



**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](#).

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**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 infusion:**

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:**

Measure 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.

**IV Injection:**

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

Dilute 1mL (1000micrograms) of morphine to 10mL with sodium chloride 0.9%

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

**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

	Sodium Chloride 0.9%	Glucose 5%	Glucose 10%	Sodium Chloride 0.45%
With Heparin	Stable for 24 hours at room temperature	No information	No information	No information
Without Heparin	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: Route: <b>IV</b> <b>Morphine</b>		Date: <b>21/05/19</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>		BN							
Final Volume: <b>50mL</b>		Doctor name: <b>A.DR</b> Signature:		Volume Discarded:									
Date: <b>21/05/2019</b> Medication: Route: <b>IV</b> <b>Morphine with 25 units Heparin</b>		Date: <b>21/05/19</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>		BN							
Final Volume: <b>50mL</b>		Doctor name: <b>A. DR</b> Signature:		Volume Discarded:									
Date: <b>21/05/2019</b> Medication: Route: <b>IV</b> <b>Morphine</b>		Date: <b>21/05/19</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>		BN							
Final Volume: <b>50mL</b>		Doctor name: <b>A. DR</b> Signature:		Volume Discarded:									

AFFIX LABEL HERE

Check Compatibility with Heparin and fluids

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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