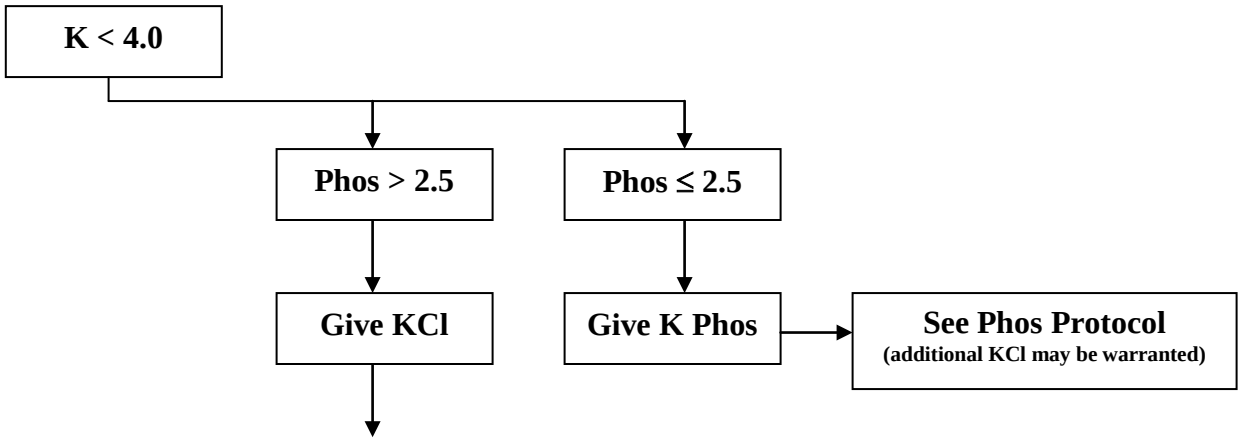
# Potassium Replacement

**SURGICAL CRITICAL CARE**
**Electrolyte Replacement Practice Management Guideline**

**EXCLUSIONS: Patients on hemodialysis/peritoneal dialysis, creatinine clearance <20, have active transfer orders out of the SICU**

**** Always look at phosphorus level to determine appropriate potassium product ****




| Serum K+ | Replace With | Recheck Level |
|---|---|---|
| **3.3-3.9 meq/L** | 40 meq KCl PO/PT/IV | immediately after replacement |
| **3.0-3.2 meq/L** | 60 meq KCl PO/PT/IV | immediately and with next AM labs |
| **2.6-2.9 meq/L** | 80 meq KCl **IV** and NHO | immediately and with next AM labs |
| **< 2.6 meq/L** | 100 meq KCl **IV** and NHO | immediately and with next AM labs |

## *** Consider PO/PT replacement if GI tract available ***

- If central line present and continuous cardiac monitoring, infuse at **20 meq/hr** (max = 40 meq/hr).
- If peripheral access only, infuse at **10 meq/hr**.
- Serum potassium may be expected to increase by ~0.25 meq/L for each 20 meq IV KCl infused.

Approved: _____Dr. Addison K. May, MD, FACS, FCCM
October 2010

# Magnesium Replacement

**SURGICAL CRITICAL CARE**
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**EXCLUSIONS: Patients on hemodialysis/peritoneal dialysis, creatinine clearance <20, have active transfer orders out of the SICU**

| **Serum Magnesium** | **Replace With** |
|---|---|
| 1.6 – 1.9 mg/dL | 4 grams IV over 2h<br>-or-<br>Magnesium oxide 250mg PO BID |
| 1.0 – 1.5 mg/dL | 6 grams IV over 3h |
| < 1.0 mg/dL | 8 grams IV over 4h |

**IV Administration:**

- Magnesium replacement will now be one-time doses.
- All doses will be comprised of the appropriate number of 2g/50mL premixed piggybacks. Infuse at a rate of 2gm per hour.

**Oral Administration:**

- Applies to patients with magnesium level > 1.5 mg/dL who are asymptomatic and able to tolerate PO or PT meds.
- ** Elemental magnesium (supplied as magnesium oxide) or Milk of Magnesia may be initiated; however, diarrhea may be a limiting factor. Separate order must be entered into Wiz/HEO for oral replacement.

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# Phosphorus Replacement

**SURGICAL CRITICAL CARE**
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**EXCLUSIONS: Patients on hemodialysis/peritoneal dialysis, creatinine clearance <20, have active transfer orders out of the SICU**

**** always look at phosphorus level to determine appropriate potassium product ****

| **Product** | **Phosphate** | **Potassium** | **Sodium** |
|---|---|---|---|
| **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 |

| **Serum Phos** | **Replace With** | **Repeat Level** | **meq K if K Phos** |
|---|---|---|---|
| **2-2.5 mg/dL** | **20 mmol** KPhos or NaPhos<br>-or-<br>K-Phos Neutral 2 tabs PO/PT q4h x 3 | with next AM labs | ~30 meq (~7 meq/hr based on 4h infusion) |
| **1.6-1.9 mg/dL** | **30 mmol** KPhos or NaPhos<br>-or-<br>K-Phos Neutral 2 tabs PO/PT q4h x 4 | with next AM labs | ~44 meq (~11 meq/hr based on 4h infusion) |
| **<1.6 mg/dL** | **40 mmol** KPhos or NaPhos | 6h after replacement | ~60 meq (~15 meq/hr based on 4h infusion) |

- Pharmacy will no longer accept verbal phosphorus replacement orders. ALL orders must be entered into Wiz/HEO.
- Always look at potassium level to determine appropriate IV phosphorus product: use **K Phos if K < 4.0** and **Na Phos if K ≥ 4.0**.
- For IV replacement: Pharmacy will dilute in 250mL NS or D5W. Infuse over 4-6 hours.
- For PO/PT replacement: Neutra-Phos / Neutra-Phos K packets are no longer manufactured. K-Phos Neutral tablet is the formulary alternative.

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# Calcium Replacement

**SURGICAL CRITICAL CARE**
**Electrolyte Replacement Practice Management Guideline**

**EXCLUSIONS: Patients on hemodialysis/peritoneal dialysis,**

**creatinine clearance <20, have active transfer orders out of the SICU**

| **Calcium replacement based upon $ICa^{++}$ levels** | | |
|---|---|---|
| **Ionized Calcium** | **Replace With** | **Recheck Level** |
| 3.5-3.9 mg/dL | 4g CaGluconate | With next AM Labs |
| 3.0-3.4 mg/dL | 6g CaGluconate | 4 Hours After Replacement |
| 2.5-2.9 mg/dL | 8g CaGluconate | 4 Hours After Replacement |
| < 2.5 mg/dL | 10 g CaGluconate **NHO** | 4 Hours After Replacement |
| Infuse 2gm per hour | | |

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