

TARGET AUDIENCE	Primary and Secondary Care
PATIENT GROUP	Adults

Clinical Guidelines Summary

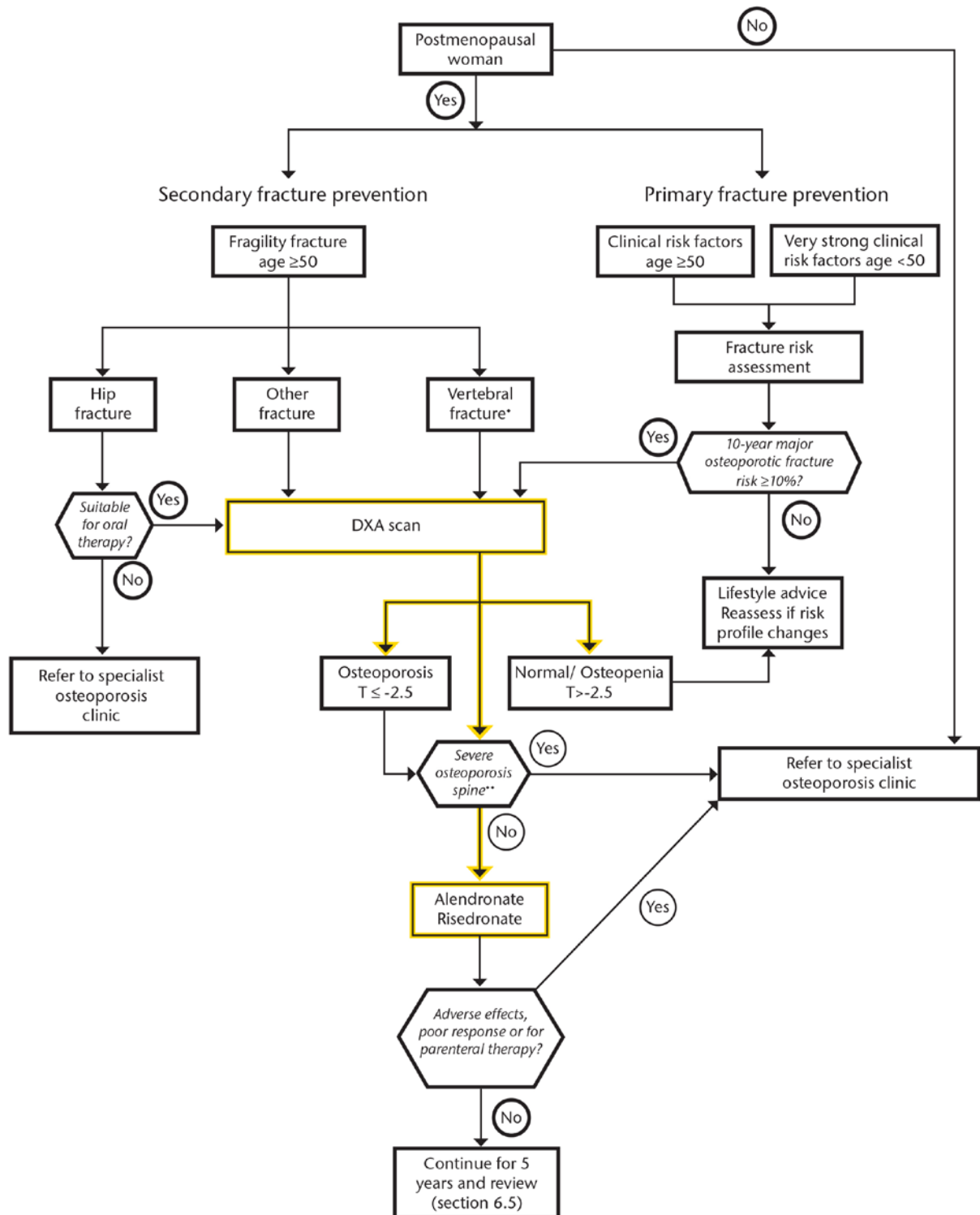
Individuals >50 years with a new fragility fracture should be offered assessment of future fracture risk, this will usually include a bone density scan.

Individuals who are considered to be at an increased risk of a fragility fracture should undergo a fracture risk assessment and be referred for a bone density scan if their risk of a fracture is $\geq 10\%$ over the next 10 years.

The mainstay of treatment is oral bisphosphonates +/- calcium with vitamin D. Other therapies are available for patients who are intolerant, have contra-indications or are at very high risk of fracture. This is summarised in "Osteoporosis treatment pathway for non-osteoporosis specialists" (page 2).

