isradipine (iz-rah-di-peen)

**Classifications**
Therapeutic: antianginals, antihypertensives
Pharmacologic: calcium channel blockers

**Pregnancy Category:** C

**Indications**
Management of hypertension, angina pectoris, and vasospastic (Prinzmetal's) angina.

**Action**
Inhibits the transport of calcium into myocardial and vascular smooth muscle cells, resulting in inhibition of excitation-contraction coupling and subsequent contractile action. Therapeutic Effects: Systemic vasodilation resulting in decreased BP. Coronary vasodilation resulting in decreased frequency and severity of attacks of angina.

**Pharmacokinetics**
Absorption: Well absorbed following oral administration but extensively metabolized, resulting in decreased bioavailability.
Distribution: Unknown.
Protein Binding: 95%.
Metabolism and Excretion: Completely metabolized by the liver.
Half-life: 8 hr.

**TIME/ACTION PROFILE (antihypertensive effects†)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
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</thead>
<tbody>
<tr>
<td>PO</td>
<td>2 hr</td>
<td>2–3 hr</td>
<td>12 hr</td>
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†For single doses, maximal antihypertensive effect during chronic dosing may take 2–4 wk.

**Contraindications/Precautions**
Contraindicated in: Hypersensitivity; Sick sinus syndrome; 2nd- or 3rd-degree AV block (unless an artificial pacemaker is in place); Systolic BP <90 mm Hg.
Use Cautiously in: Severe hepatic impairment (dose should be recommended); Elderly; Patients with a history of ventricular arrhythmias or HF; OB, Lactation, Pedi: Limited data available.

**Adverse Reactions/Side Effects**
CNS: abnormal dreams, anxiety, confusion, dizziness, drowsiness, headache, nervousness, psychiatric disturbances, weakness. EENT: Blurred vision, disturbed equilibrium, taste perversion.
Resp: Cough, dyspnea.
CV: Arrhythmias, bradycardia, chest pain, hypotension, palpitations, syncope, tachycardia.

**Drug Interactions**
Drug-Dose: Additive hypotension may occur when used concurrently with fentanyl, other antihypertensives, narcotics, acute ingestion of alcohol, or quinidine. Antihypertensive effects may be increased by concurrent use of NSAIDs. Antihypertensive effects may be decreased by concurrent use of beta blockers, digoxin, disopyramide, or phenytoin.
Drug-Food: Grapefruit juice may increase serum levels and effect.

**Route/Dosage**

**PO (Adults):** 2.5 mg twice daily; may be titrated at 2–4 wk intervals to a maximum dose of 20 mg/day.

**PO (Children):** 0.15–0.2 mg/kg/day divided TID–QID initially; titrate at 2–4 wk intervals to a maximum dose of 0.8 mg/kg/day or 20 mg/day (whichever is lower).

**NURSING IMPLICATIONS**
Assessment
- Monitor BP and pulse prior to and periodically throughout therapy. Monitor ECG periodically in patients receiving prolonged therapy.
- Monitor intake and output ratios and daily weight. Assess patient for signs of HF.
- Assess for peripheral edema, rash, weakness, weight gain, peripheral venous dilatation.

**Drug Stability**
At room temperature. Discard after 6 mo.

**Patient/Family Teaching**
- Instruct patient to take medication as directed. Advise patient to consult health care professional if BP falls below normal or significantly higher than baseline. Tell patient to store in a cool, dry place.

**Evaluation**
- BP within normal range.
- No new or worsening side effects.
- No complications related to therapy.
Assess for rash periodically during therapy. May cause Stevens-Johnson syndrome. Discontinue therapy if severe or if accompanied with fever, general malaise, fatigue, muscle or joint aches, blisters, oral lesions, conjunctivitis, hepatitis and/or eosinophilia.

Angina: Assess location, duration, intensity, and precipitating factors of patient’s anginal pain.

Lab Test Considerations: Total serum calcium concentrations are not affected by calcium channel blockers.

Monitor serum potassium periodically. Hypokalemia increases risk of arrhythmias; should be corrected.

Monitor renal and hepatic functions periodically during long-term therapy. Several days of therapy may cause increase in hepatic enzymes, which return to normal upon discontinuation of therapy.

Potential Nursing Diagnoses
Decreased cardiac output (Side Effects)

Implementation
- Do not confuse Dynacirc with Dynacin.
- PO: May be administered without regard to meals. May be administered with meals if GI irritation becomes a problem.

Patient/Family Teaching
- Advise patient to take medication as directed, even if feeling well. Take missed doses as soon as possible unless almost time for next dose; do not double doses. May need to be discontinued gradually.
- Advise patient to avoid drinking grapefruit juice during therapy.
- Caution patient to change positions slowly to minimize orthostatic hypotension.
- May cause dizziness. Advise patient to avoid driving or other activities requiring alertness until response to the medication is known.
- Instruct patient on concurrent nitrate or beta-blocker therapy to continue taking both medications as directed and to use SL nitroglycerin as needed for anginal attacks.
- Inform patient that anginal attacks may occur 30 min after administration because of reflex tachycardia. This is usually temporary and not an indication for discontinuation.
- Advise patient to contact health-care professional if chest pain does not improve, worsens after therapy, or occurs with diaphoresis or if dizziness, headache, or hoarseness occurs.
- Instruct patient to discuss exercise restrictions with health-care professional prior to exertion.
- Hypertension: Encourage patient to comply with other interventions for hypertension (weight reduction, low-sodium diet, smoking cessation, moderation of alcohol consumption, regular exercise, and stress management). Medication control does not cure hypertension.
- Advise patient to wear protective clothing and use sunscreen to prevent phototoxic reactions.

Evaluation/Desired Outcomes
- Decrease in BP.
- Decrease in frequency and severity of anginal attacks.
- Decrease in need for nitrate therapy.
- Increase in activity tolerance and sense of well-being.

Why was this drug prescribed for your patient?

Advise patient to notify health-care professional if rash, irregular heartbeats, dyspnea, swelling of hands and feet, rash, pronounced dizziness, nausea, constipation, or hypersensitivity occurs.

Angina: Instruct patient on concurrent nitrate or beta-blocker therapy to continue taking both medications as directed and to use SL nitroglycerin as needed for anginal attacks.

Inform patient that anginal attacks may occur 30 min after administration because of reflex tachycardia. This is usually temporary and not an indication for discontinuation.

Advise patient to contact health-care professional if chest pain does not improve, worsens after therapy, or occurs with diaphoresis or if dizziness, headache, or hoarseness occurs.

Caution patient to discuss exercise restrictions with health-care professional prior to exertion.

Hypertension: Encourage patient to comply with other interventions for hypertension (weight reduction, low-sodium diet, smoking cessation, moderate alcohol consumption, regular exercise, and stress management). Medication control does not cure hypertension.

Advise patient and family to proper technique for monitoring BP. Advise patient and family to wear protective clothing and use sunscreen to prevent phototoxic reactions.

Advise patient to notify health-care professional if rash, irregular heartbeats, dyspnea, swelling of hands and feet, rash, pronounced dizziness, nausea, constipation, or hypersensitivity occurs.