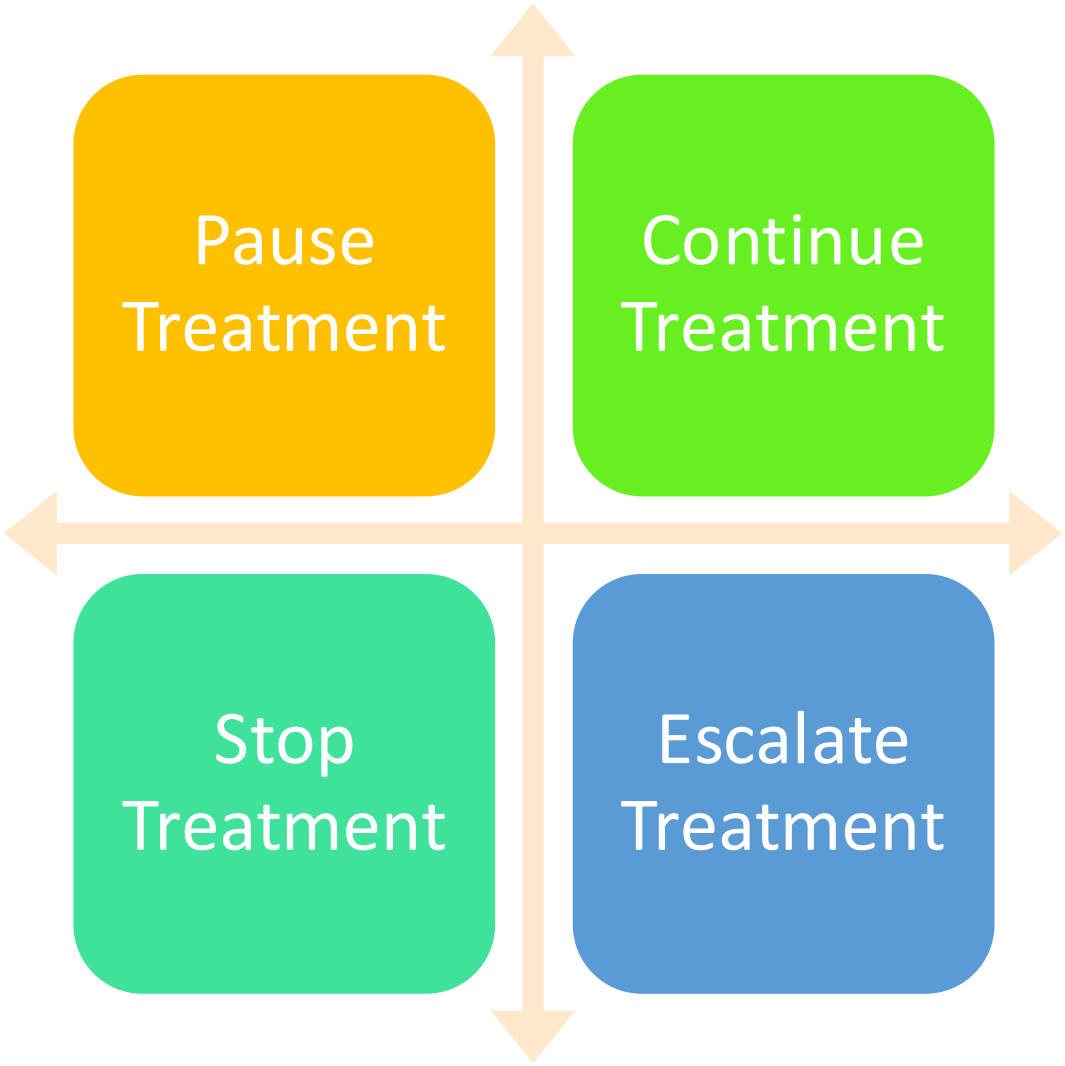
Further advice

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

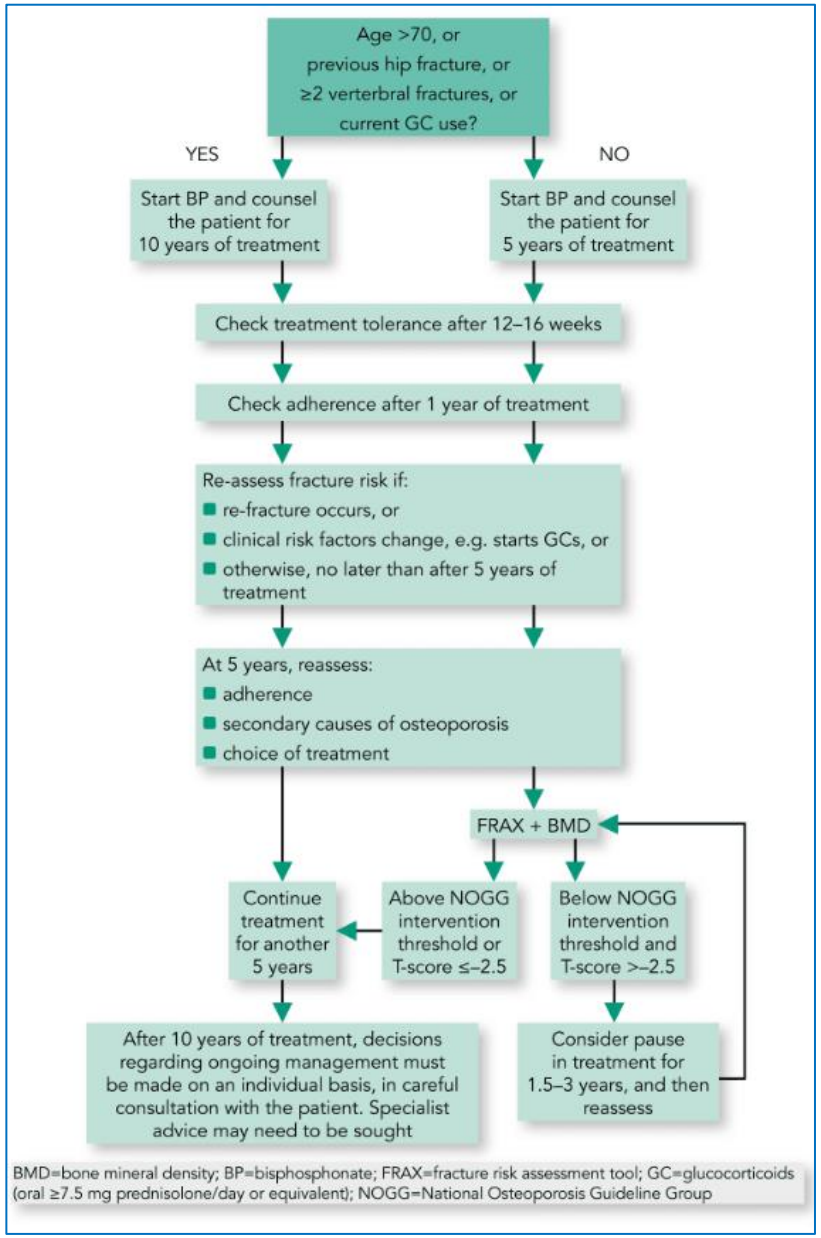
Original version prepared the NHS Specialist Pharmacy Service: 25.07.2025. Adapted by Surrey Heartlands ICB 19.2.26

https://surrey.res.services/PAD/Profile/Index/4282