Osteoporosis Clinical Guideline - Rheumatology

Osteoporosis treatment pathway for non-osteoporosis specialists (For full pathway refer to page 7)



* DEXA scan advisable to obtain baseline BMD but not necessary to initiate treatment;

** T-score <-1.5 at any site and two or more grade 2 vertebral fractures on x-ray or spine BMD T score <-4.0

Lead Author	Munro, R.; Chong Z	Date approved	9/1/2023
Version	1	Review Date	Feb 2026

Osteoporosis Clinical Guideline - Rheumatology

Introduction

Osteoporosis is a condition of low bone mass leading to an increased risk of low trauma fractures.

The prevalence of osteoporosis is increasing rapidly with 1 in 2 women and 1 in 5 men over the age of 50 at risk of developing an osteoporotic fracture.

The aim of assessment and treatment is to reduce future fracture risk.

Who to assess

All patients over the age of 50 years with a low impact fracture should be offered a bone density scan. Fractures of the face and all small bones in the hand and feet are excluded.

Other groups with one or more significant risk factor should be referred for a DEXA if their fracture risk assessment (using tools such as Q-fracture and FRAX) suggests a 10% risk of fracture within 10 years. <http://www.qfracture.org> or <https://www.shef.ac.uk/FRAX/tool.jsp>

Risk factors

It should be noted that the risk factors below only apply to patients >50 years, apart from corticosteroid use and depot progesterone contraceptive use.

Non modifiable

- Parental history
- Menopause <45years
- Fragility fracture

Modifiable

- Smoking
- BMI<20
- Alcohol >3.5 units/day

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Osteoporosis Clinical Guideline - Rheumatology

Drug Therapy

- Long-term antidepressants
- Oral glucocorticoids (refer to page 7)
- Anticonvulsants
- Aromatase inhibitors
- Depot progesterone contraceptive
- GnRH agonists for prostate cancer
- Glitazones
- PPIs
- prolonged exposure to anti-retrovirals (e.g. PrEP)

Co-existing Disease

- Asthma/COPD
- Inflammatory joint disease
- Inflammatory bowel disease/malabsorption
- Chronic liver disease
- Chronic kidney disease
- Moderate to severe chronic kidney disease
- Chronic neurological disease (dementia, Parkinson's Disease, MS, stroke and epilepsy)
- Diabetes
- Endocrine disease
- HIV

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Drug treatment

Prior to commencing therapy, baseline blood investigations as a minimum should include full blood count, renal function, LFTs, calcium and Vitamin D.

Calcium and Vitamin D

Most drug studies have included treatment with calcium and vitamin D. Recent evidence suggests that vitamin D supplementation alone may be sufficient, if calcium intake is adequate. Calcium intake can be calculated with an online calcium calculator (e.g. <https://webapps.igmm.ed.ac.uk/world/research/rheumatological/calcium-calculator/>)

For very low vitamin D levels (<25nmol), treat with oral replacement of Cholecalciferol 40,000 IU weekly for 7 weeks followed by maintenance of 800iu daily. At vitamin D levels of 25-50nmol, maintenance therapy of 800iu daily should be sufficient.

Refer to formulary for up to date drug choices:

<https://nhsguidelines.scot.nhs.uk/medicines-guidance/joint-adult-formulary/chapter-6-endocrine-system/drugs-affecting-bone-metabolism/>

Oral Bisphosphonates

Oral alendronate 70mg/week is the first line formulary choice. Risedronate is an option for patients who suffer minor GI intolerance with alendronate. Risedronate can be used down to an eGFR of 30mls/min compared to 35 mls/min for alendronate. Although 10mg daily preparation of alendronate is the only licensed osteoporosis treatment in men, it is standard practise to use alendronate 70mg weekly.

Duration of Oral Bisphosphonate Therapy

For patients at high risk of a fragility fracture (> 75yrs, previous hip or vertebral fracture or long- term steroids) then treatment should be for 5 years in the first instance, reassess (this will likely include a bone density scan) and if indicated, continue for a total of 10 years.

Other Options (delivered through specialist Osteoporosis Clinic). Refer to pathway (page 6).

Parental resorptive therapies such as IV zoledronate and S/C denosumab are available where oral therapy is not feasible or appropriate.

