

ACTIVE LEARNING TEMPLATE: *Medication*

STUDENT NAME _____

MEDICATION Furosemide

REVIEW MODULE CHAPTER _____

CATEGORY CLASS Loop Diuretics

PURPOSE OF MEDICATION

Expected Pharmacological Action

Inhibits the re-absorption of sodium and chloride from the loop of Henle and distal renal tubule. Increases renal excretion of water, sodium, chloride, magnesium, potassium, and calcium. Effectiveness persists in impaired renal function.

Therapeutic Use

Edema due to heart failure, hepatic impairment or renal disease.
Hypertension.

Complications

CNS: blurred vision, dizziness, headache, vertigo. EENT: hearing loss, tinnitus. CV: hypotension.
GI: anorexia, constipation, diarrhea, dry mouth, dyspepsia, increased liver enzymes, nausea, pancreatitis, vomiting.
GU: Increased BUN, excessive urination, nephrocalcinosis.
Derm: ERYTHEMA MULTIFORME, STEVENS-JOHNSON SYNDROME, TOXIC EPIDERMAL NECROLYSIS, photosensitivity, pruritis, rash, urticaria.
Endo: hypercholesterolemia, hyperglycemia, hypertriglyceridemia, hyperuricemia.
F and E: dehydration, hypocalcemia, hypochloremia, hypokalemia, hypomagnesemia, hyponatremia, hypovolemia, metabolic alkalosis.
Hemat: APLASTIC ANEMIA, AGRANULOCYTOSIS, hemolytic anemia, leukopenia, thrombocytopenia.
MS: muscle cramps.
Neuro: paresthesia.

Contraindications/Precautions

Contraindicated in: Hypersensitivity; Cross-sensitivity with thiazides and sulfonamides may occur; Hepatic coma or anuria; Some liquid products may contain alcohol, avoid in patients with alcohol intolerance.

Use Cautiously in: Severe liver disease (may precipitate hepatic coma; concurrent use with potassium-sparing diuretics may be necessary); Electrolyte depletion; Diabetes mellitus; Hypoproteinemia (increased risk of ototoxicity); Severe renal impairment (increased risk of ototoxicity);

Interactions

Drug-Drug: Increased risk of hypotension with antihypertensives, nitrates, or acute ingestion of alcohol. Increased risk of hypokalemia with other diuretics, amphotericin B, stimulant laxatives, and corticosteroids. Hypokalemia may increase risk of digoxin toxicity and increase risk of arrhythmia in patients taking drugs that prolong the QT interval.
Decreased lithium excretion, may cause lithium toxicity.
Increased risk of ototoxicity with aminoglycosides or cisplatin.
Increased risk of nephrotoxicity with cisplatin.
NSAIDs decrease effects of furosemide.
Concurrent use with cyclosporine may increase risk of gouty arthritis.

Evaluation of Medication Effectiveness

Decrease in edema.
Decrease in abdominal girth and weight.
Increase in urinary output.
Decrease in BP.

Medication Administration

Per Oral
Parenteral: Intramuscular and Intravenous

Nursing Interventions

Assess fluid status. Monitor BP and pulse before and during administration. Monitor frequency of prescription refills to determine compliance in patients treated for hypertension.

Elderly patients: Diuretic use is associated with increased risk for falls in older adults. Assess falls risk and implement fall prevention strategies. Assess patients receiving digoxin for anorexia, nausea, vomiting, muscle cramps, paresthesia, and confusion. Patients taking digoxin are at increased risk of digoxin toxicity because of the potassium-depleting effect of the diuretic. Potassium supplements or potassium-sparing diuretics may be used concurrently to prevent hypokalemia.

Assess patient for tinnitus and hearing loss. Audiometry is recommended for patients receiving prolonged high-dose IV therapy. Hearing loss is most common after rapid or high-dose IV administration in patients with decreased renal function or those taking other ototoxic drugs. Assess for allergies to sulphonamides

Client Education

Take furosemide as directed.
Caution to change positions slowly to minimize orthostatic hypotension. Instruct patient to consult health care professional regarding a diet high in potassium.
Advise patient to contact health care professional of weight gain more than 3 lbs in 1 day.
Instruct patient to notify health care professional of medication regimen before treatment or surgery.
Advise patient to contact health care professional immediately if rash, muscle weakness, cramps, nausea, dizziness, numbness, or tingling of extremities occurs.
Advise diabetic patients to monitor blood glucose closely; may cause increased blood glucose levels.
Emphasize the importance of routine follow-up examinations.