NEONATAL MEDICATION GUIDELINE	
Y-Site IV Compatibility in Neonates	
Scope (Staff):	Nursing, Medical and Pharmacy Staff
Scope (Area):	KEMH NICU, PCH NICU, NETS WA
This document should be read in conjunction with the Disclaimer.	

Aim

The purpose of this guideline is to assist nursing and medical staff in the safe administration of intravenous (IV) medication to neonates.

Key points

The table provides a guide to medication compatibility via Y-site within the NICU.

Medication compatibilities are concentration, temperature and light dependent.

Do NOT use solutions where there is a visible change in colouration.

For further information, please contact the KEMH pharmacy department.

Risk

Non-compliance with this guideline will:

Breach legislative requirements	☐	Impact on Patient Quality of Care	☒
Breach National/State/Mandatory Policy	☐	Impact on Patient Safety	☒
Breach professional standards	☐	Impact financial operations	☐
Damage NMHS reputation	☐	Impact on Staff Safety	☐
Other	☐		

Y-Site Compatibility Chart for Neonatal IV Infusions at WNHS

	Aciclovir	Adrenaline	Alprostadil	Amoxicillin	Benzylpenicillin	Caffeine	Calcium Gluconate	Cefotaxime	Ciprofloxacin	Clonidine	Dexmedetomidine	Dobutamine	Dopamine	Flucloxacillin	Furosemide	Gentamicin	Glucose 5%	Glucose 10%	Glucose 25%	Heparin	Indometacin	Lipid with Vitamins 17%	Meropenem	Metronidazole	Midazolam	Milrinone	Morphine Sulphate	Noradrenaline	Parenteral Nutrition (TPN)	Pentoxifylline	Piperacillin Tazobactam	Sildenafil	Sodium Bicarbonate	Sodium Chloride 0.9%	Vancomycin
Aciclovir																																		
Adrenaline	X																																	
Alprostadil	X	C																																
Amoxicillin																																		
Benzylpenicillin	C	C																																
Caffeine	M	C	C																															
Calcium Gluconate	C	C	C		C	C																												
Cefotaxime	C	C	C			C	C																											
Ciprofloxacin	X			X		X	C																											
Clonidine		C																																
Dexmedetomidine	C	C	X		C	C	C	C	C																									
Dobutamine	X	C	C		X	M	C	X	C	C	C																							
Dopamine	X	C	C		C	C	C	C	C	C	C	C																							
Flucloxacillin							X		X			X																							
Furosemide	C	C	C		C	X	C	C	X	C	C	X	M																						
Gentamicin	M	C	C	X	C	C	C	X	C		C	C	C	X	X																				
Glucose 5%	C	M	M	M	C	C	C	C	C		C	C	C	C	M	C																			
Glucose 10%		C	C			C	C	C	C			C	C		M	C	C																		
Glucose 25%																	C	C																	
Heparin	C	C	C	C	C	C	C	C	X	C	C	M	C		C	M	C	C																	
Indometacin					C		X					X	X		C	X	C	X																	
Lipid with Vitamins 17%						X						C	C			X	C																		
Meropenem	M					M	M		X	C	C	C	C		C	C	M	C		C															
Metronidazole	C	C				C	C	C	C		C	C	C	C	C	C	C			C			M												
Midazolam	X	C	C	X	C	X	C	M	C	M	C	M	C	X	X	C	C			C	X			C											
Milrinone	C	C	C			C	C	C	C		C	C	C		X	C	C			C			C	C	C										
Morphine Sulphate	M	C	C		C	C	C	C	C		C	C	C	X	M	C	C	C		C	X		C	C	C	C									
Noradrenaline		C	X		C	C	C	C	C	C	C	M	C		C	C	M	C		C			C	C	C	C	C								
Parenteral Nutrition (TPN)	X		C	X	C	C	M	C	C			C	C	C	C	C	C	C	C	C		C		C	M	C	M								
Pentoxifylline	C	C	C	X	C	C	X	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C						
Piperacillin Tazobactam	X					C	C		X		C	X	C		C	C	C			C				C	X	C	C		C	C					
Sildenafil	M	C	C	M	C	C	M	C	C	C	C	C	C	X	X	C	C			M	M	C	X	C	C	C	C	C	M	C	C				
Sodium Bicarbonate	C	X		X	M	C	X	X	M		C	X	X		C	C	C	C		C	C		X	C	X	X	C	X	C	C	C	X			
Sodium Chloride 0.9%	C	C	M	C	C		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
Vancomycin	C	C	C	X		M	C	M	M		C	C	C	X	X	C	C	C		M	X		C	C	C	C	C	C	C	C	M	C	M	C	

