Phosphate replacement (intravenous)

Normal range 0.8 – 1.4 mmol/L

- Phosphate replacement may be required either to correct an underlying deficiency or to treat a deficiency that is having a clinical impact.
- Phosphate levels should always be checked and normalised prior to initiation of enteral or parenteral feeding in patients at risk of refeeding syndrome

Choice of phosphate preparation

For mild deficiency (phosphate 0.5-0.8 mmol/L) oral therapy is safer and should be used wherever possible. Moderate to severe deficiency requires parenteral replacement for the first dose.

Oral phosphate

**Phosphate-Sandoz®**

Each effervescent tablets contains:

<table>
<thead>
<tr>
<th></th>
<th>PO$_4^{2-}$</th>
<th>Na$^+$</th>
<th>K$^+$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16.1 mmol</td>
<td>20.4 mmol</td>
<td>3.1 mmol</td>
</tr>
</tbody>
</table>

**Dose**

The usual adult dose is up to 6 tablets daily (dissolved in water) in divided doses. The solution produced can be given via feeding tubes. Risk of diarrhoea reduced if given in at least 120mL of water.

Parenteral phosphate

**Addiphos®**

Each 20mL ampoule contains the following:

<table>
<thead>
<tr>
<th></th>
<th>PO$_4^{2-}$</th>
<th>Na$^+$</th>
<th>K$^+$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40 mmol</td>
<td>30 mmol</td>
<td>30 mmol</td>
</tr>
</tbody>
</table>

Addiphos® is a licensed product but is not licensed for phosphate replacement. It is endorsed for use within the Trust by Wirral Drug and Therapeutics Committee.

**Dose**

<table>
<thead>
<tr>
<th>Phosphate level (mmol/L)</th>
<th>Dose</th>
<th>Day 1</th>
<th>Day 2*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild deficiency</td>
<td>0.5-0.8</td>
<td>20mmol</td>
<td>20mmol</td>
</tr>
<tr>
<td>Moderate to severe deficiency</td>
<td>&lt;0.5</td>
<td>40mmol</td>
<td>20mmol</td>
</tr>
</tbody>
</table>

* Omit the second dose if the phosphate level on day 2 is greater than 1.5mmol/L.

**40 mmol dose:**

20mL of Addiphos® in 500mL glucose. 5%
Administer over 6 hours at 80mL per hour.

**20 mmol dose:**

10 mL of Addiphos® in 500mL glucose. 5%
Administer over 6 hours at 80mL per hour.

Phosphate replacement (intravenous)

Approved as part of the Medicines Guide

Review: Nov 2011
Contact pharmacy for supply:

During office hours (9am to 5pm)
- Infusions are available from the Pharmacy Aseptic Unit on extension 2832 on receipt of a blue intravenous prescription chart.

Out of hours
- Contact the on-call pharmacist via switchboard.

Phosphate replacement in hyperkalaemia, hyperglycaemia and/or fluid restriction

For patients with high potassium levels, sodium glycerophosphate is available from Pharmacy. Bags are available in 0.9% sodium chloride on request. Pharmacy are able to advise on alternative low volume regimes on an individual patient basis.

Monitoring

Phosphate, calcium and magnesium levels should be checked every 6 hours during parenteral supplementation as severe hypocalcaemia can occur. Check renal function daily.

Adverse effects

Oral: Diarrhoea is common and can require dosage reduction.

Intravenous: Hypotension, hyperphosphataemia, hypocalcaemia, hypernatraemia, dehydration and metastatic calcification.

References

