Carvedilol (kar-ve-di-ole)
Coreg, Coreg CR

**Classification:**
Therapeutic: anti-hypertensives
Pharmacologic: Beta-blockers

**Pregnancy Category:** C

**Indications:**
Hypertension; HF (chronic or cardiomyopathic) with digoxin, diuretics, and ACE inhibitors. Left ventricular dilatation after myocardial infarction.

**Action:**
Blocks stimulation of beta1 (myocardial) and beta2 (pulmonary, vascular, and uterine) adrenergic receptors. Also has alpha1 blocking activity, which may result in orthostatic hypotension.

**Contraindications/Precautions:**
PO-CR unknown 5 hr 24 hr
PO within 1 hr 1–2 hr 12 hr

**ROUTE ONSET PEAK DURATION**

**Half-life:** 7–10 hr.

**Metabolism and Excretion:**
Unknown.

**Protein Binding:**
98%.

**Absorption:**
Well absorbed but rapidly undergoes extensive first-pass hepatic metabolism, resulting in 25–35% bioavailability. Food slows absorption.

**Pharmacokinetics:**
Blocks stimulation of beta1 and beta2 receptors. Also has alpha1 blocking activity, which may result in orthostatic hypotension.

**Therapeutic Effects:**
Decreased heart rate and BP. Improvement of heart failure symptoms. Decreased heart rate and BP. Improvement of heart failure symptoms. Decreased heart rate and BP. Improvement of heart failure symptoms.

**Indications:**
Hypertension. HF (ischemic or cardiomyopathic) with digoxin, diuretics, and ACE inhibitors. Left ventricular dysfunction after myocardial infarction.

**PO (Adults):**
6.25 mg twice daily, may be increased to 12.5 mg twice daily q 7–14 days up to 25 mg twice daily or extended-release—20 mg once daily, dose may be doubled every 3 days up to 40 mg once daily

**Drug-Drug:**

**General anesthetics**: Use cautiously with anesthetics, especially those that increase HR and BP. May result in hypertension or excessive hypotension. May result in hypotension or excessive hypotension.

**Hypertensives**: May result in hypotension or excessive hypotension. May result in hypotension or excessive hypotension.

**Cimetidine**, **theophylline**, **erythromycin**, **cyclosporine**: May result in hypotension or excessive hypotension. May result in hypotension or excessive hypotension.

**Antihypertensive action. Effectiveness may be altered by preparations containing agents that reduce plasma renin activity. Concurrent use with certain beta-adrenergic blockers may result in hypotension or excessive hypotension. Use cautiously with these agents.**

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7–14 days up to 80 mg once daily; HF—3.125 mg twice daily for 2 wk; may be q2w to 6.25 mg twice daily. Dose may be doubled q2w ka s tolerated (not to exceed 25 mg twice daily in patients \(\geq 85\) kg or 50 mg twice daily in patients \(<85\) kg) or extended-release—10 mg once daily, dose may be doubled every 2 wk as tolerated up to 80 mg once daily. Daily systolic dysfunction after inf—0.25 mg twice daily. \(\geq 5–10\) days to 12.5 mg once daily in target dose of 25 mg twice daily; some patients may require lower initial doses and slower titration or extended-release—2.5 mg once daily; dose may be doubled every 5–10 days up to 80 mg once daily.

**NURSING IMPLICATIONS**

**Assessment**
- Monitor BP and pulse frequently during dose adjustment period and periodically during therapy. Assess for orthostatic hypotension when ascertainment patient up from supine position.
- Monitor intake and output ratios and daily weight. Assess patient routinely for evidence of fluid overload (peripheral edema, dyspnea, weight gain, jugular venous distention). Patients may experience worsening of symptoms during initiation of therapy for HF.

**Lab Test Considerations:** May cause qBUN, serum lipoprotein, potassium, triglyceride, and uric acid levels.

**Toxicity and Overdose:** Monitor patients receiving beta blockers for signs of overdose (Bradycardia, severe diarrhea, severe hypotension, dyspnea, black fingernails or palms, sweating). Notify health care professional immediately if these signs occur.

**Potential Nursing Diagnoses**
- Decreased cardiac output (Side Effects)

**Implementation**
- Do not confuse carvedilol with captopril.
- Discontinue concurrent clonidine should be gradual, with carvedilol discontinued first over 1-2 wk with initiation of physical activity, dose, after several days, discontinue clonidine.
- PO: Take supine pulse before administering. If \(\geq 50\) bpm or if arrhythmia occurs, withhold medication and notify health care professional.
- Administer extended-release capsules in the morning. Swallow while, do not chew, break, or crush. Extended-release capsules may be opened and sprinkled on cold applesauce and taken immediately; do not store mixture.
- To convert from extended-release to extended-release product, doses of 5.125 mg once daily can be converted to 10 mg daily; doses of 0.25 mg twice daily can be converted to 20 mg daily; doses of 2.5 mg twice daily can be converted to 50 mg daily, and doses of 25 mg twice daily can be converted to 80 mg daily.

**Patient/Family Teaching**
- Instruct patient to take medication as directed, at the same time each day, even if feeling well. Do not skip or double up on missed doses. Take missed doses as soon as possible up to 4 hr before next dose. Attempt withdrawal may precipitate life-threatening arrhythmias, hyperglycemia, or myocardial ischemia.
- Advise patient to take sure enough medication is available for weekends, holidays, and vacations. A written prescription may be kept in wallet in case of emergency.
- Teach patient and family how to check pulse and BP; instruct them to check pulse daily and BP biweekly. Advise patients to hold dose and contact health care professional if pulse is \(\geq 50\) bpm or BP changes significantly.
- May cause drowsiness or dizziness. Caution patients to avoid driving or other activities that require alertness until response to the drug is known.
- Advise patient to change positions slowly to minimize orthostatic hypotension, especially during initiation of therapy or when dose is increased.
- Caution patient that this medication may increase sensitivity to cold.
- Instruct patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to consult health care professional before taking other Rx, OTC, or herbal products, especially cold preparations, concurrently with this medication.
- Patients with diabetes should closely monitor blood glucose, especially if weakness, malaise, irritability, or fatigue occurs. Medication may mask some signs of hypoglycemia. Infection and sweating may still occur.
- Advise patient to notify health care professional if slow pulse, difficulty breathing, wheezing, cold hands and feet, dizziness, confusion, depression, rash, fever, sore throat, unusual bleeding, or bruising occurs.
CONTINUED

Carvedilol

- Instruct patient to inform health care professional of medication regimen before treatment or surgery.
- Advise patient to carry identification describing disease process and medication regimen at all times.
- Hypertension: Reinforce the need to continue additional therapies for hypertension (weight loss, sodium restriction, stress reduction, regular exercise, moderation of alcohol consumption, and smoking cessation). Medication controls but does not cure hypertension.

Evaluation/Desired Outcomes

- Decrease in BP without appearance of detrimental side effects.
- Decrease in severity of HF.

Why was this drug prescribed for your patient?