

## SIMVASTATIN

**Class:** Antilipemic Agent, HMG-CoA Reductase Inhibitor

**Indications:** Used with dietary therapy for the following:

Secondary prevention of cardiovascular events in hypercholesterolemic patients with established coronary heart disease (CHD) or at high risk for CHD: To reduce cardiovascular morbidity (myocardial infarction, coronary/noncoronary revascularization procedures) and mortality; to reduce the risk of stroke

Hyperlipidemias: To reduce elevations in total cholesterol (total-C), LDL-C, apolipoprotein B, triglycerides, and VLDL-C, and to increase HDL-C in patients with primary hypercholesterolemia (elevations of 1 or more components are present in Fredrickson type IIa, IIb, III, and IV hyperlipidemias); treatment of homozygous familial hypercholesterolemia

Heterozygous familial hypercholesterolemia (HeFH): In adolescent patients (10-17 years of age, females >1 year postmenarche) with HeFH having LDL-C  $\geq 190$  mg/dL or LDL-C  $\geq 160$  mg/dL with positive family history of premature cardiovascular disease (CVD), or 2 or more CVD risk factors in the adolescent patient

**Available dosage form in the hospital:** 20MG TAB, 40MG TAB

**Dosage:**

**Note:** Doses should be individualized according to the baseline LDL-cholesterol levels, the recommended goal of therapy, and the patient's response; adjustments should be made at intervals of 4 weeks or more; doses may need adjusted based on concomitant medications

**- Homozygous familial hypercholesterolemia:** Oral: 40 mg once daily in the evening

**-Prevention of cardiovascular events, hyperlipidemias:** Oral: 10-20 mg once daily in the evening; range: 5-40 mg/day

- *Patients requiring only moderate reduction of LDL-C:* May be started at 5-10 mg once daily in the evening; adjust to achieve recommended LDL-C goal.
- *Patients requiring reduction of >40% of LDL-C:* May be started at 40 mg once daily in the evening; adjust to achieve recommended LDL-C goal.
- *Patients with CHD or at high risk for cardiovascular events (patients with diabetes, PVD, history of stroke or other cerebrovascular disease):* Dosing should be started at 40 mg once daily in the evening; start simultaneously with diet therapy.

**-Dosage adjustment for simvastatin with concomitant medications: Note:** Patients currently tolerating and requiring a dose of simvastatin 80 mg who require initiation of an interacting drug with a dose cap for simvastatin should be switched to an alternative statin with less potential for drug-drug interaction.

- *Amiodarone, amlodipine, or ranolazine:* Simvastatin dose should **not** exceed 20 mg/day
- *Diltiazem, dronedarone, or verapamil:* Simvastatin dose should **not** exceed 10 mg/day
- *Lomitapide:* Simvastatin dose should not exceed 20 mg/day (or 40 mg daily for those who previously tolerated simvastatin 80 mg daily for  $\geq 1$  year without evidence of muscle toxicity)

**-Dosage adjustment in Chinese patients on niacin doses  $\geq 1$  g/day:** Use caution with simvastatin doses exceeding 20 mg/day; because of an increased risk of myopathy, do not administer simvastatin 80 mg concurrently.

**Renal Impairment:**

Manufacturer's recommendations:

- Mild-to-moderate renal impairment: No dosage adjustment necessary; simvastatin does not undergo significant renal excretion.
- Severe renal impairment:  $Cl_{cr} < 30$  mL/minute: Initial: 5 mg/day with close monitoring

Alternative recommendation: No dosage adjustment necessary for any degree of renal impairment

**Common side effect:** Cardiovascular: Atrial fibrillation ,edema

Central nervous system: Headache , vertigo. Dermatologic: Eczema. Gastrointestinal: Abdominal pain, constipation, gastritis, nausea. Hepatic: Transaminases increased Neuromuscular & skeletal: CPK increased, myalgia. Respiratory: Upper respiratory infections, bronchitis .

**Pregnancy Risk Factor:** X