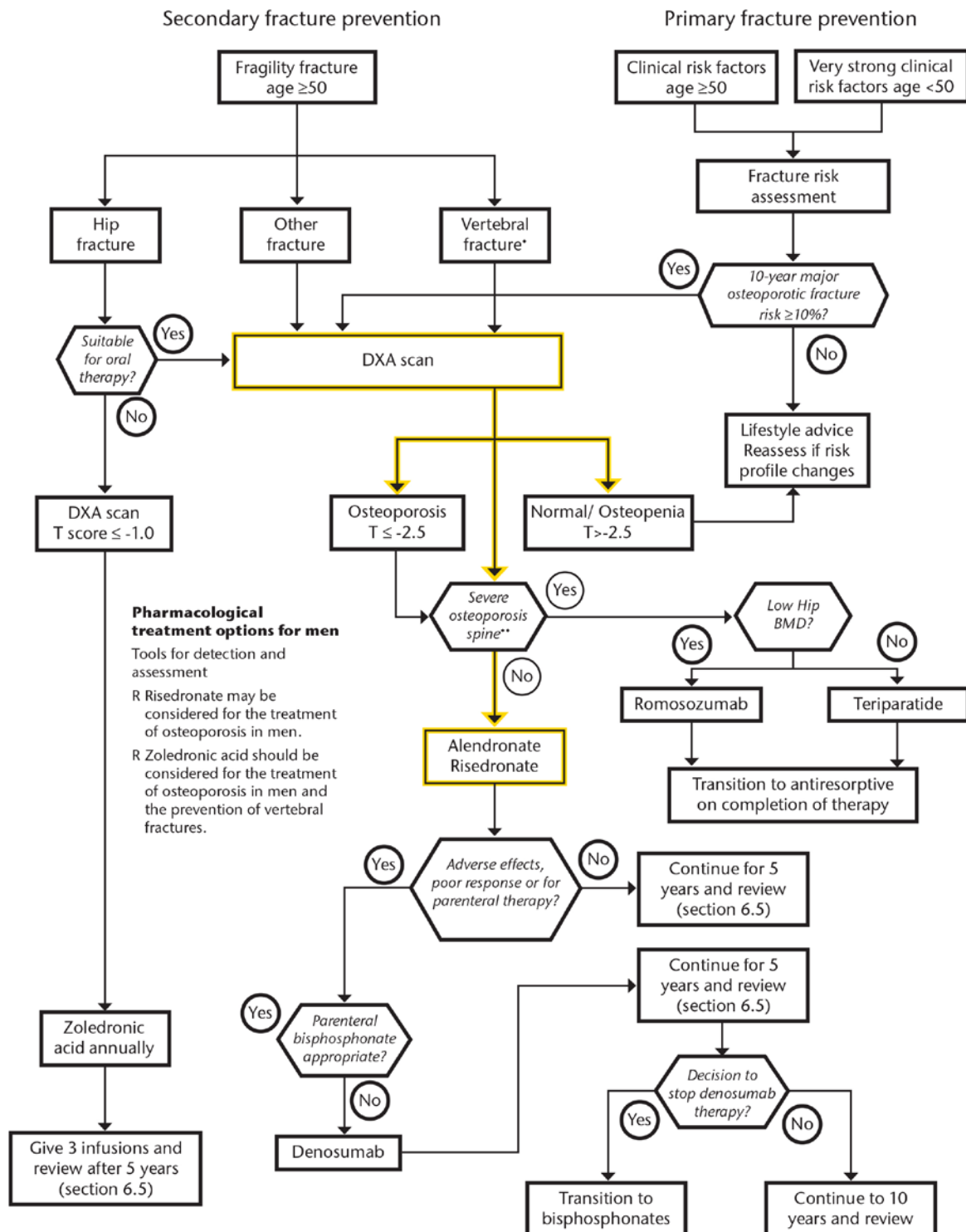
Anabolic agents are reserved for patients who have severe osteoporosis. Teriparatide is a daily subcutaneous injection given over a 2-year period. Romosozumab is a monthly subcutaneous injection given over a 1-year period. Romosozumab is contraindicated in patients with significant vascular disease. The current recommendation is to follow up with a course of anti-resorptive therapy to extend the benefit achieved with anabolic agents beyond their anabolic therapy window.

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Version	1	Review Date	Feb 2026

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Pathway from risk factors to pharmacological treatment selection postmenopausal women (Adapted from SIGN 142 published June 2020)



