coenzyme Q-10

**Classification**
Therapeutic: antioxidants

**Common Uses**

**Action**
A co-factor in oxidative respiration for the Krebs cycle and the electron transport chain important for mitochondrial ATP generation. It also has antioxidant activity and membrane stabilizing ability.

**Pharmacokinetics**

**Absorption:** Poor absorption in the GI tract, absorbed primarily in the small intestine.

**Distribution:** Unknown.

**Metabolism and Excretion:** Metabolized in all tissues, elimination via biliary and fecal excretion.

**Half-life:** 34 hrs.

**TIME/ACTION PROFILE**

<table>
<thead>
<tr>
<th>EFFECT</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>5–10 hrs</td>
<td>Unknown</td>
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**Contraindications/Precautions**

**Contraindicated in:** OB: Pregnancy and lactation; Allergy/hypersensitivity.

**Use Cautiously in:** Hypotension; Surgery (discontinue 2 weeks prior to procedure).

**Adverse Reactions/Side Effects**

**CNS:** Dizziness.

**CV:** Hypotension.

**Derm:** Rash.

**GI:** Nausea, vomiting, diarrhea, heartburn, decreased appetite.

- **Drug Interactions:**
  - Natural Product-Drug: HMG CoA reductase inhibitors (statins) can increase coenzyme Q-10 levels. May have additive hypotensive effects with anticoagulants. May protect against anthracycline-associated cardiotoxicity.
  - Natural-Natural Products: Red yeast can increase coenzyme Q-10 levels. May have additive hypotensive effects with herbs that can lower BP including fish oil and L-arginine.

**Route/Commonly Used Doses**

**PO (Adults):**
- Coenzyme Q-10 deficiency — 150 mg daily;
- Mitochondrial disorders — 150–160 mg daily or 2 mg/kg/day;
- Heart failure — 60–100 mg daily;
- HIV/AIDS — 200 mg daily;
- Parkinson's disease — 100–200 mg daily;
- Muscular dystrophy — 2400 mg daily.

**NURSING IMPLICATIONS**

**Assessment**

- Monitor BP periodically during therapy.
- Lab Test Considerations: Monitor coagulation studies periodically during therapy.
- Monitor blood glucose during therapy; may cause hypoglycemia.
- Monitor lipid levels and serum lactate periodically during therapy.

**Potential Nursing Diagnoses**

- Activity intolerance

**Implementation**

- PO: Administer with a meal containing fat for optimal absorption.

**Patient/Family Teaching**

- Instruct patient to take with a meal containing fat, as directed.
- May cause dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.

**Evaluation**

- Antioxidant effects in a variety of conditions

**Why was this drug prescribed for your patient?**