Reviews


Pause Treatment
Continue Treatment
Stop Treatment
Escalate Treatment

Oral Bisphosphonates: Clinical Flowchart for long term treatment & monitoring



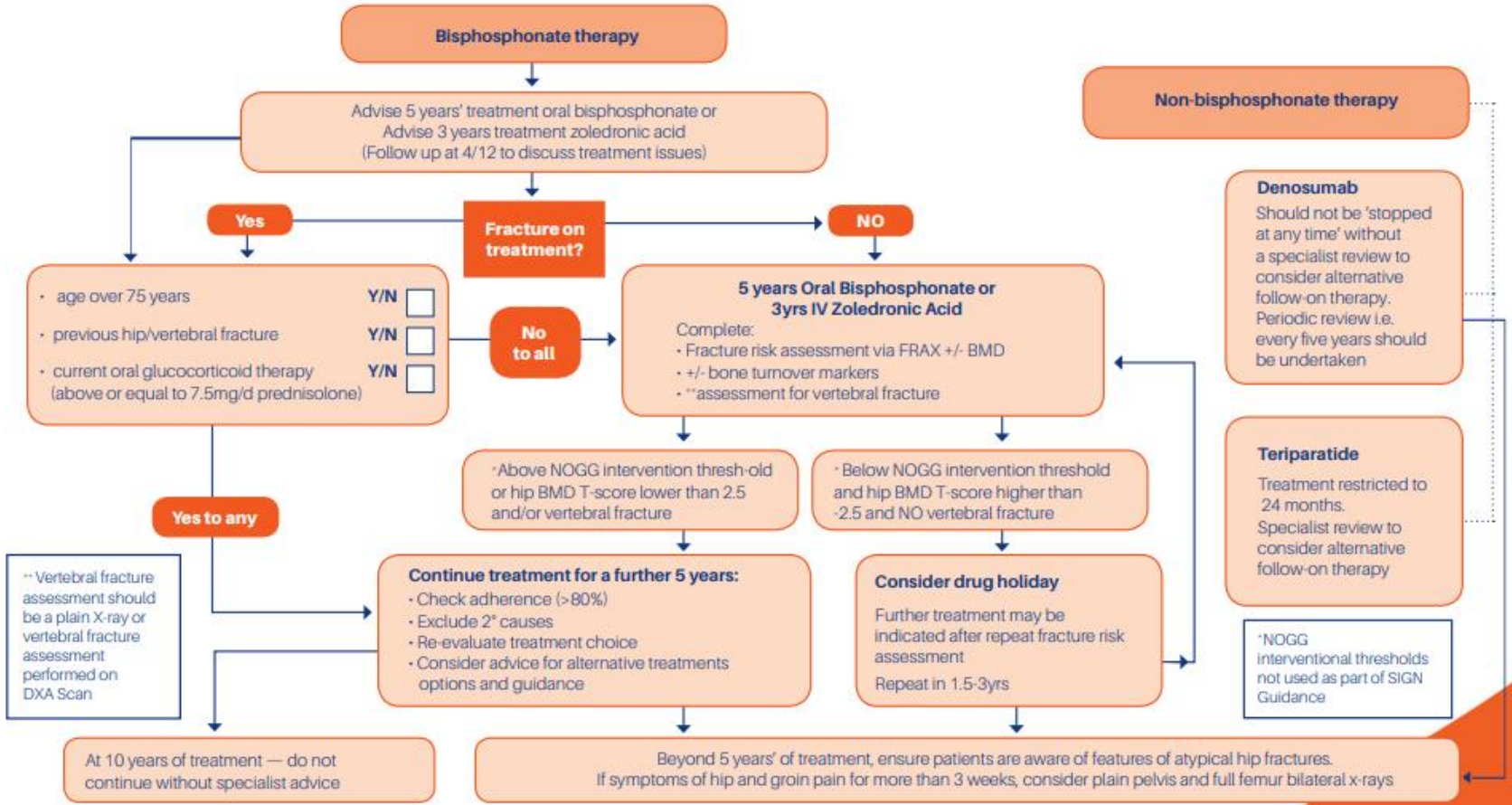
https://www.nogg.org.uk/full-guideline/section-7-strategies-management-osteoporosis-and-fracture-risk

