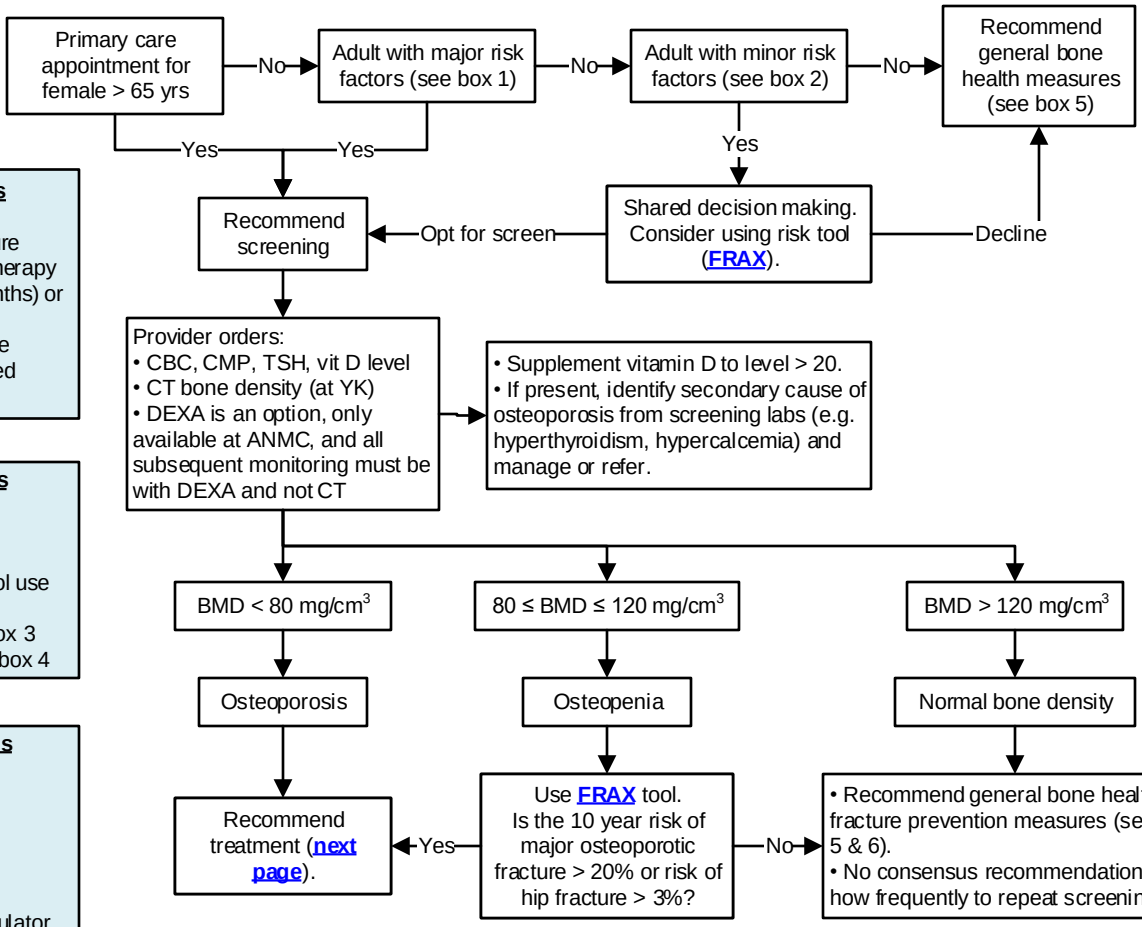
Yukon-Kuskokwim HEALTH CORPORATION

Clinical Guideline

Osteoporosis Screening



Box 1: Major Risk Factors

- Adult > 50 with low-trauma fracture
- Adult on chronic glucocorticoid therapy (>5mg prednisone/day for > 3 months) or aromatase inhibitor
- History of bone metabolic disease (osteogenesis imperfecta, untreated hyperthyroidism, hypogonadism)

Box 2: Minor Risk Factors

- Male > 70
- Parental history of hip fracture
- Tobacco use or excessive alcohol use
- Low body weight (BMI < 20)
- Chronic use of a medication in box 3
- Presence of chronic condition in box 4

Box 3: At Risk Medications

- SSRI or lithium
- Proton pump inhibitor
- Antiepileptics
- Lasix
- Methotrexate
- Selective estrogen receptor modulator
- Heparin or warfarin

Box 4: At Risk Conditions

- DM type 1
- Premature menopause (age < 40)
- Chronic liver disease
- Chronic malnutrition or malabsorption
- Rheumatoid arthritis

Box 5: Promote Bone Health

- Ensure adequate intake of calcium and vitamin D, either through diet or supplementation.

Recommended Calcium Intake

Age	Sex	RDA mg/day
19-50	M+F	1000
51-70	M	1000
51-70	F	1200
>70	M+F	1200

Recommended Vitamin D Intake

Age	Sex	RDA IU/day
19-70	M+F	600
>70	M+F	800

- Recommend at least 90 minutes weight bearing exercise per week
- Maintain healthy weight. Avoid tobacco or excess alcohol.

Box 6: Prevent Fractures

- Home safety review (loose rugs/cords, grab bars in bathroom, adequate lighting, etc)
- Prescribe walker or cane if appropriate
- Address polypharmacy, deprescribe if appropriate (diuretics, beta blockers, sedatives)
- Screen for visual and hearing impairment
- Consider PT referral

References

- ANMC Osteoporosis Guideline
- USPSTF
- American College of Radiology

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner. Approved by MSEC 11/7/23.
Click here to see the supplemental resources for this guideline.
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Osteoporosis Treatment

Patient meets any of the following criteria for osteoporosis treatment:

- History of fragility fracture (low mechanism injury with fracture to hip, spine, or forearm)
- Bone density testing consistent with osteoporosis
- Bone density testing consistent with osteopenia and high FRAX risk

→ Calcium and vitamin D repletion are ensured?

