

Hydrochlorothiazide

(hye droe klor oh thye' a zide)

Apo-Hydro (CAN), Esidrix, Ezide, HydroDIURIL, Hydro-Par, Microzide Capsules, Novo-Hydrazide (CAN), Oretic, Urozide (CAN)

Pregnancy Category B

Drug class

Thiazide diuretic

Therapeutic actions

Inhibits reabsorption of sodium and chloride in distal renal tubule, increasing the excretion of sodium, chloride, and water by the kidney.

Indications

- Adjunctive therapy in edema associated with CHF, cirrhosis, corticosteroid, and estrogen therapy; renal dysfunction
- Hypertension as sole therapy or in combination with other antihypertensives
- Unlabeled uses: calcium nephrolithiasis alone or with amiloride or allopurinol to prevent recurrences in hypercalciuric or normal calciuric patients; diabetes insipidus, especially nephrogenic diabetes insipidus; osteoporosis

Contraindications and cautions

- Contraindicated with allergy to thiazides, sulfonamides; fluid or electrolyte imbalance; renal disease (can lead to azotemia); liver disease (risk of hepatic coma); gout (risk of attack); SLE; glucose tolerance abnormalities, diabetes mellitus; hyperparathyroidism; manic-depressive disorder (aggravated by hypercalcemia); pregnancy; lactation.

Available forms

Tablets--25, 50, 100 mg; solution--50 mg/5 mL; capsules--12.5 mg

Dosages

ADULTS

- Edema: 25–200 mg daily PO until dry weight is attained. Then, 25–100 mg daily PO or intermittently, up to 200 mg/day.
- Hypertension: 12.5–50 mg PO as a starting dose. 25–100 mg daily, maintenance.
- Calcium nephrolithiasis: 50 mg daily or bid PO.

Pharmacokinetics

Route	Onset	Peak	Duration
Oral	2 hr	4–6 hr	6–12 hr

Metabolism: Hepatic; $T_{1/2}$: 5.6–14.8 hr

Distribution: Crosses placenta; enters breast milk

Excretion: Urine

Adverse effects

- CNS: Dizziness, vertigo, paresthesias, weakness, headache, drowsiness, fatigue, leukopenia, thrombocytopenia, agranulocytosis, aplastic anemia, neutropenia
- CV: Orthostatic hypotension, venous thrombosis, volume depletion, cardiac arrhythmias, chest pain
- Dermatologic: Photosensitivity, rash, purpura, exfoliative dermatitis, hives
- GI: Nausea, anorexia, vomiting, dry mouth, diarrhea, constipation, jaundice, hepatitis, pancreatitis

Karch, A.M. (2004). Lippincott's Nursing Drug Guide.PA: Lippincott Williams & Wilkins.

- GU: Polyuria, nocturia, impotence, loss of libido
- Other: Muscle cramps and muscle spasms, fever, gouty attacks, flushing, weight loss, rhinorrhea

Interactions

Drug-drug

- Increased thiazide effects with diazoxide
- Decreased absorption with cholestyramine, colestipol
- Increased risk of cardiac glycoside toxicity if hypokalemia occurs
- Increased risk of lithium toxicity
- Decreased effectiveness of antidiabetic agents

Drug-lab test

- Decreased PBI levels without clinical signs of thyroid disturbance

Nursing considerations

Assessment

- History: Allergy to thiazides, sulfonamides; fluid or electrolyte imbalance; renal or liver disease; gout; SLE; glucose tolerance abnormalities, diabetes mellitus; hyperparathyroidism; manic-depressive disorders; lactation, pregnancy
- Physical: Skin color, lesions, edema; orientation, reflexes, muscle strength; pulses, baseline ECG, BP, orthostatic BP, perfusion; R, pattern, adventitious sounds; liver evaluation, bowel sounds, urinary output patterns; CBC, serum electrolytes, blood glucose, liver and renal function tests, serum uric acid, urinalysis

Interventions

- Give with food or milk if GI upset occurs.
- Mark calendars or provide other reminders of drug for alternate day or 3–5 days/wk therapy.
- Reduce dosage of other antihypertensives by at least 50% if given with thiazides; readjust dosages gradually as BP responds.
- Administer early in the day so increased urination will not disturb sleep.
- Measure and record weights to monitor fluid changes.

Teaching points

- Record intermittent therapy on a calendar, or use prepared, dated envelopes. Take drug early so increased urination will not disturb sleep. Drug may be taken with food or meals if GI upset occurs.
- Weigh yourself on a regular basis, at the same time and in the same clothing: record weight on your calendar.
- These side effects may occur: increased volume and frequency of urination; dizziness, feeling faint on arising, drowsiness (avoid rapid position changes; hazardous activities, like driving; and alcohol); sensitivity to sunlight (use sunglasses, wear protective clothing, or use a sunscreen); decrease in sexual function; increased thirst (sucking on sugarless lozenges and frequent mouth care may help).
- Report weight change of more than 3 lb in 1 day, swelling in your ankles or fingers, unusual bleeding or bruising, dizziness, trembling, numbness, fatigue, muscle weakness or cramps.