

Osteoporosis screening, who to screen?
 All post-menopausal women, patients with risk factors.
 All patients with a history of vertebral fracture or low trauma fracture.
 Hyperparathyroid patients.
 Chronic (>3 month) use of steroids (equiv. to 7.5 mg/day prednisone)

Clinical fracture risk factors:
 Low bone mass, fall risk, impaired cognition, use of seizure or GnRH analog medications, renal or hepatic disease, hyperthyroid or hyperparathyroid, malabsorption, myeloma, Vitamin D deficiency.

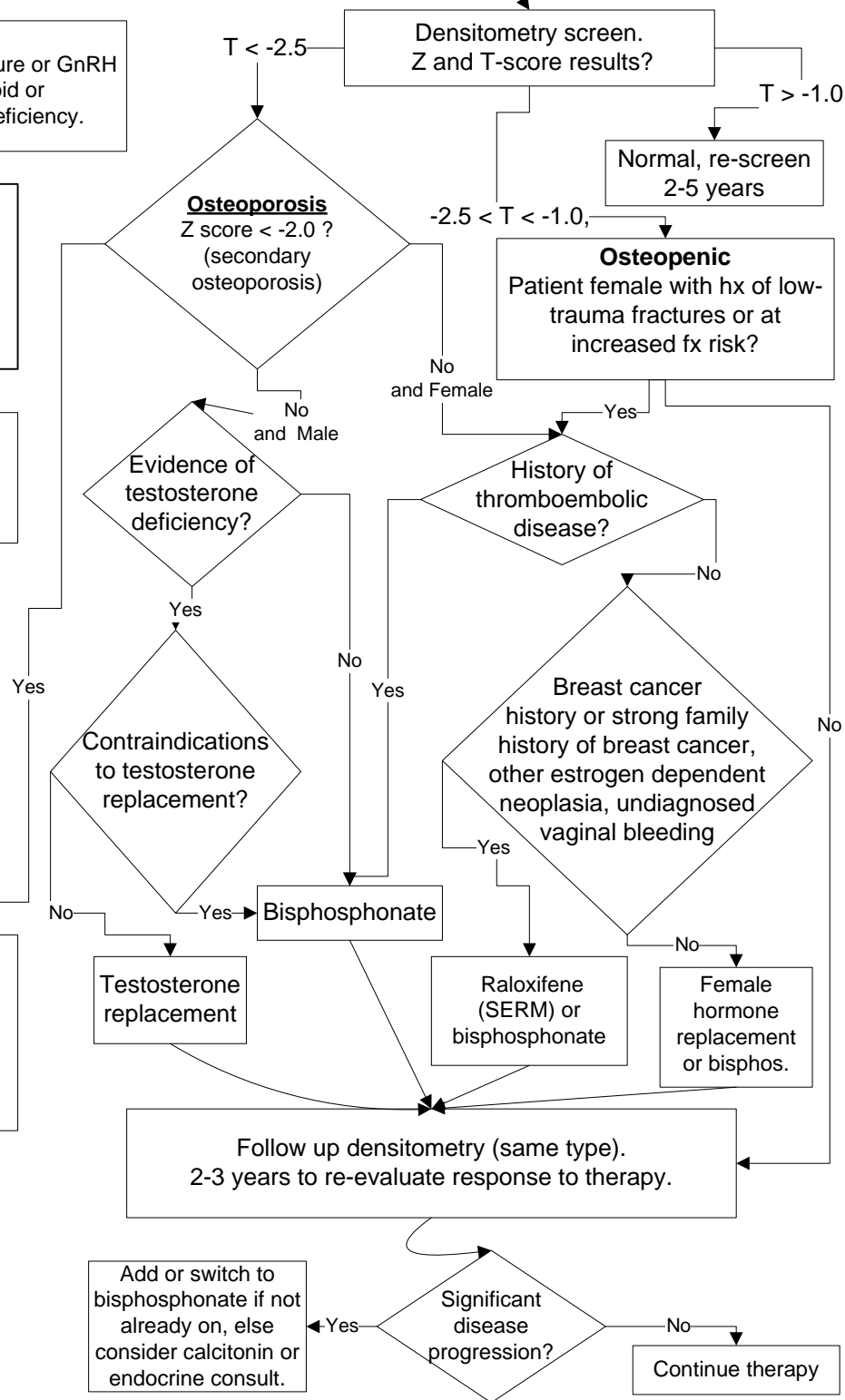
Predictors of low bone mass:
 Females, elderly, sex hormone deficiency, Caucasian/Asian race, low body mass index, family history of osteoporosis, low calcium intake, smoking, excessive alcohol use, chronic steroid use, history of low-trauma fractures, sedentary lifestyle, metabolic abnormalities.

Fall risk factors:
 Postural hypotension, balance deficits, visual or hearing impairment, use of benzodiazapines and psychotropics.

Contraindications to ERT:
 Breast cancer history or strong family history of breast cancer, other estrogen dependent neoplasia, undiagnosed vaginal bleeding, history of thromboembolism, Gall bladder disease*, Liver disease* (*= relative contraindication only)

Rheum or Endocrine consult for:
 Evaluation of multiple fractures despite normal BMD, progressive bone loss or fractures despite therapy, secondary osteoporosis, abnormal calcium, phosphorus, alkaline phosphatase, use of teriparatide.