Secondary causes of osteoporosis have been considered?

→ Discussion of treatment options, risks and benefits (see table).

→ If Zoledronic Acid or Denosumab chosen, complete worksheet on page 3.

Agent	Route of administration	Frequency and duration	Efficacy	Contraindications	Adverse effects
Alendronate	PO (first thing in the morning on empty stomach with glass of plain water, then sit upright x 30 min)	Daily or weekly for 3-5 years. Followed by 2 year break.	• Reduces risk of serious fracture by 20-70% over 10 years. • Number needed to treat is between 17 and 100.	• CrCl < 35 ml/min • Severe esophagitis or esophageal dysmotility (not just GERD) • Inability to sit upright x 30 min	• Osteonecrosis of the jaw estimated risk 1-5 in 10,000. • Severe esophagitis. • Atypical femur fracture. Note: in RCTs there was no significant difference in adverse effects vs placebo.
Zoledronic acid	IV infusion	Annually for 3 years, followed by 2 year break	Same as alendronate, but may be enhanced by increased adherence	CrCl < 35ml/min	• Same as alendronate • Potential difficulty/delay in emergency dental care • Infusion reaction
Denosumab	Subcutaneous injection	Every 6 months, discontinuation must be immediately followed by bisphosphonate	Same as bisphosphonates.	Inability to complete Q6 month visits.	• ONJ estimated risk 3 in 1,000 • Rapid bone density loss upon discontinuation if not followed immediately by bisphosphonate

Alendronate selected

- Write prescription.
- Educate patient on how to take pill safely.
- Ensure adherence at subsequent visits.
- Reassess BMD at 1-5 years.

Zoledronic acid selected

- Tiger text or Cerner message communicate to infusion nurse for scheduling.
- Future order medication.
- Reassess BMD at 3 years.

Denosumab selected

- Future order medication.
- Arrange nurse clinic visit for injection.
- Emphasize necessity of Q6 month injections.
- Reassess BMD at 1-5 years.

Fragility fracture or non-response to treatment based on BMD testing? → Yes → Consult/refer to endocrinology.

No → Reassess FRAX risk.

- No treatment recommended → • Recommend good bone health and fracture prevention. • No consensus recommendation on further BMD testing.
- Treatment recommended → Consider switching agent.

If continuing the same agent is preferred:
- May extend alendronate for total 10 year course.
- May extend zoledronic acid for total 6 year course.
- Uncertain duration of denosumab.

References

- American Society of Endocrinologists
- American College of Physicians
- AAOMS Position Paper on MRONJ 2022

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Informed Consent Worksheet

Osteoporosis Treatment Options and Consent

I am considering taking either Zoledronic Acid (Reclast) or Denosumab (Prolia) to lower my risk of serious fracture.

My provider has discussed the following risks, benefits, and alternatives with me.

Purpose of treatment	• Reduce risk of serious fracture such as hip, pelvis, or spine fracture. Elders living in the YK Delta might have a higher risk of fracture than others in the US. This might be a 3-4 percent risk over ten years, or a 1 in 25 chance. • Serious fractures can lead to long hospital stays, loss of independence, need for nursing homes, and even increased risk of death.
Benefits of treatment	• All of the available medicines at YK are effective at preventing fractures. • All of the medicines could lower the risk of serious fracture by between 20 and 70 percent. • This might reduce a person's risk of serious fracture from 3-4 percent to as low as 1 percent.
Risks of treatment	• The medicine isn't effective for me and I have a serious fracture anyway. • Osteonecrosis of the jaw. This means exposed jaw bone that is painful or infected, and could result in multiple surgeries or chronic pain. This is most likely to happen after a pulled tooth or dental procedure. But it can happen spontaneously. The risk of that side effect could be between 0.01% (1 in 10,000) and 0.3% (1 in 300). The risk can be lowered by regular dental care and good oral hygiene. • Other rare side effects: atypical femur fracture, esophagitis, allergic/infusion reaction • If the medicine is not taken exactly as the provider instructs, it may not be effective. One of the medicines (Denosumab) will actually increase the risk of fracture if not taken every 6 months.
Alternatives to treatment	• Alendronate This is the same type of medicine as Zoledronic Acid. It is taken as a pill once a week and the person must take it first thing in the morning on empty stomach with glass of plain water, then sit upright for 30 minutes. It is about as effective as Zoledronic Acid, if people can remember to take it correctly. It also has a risk of osteonecrosis of the jaw, but if there are dental problems it is easier to stop this medicine than Zoledronic Acid. • It is very important for all adults to stay active, get at least 90 minutes of weight bearing physical activity per week, consume enough calcium and vitamin D, and learn about preventing falls in the home.

I would like to start treatment for osteoporosis with Zoledronic Acid or Denosumab.
I understand the purpose, benefits, risks, and alternatives that my provider reviewed with me.

Please choose one:
[ ] I would like to start the treatment right away. This may have more benefit preventing fractures sooner, but also more risk if I have a dental emergency.
[ ] I would like to see a dentist before starting treatment. I understand this may result in a delay before I can start the medicine.

Patient Signature: _____

Printed Name: _____ Date and Time: _____

All patients should be verbally referred and encouraged to see a dentist even if they want to immediately start treatment. Dental takes walk in patients every day. Providers are also welcome to consult with a dentist before counseling a patient on their dental risks.

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