



**NEONATAL MEDICATION GUIDELINE**

**Morphine Sulphate**

**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](#).**

**Quick Links**

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**Restrictions**

[Formulary: Restricted](#)

**HIGH RISK Medication** 

1mg = 1000micrograms

**Description**

Opioid Analgesic

**Presentation**

**Syringe:** 1000microgram/mL

**Oral Solution:** 1000microgram/mL

**Storage**

Store at room temperature, below 25°C

**Schedule 8 Medication**

**Dose**

**Analgesia/sedation**

**Oral/IV:**

Intermittent dose:

100 – 200 microgram/kg/dose every 4 to 6 hourly

Oral doses recommended to be rounded to the nearest 50micrograms

**IV Infusion**

10 – 40 microgram/kg/hour

See *preparation section for dose calculation and rate*

**Neonatal Abstinence Syndrome (NAS)**

Refer to [Neonatal Abstinence Syndrome \(NAS\) Clinical Guideline](#)

**Preparation****IV:**

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

Use IV Infusion Prepared by CIVAS Pharmacy where available

**Infusion Calculation:**

Dilute 500microgram (0.5mL) per kilogram of baby's weight and make to a final volume of 50mL with a compatible fluid

Concentration = 10 microgram/kg/hour = 1mL/hour

**Example:** To prepare an infusion for a 780g infant

Weight = 0.78kg

Dose in Infusion = 500 microgram x 0.78 = 390 microgram

Dilute 390 microgram to 50mL with compatible fluid.

**Oral:**

For intermittent doses less than 100 micrograms the following dilution should be used:

Take 1mL (1000micrograms) of oral morphine mixture and dilute to 10mL with water of irrigation

Concentration = 1000micrograms/10mL = 100microgram/mL

**Administration****IV Injection:**

Give slowly over 3 to 5 minutes

**IV Infusion:**

Infuse at the prescribed rate using a controlled infusion pump

**Oral:**

May be given at any time with regards to feeds

**Compatible Fluids**

Glucose 5%, Glucose 10%, Sodium Chloride 0.45%, Sodium Chloride 0.9%

**Compatibility with Heparin**

	<b>Sodium Chloride 0.9%</b>	<b>Glucose 5%</b>	<b>Glucose 10%</b>	<b>Sodium Chloride 0.45%</b>
<b>With Heparin</b>	Stable for 24 hours at room temperature	No information	No information	No information
<b>Without Heparin</b>	Stable for 48 hours at room temperature	Stable for 48 hours at room temperature	Stable for 24 hours at room temperature	Stable for 24 hours at room temperature

**Y-Site Compatibility**

Refer to KEMH Neonatal Medication Guideline: [Y-Site IV Compatibility in Neonates](#)

**Side Effects**

**Common:** hypotension, bradycardia, delayed gastric emptying, urinary retention

**Interactions**

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

**Monitoring**

Respiratory and cardiac status, urine output

**Comments**

Naloxone is used as the reversal agent for morphine

## Related Policies, Procedures & Guidelines

### WNHS Clinical Practice Guidelines:

[Y-Site IV Compatibility in Neonates](#)

### WNHS Pharmaceutical and Medicines Management Guidelines:

[Medication Administration](#)

### CAHS Clinical Guidelines:

[Medication Administration: Intramuscular, Subcutaneous, Intravascular](#)

[Neonatal Abstinence Syndrome \(NAS\) Clinical Guideline](#)

[Pain Assessment and Management](#)

## References









Takemoto CK, Hodding JH, Kraus DM. Pediatric & neonatal dosage handbook with international trade names index : a universal resource for clinicians treating pediatric and neonatal patients. 24th ed. Hudson (Ohio): Lexicomp; 2018.

Truven Health Analytics. Morphine. In: NeoFax [Internet]. Greenwood Village (CO): Truven Health Analytics; 2019 [cited 2019 June 14]. Available from: <https://neofax.micromedexsolutions.com/>

Society of Hospital Pharmacists of Australia. Morphine. In: Australian Injectable Drugs Handbook [Internet]. [St Leonards, New South Wales]: Health Communication Network; 2019 [cited 2019 June 14]. Available from: <http://aidh.hcn.com.au>

Appendix 1: Morphine Infusion Example

Women and Newborn Health Service Neonatology Directorate  <b>NEONATAL VARIABLE RATE                  INFUSION CHART</b>  Year: 20__		<b>ALLERGIES &amp; ADVERSE DRUG REACTIONS</b> <input type="checkbox"/> Nil Known <input type="checkbox"/> Unknown <input type="checkbox"/> Yes – refer to NIMC (Tick appropriate box)				Med Rec. No: .....				
		Patient Name: <b>Baby A</b>		Date: <b>21/05/2019</b>		Surname: .....UMRN Sticker.....				
		Gest Age <b>27 +1</b>		CGA <b>27+6</b>		Forename: .....				
		BW <b>1220g</b>		Working Wt <b>1220g</b>		Gender: ..... D.O.B. ....				
MEDICATION ORDER			RATE CHANGE							
Date: <b>21/05/2019</b>	Medication: <b>Morphine</b>		Date:	<b>21/05/19</b>						
Route: <b>IV</b>			Time:	<b>0915</b>						
Dose in Infusion: <b>610 microg</b>	Dose/kg/time (at 1mL/hr): <b>10 microg/kg/hour</b>		Rate (mL/hr):	<b>0.5mL/hr</b>						
			Doctor:	<b>A.Dr</b>						
Diluent: <b>Glucose 10%</b>	Dose Calculation: <b>500 microg x 1.22kg</b>		Nurse:	<b>AN</b>	/	/	/	/	/	/
				<b>BN</b>						
Final Volume: <b>50mL</b>	Doctor name: <b>A.DR</b>		Volume Discarded:							
	Signature:									
Date: <b>21/05/2019</b>	Medication: <b>Morphine with 25 units Heparin</b>		Date:	<b>21/05/19</b>						
Route: <b>IV</b>			Time:	<b>1050</b>						
Dose in Infusion: <b>610 microg</b>	Dose/kg/time (at 1mL/hr): <b>10 microg/kg/hour</b>		Rate (mL/hr):	<b>1mL/hr</b>						
			Doctor:	<b>A.Dr</b>						
Diluent: <b>Glucose 5%</b>	Dose Calculation: <b>500 microgram x 1.22kg</b>		Nurse:	<b>AN</b>	/	/	/	/	/	/
				<b>BN</b>						
Final Volume: <b>50mL</b>	Doctor name: <b>A. DR</b>		Volume Discarded:							
	Signature:									
Date: <b>21/05/2019</b>	Medication: <b>QUADRUPLE STRENGTH Morphine</b>		Date:	<b>21/05/19</b>						
Route: <b>IV</b>			Time:	<b>1425</b>						
Dose in Infusion: <b>2440 microg</b>	Dose/kg/time (at 1mL/hr): <b>40 microgram/kg/hr</b>		Rate (mL/hr):	<b>0.5mL/hr</b>						
			Doctor:	<b>A.DR</b>						
Diluent: <b>Glucose 10%</b>	Dose Calculation: <b>500microg x1.22kg x 4</b>		Nurse:	<b>AN</b>	/	/	/	/	/	/
				<b>BN</b>						
Final Volume: <b>50mL</b>	Doctor name: <b>A. DR</b>		Volume Discarded:							
	Signature:									

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