

Guideline: Burn Electrolyte Replacement Guidelines

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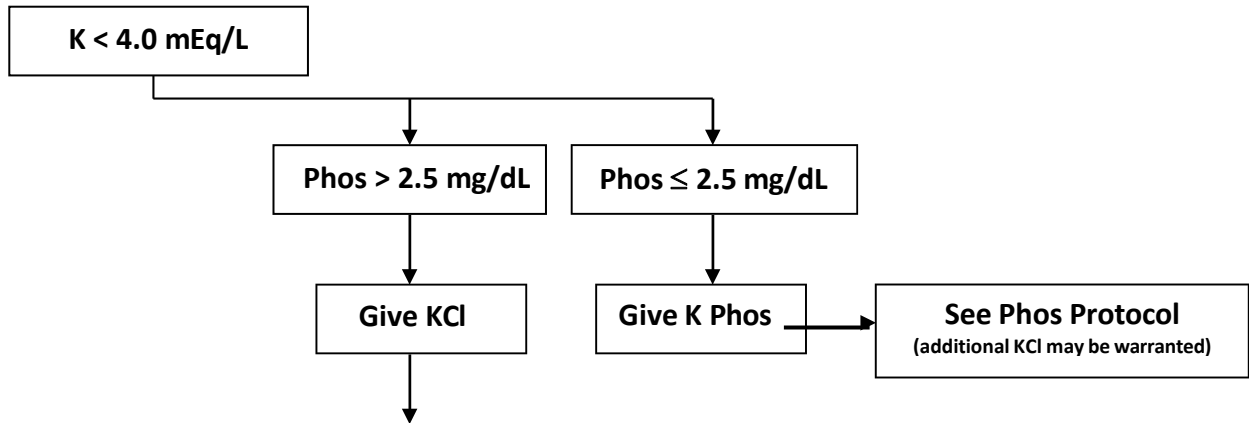
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I. Exclusions

- A. Patients with the following: hemodialysis/peritoneal dialysis, acute kidney injury (AKI defined as a SCr > 50% of baseline), creatinine clearance <30mL/min, chronic adrenal insufficiency, electrical burns (until urine is clear and concerns for rhabdomyolysis has been ruled out), rhabdomyolysis, DKA, crush injury, hypothermia, pediatric patients (<= 14 years of age and/or < 50 kg) or have active transfer orders out of the ICU/Step Down Unit.

II. Potassium Replacement (Provider Driven Only)

- A. Always look at phosphorus level to determine appropriate potassium product.



<u>Serum K+</u>	<u>Replace With</u>	<u>Recheck Level</u>
3.3-3.9 mEq/L	40 meq KCl PO/PT/IV (Enteral route preferred)	With next AM labs
3.0-3.2 mEq/L	60 meq KCl PO/PT/IV (IV route preferred)	With next AM labs
2.6-2.9 mEq/L	80 meq KCl IV and NHO	Immediately after replacement and with next AM labs
< 2.6 mEq/L	100 meq KCl IV and NHO	Immediately after replacement and with next AM labs

- B. Consider PO/PT replacement if GI tract available, patients are tolerating an oral diet or EN at goal and those without diarrhea.
- C. If central line present and continuous cardiac monitoring, infuse at **20mEq/hr** (max=40mEq/hr). If peripheral access only, infuse at **10mEq/hr**.

III. Magnesium Replacement (Provider Driven Only)

Serum Magnesium	Replace With	Repeat Level
1.3 – 1.9 mg/dL	4 grams IV over 4 hours	With next 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

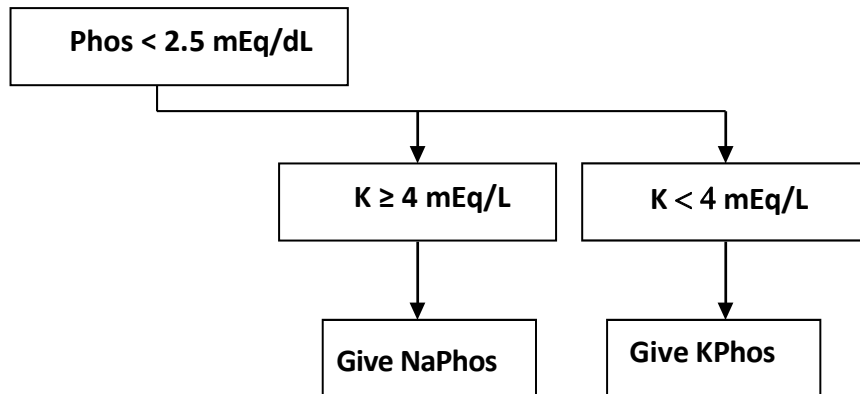
- a. Magnesium replacement will be one-time doses.
- b. All doses will be comprised of the appropriate number of 4g/100mL premixed piggybacks. Infuse at a rate of 1gm per hour.

B. Oral Administration

- a. Elemental magnesium (supplied as magnesium oxide); however, oral magnesium is poorly absorbed and diarrhea may be a limiting factor. Separate order must be entered into EPIC for oral replacement.

IV. Phosphorous Replacement (Provider Driven Only)

A. Always look at the potassium level to determine the appropriate phosphate product.



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

<u>Product</u>	<u>Phosphate</u>	<u>Potassium</u>	<u>Sodium</u>
K-Phos Neutral Tablet	250 mg (8 mmol)	1.1 mEq	13 mEq
K Phos Injection (per mL)	3 mmol	4.4 mEq	
Na Phos Injection (per mL)	3 mmol		4 mEq

<u>Serum Phos</u>	<u>Replace With</u>	<u>Repeat Level</u>	<u>meq K if using IV K Phos</u>
2-2.5 mg/dL	15 mmol KPhos or NaPhos -or- K-Phos Neutral 2 tabs PO/PT q4h x 3 <i>(Enteral route preferred in patients who are tolerating an oral diet or EN is at goal. Avoid in patients with diarrhea)</i>	With next AM labs	~22 meq (~11 meq/hr based on 2h infusion)
1.6-1.9 mg/dL	30 mmol KPhos or NaPhos	With next AM labs	~44 meq (~11 meq/hr based on 4h infusion)
<1.6 mg/dL	45 mmol KPhos or NaPhos and notify provider immediately	6h after replacement	~66 meq (~11 meq/hr based on 6h infusion)

V. Calcium Replacement (Provider Driven Only)

Calcium replacement based upon ICa^{++} levels		
Ionized Calcium	Replace With	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
< 2.5 mg/dL	10 g Ca Gluconate AND NHO	4 Hours After Replacement
Infuse 1gm per hour		

**If symptomatic hypocalcemia, may require continuous IV calcium infusion- do not utilize this guideline.*

VI. References

1. *Zaloga GP, K.R., Bernards WC, Layons AJ*, Fluids and Electrolytes.
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5. *Polderman et al*. *J. Neurology* 2001 May; 94(5): 697-70
6. Kraft MD, Btaiche IF, Sacks GS, et al. Treatment of electrolyte disorders in adult patients in the intensive care unit. *Am J Health Syst Pharm*. 2005;62:1663-82.