

The GUARD Method™

FOR PHARMACOLOGY

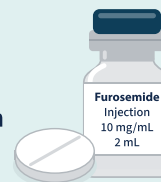
Furosemide

Loop Diuretic (Lasix)

Drug Class: Loop Diuretic

Therapeutic Use: Edema, hypertension, heart failure

Mechanism of Action: Inhibits sodium and chloride reabsorption in the ascending loop of Henle, increasing urine output



GOAL

Why is this medication used?

- Remove excess fluid (decrease edema)
- Decrease blood pressure
- Reduce preload and afterload in heart failure
- Improve breathing and oxygenation by decreasing pulmonary congestion

KEY POINTS

- Expected Outcome: Increased urine output, decreased edema, improved respiratory status, lower blood pressure
- Evaluate for improvement in symptoms and fluid balance



UNSAFE OUTCOMES

What could harm this patient?

- Dehydration
- Hypovolemia
- Hypotension
- Electrolyte imbalances (hypokalemia, hyponatremia, hypomagnesemia)
- Metabolic alkalosis
- Acute kidney injury
- Ototoxicity (especially with rapid IV administration or high doses)
- Increased risk for orthostatic hypotension and falls

KEY POINTS

- Monitor for signs of excessive diuresis and electrolyte imbalances
- Use caution in older adults and patients with renal impairment



AFFECTING FACTORS

What changes the situation?

- Renal impairment (decreased effectiveness, increased risk of toxicity)
- Age (older adults more sensitive)
- Concurrent medications (e.g., digoxin, lithium, aminoglycosides, NSAIDs)
- Existing electrolyte imbalances
- Diabetes mellitus
- Liver disease (ascites management)
- Hypotension
- Dehydration
- Allergies (sulfa allergy)
- High doses or rapid IV administration (increased risk of ototoxicity)

KEY POINTS

- Review medication list for interactions
- Assess renal function, electrolytes, and fluid status
- Use caution with high doses and IV push

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RESULTS

What tells us
what is actually
happening?

- Increased urine output
- Decreased weight (daily weights)
- Decreased edema (peripheral and pulmonary)
- Lower blood pressure
- Improved lung sounds (decreased crackles)
- Improved respiratory status (less dyspnea)
- Laboratory values:
 - Low potassium (hypokalemia)
 - Low sodium (hyponatremia)
 - Low magnesium (hypomagnesemia)
 - Increased BUN/creatinine (possible dehydration)
 - Metabolic alkalosis (increased HCO_3^-)

KEY POINTS

- Monitor vital signs, daily weight, intake and output
- Trend electrolytes and renal function
- Assess for improvement in edema and respiratory status



DO OR DON'T

What should the
nurse do or not do?

- **DO** monitor vital signs, intake and output, and daily weights
 - **DO** assess for edema, lung sounds, and respiratory status
 - **DO** monitor electrolyte levels (especially potassium, sodium, magnesium)
 - **DO** administer as prescribed and monitor response
 - **DO** provide potassium supplements if ordered
 - **DO** educate the patient about purpose, side effects, and dietary sources of potassium
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- **DON'T** give if the patient is hypotensive or severely dehydrated
 - **DON'T** administer rapid IV push (risk of ototoxicity)
 - **DON'T** withhold without notifying the provider

KEY POINTS

- Implement safety measures
- Educate and involve the patient
- Communicate abnormal findings to the provider

NURSING IMPLICATIONS AND PATIENT TEACHING

- Take in the morning to avoid nighttime urination
- Monitor daily weight and report sudden weight gain (e.g., more than 2 to 3 pounds in a day)
- Report signs of electrolyte imbalance (muscle cramps, weakness, irregular heartbeat)
- Follow a diet that includes potassium-rich foods (e.g., bananas, oranges, leafy greens) if not contraindicated
- Change positions slowly to prevent dizziness and falls
- Keep follow-up appointments for lab work and evaluation