

# CA-ADAP Formulary Review: OSTEOPOROSIS and BISPHOSPHONATES + VIT D3

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# CA-ADAP Formulary Review: AGENDA

1 Disease Characteristics

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2 Medications

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3 Claims data

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4 Other ADAP formularies

5 Recommendations

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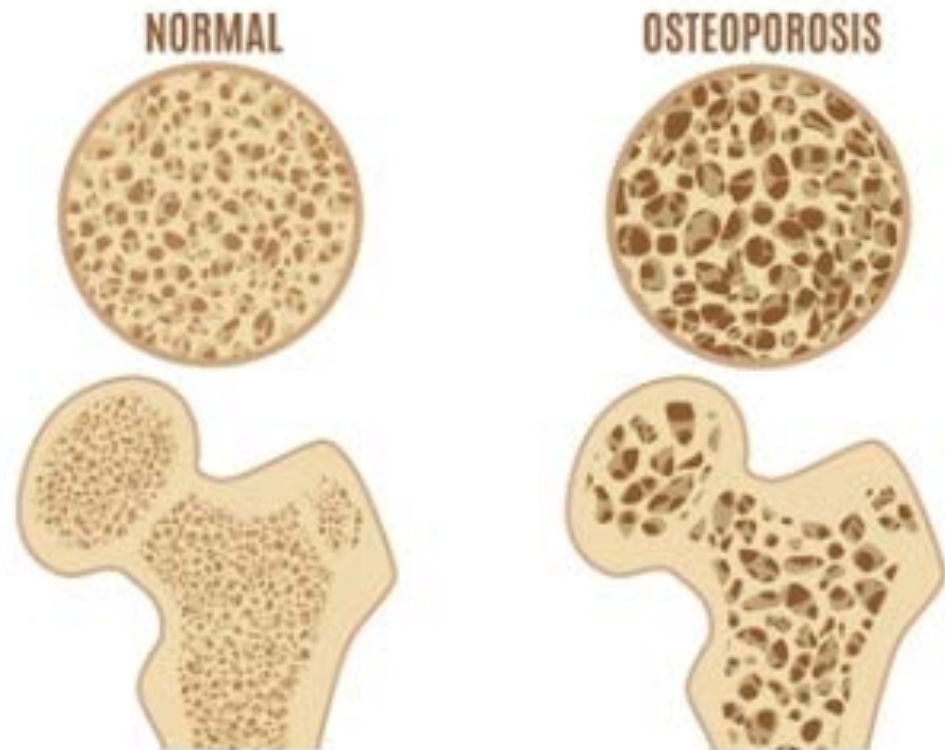


# OSTEOPOROSIS and BISPHOSPHONATES + VIT D3

# OSTEOPOROSIS



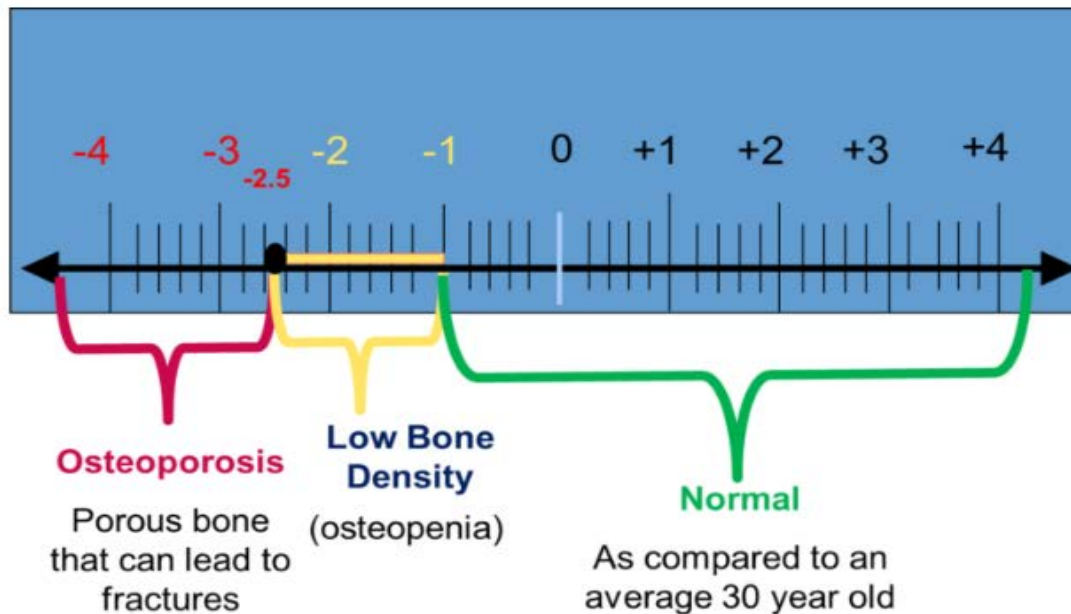
- Disease causing weak and brittle bones
- Develops when bone mineral density (BMD) and bone mass decrease, or when the structure and strength of bone changes
- “Silent” disease
- Risk Factors:
  - Age
  - Body size
  - Diet
  - Family history
  - Hormones
  - Race
  - Sex
  - HIV/AIDS



