olmesartan (ole-me-sar-un-me-dox-o-mil)

**Dosage & Administration**

**Indications**

Hypertension (alone or with other agents).

**Action**

Blocks vasoconstrictor and aldosterone-secreting effects of angiotensin II at various receptor sites including vascular smooth muscle and the adrenal glands.

**Therapeutic Effects:**

Lowering of BP.

**Pharmacokinetics**

**Absorption:** Olmesartan medoxomil is a prodrug that is converted to olmesartan (the active component); 26% bioavailability of olmesartan.

**Distribution:** Crosses the placenta.

**Protein Binding:** 99%.

**Metabolism and Excretion:** No further metabolism following conversion of pro-drug to active drug; 35–50% excreted unchanged in urine; remainder eliminated in feces via bile.

**Half-life:** 13 hr.

**TIME/ACTION PROFILE (antihypertensive effect with chronic dosing)**

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**Contraindications/Precautions**

Contraindicated in: Hypersensitivity, Bilateral renal artery stenosis, Concurrent use with aliskiren in patients with diabetes or moderate-to-severe renal impairment (CCr < 60 mL/min). 60 mg/CDE: Can cause injury or death of fetus — if pregnancy occurs, discontinue immediately.

**Pregnancy Category D**

**Use Cautiously in:** Volume- or salt-depleted patients or patients receiving high doses of diuretics (correct deficits before initiating therapy or initiate at lower doses). Black patients (may not be as effective).

**Adverse Reactions/Side Effects**

**CNS:** Dizziness.

**CV:** Hypotension.

**F and E:** Hyperkalemia.

**GI:** Sprue-like enteropathy.

**GU:** Impaired renal function.

**Misc:** Angioedema.

**Interactions**

**Drug-Drug:** Additive hypotension with other antihypertensives. NSAIDs and selective COX-2 inhibitors may blunt the antihypertensive effect and ↑ the risk of renal dysfunction. Excessive hypotension may occur with concurrent use of diuretics. ↑ risk of hyperkalemia with concurrent use of potassium supplements, potassium-sparing diuretics, and angiotensin-receptor blockers. ↑ risk of hypotension, renal dysfunction, hyperkalemia, and anasarca with concurrent use of ACE inhibitors or aliskiren; avoid concurrent use with aliskiren in patients with diabetes or severe renal impairment (CCr < 30 mL/min).

**ROUTE/DOSAGE**

**PO (Adults):** 20 mg once daily; may be ↑ to 40 mg daily (initiate therapy at a lower dose in patients receiving diuretics or who are volume depleted).

**PO (Children 6–16 yr):** 35–70 kg — 20 mg once daily; may be ↑ after 2 wk up to 40 mg once daily; 20–34.9 kg — 10 mg once daily; may be ↑ after 2 wk up to 20 mg once daily.

**NURSING IMPLICATIONS**

**Assessment**

- Assess BP (seated, lying, standing) and pulse periodically during therapy.
- Assess patient for signs of angioedema (dyspnea, facial swelling). May rarely cause angioedema.
- Monitor patient for signs and symptoms of sprue-like enteropathy (onset, chronic diarrhea with substantial weight loss). May develop months to years after start of therapy. May require hospitalization and discontinuation of therapy.
Lab Test Considerations:
Monitor renal function. May cause ↑ BUN and serum creatinine.
May rarely cause slight ↑ in homoglobin and hematocrit.
May occasionally cause ↑ ALT, AST, and total serum bilirubin.

Potential Nursing Diagnoses
Risk for injury (Adverse Reactions)
Noncompliance (Patient/Family Teaching)

Implementation
Do not confuse Benicar with Mevacor.
Correct volume depletion, if possible, before initiation of therapy.
Doses greater than 40 mg do not appear to have a greater effect. Twice daily dosing offers no advantage over the same total dose given once daily.
PO: Administer once daily without regard to food.

Patient/Family Teaching
Emphasize the importance of continuing to take as directed, even if feeling well. Take missed doses as soon as remembered; do not double doses. Medication controls but does not cure hypertension. Instruct patient to take medication at the same time each day. Warn patient not to discontinue therapy unless directed by health care professional.

Caution patient to avoid salt substitutes containing potassium or foods containing high levels of potassium or sodium unless directed by health care professional.
Emphasize patient to comply with additional interventions for hypertension (weight reduction, low-sodium diet, smoking cessation, moderation of alcohol consumption, regular exercise, and stress management). Medication controls but does not cure hypertension.

Instruct patient and family on proper technique for monitoring BP. Advise them to check BP at least weekly and report significant changes.
Caution patient to avoid sudden position changes to decrease orthostatic hypotension. Use of alcohol, standing for long periods, exercising, and hot weather may increase orthostatic hypotension.
May cause dizziness. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.

Why was this drug prescribed for your patient?

Instruct patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to avoid concurrent use of Rx, OTC, and herbal products, especially NSAIDs and cough, cold, or allergy medications, without consulting health care professional.

Instruct patient to notify health care professional of medication regimen before treatment or surgery.

Instruct patient to notify health care professional if swelling of face, eyes, lips, or tongue or if difficulty swallowing or breathing occurs.

Advise women of childbearing age to use contraception and notify health care professional if pregnancy is planned or suspected, or if breast-feeding. Olmesartan should be discontinued as soon as possible when pregnancy is detected.

Emphasize the importance of follow-up exams to evaluate effectiveness of medication.

Evaluation/Desired Outcomes
Decrease in BP without excessive side effects.