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

Royal Osteoporosis Society

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

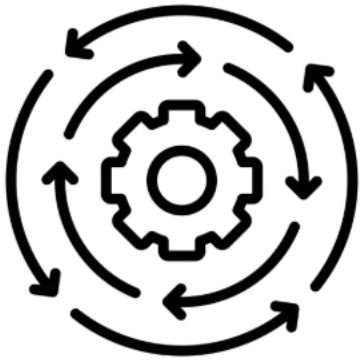
Reviews

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 ≥ 75 years.
- Previous history of a hip or vertebral fracture.
- Post treatment T score ≤ -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 ≥ 7.5 mg prednisolone/day or equivalent.

Reviews

Stop treatment

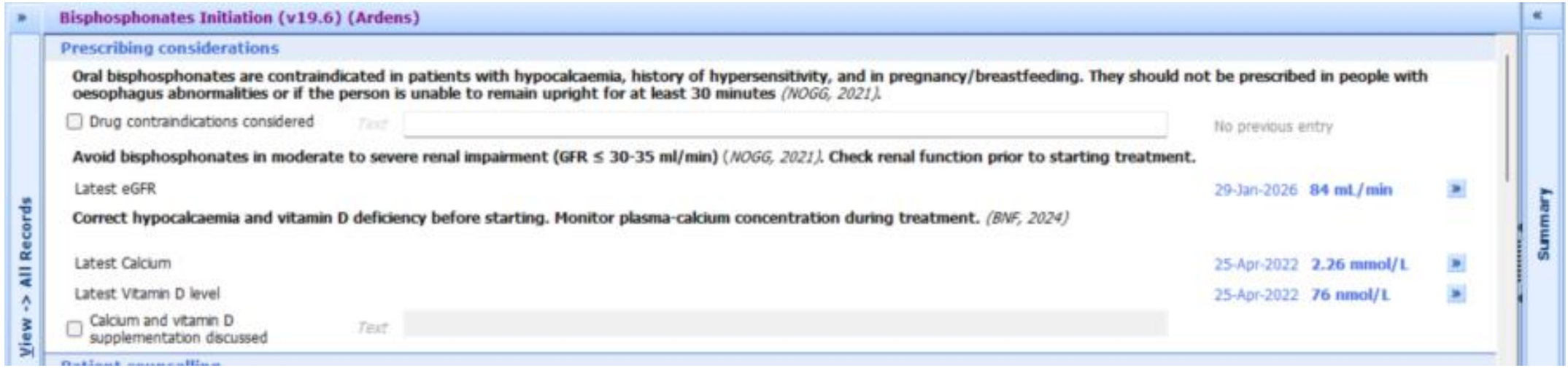
- CrCl <30 – 35 mls/min
- Improved BMD scores: T-scores better than -2.5
- Serious Adverse Effects - Atypical femoral fracture (associated with long-term bisphosphonate use)
- Osteonecrosis of the jaw (ONJ)- Jaw pain, exposed bone, poor healing after dental procedures
- Severe upper GI intolerance oesophagitis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