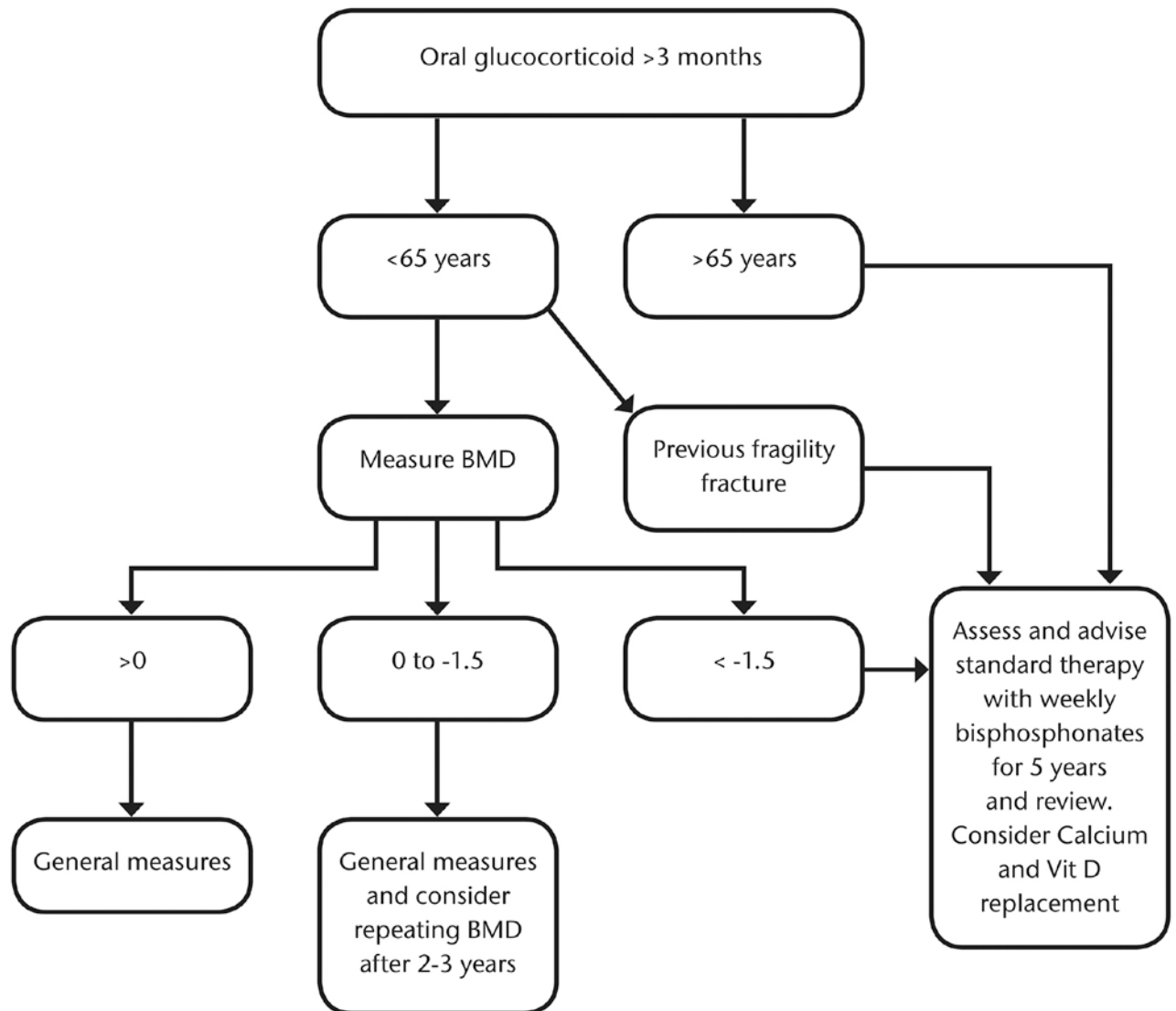
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Management of glucocorticoid induced fracture risk



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Drug notes

Osteonecrosis of the Jaw and Atypical Femoral Fractures

These serious conditions remain **very rare** and are markedly less frequent than a fragility fracture in a patient at risk. The estimate for osteonecrosis is 1 in 1000 patient/years and can be reduced by maintaining good dental health. From a large Swedish study, the estimated risk for atypical femoral fractures is 1 in 2000 patient/years.

Monitoring Response by DEXA

Repeat DEXA scanning is not routinely recommended unless the result is likely to alter treatment. An example of this would be for patients suffering a low trauma fracture whilst fully compliant with their treatment for more than 1 year. In other cases, SIGN 142 recommends at least 3 years between scans. Please see note above regarding re-assessment of treatment.

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References/Evidence

Scottish Intercollegiate Guidelines Network (SIGN). Management of osteoporosis and the prevention of fragility fractures. Edinburgh: SIGN; 2020 (142). Available from URL: <http://www.sign.ac.uk>

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Appendices

1. Governance information for Guidance document

Lead Author(s):	Prof Robin Munro and Dr Zhuo Min Chong
Endorsing Body:	Osteoporosis Strategy Group
Version Number:	1
Approval date	
Review Date:	
Responsible Person (if different from lead author)	

CONSULTATION AND DISTRIBUTION RECORD	
Contributing Author / Authors	
Consultation Process / Stakeholders:	Area Drugs and Therapeutics Committee
Distribution	

Lead Author	Munro, R.; Chong Z	Date approved	9/1/2023
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CHANGE RECORD			
Date	Lead Author	Change	Version No.
			1
			2
			3
			4
			5

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