# DIAGNOSIS of OSTEOPOROSIS



- Screening recommended for women over 65 or w/risk factors
- Physical exam
- Bone Mineral Density (BMD) test



- Fracture over the age of 50
- FRAX: <https://www.sheffield.ac.uk/FRAX/tool.aspx?country=9>

# TREATMENT of OSTEOPOROSIS



- **Goals:** to slow or stop bone loss and to prevent fractures
- Lifestyle changes
- Medications
  - **Slow down bone loss:** Bisphosphonates, selective estrogen receptor modulators (SERMs), RANKL inhibitors, estrogen, calcitonin
  - **Rebuild bone:** Parathyroid hormone, monoclonal antibodies, sclerostin-inhibitors

**Medications to treat osteoporosis**

↓ **Anti-resorptive medications**  
slow bone loss

**Bisphosphonates:**

- Alendronate\*
- Ibandronate
- Risedronate\*
- Zoledronic acid\*

**Selective estrogen receptor modulators (SERMs):**

- Raloxifene
- Bazedoxifene

**RANK ligand inhibitors:**

- Denosumab\*

**Osteoclasts**  
Resorb (break down) bone

\* FDA-approved for both men and women  
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**Medications to treat osteoporosis**

↑ **Bone-building medications**

**Parathyroid hormone analogs:**

- Abaloparatide
- Teriparatide\*

Medications that:  
↓ Slow bone loss **and** ↑ Build new bone

**Monoclonal antibodies / Sclerostin inhibitors:**

- Romosozumab

**Osteoblasts**  
Build back bone

\* FDA-approved for both men and women  
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# Osteoporosis Treatment: Bisphosphonates



- Inhibit resorption of bone by osteoclasts, thus reducing bone turnover
- Can inhibit osteoblasts

→ *Slow/decrease bone loss*

Agent	Generic	UNIQUE Denials Jan 2022- Dec 2022	AZ	CT	FL	NY	TX	WA	Comments
<b>ALENDRONATE</b> (Fosamax)	Y	91%	Y	Y	Y	-	-	-	<ul style="list-style-type: none"> <li>• Daily: 5mg, 10mg</li> <li>• Weekly: 35mg, 70mg</li> <li>• <b>Recommend adding</b></li> </ul>
<b>IBANDRONATE</b> (Boniva)	Y	7.9%	-	-	-	-	-	-	<ul style="list-style-type: none"> <li>• Monthly: 150mg</li> <li>• Q3month IV</li> </ul>
<b>RISEDRONATE</b> (Actonel)	Y	0.8%	-	-	-	-	-	-	<ul style="list-style-type: none"> <li>• Daily: 5mg</li> <li>• Weekly: 35mg</li> <li>• Monthly: 150mg</li> </ul>

# Osteoporosis Treatment: Vitamin D



- Necessary for the absorption of calcium
- Decreased levels in the body can lead to bone loss

→ *Decrease bone loss and increase BMD*

Agent	Generic	AZ	CT	FL	NY	TX	WA	Comments
VITAMIN D3 (Cholecalciferol)	Y	Y*	Y**	Y**	-	-	-	<ul style="list-style-type: none"> <li>• 25mcg (282), 50mcg (530)</li> <li>• <b>Recommend adding</b></li> </ul>

\*with Calcium

\*\*with Calcium and as single product



# Formulary Management Recommendations: Osteoporosis Treatment



Bisphosphonate:  
ALENDRONATE

Recommend addition to the ADAP  
formulary.

VITAMIN D3  
(25 mcg and 50 mcg)

Recommend addition to the ADAP  
formulary.

# References



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