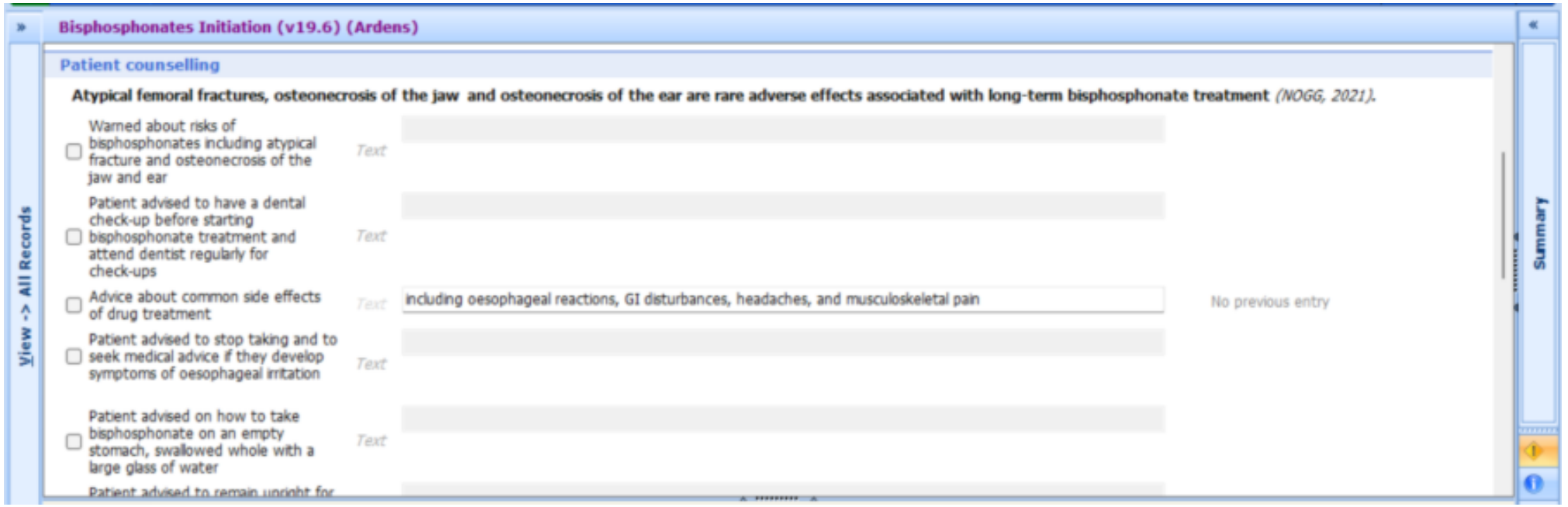
Reviews

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

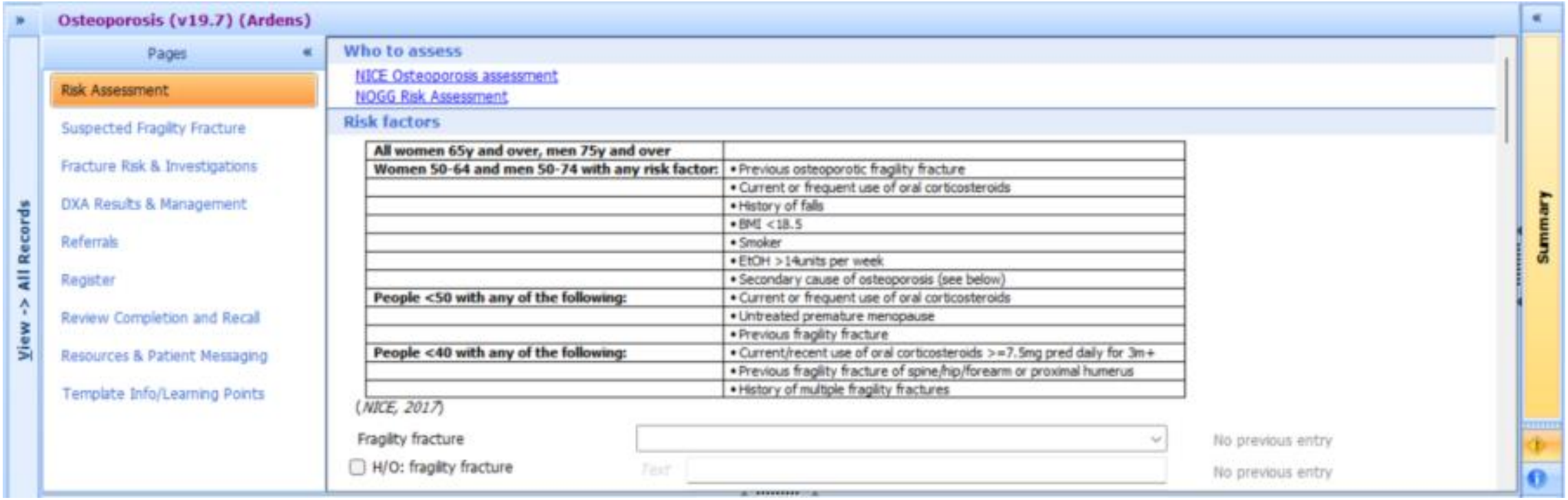




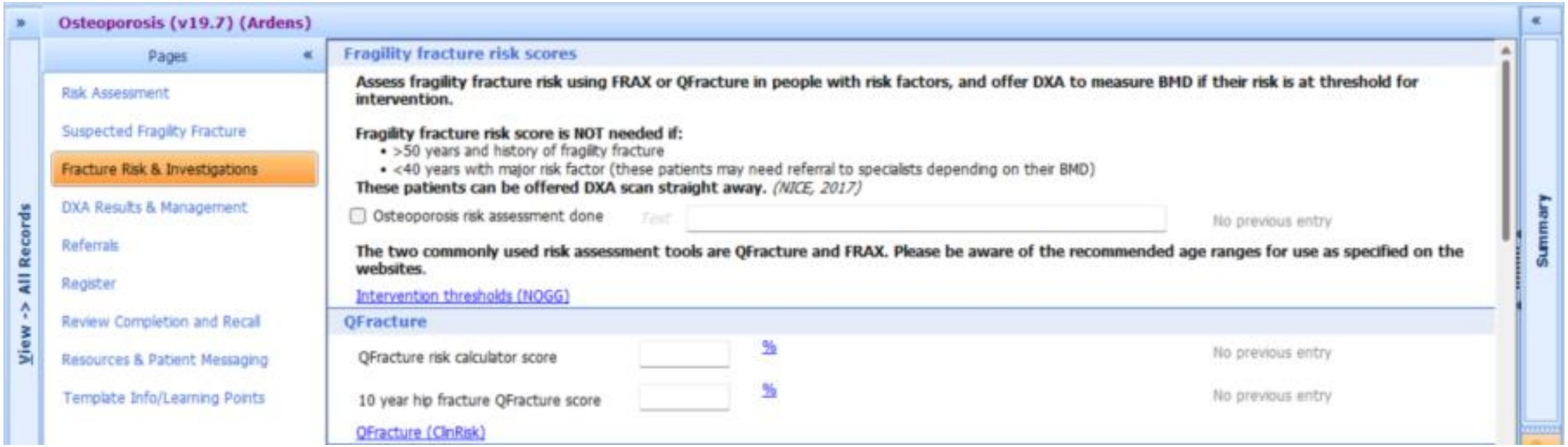
Templates

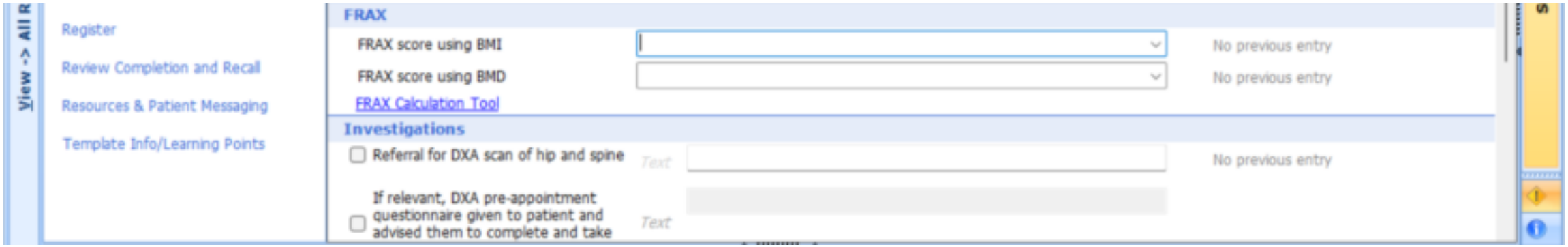

Bisphosphonates Initiation (v19.6) (Ardens)
Provision of written information
No previous entry
Bisphosphonates: atypical femoral fractures (MHRA)
Bisphosphonates: osteonecrosis of the jaw (MHRA)
Bisphosphonates: very rare reports of osteonecrosis of the external auditory canal (MHRA)
Plan and follow-up
Patients should be offered further medication reviews to support adherence (NOGG, 2021).
Medication plan
No previous entry
Follow-up arranged
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
03-Dec-2025
Osteoporosis medication compliance review
03-Dec-2025
Bisphosphonate stopped (record reason)
No previous entry
View -> All Records
Summary

