VANDERBILT UNIVERSITY MEDICAL CENTER

Guideline: Burn Electrolyte Replacement Guideline

Revised Date: April 2025
Review Date: April 2027

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I. Exclusions to Electrolyte Repletion Guideline

A. Patients with any of the following: hemodialysis/peritoneal dialysis, acute kidney injury (SCr ≥50% of baseline), creatinine clearance <30mL/min, chronic adrenal insufficiency, electrical injuries (until urine is clear and concerns for rhabdomyolysis has been ruled out), rhabdomyolysis, DKA, crush injury, hypothermia, pediatric patients (</= 15 years of age), any patient <50 kg

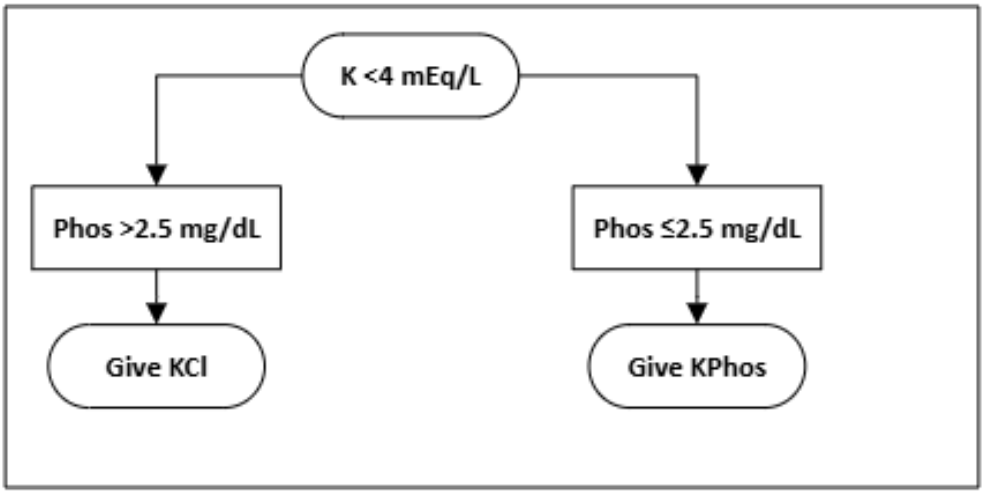
II. Potassium Replacement (Provider Driven Only)

A. Always evaluate phosphorus level to determine appropriate potassium product.

B. Consider PO/PT replacement if GI tract functional- patients are tolerating an oral diet or EN at goal. Avoid use in patients with nausea, vomiting, or diarrhea.

C. If a central line present and continuous cardiac monitoring, may infuse at **20mEq/hr.** If peripheral access only, infuse at **10mEq/hr.**

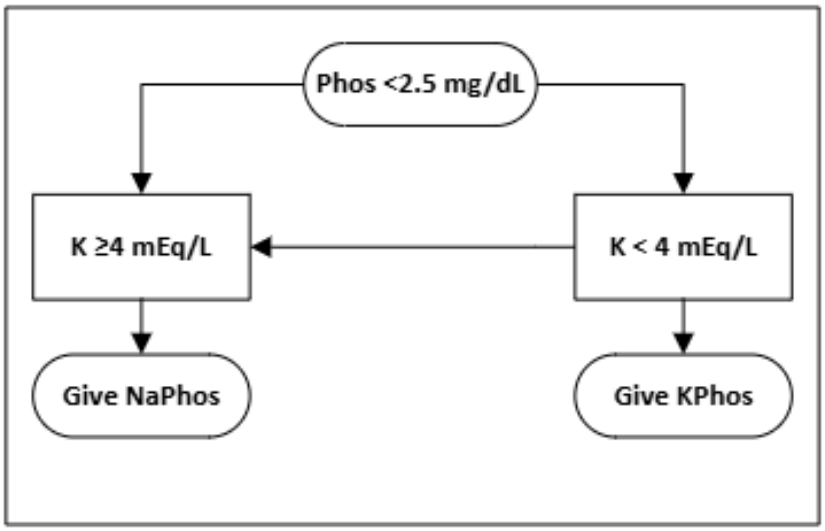
D. KPhos and KCl IV should never be infused at the same time.



Serum K+	Empiric Repletion	Recheck Level
3.3-3.9 mEq/L	40 mEq KCl PO/PT/IV (Enteral route preferred)	With AM labs
3.0-3.2 mEq/L	60 mEq KCl PO/PT/IV (IV route preferred)	With AM labs
2.6-2.9 mEq/L	80 mEq KCl **IV**	4 hours after replacement complete and with AM labs
< 2.6 mEq/L	100 mEq KCl **IV**	4 hours after infusion complete and with AM labs

II. Phosphorous Replacement (Provider Driven Only)

A. Always evaluate potassium level to determine the appropriate phosphate product.
B. Sodium content in IV NaPhos is negligible and should still be used to treat hypophosphatemia in patients without hypokalemia, irrespective of sodium level.
C. KPhos and KCl IV should never be infused at the same time.
D. Enteral route preferred in patients with mild hypophosphatemia who are tolerating an oral diet or goal EN. Avoid use in patients with nausea, vomiting, or diarrhea.



**If K content of IV KPhos dose in the following table exceeds the exceeds the amount of K required per the K repletion table, use KCl to replete K and NaPhos to replete phosphorus*

Product	Phosphate	Potassium	Sodium
K-Phos Neutral Tablet	250 mg (8 mmol)	1.1 mEq	13 mEq
KPhos Injection (per mL)	3 mmol	4.4 mEq	N/A
NaPhos Injection (per mL)	3 mmol	N/A	4 mEq

Serum Phos	Empiric Repletion	Repeat Level	mEq K^+ if using IV KPhos
2-2.5 mg/dL	**15 mmol** KPhos or NaPhos IV -or- K-Phos Neutral 2 tabs PO/PT q4h x 3	With AM labs	~22 mEq
1.6-1.9 mg/dL	**30 mmol** KPhos or NaPhos IV	With AM labs	~44 mEq
<1.6 mg/dL	**45 mmol** KPhos or NaPhos IV	6h after replacement	~66 mEq

III. Magnesium Replacement (Provider Driven Only)

Serum Magnesium	Empiric Repletion	Repeat Level
1.3 – 1.9 mg/dL	4 grams IV over 4 hours	With AM labs
≤ 1.2 mg/dL	8 grams IV over 8 hours and notify provider immediately	With next AM labs and/or after 8 hours

A. IV Administration

a. Magnesium replacement will be one-time doses.
b. Doses are supplied as magnesium sulfate 4 g/100 mL premixed piggybacks. One bag will be dispensed for a dose of 4 g, and 2 bags will be dispensed for a dose of 8 g.
c. Infuse at a rate of 1 gram per hour (i.e., 4 g over 4 hours and 8 g over 8 hours)

IV. Calcium Replacement (Provider Driven Only)

A. Ionized calcium levels should be used to guide calcium repletion, as it is the metabolically active form of calcium and not affected by hypoalbuminemia.
B. Calcium gluconate is the preferred form for calcium repletion and should be infused at a maximum rate of 1 gram per hour.

Ionized Calcium	Empiric Repletion	Repeat Level
3.5-3.9 mg/dL	4 g Calcium Gluconate	With next AM Labs
3.0-3.4 mg/dL	6 g Calcium Gluconate	4 Hours After Replacement
2.5-2.9 mg/dL	8 g Calcium Gluconate	4 Hours After Replacement

**If symptomatic hypocalcemia is present, a continuous IV calcium infusion may be required- do not utilize this guideline.*

V. References

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