Prevention:
 Dietary calcium intake > 1200 mg/day.
 Regular weight bearing exercise.
 Avoid smoking, minimize alcohol and caffeine, adequate Vitamin D intake, Thiazides in lieu of loop diuretics.
 Avoid excessive thyroid replacement (TSH < 2).
 Bisphosphonates for all patients on chronic steroids.





Pharmacologic Agents for Treatment of Osteoporosis

2010 SCAN Formulary Drugs

Medication	Dosing & Administration	Adverse Drug Reactions	Tier Level & Notes		
			CA (except San Joaquin County)	AZ SNP/ MAPD & San Joaquin County	AZ Long Term Care
Biphosphonates					
<i>alendronate</i>	<ul style="list-style-type: none"> GIO* prevention for men: 5mg PO QD GIO prevention: 5mg PO QD for women receiving estrogen and 10 mg PO QD in women not receiving estrogen Osteoporosis treatment in men: 10 mg PO QD or 70 mg PO QW (every week) PMO* prevention: 35 mg PO QW or 5 mg PO QD PMO treatment: 70 mg PO QW or 10 mg PO QD 	<p>Abdominal pain, esophagitis, bone pain, muscle pain, nausea</p> <p>Not recommended if CrCl is less than 30 ml/min</p>	2	1 [QL]	1[QL]
ACTONEL (risedronate)	<ul style="list-style-type: none"> GIO (men and women): 5mg PO QD Osteoporosis treatment in men: 35 mg PO QW PMO prevention & treatment: 5 mg PO QD or 	<p>Abdominal pain, arthralgia, diarrhea, nausea, rash</p> <p>Not recommended if CrCl is less than 30 ml/min</p>	3 [ST]	NF	NF



ACTONEL with calcium	35 mg PO QW or 75 mg/day PO for 2 days of each month or 150 mg PO monthly. PMO prevention & treatment: The product comes in a 7 day cycle: Take Actonel 35 mg PO on Day 1 with 1,250 mg of calcium followed by one 1,250 mg calcium tablet administered daily on days 2 through 7.		3 [ST]	NF	NF
BONIVA ORAL (ibandronate)	PMO prevention & treatment: 150 mg PO monthly or 2.5 mg PO QD	Esophagitis, back pain, bronchitis (not recommended if CrCl is less than 30 ml/min)	3 [ST]	2 [ST] [QL]	NF
Reclast (zoledronate)	5 mg IV infusion / yearly	Nausea, fever, vomiting, dyspnea	NF	2	2[PA]
Selective Estrogen Receptor Modulator					
EVISTA (raloxifene)	PMO prevention & treatment: 60 mg PO QD	Hot flashes, arthralgia, sinusitis, flu like syndrome, headache	3 [QL]	2	2
Estrogens (Indicated for osteoporosis prevention)					
<i>estradiol oral</i>	0.5mg PO daily	Peripheral edema, nausea/ vomiting, breast tenderness	1	1	1



<i>estradiol patches</i>	Transdermal system: 0.025 – 0.0375 mg per week	Peripheral edema, nausea/ vomiting, breast tenderness	2	1	1[QL]
<i>estradiol/ norethindrone</i>	1mg /0.5mg PO QD	Peripheral edema, nausea/ vomiting, breast tenderness	2	1	1
PREMARIN (conjugated estrogens)	Dosing individualized but start at 0.3 mg PO	Peripheral edema, nausea/ vomiting, breast tenderness	3	NF	NF
PREMPRO, PREMPHASE (medroxy-progesterone/ conjugated estrogens)	1 tab PO QD	Peripheral edema, nausea/ vomiting, breast tenderness	3	2	2
Calcitonin-salmon, Nasal Spray					
<i>calcitonin</i>	1 puff (200 IU) / day, alternating nostrils	Nasal symptoms (e.g., nasal crusts, dryness, redness, nasal sores, irritation, itching, soreness, infection)	2	1	1
<i>fortical (calcitonin)</i>	1 puff (200 IU) / day, alternating nostrils	Nasal symptoms (e.g., nasal crusts, dryness, redness, nasal sores, irritation, itching, soreness, infection)	2 [QL]	1	1



MIACALCIN (calcitonin)	1 puff (200 IU) / day, alternating nostrils	Nasal symptoms (e.g., nasal crusts, dryness, redness, nasal sores, irritation, itching, soreness, infection)	NF	NF	NF
Parathyroid Hormone					
FORTEO (teriparatide)	20 mcg SC daily	Hypertension, arthralgia, rhinitis, nausea, dizziness, pain, asthenia, headache	5 [PA]	2 [PA]	2[PA]

*GIO: glucocorticoid-induced osteoporosis

PMO: postmenopausal osteoporosis

Brand-name drugs are capitalized and generic drugs are listed in lower-case italics

[NF] = Non-formulary

[PA] = Prior Authorization

[QL] = Quantity Limit

[ST] = Step Therapy



Osteoporosis Guidelines References

Osteoporosis Guidelines adapted from:

- National Osteoporosis Foundation. Physician's Guide to Prevention and Treatment of Osteoporosis. Washington D.C.: National Osteoporosis Foundation; 2003 April. pg. 37 [14 references].
- Drug Facts & Comparisons. (2010, Feb). Retrieved from www.online.factsandcomparisons.com. Wolters Kluwer Health: Deventer, The Netherlands.