<table>
<thead>
<tr>
<th>Electrolyte</th>
<th>Dosage (IV)*</th>
<th>Maximum Concentration</th>
<th>Infusion Duration</th>
<th>Monitoring</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td><strong>Potassium Chloride</strong> <em>(KCl)</em></td>
<td>Neonates and Children: 0.5-1 mEq/kg/dose Max 30 mEq/dose Adolescents: 10-20 mEq/dose Max 40 mEq/dose</td>
<td>Peripheral: 80 mEq/L = 1 mEq/12.5 ml = 0.08 mEq/mL (Neonates 40 mEq/L) Central: 200 mEq/L = 1 mEq/5 ml = 0.2 mEq/mL (Neonates 80 mEq/L)</td>
<td>Neonates: 0.5-1 mEq/kg/hr Children: 0.3-0.5 mEq/kg/hr; Max rate 1 mEq/kg/hr or 10 mEq/hr (whichever is lower); for Cardiac Surgery patients: Max rate = 20 mEq/hr Adolescents: Each dose over ≥2-3 hrs. Max 40 mEq/hr for symptomatic hypokalemia with K+ &lt;2.5 mEq/L. PTU: infusion of total dose must be ≥2 hrs</td>
<td><strong>Telemetry</strong>* monitoring required if infusion rates &gt;0.25 mEq/kg/hr OR &gt;20 mEq/hr.</td>
<td>Preferably infused thru CVC. Confirm patency. If peripheral line, run concurrently with maintenance IV fluids via separate large volume infusion pump to decrease concentration. Monitor: Serum K+, Na+, Ca++, PO₄, Cl⁻, pH, UOP, SCr, BUN. Double check w/ another RN.</td>
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<tr>
<td><strong>Potassium Phosphate</strong> <em>(KPO₄)</em></td>
<td>Neonates: 0.5-1 mmol/kg/dose Children: 0.08-0.36 mmol/kg/dose Adolescents: 0.15-0.3 mmol/kg/dose</td>
<td>Peripheral: 0.05 mmol/ml Central: 0.12 mmol/ml</td>
<td>Children: Over 6 hours Adolescents: Over 3-4 hours Max Rate: 0.06 mmol/kg/hr PTU: infusions must be ≥4 hrs</td>
<td><strong>Telemetry</strong>* monitoring required if infusion rate of PO₄ &gt;0.17 mmol/kg/hr</td>
<td>DO NOT infuse with Calcium containing IVFs. If peripheral line, may run concurrently with compatible maintenance IV fluids via separate large volume infusion pump to decrease concentration. Monitor: Serum K+, Na+, Ca++, PO₄, SCr, BUN, UOP. Do not use scalp veins or small hand veins. Double check w/ another RN.</td>
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<tr>
<td><strong>Calcium Gluconate</strong> **</td>
<td>Neonates and Children: 100 mg/kg/dose (Max 3g/dose) Adolescents: usu. 500-1000 mg/dose (Max 3 g/dose)</td>
<td>50 mg/ml</td>
<td>Max 50 mg/min. Usually over at least 1 hour: ≤120-240 mg/kg/hr. Emergent dose may be given over 5-10 minutes; may repeat in 6 hours.</td>
<td>Monitor HR, EKG. PTU – place child on telemetry during infusion. Serum Ca++ (ionized preferred), Mg++, PO₄.</td>
<td>Use large vein - preferably CVC. Do not use scalp veins or small hand veins. Incompatible with fluids containing Phosphate or Sodium Bicarbonate.</td>
</tr>
</tbody>
</table>

**PLEASE NOTE:** Doses should be individualized to patient’s requirements. Please use clinical judgment when making treatment decisions. While every effort has been made to ensure the accuracy of information provided in these guidelines, the user assumes all responsibility for their use.

Approved by Pediatric CMT (1/13) and P&T Committee (7/13)
**Pediatric Electrolyte Replacement Infusion Guidelines**

| **Calcium Chloride**<sup>**</sup>  
(CaCl only allowed in PTU if Calcium Gluconate unavailable and IV calcium required) | Neonates: CaGluconate preferred.  
CaCl 35-70 mg/kg/dose    
Children: 10-20 mg/kg/dose q4-6h  
Adolescents: 500-1000 mg/dose | 10 mg/ml | PTU: Infusions must be >2 hr | Monitor HR, EKG.  
PTU – place child on telemetry during infusion.  
Serum Ca++ (ionized preferred), Mg++, PO<sub>4</sub> | Central line required unless Code Blue.  
Incompatible with fluids containing Phosphate or Sodium Bicarbonate. |
|---|---|---|---|---|
| **Magnesium Sulfate**<sup> (MgSO4)</sup> | Neonates: 25-50 mg/kg/dose q 8-12hr  
Children: 25-50 mg/kg/dose q 4-6hr (Max 2g/dose)  
Adolescents: 1-2 g/dose | Usual: 60 mg/ml Max: 200 mg/ml | Over 2-4 hours Max: 125 mg/kg/hr  
PTU: infusions must be >4hrs | RR, BP, UOP, serum Magnesium, DTRs | Up to 200 mg/kg/dose have been used in children.  
Up to 12 g/day in divided doses have been used in adults.  
Ensure IV patency.  
If giving both Mg++ and K+, infuse the Mg++ first. |

*Intended for intermittent dosing of deficient electrolytes requiring IV replacement. These doses DO NOT reflect recommended daily electrolyte maintenance requirements.

** If infiltration, elevate extremity above heart, use warm compress, and notify the physician in charge immediately.

*** Telemetry monitoring must be ordered by physician as dictated by infusion rates.

References:
3. Young, TE & Mangum B. NeoFax 2011.

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