		Type: <b>Drug Guideline</b>	Document reference: <b>6369</b>	Manual Classification: <b>Waikato DHB Drug Guidelines</b>
Title: <b>Phosphate IV for Neonates</b>			Effective date: <b>1 April 2021</b>	
Facilitator <small>sign/date</small>  <i> Kerrie Knox Pharmacist</i>	Authorised <small>sign/date</small>  <i> Jutta van den Boom Clinical Director NICU</i>	Authorised <small>sign/date</small>  <i> John Barnard Chair Medicines &amp; Therapeutics</i>	Version: <b>1</b>	Page: <b>1 of 2</b>
			Document expiry date: <b>1 April 2024</b>	

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## BRIEF ADMINISTRATION GUIDE

For detailed information refer to The Australasian Neonatal Medicines Formulary [phosphorus](#) guideline



**Critical Note:** there are minor variations between the ANMF and Waikato DHB best practice within this drug guideline – see **yellow shaded text**

**Indications:**

- Treatment of severe hypophosphataemia (phosphate < 0.8 mmol/L) e.g. refeeding syndrome

**Route:** Intravenous

Supplied as:

- potassium dihydrogen phosphate 10 mmol / 10 mL injection (pH 6.2-6.8)
- sodium dihydrogen phosphate 20 mmol / 20 mL injection (pH 5-6)  
(Sodium dihydrogen phosphate is an unregistered medicine available under section 29 of the Medicines Act. Names of the patient and prescriber must be sent to Pharmacy when ordering.)

**Dose:** 0.2 mmol/kg/dose IV, adjusted as necessary  
(up to maximum cumulative daily dose of 1.5mmol/kg/day)

Note: 1mmol phosphate = 1mmol elemental phosphorus = 31 mg elemental phosphorus


## Preparation and administration

**Compatible fluids:** glucose 5%, glucose 10%, sodium chloride 0.9%, glucose and sodium chloride combinations

- For **central** administration: Draw up 3 mmol (3 mL) of phosphate injection solution and make up to 25 mL with dextrose 5% or other compatible fluid.  
This gives a resulting concentration of **0.12 mmol/mL**
- For **peripheral** administration: Draw up 2.5 mmol (2.5 mL) of phosphate injection solution and make up to 50 mL with dextrose 5 or other compatible fluid.  
This gives a resulting concentration of **0.05 mmol/mL**
- Mix the contents of the syringe thoroughly.
- Draw up the prescribed dose and administer by slow IV infusion **over at least 6 hours**. For severe hypophosphataemia infuse over 8 to 12 hours.  
If necessary rate can be increased to a **maximum rate of 0.2 mmol/kg/hour**

### Note:

- Potassium dihydrogen phosphate is the preferred agent, unless potassium >5.5 or sodium is low
- When using potassium dihydrogen phosphate be aware of potassium concentration and administration rate, and use appropriate monitoring
- Do not mix phosphate with TPN or any medication that contains calcium as these may reduce the bioavailability of phosphate. Separate calcium supplementation by at least 2 hours.
- TPN's contain phosphate: limit withholding TPN if phosphate level is low

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## Monitoring

- Monitor electrolytes, especially serum calcium and phosphate (and potassium if using potassium dihydrogen phosphate) levels
- Confirm adequate renal function
- IV administration using fast rates: blood pressure, respiratory rate and ECG (including if using potassium dihydrogen phosphate)
- Phlebitis at injection site

## Storage and Stability

Discard any unused solution in the ampoule

## Competency for administration:

This procedure is carried out by, or under, the direct supervision of a registered nurse/registered midwife who holds current Waikato DHB Generic Medicine Management and IV certification as well as Neonatal specific competency NCV/NAC and NIC2 (for IV use).

## Guardrails Information

Phosphate is not currently Guardrail profiled on the CC pump for NICU. Consideration will be given to including it at the next upload.

## References

- Australian Neonatal Medicines Formulary. Phosphorus Drug Guideline 2018, available from: [https://www.slhd.nsw.gov.au/RPA/neonatal%5Ccontent/pdf/Medications\\_Neomed/Phosphorus\\_NMF2.0\\_Full\\_20181122.pdf](https://www.slhd.nsw.gov.au/RPA/neonatal%5Ccontent/pdf/Medications_Neomed/Phosphorus_NMF2.0_Full_20181122.pdf)
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- Paediatric Pharmacopoeia 13<sup>th</sup> edition.
- Truven Health Analytics Inc. Neofax@.. Accessed 9<sup>th</sup> December 2020. Available from <https://www.micromedexsolutions.com/micromedex2/librarian/PFActionId/evidenceexpert.GetNeofaxDrugMonograph?navitem=neofaxDrugMonographDocRetrieval&drugName=Phosphorus&tabSelected=neonatal#>

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