Osteoporosis Templates

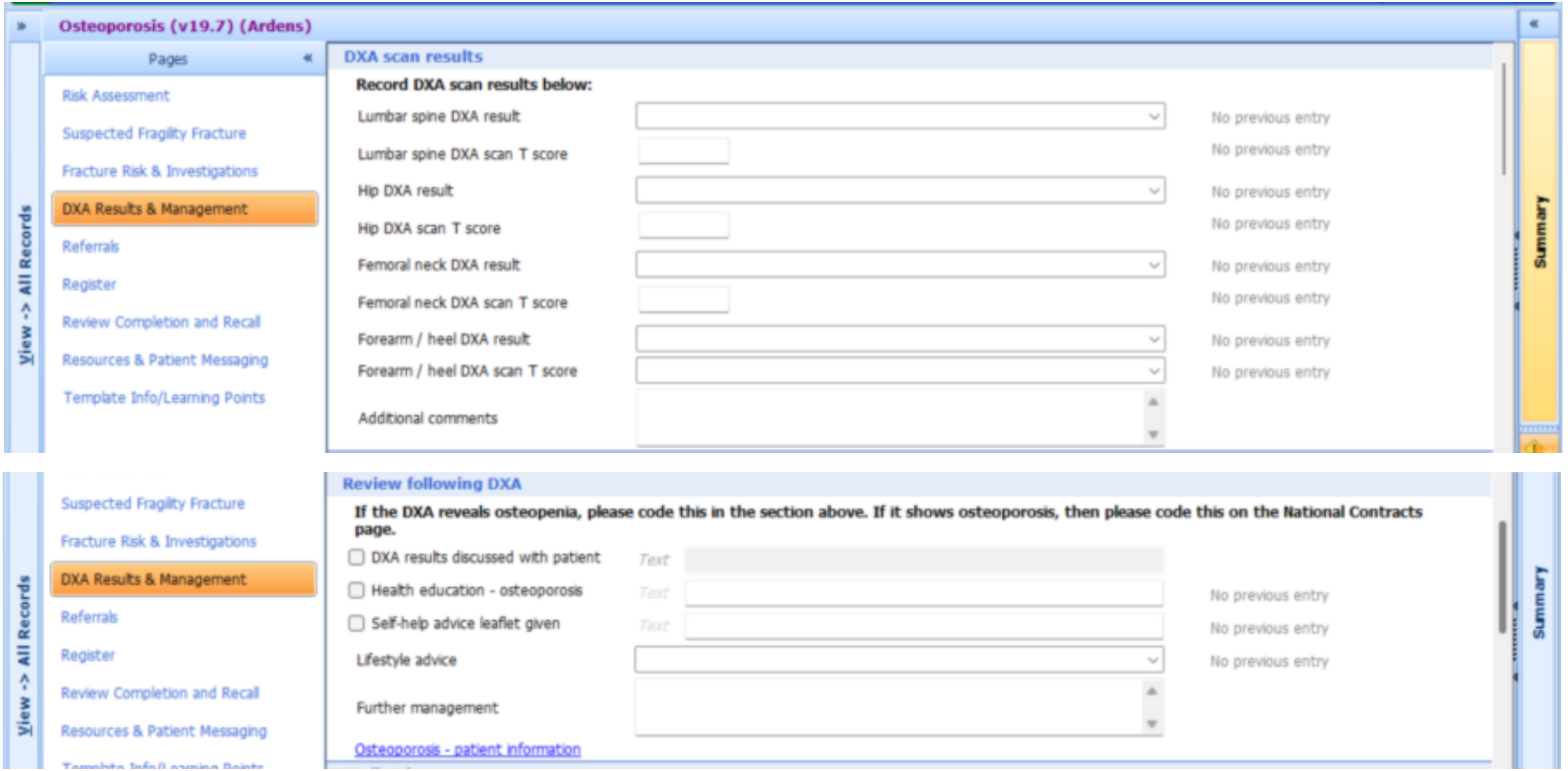


Osteoporosis Template

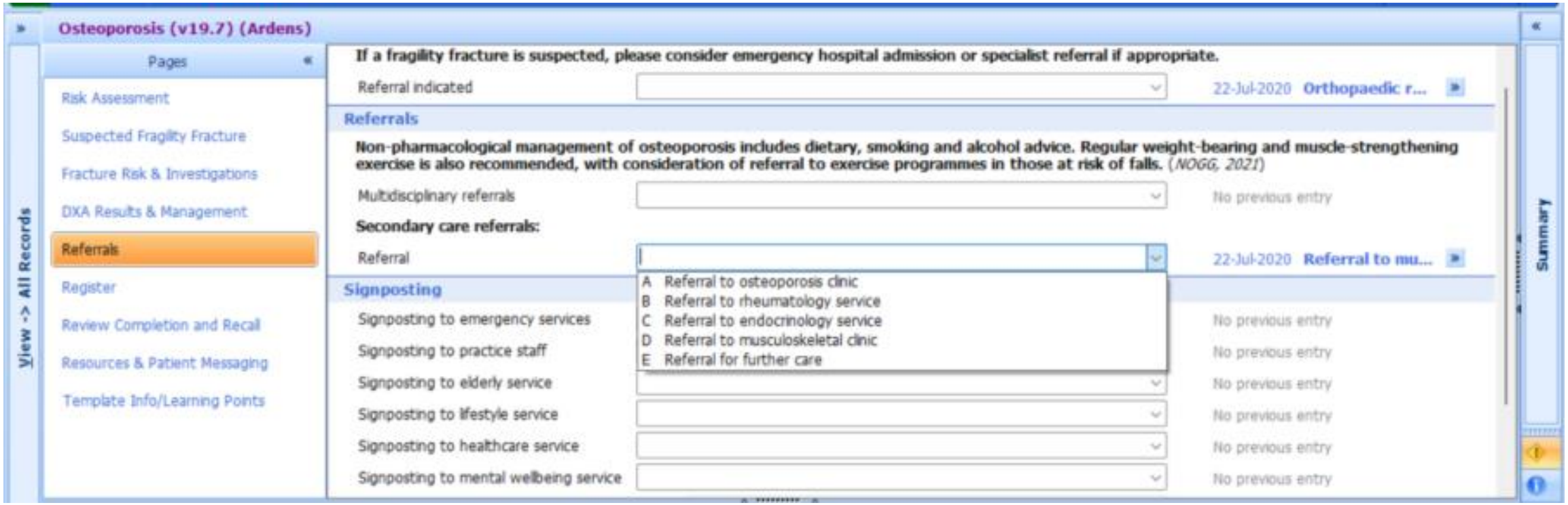




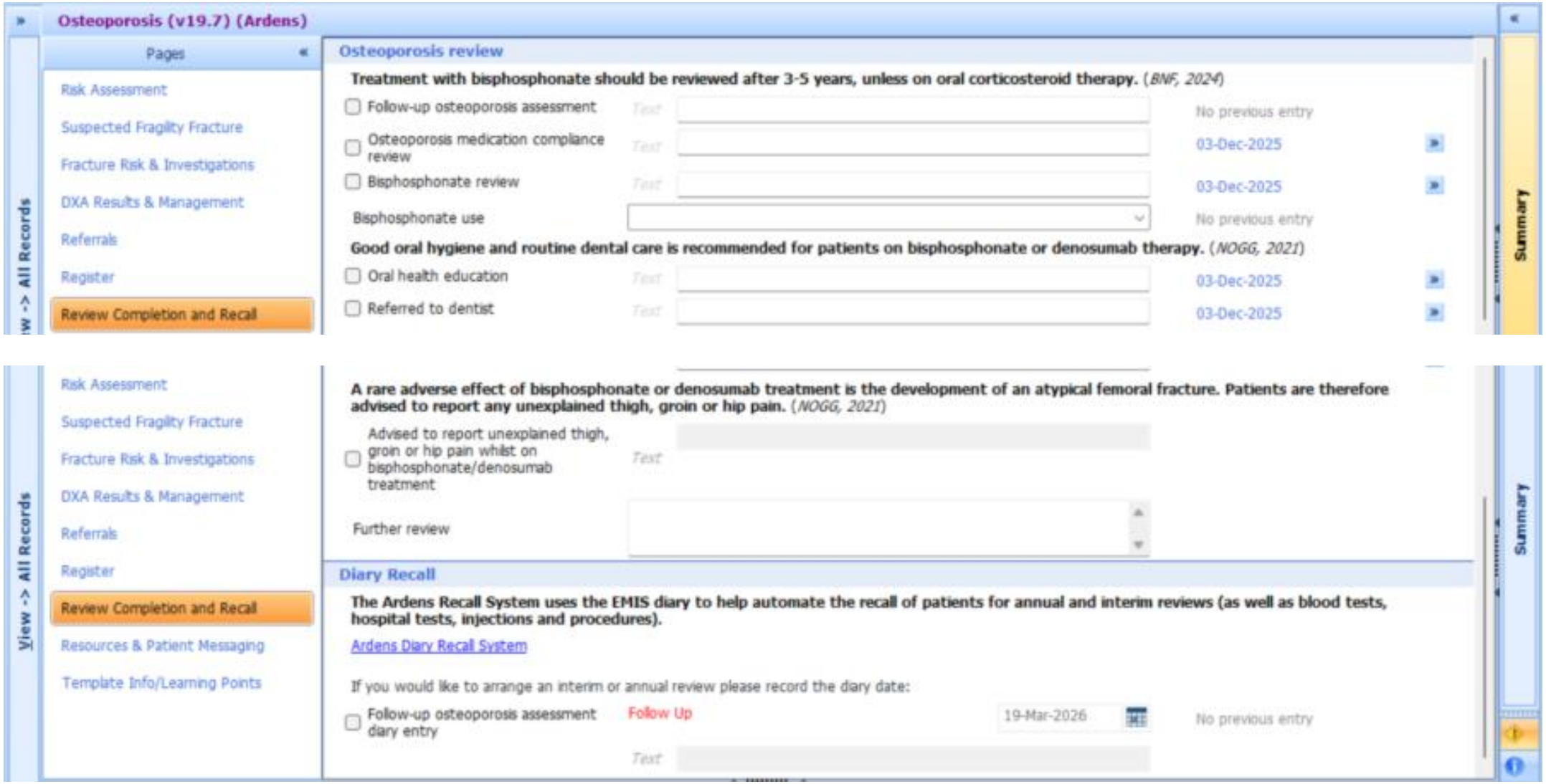
Osteoporosis Template



Osteoporosis template



Osteoporosis Template



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.

https://www.gov.uk/drug-device-alerts?medical_specialism%5B%5D=general-practice&date=201610

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.

https://www.gov.uk/drug-device-alerts?medical_specialism%5B%5D=general-practice&date=201610

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)	72
2. Sex	Female / Male
3. Weight	kg 70 (kg / cm)
4. Height	cm 154
5. Previous Fracture	✓
6. Parent Fractured Hip	X
7. Current smoking	X
8. Glucocorticoids	X
9. Rheumatoid arthritis	✓
10. Secondary osteoporosis	X
11. Alcohol 3 or more units/day	X
12. Femoral neck BMD	Select BMD

