



## METABOLIC

### MANAGEMENT OF HYPERKALEMIA IN NEONATES

#### Definition:

Serum potassium ( $K^+$ ) > 6.5 mmol/L (in a free flowing venous or arterial sample)

#### Background:

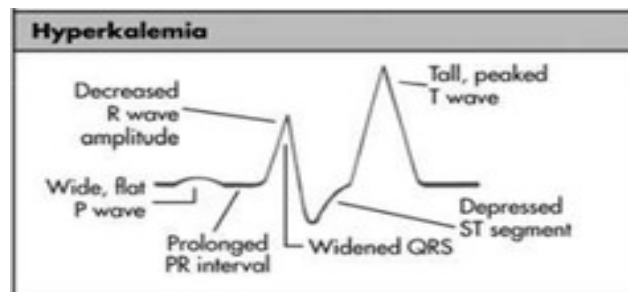
- Hyper $K^+$  (especially when  $K^+$  > 7 mmol/L, or with ECG changes) is a medical emergency due to the concentration-dependent effect on cardiac myocyte membrane potentials, resulting in life threatening arrhythmias. Hence, treatment must be prompt.
- Cardiac toxicity is enhanced by hypocalcaemia, hyponatremia or acidosis, and patients with these abnormalities may experience complications at lower potassium levels.

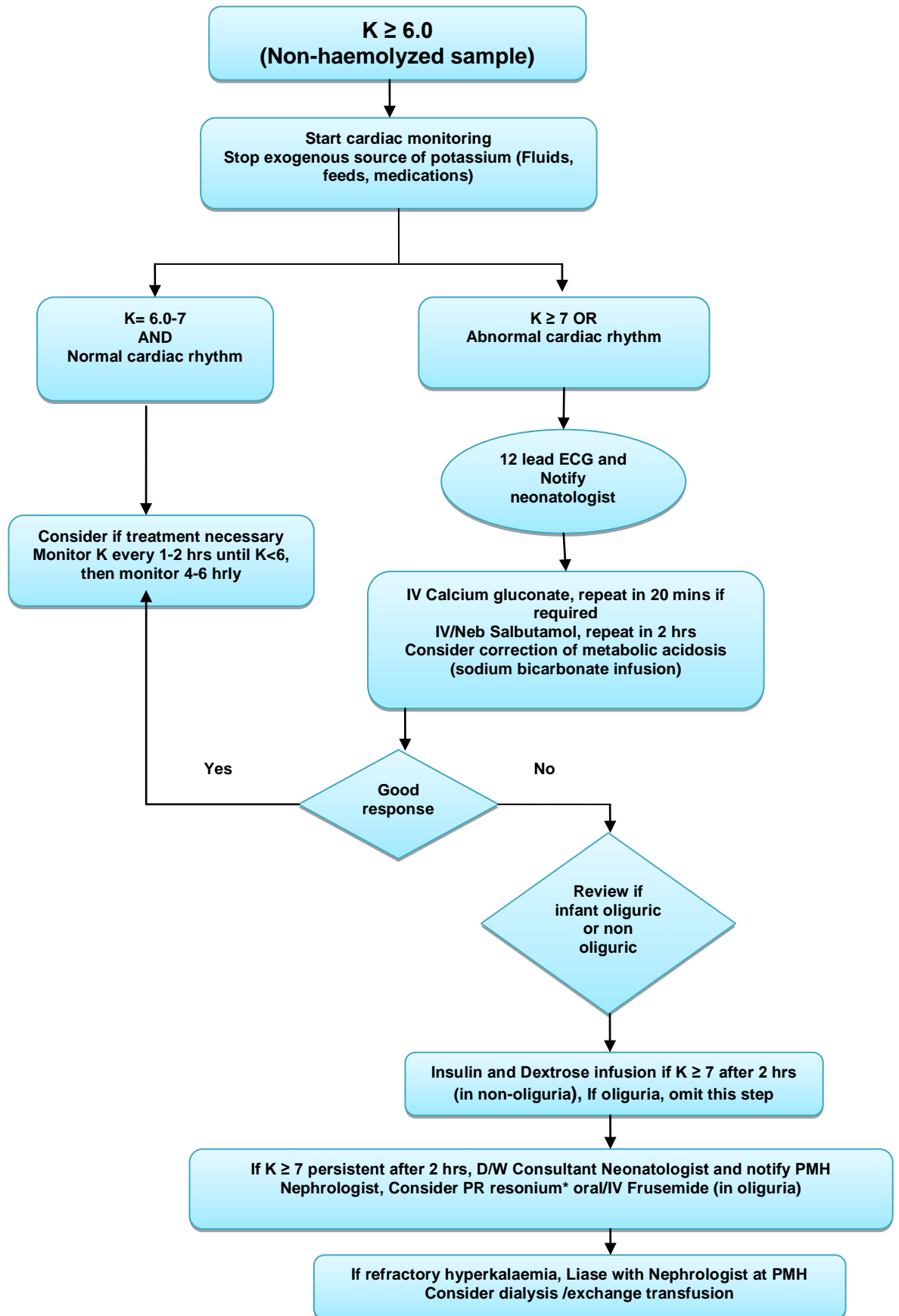
#### Clinical manifestations:

- Most babies are asymptomatic and hyperkalaemia is noted on the routine monitoring of levels.
- Cardiac conduction disturbance, resulting in wide complex tachycardia, ventricular fibrillation and circulatory failure

#### Assessment:

- If  $K^+$  > 6.5 mmol/l in **capillary blood sampling** then baby should have the levels checked by free flowing venous sampling or arterial sampling. If  $K^+$  > 6.5 mmol/l in venous or arterial sampling, baby should have cardiac monitoring.
- 12 lead ECG should be performed if  $K^+$  > 7 mmol/l or if evidence of cardiac arrhythmia on monitoring
- Other investigations to look for cause of hyperkalaemia
- ECG changes (as below)





## REFERENCES

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4. Mahoney BA, Smith WA, Lo DS, et al. Emergency interventions for hyperkalaemia. Cochrane Database Syst Rev 2005; CD003235.
5. Vemgal P, Ohlsson A. Interventions for non-oliguric hyperkalaemia in preterm neonates. Cochrane database Syst Rev. 2012;5:CD005257
6. Yaseen H, Khalaf M, Dana A, Yaseen N, Darwich M. Salbutamol versus cation-exchange resin (kayexalate) for the treatment of nonoliguric hyperkalemia in preterm infants. Am J Perinatol. 2008;25:193–7.
7. <http://kidshealthwa.com/guidelines/hyperkalaemia/>
8. [http://www.rch.org.au/clinicalguide/guideline\\_index/Hyperkalaemia/](http://www.rch.org.au/clinicalguide/guideline_index/Hyperkalaemia/)
9. <http://www.slhd.nsw.gov.au/rpa/neonatal%5Ccontent/pdf/guidelines/hyperk.pdf>
10. <http://www.adhb.govt.nz/newborn/Guidelines/Nutrition/hyperkalaemia.htm>
11. <https://www.networks.nhs.uk/nhs-networks/staffordshire-shropshire-and-black-country-newborn/documents/Hyperkalaemia%20%20-%20evidence.pdf>
12. <http://www.uptodate.com/contents/management-of-hyperkalemia-in-children>

## National Standards



Legislation - Nil  
 Related Policies - Nil  
 Other related documents -

## RESPONSIBILITY

<b>Policy Sponsor</b>	<b>Neonatology Clinical Care Unit - Neonatal Coordinating Group</b>
<b>Initial Endorsement</b>	June 2016
<b>Last Reviewed</b>	July 2016
<b>Last Amended</b>	
<b>Review date</b>	July 2019

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