raloxifene (ra-lox-i-feen) 

[Evista]

**Classification**

Therapeutic: bone resorption inhibitors
Pharmacologic: selective estrogen receptor modulators

**Pregnancy Category X**

**Indications**

Treatment and prevention of osteoporosis in postmenopausal women. Reduction of the risk of breast cancer in postmenopausal women with osteoporosis and those at high risk for invasive breast cancer.

**Action**

Binds to estrogen receptors, producing estrogen-like effects on bone, resulting in reduced bone turnover. Therapeutic Effects: Prevention of osteoporosis in patients at risk. Decreased risk of breast cancer.

**Pharmacokinetics**

**Absorption:** Although well absorbed (1-60%), after oral administration, extensive first-pass metabolism results in 2% bioavailability.

**Distribution:** Highly bound to plasma proteins; remainder of distribution unknown.

**Protein Binding:** Highly bound to plasma proteins.

**Metabolism and Excretion:** Extensively metabolized by the liver; undergoes enterohepatic cycling; excreted primarily in feces.

**Half-life:** 27.7 hr.

**TIME/ACTION PROFILE (effects on bone turnover)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>unknown</td>
<td>3 mo</td>
<td>unknown</td>
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</tbody>
</table>

**Contraindications/Precautions**

**Contraindicated in:** Hypersensitivity; History of thromboembolic events; OB, Lactation: Not indicated for women with childbearing potential or who are breast feeding; Pedi: Safety not established.

**Use Cautiously in:** Potential immobilization (risk of thromboembolic events); History of stroke or transient ischemic attack, Atrial fibrillation, Hypertension, Atrial fibrillation

**Adverse Reactions/Side Effects**

**CNS:** STROKE.

**CV:** THROMBOEMBOLISM.

**EENT:** retinal vein thrombosis.

**MS:** leg cramps.

**Misc:** hot flashes.

**Interactions**

**Drug-Drug:** Cholestyramine absorption (avoid concurrent use). May alter effects of warfarin and other highly protein-bound drugs. Concurrent systemic estrogen therapy is not recommended.

**Route/Dosage**

**PO (Adults):** 60 mg once daily.

**NURSING IMPLICATIONS**

**Assessment**

- Assess patient for bone mineral density with x-ray, serum, and urine bone turnover markers (bone-specific alkaline phosphatase, osteocalcin, and collagen breakdown products) before and periodically during therapy.

**Lab Test Considerations:** May cause ↓ apolipoprotein A-I and reduced serum total cholesterol, LDL cholesterol, fibrinogen, apolipoprotein B, and albumin.

- May cause ↓ hormone-binding globulin (sex steroid-binding globulin, thyroxine-binding globulin, corticosteroid-binding globulin) with ↓ total hormone concentrations.

- May cause ↓ serum total calcium, inorganic phosphate, total protein, and albumin.

- May also cause slight decrease in platelet count.

**Potential Nursing Diagnoses**

Risk for injury (Indications)

**Implementation**

- Do not confuse Evista (raloxifene) with Arista (morphine sulfate, extended-release).

- PO: May be administered without regard to meals.

- Calcium supplementation should be added to diet if daily intake is inadequate.

- Use cautiously in: Potential immobilization (risk of thromboembolic events); History of stroke or transient ischemic attack, Atrial fibrillation, Hypertension, Atrial fibrillation

- Pedi: Use as directed without regard to meals.

- Calcium supplementation should be added to diet if daily intake is inadequate.
Patient/Family Teaching

- Instruct patient to take raloxifene as directed. Discuss the importance of adequate calcium and vitamin D intake or supplementation. Instruct patient to read the Medication Guide when initiating therapy and again with each prescription refill in case of changes.
- Advise patient to discontinue smoking and alcohol consumption.
- Emphasize the importance of regular weight-bearing exercise. Advise patient that raloxifene should be discontinued at least 72 hr before and during prolonged immobilization (recovery from surgery, prolonged bedrest). Instruct patient to avoid prolonged restrictions of movement during travel because of the increased risk of venous thrombosis.
- Advise patient that raloxifene will not reduce hot flashes or flushes associated with estrogen deficiency and may cause hot flashes.
- Instruct patient to notify health care professional immediately if leg pain or a feeling of warmth in the lower leg (swelling of the legs, hands, or feet); sudden chest pain; shortness of breath or coughing up blood; or sudden change in vision, such as loss of vision or blurred vision occur. Being still for a long time (sitting still during a long car or airplane trip, being in bed after surgery) can increase risk of blood clots.
- Advise patient that raloxifene may have teratogenic effects. Instruct patient to notify health care provider immediately if pregnancy is planned or suspected.

Evaluation/Desired Outcomes

- Prevention of osteoporosis in postmenopausal women.
- Reduced risk of breast cancer in postmenopausal women with osteoporosis and those at high risk for invasive breast cancer.

Why was this drug prescribed for your patient?