Calculate | Clear

Age : 72 BMI : 29.5 without BMD

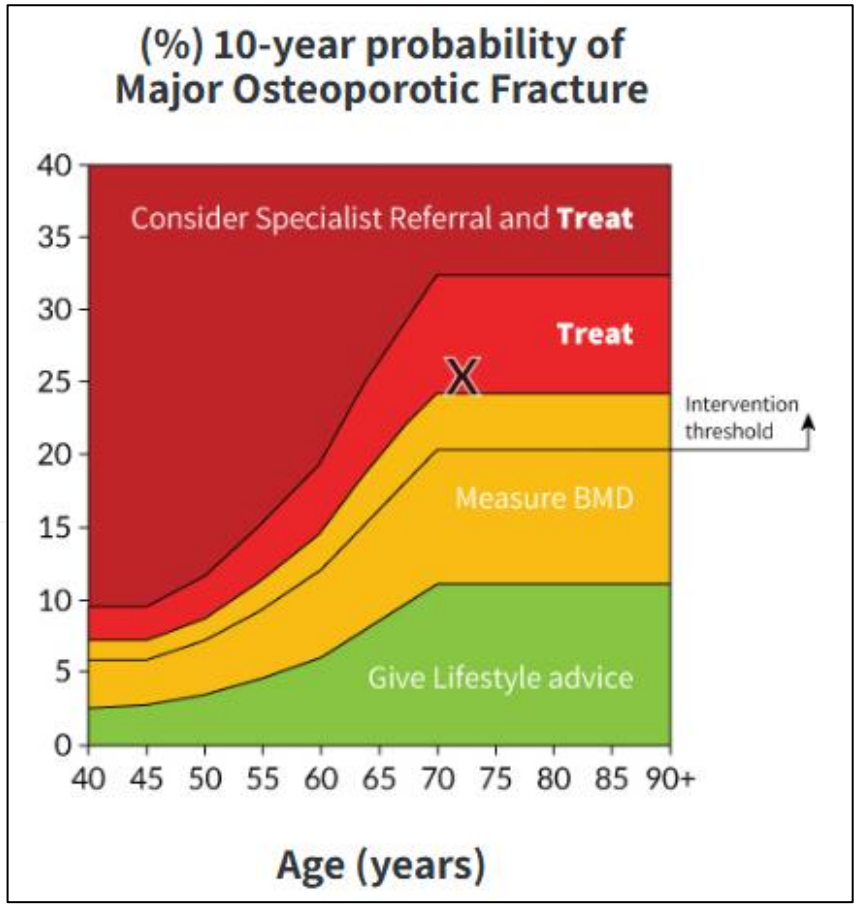
THE TEN-YEAR PROBABILITY OF FRACTURE

Major osteoporotic	26 %
Hip Fracture	8.2 %

View NOGG guidelines

Adjust your results, try FRAXplus®

What does FRAXplus® do ? Click here



Next Steps: ?

SMR case study

Susan and the sub-optimal pathway

NHS RightCare

- **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**

https://www.england.nhs.uk/rightcare/products/ltc/

SMR case study

Susan and the optimal pathway

NHS RightCare

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**

https://www.england.nhs.uk/rightcare/products/ltc/

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:

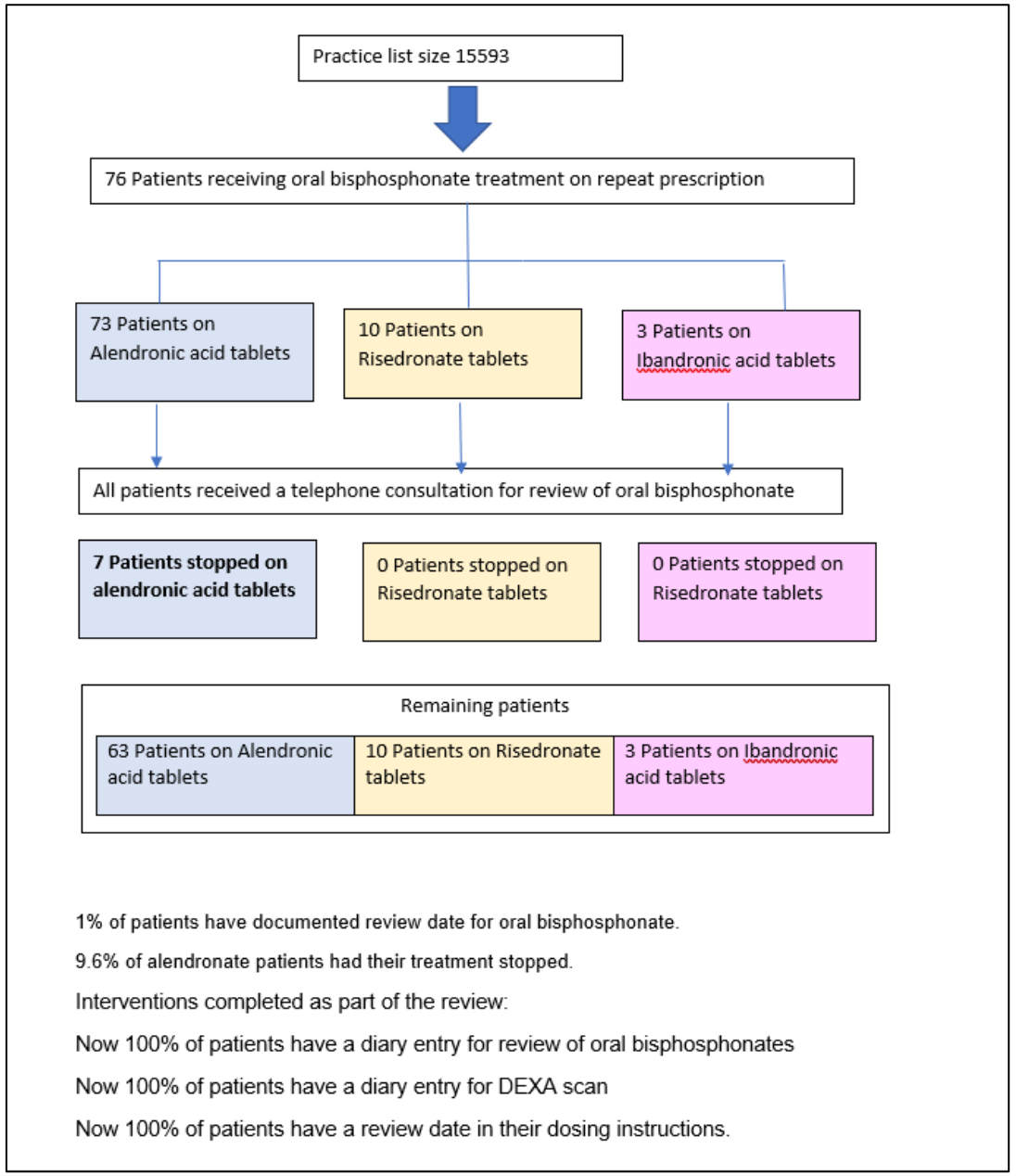
1. On Bisphosphonate – Check as first issued >5 years ago
2. On Bisphosphonate – Check as first issued >5 years ago + no DEXA in last 5y

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 ≥ 2cm or a total loss of ≤ 6cm 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