pravastatin (pra-va-sta-tin)

**Indications**
Adjunctive management of primary hypercholesterolemia and mixed dyslipidemias.

**Primary prevention of coronary heart disease (myocardial infarction, coronary revascularization, cardiovascular mortality) in asymptomatic patients with clinically evident coronary heart disease.**

**Action**
Inhibits 3-hydroxy-3-methylglutaryl-coenzyme A (HMG-CoA) reductase, an enzyme which is responsible for catalyzing an early step in the synthesis of cholesterol. Therapeutic Effects: Lowering of total and LDL cholesterol and triglycerides. Slightly increases HDL cholesterol. Slows the progression of coronary atherosclerosis with resultant decrease in coronary heart disease-related events.

**Pharmacokinetics**
Absorption: Poorly and variably absorbed following oral administration.
Distribution: Unknown.
Metabolism and Excretion: Extensively metabolized by the liver, most during first pass; excreted in bile and feces. 20% excreted unchanged by the kidneys.
Half-life: 1.3–2.7 hr.

**TIME/ACTION PROFILE (cholesterol-lowering effect)**

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

**Contraindications/Precautions**
Contraindicated in: Hypersensitivity, Active liver disease or unexplained persistent liver function test abnormalities.

Use Cautiously in: History of liver disease; Alcoholism; Renal impairment; Pedi: Children (safety not established); Women of childbearing age.

**Adverse Reactions/Side Effects**
CNS: amnesia, confusion, dizziness, headache, insomnia, memory loss, weakness.
EENT: rhinitis.
Resp: bronchitis.
CV: chest pain, peripheral edema.
GI: abdominal cramps, constipation, diarrhea, flatulence, heartburn, nausea, vomiting.
GU: erectile dysfunction.
Derm: rash.
Endo: hyperglycemia.
MS: RHABDOMYOLYSIS, arthralgia, arthritis, immune-mediated necrotizing myopathy, myalgia, myositis, myopathy, myopathy reactions.

**Interactions**
Drug-Drug: Cholesterol-lowering effect may be increased with bile acid sequestrants (cholestyramine, colestipol). Bioavailability may be decreased by bile acid sequestrants; administer pravastatin 1 hr before or 4 hr after bile acid sequestrants. Risk of myopathy is increased by concurrent cyclosporine, fibrates, colchicine, erythromycin, clarithromycin, or large doses of niacin; concurrent use with gemfibrozil should be avoided; consider lower dose of pravastatin with niacin. May increase effects of warfarin. Levels may be significantly decreased by azole antifungals (temporarily discontinue HMG-CoA reductase inhibitor, effect is less than with other statins). Saquinavir and ritonavir may increase levels and effectiveness.

**Route/Dosage**
**PO (Adults):** 10–20 mg once daily at bedtime, may be adjusted at 4-wk intervals as needed (usual range 10–40 mg/day); Concurrent cyclosporine therapy—Dose should not exceed 40 mg/day.
**PO (Children 14-18 yrs):** 40 mg once daily.
**PO (Children 8-13 yrs):** 40 mg once daily.
**PO (Geriatric Patients):** 10–20 mg once daily at bedtime, may be adjusted at 4-wk intervals as needed (usual range 10–20 mg/day).

**Dosage Forms**
Tablets: 10, 20, 40 mg

**Hepatic Impairment**
**PO (Adults):** 10–20 mg once daily at bedtime, may be adjusted at 4-wk intervals as needed (usual range 10–20 mg/day).

**Renal Impairment**
**PO (Adults):** 10–20 mg once daily at bedtime, may be adjusted at 4-wk intervals as needed (usual range 10–20 mg/day).
NURSING IMPLICATIONS

Assessment

- Obtain a diet history, especially with regard to fat consumption.
- Lab Test Considerations: Evaluate serum cholesterol and triglyceride levels before starting, after 4–6 wk of therapy, and periodically thereafter.
- Monitor liver function tests prior to initiation of therapy and as clinically indicated.
- If symptoms of serious liver injury, hyperbilirubinemia, or unexplained recurrent jaundice occurs should be discontinuation of pravastatin and do not restart. May also cause elevated alkaline phosphatase and bilirubin levels.
- If patient develops muscle tenderness during therapy, CPK levels should be monitored. If CPK levels are markedly elevated or myopathy occurs, therapy should be discontinued.

Potential Nursing Diagnoses
Noncompliance (Patient/Family Teaching)

Implementation

- PO: Administer once daily in the evening. May be administered without regard to food.
- Avoid grapefruit and grapefruit juice during therapy; may increase risk of toxicity.
- If administered in conjunction with bile acid sequestrants (cholestyramine, colestipol), administer 1 hr before or 4 hr after bile acid sequestrant.

Patient/Family Teaching

- Instruct patient to take medication as directed, to notice side effects or double up on missed doses. Advise patient to avoid drinking more than 200 mL/day of grapefruit juice during therapy.
- Advise patient that this medication should be used in conjunction with diet restrictions (fat, cholesterol, carbohydrates, alcohol), exercise, and cessation of smoking.
- Instruct patient to notify health care professional if unexplained muscle pain, tenderness, or weakness occurs, especially if accompanied by fever or malaise.
- Instruct female patients to notify health care professional promptly if pregnancy is planned or suspected.
- Emphasize the importance of follow-up exams to determine effectiveness and to monitor for side effects.

Evaluation/Desired Outcomes

- Decrease in LDL and total cholesterol levels.
- Increase in HDL cholesterol levels.
- Decrease in triglyceride levels.
- Slowing of the progression of coronary artery disease.

Why was this drug prescribed for your patient?