



NEONATAL MEDICATION GUIDELINE

Fentanyl

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](#).

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HIGH RISK Medication 

1mg = 1000micrograms

Description

Opioid analgesic

Presentation

Ampoule: 100microgram/2mL

Prefilled Syringe: 20microgram/2mL (KEMH)

Storage

Store at room temperature, below 25°C

Schedule 8 Medication

Dose

Dose must be ordered in micrograms

Elective Endotracheal Intubation

IV Push:

4 microgram/kg over 3 minutes

Analgesia**IV Push:**

1 – 2 microgram/kg over 3 minutes every 2 – 4 hours as required

IV Continuous Infusion:

1 – 5 microgram/kg/hour

See preparation section for dose calculation and rate

Preparation**IV Push**

Use prefilled syringes if available

Dilution:

Use fentanyl 100microg/2mL ampoules to prepare.

Dilute 50 microgram (1mL) of fentanyl and make up to a final volume of 5mL with a compatible fluid. **Concentration = 10 microg/mL**

IV Infusion

See Appendix 1 for an example on how to prescribe fentanyl on the Variable Infusion Chart

Use IV Infusion prepared by CIVAS Pharmacy where available

Infusion calculation:

Use fentanyl 100microg/2mL ampoules to prepare.

Dilute 50 microgram (1mL) per kilogram of baby's weight and make up to a final volume of 50mL with a compatible fluid. **1 mL/hour = 1 microgram/kg/hour**

Example: To prepare an infusion for a 780g infant

Weight = 0.78 kg

Dose in infusion = 50 microgram x 0.78 kg = 39 microgram

Dilute 39 microgram (0.78 mL) to 50 mL with a compatible fluid

Administration**IV Push**

Give slowly over 3 minutes

IV Continuous Infusion

Infuse at the prescribed rate using a controlled infusion pump

Compatible Fluids

Sodium chloride 0.9%, Glucose 5%

Compatibility with Heparin:

	Sodium Chloride 0.9%	Glucose 5%
With Heparin	No information	No information
Without Heparin	Stable for 48 hours at room temperature	Stable for 48 hours at room temperature

Side Effects

Common: laryngospasm, bradycardia, chest wall rigidity (responds to naloxone), urinary retention (with continuous infusion)

Serious: respiratory depression, opioid withdrawal symptoms in neonates treated for greater than 5 days via continuous infusion

Interactions

Combination use with other CNS depressants can increase the opioid effect – increasing risk of respiratory depression and sedation

Refer to [IV Compatibility Chart in Neonates](#) for compatibility information or refer to the Pharmacy Department

Monitoring

Respiratory and cardiovascular status, urine output with continuous infusion

Comments

[Naloxone](#) is used as the reversal agent for fentanyl

Related Policies, Procedures & Guidelines

CAHS Clinical Guideline:

[Pain Assessment and Management](#)

[Intubation](#)









References

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Appendix 1: Fentanyl Infusion Example

Child and Adolescent Health Service Neonatology		ALLERGIES & ADVERSE DRUG REACTIONS <input type="checkbox"/> Nil Known <input type="checkbox"/> Unknown <input type="checkbox"/> Yes – refer to NIMC (Tick appropriate box)		Med Rec. No:	
NEONATAL VARIABLE RATE INFUSION CHART Year: 20 <u>21</u>		Patient Name: Baby A	Date: 01/06/2021	Surname: UMRN Sticker	
		Gest Age 27 +1	CGA 27 +6	Forename:	
		BW 1200g	Working Wt 1200g	Gender: D.O.B.	
MEDICATION ORDER		RATE CHANGE			
Date: 01/06/2021	Medication: Fentanyl	Date:	01/06/2021		
Route: IV		Time:	0915		
Dose in Infusion: 60 microg	Dose/kg/time (at 1mL/hr): 1 microg/kg/hour	Rate (mL/hr):	0.5mL/hr		
Diluent: NaCl 0.9%	Dose Calculation: 50 microgram x 1.2kg	Doctor:	A. Doctor		
Final Volume: 50mL	Doctor name: A. Doctor Signature: A. Doctor	Nurse:	AN BN	/	/
		Volume Discarded:			
Date: 01/06/2021	Medication: DOUBLE STRENGTH Fentanyl	Date:	01/06/2021		
Route: IV		Time:	1015		
Dose in Infusion: 120 microg	Dose/kg/time (at 1mL/hr): 2 microg/kg/hour	Rate (mL/hr):	0.5mL/hr		
Diluent: Glucose 5%	Dose Calculation: 50 microgram x 1.2kg x 2	Doctor:	A. Doctor		
Final Volume: 50mL	Doctor name: A. Doctor Signature: A. Doctor	Nurse:	AN BN	/	/
		Volume Discarded:			
Date:	Medication:	Date:			
Route:		Time:			
Dose in Infusion:	Dose/kg/time (at 1mL/hr):	Rate (mL/hr):			
Diluent:	Dose Calculation:	Doctor:			
Final Volume:	Doctor name:	Nurse:	/	/	/
	Signature:	Volume Discarded:			

Dose/kg/time will change if the concentration is adjusted. Indicate the steps taken to calculate the dose in the infusion

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