

1. Describe your assigned client's situation. Why are they presenting to the clinic? What medications are they currently taking?

Marianne Terra is a 69-year-old female presenting today with complaints of heartburn and difficulty swallowing. She is diagnosed with esophagitis related as an adverse effect of her medications. Ms. Terra takes Alendronate (Fosamax) 10 mg daily, Calcium Acetate (Phoslo) 1334mg twice daily and Cholecalciferol Vitamin D3 600IU daily. All medications are taken by mouth. She has an allergy to Penicillin; she has never smoked but drinks alcohol once per month.

2. Assess the applicable clinical practice guideline (CPG) for your assigned client. What treatment is recommended by the CPG for your client's situation?

CPG guidelines by Qaseem et al (2023) has 4 recommendations for individuals who have primary osteoporosis whether it is men or women who are postmenopausal. Recommendation 1a is to start the use of Bisphosphonates for initial treatment to reduce risk of fractures in postmenopausal women, 1b is the same recommendation but it is for males diagnosed with primary osteoporosis. 2a recommends the use of RANK ligand inhibitor (Denosumab) as a second line of treatment in postmenopausal women who have a contraindication or experience adverse effects from the Bisphosphonates, 2b also recommends switching to a RANK ligand inhibitor in men with primary osteoporosis who have contraindications or adverse effects from the Bisphosphonates. Recommendation 3 is the use of a sclerostin inhibitor or recombinant PTH followed by a Bisphosphonate to reduce the risk only in females with primary osteoporosis, this is a conditional recommendation. Recommendation 4, the last recommendation, recommends that clinicians take an individual approach regarding whether to start a pharmacological treatment with a Bisphosphonate in females over the age of 65 with low bone mass to reduce risk of fracture. This is also a conditional recommendation.

3. Discuss your personal professional assessment of the client's situation provided in the scenario. What pharmacological treatment is necessary and why?

The treatment for Ms. Terra in this situation would be to switch her to Denosumab. She was already started on a Bisphosphonate and started to have adverse effects. In an article by Curtis et al (2024), they found meaningful reduction in the risk of fractures for patients treated with denosumab vs. alendronate in a cohort of almost half a million treatment-naïve women with postmenopausal osteoporosis in the US. This shows that Denosumab is comparative with Alendronate. With that being said, this is a good medication to try while taking a drug "holiday" from Alendronate. After taking a drug holiday, alendronate could be re-evaluated and discuss the retrial of this medication should similar side effects reoccur since both these medications have similar side effects. In an article by Fan et al (2024), they state that esophageal adverse reactions happen only in small extent with Alendronate and are closely related to inappropriate dosage methods.