**ENALAPRIL**

**Class:** Angiotensin-Converting Enzyme (ACE) Inhibitor

**Indications:** Treatment of hypertension; treatment of symptomatic heart failure; treatment of asymptomatic left ventricular dysfunction

**Unlabeled:** To delay the progression of nephropathy and reduce risks of cardiovascular events in hypertensive patients with type 1 or 2 diabetes mellitus; hypertensive crisis, diabetic nephropathy, hypertension secondary to scleroderma renal crisis, diagnosis of aldosteronism, idiopathic edema, Bartter's syndrome, postmyocardial infarction for prevention of ventricular failure

**Dosage:**

- **Asymptomatic left ventricular dysfunction:** Oral: 2.5 mg twice daily, titrated as tolerated to 20 mg/day
- **Heart failure:** Oral: Initial: 2.5 mg once or twice daily (usual range: 5-40 mg/day in 2 divided doses); titrate slowly at 1- to 2-week intervals. Target dose: 10-20 mg twice daily (ACC/AHA 2009 Heart Failure Guidelines)
- **Hypertension:** Oral: 2.5-5 mg/day then increase as required, usually at 1- to 2-week intervals; usual dose range (JNC 7): 2.5-40 mg/day in 1-2 divided doses. **Note:** Initiate with 2.5 mg if patient is taking a diuretic which cannot be discontinued. May add a diuretic if blood pressure cannot be controlled with enalapril alone.
- Conversion from I.V. enalaprilat to oral enalapril therapy: If not concurrently receiving diuretics, initiate enalapril 5 mg once daily; if concurrently receiving diuretics and responding to enalaprilat 0.625 mg I.V. every 6 hours, initiate with enalapril 2.5 mg once daily; subsequent titration as needed.

**Renal Impairment:**

- Manufacturer’s recommendations:
  - $\text{Cl}_{\text{cr}} > 30 \text{ mL/minute}$: No dosage adjustment necessary
  - $\text{Cl}_{\text{cr}} \leq 30 \text{ mL/minute}$: Administer 2.5 mg day; titrated upward until blood pressure is controlled.
- Heart failure patients with sodium <130 mEq/L or serum creatinine >1.6 mg/dL: Initiate dosage with 2.5 mg/day, increasing to twice daily as needed. Increase further in increments of 2.5 mg/dose at >4-day intervals to a maximum daily dose of 40 mg.
- Intermittent hemodialysis (IHD): Moderately dialyzable (20% to 50%): Initial: 2.5 mg on dialysis days; adjust dose on nondialysis days depending on blood pressure response.
- Conversion from I.V. enalaprilat to oral enalapril therapy:
  - $\text{Cl}_{\text{cr}} > 30 \text{ mL/minute}$: May initiate enalapril 5 mg once daily.
  - $\text{Cl}_{\text{cr}} \leq 30 \text{ mL/minute}$: May initiate enalapril 2.5 mg once daily.

  **Alternate recommendations (Aronoff, 2007):**
  - $\text{Cl}_{\text{cr}} > 50 \text{ mL/minute}$: No dosage adjustment necessary
Cl\text{cr} 10-50 mL/minute: Administer 75% to 100% of usual dose
Cl\text{cr} <10 mL/minute: Administer 50% of usual dose
Peritoneal dialysis: Supplemental dose is not necessary, although some removal of drug occurs.

**Hepatic Impairment:**
Hydrolysis of enalapril to enalaprilat may be delayed and/or impaired in patients with severe hepatic impairment, but the pharmacodynamic effects of the drug do not appear to be significantly altered. No dosage adjustment is necessary.

*Available dosage form in the hospital: 5MG TAB, 10MG TAB, 20MG TAB*

**Common side effect 1% to 10%:** Cardiovascular: Hypotension (1% to 7%), chest pain (2%), syncope (≤2%), orthostasis (2%), orthostatic hypotension (2%)
Central nervous system: Headache (2% to 5%), dizziness (4% to 8%), fatigue (2% to 3%),
Dermatologic: Rash (2%), Gastrointestinal: Abnormal taste, abdominal pain, vomiting, nausea, diarrhea, anorexia, constipation, Neuromuscular & skeletal: Weakness, Renal: Serum creatinine increased (≤20%), worsening of renal function (in patients with bilateral renal artery stenosis or hypovolemia)

**Pregnancy Risk Factor:** D