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 **

![Diagram]

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

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

<table>
<thead>
<tr>
<th>Serum Magnesium</th>
<th>Replace With</th>
</tr>
</thead>
</table>
| 1.6 – 1.9 mg/dL | 4 grams IV over 2h  
-or-  
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.

Approved: ____________________________ Dr. Addison K. May, MD, FACS, FCCM  
October 2010
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 **

<table>
<thead>
<tr>
<th>Product</th>
<th>Phosphate</th>
<th>Potassium</th>
<th>Sodium</th>
</tr>
</thead>
<tbody>
<tr>
<td>K-Phos Neutral Tablet</td>
<td>250 mg (8 mmol)</td>
<td>1.1 meq</td>
<td>13 meq</td>
</tr>
<tr>
<td>K Phos Injection (per mL)</td>
<td>3 mmol</td>
<td>4.4 meq</td>
<td></td>
</tr>
<tr>
<td>Na Phos Injection (per mL)</td>
<td>3 mmol</td>
<td>4 meq</td>
<td></td>
</tr>
</tbody>
</table>

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

- 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.

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

<table>
<thead>
<tr>
<th>Ionized Calcium</th>
<th>Replace With</th>
<th>Recheck Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5-3.9 mg/dL</td>
<td>4g CaGluconate</td>
<td>With next AM Labs</td>
</tr>
<tr>
<td>3.0-3.4 mg/dL</td>
<td>6g CaGluconate</td>
<td>4 Hours After Replacement</td>
</tr>
<tr>
<td>2.5-2.9 mg/dL</td>
<td>8g CaGluconate</td>
<td>4 Hours After Replacement</td>
</tr>
<tr>
<td>&lt; 2.5 mg/dL</td>
<td>10 g CaGluconate NHO</td>
<td>4 Hours After Replacement</td>
</tr>
</tbody>
</table>

Infuse 2gm per hour

Approved: ____________________________Dr. Addison K. May, MD, FACS, FCCM

October 2010

Panello JE, Delloyer RP, Critical Care Medicine 2nd Edition 2002; St. Louis: Mosby, Inc. 1169
Polderman et al. J. Neurology 2001 May; 94(5): 697-705