C Compatible at Y-site
M Mixed reports, contact Pharmacy
X Incompatible
No data available

Aim: The purpose of this guideline is to guide nursing staff in the administration of IV medication in neonates

- The table provides a guide to medication compatibility via Y-site within the NCCU.
- Medication compatibilities are concentration, temperature and light dependent.
- Do NOT use solutions where there is a visible change in colouration.
- For further information, please contact the Pharmacy Department.

* This table refers to concentrations used in the WNHS neonatal medication guidelines **ONLY** and should not be used for any other clinical area

References and resources

Society of Hospital Pharmacists of Australia. Australian Injectable Drugs Handbook [Internet]. [St Leonards, New South Wales]: Health Communication Network; 2021 [cited 2021 July, 5]. Available from: http://aidh.hcn.com.au

King Guide to Parenteral Admixtures. [Internet]. King Guide Publications, Inc; 2020 [cited 2021 July, 5]. Available from: http://www.kingguide.com.kelibresources.health.wa.gov.au/kgpa2/x1.asp

ASHP Injectable Drug Information 2021, American Society of Health-System Pharmacists, Bethesda, Marylan; 2021 [cited 2021 July, 5] Available from: http://online.statref.com.kelibresources.health.wa.gov.au/Document.aspx?docAddress=kBEVtUAF0noQZaffmk6jnQ%3D%3D&SessionId=28E39B6MOONUUFMQ&offset=108

De Silva DTN, Strunk T, Petrovski M, Page-Sharp M, Moore BR, Batty KT. The physicochemical compatibility of sildenafil injection with parenteral medications used in neonatal intensive care settings. Pharmaceutics. 2024;16(3):419.

South Eastern Sydney Local Health District. Clinical Resources/Guidelines. Neomed Formularies, Sydney Australia 2021. [cited 2021 July, 5]. Available from: http://www.seslhd.health.nsw.gov.au/rhw/Newborn_Care/guidelines_med.asp

Lauterbach, R., Strunk, T., Patole, S., Hurkala, J. and Pawlik, D. (2018). Compatibility of intravenous pentoxifylline with other medications infused concurrently in preterm infants with late-onset sepsis. [online] Available at: https://www.ncbi.nlm.nih.gov/pubmed/29524245# [Accessed 10 May 2018].

Campbell AL, Petrovski M, Senarathna SG, Mukadam N, Strunk T, Batty KT. Compatibility of pentoxifylline and parenteral medications. Arch Dis Child. 2020 Apr;105(4):395-397. doi: 10.1136/archdischild-2019-317912. Epub 2019 Dec 23. PMID: 31871042.

Senarathna SMDKG, Strunk T, Petrovski M, Woodland S, Batty KT. Physicochemical compatibility of pentoxifylline injection with high-concentration parenteral medications. Pediatr Investig. 2023;00:1-5. https://doi.org/10.1002/ped4.12393

Senarathna SMDKG, Strunk T, Petrovski M, et al. Eur J Hosp Pharm Epub ahead of print: 30 Oct 2023. doi:10.1136/ ejhpharm-2023-003870

Useful resources (including related forms)

https://kemh.libguides.com/library/elibrary/nccu_neonatal_hub

https://cahslibrary.health.wa.gov.au/home/medications

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