NEONATAL MEDICATION PROTOCOLS

INTRAVENOUS NARCOTICS
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NCCU Clinical Guidelines
KEMH/PMH
Perth, Western Australia

ADMINISTRATION OF INTRAVENOUS NARCOTICS TO NEONATES

Narcotic infusions have proven a significant advance in management of acute pain. The technique provides superior analgesia, increased safety and avoids intramuscular injections. The analgesia is continuous without the peaks and troughs associated with intermittent analgesic techniques. Morphine sulphate is the narcotic of choice to give to neonates. See Morphine protocol in the NCCU Medication Protocols Manual.

INDICATIONS

- Infants exhibiting evidence of acute pain.
- Ventilated infants requiring sedation.
- Post operative infants.
- Infants withdrawing from maternal narcotics abuse when alternative treatment has failed – See NCCU section 17 - Neonatal Abstinence Syndrome, Pharmalogical Treatment

Intermittent doses or infusions of intravenous narcotics may be administered to infants requiring pain relief and or sedation by NNT's as long as they have been deemed competent to do so. Enrolled nurses may not give intravenous narcotics or care for an infant with a narcotic infusion.

A medical officer must prescribe the narcotic and all policies related to the administration and checking of medications must be followed.

For non-ventilated infants requiring narcotics, resuscitation equipment must be available by the infant's cot and a medical officer must be in the unit.

INTERMITTENT IV ADMINISTRATION OF MORPHINE

Loading dose

- If the infant is in pain or requires sedation a loading dose is usually necessary to achieve an adequate therapeutic level. This may be administered by a registered nurse and titrated over 5-10 minutes until adequate analgesia is achieved. A medical officer must be in the unit when a loading dose is being administered.
- The dose is given over 3-5 minutes via the 3-way tap or injection port. The solution used to flush the IV after the dose is administered must be also included in the 3 to 5 minute giving time.
- An IV dose of morphine should be administered at least 5 minutes before a procedure to allow the dose to take effect.
- The dose may be repeated with a maximum of **two** doses in 90 minutes.

If after the second dose the desired effect is not achieved, the infant should be reviewed by the prescribing doctor and/or the registrar. The infant may require a continuous narcotic infusion if the desired effect is not reached after the second dose.

MORPHINE INFUSION

- The prescription must be written on the FLUID ORDERS chart (KEMH) and on an IV narcotics form (6B) by a MO.
- The dose must be written in weight per kg body weight. After the dose has been prescribed, prepared syringes of morphine can be obtained from Pharmacy, using a CIVAS form, or staff can make up the solution following the Protocol Manual. The medication must be diluted as per NCCU Medication Protocols Manual and an additive label attached.

- Because of the need for accuracy and the small volumes delivered narcotic infusions should only be delivered by an approved syringe pump which does not allow over infusion if the syringe is disconnected from the pump.
- If a loading dose is not required a registered nurse may commence the infusion without a registrar being present in the unit.

Bolus doses during an infusion
A bolus dose may be required when the infant is in pain or unsettled or 10 to15 minutes prior to anticipated painful procedures. It is extremely important to ensure that the original rate is resumed once the bolus has been administered. Never leave the infant unattended during bolus administration. The usual bolus dose is equal to the hourly infusion rate. When a bolus dose is ordered two nurses must be involved with the giving of the bolus dose, one of which must be a NNT.

SUSPECTED OVERDOSE
In the case of a suspected overdose from either a bolus or stat dose, cease any morphine infusion in progress and notify a Consultant/SR ***immediately****. They may order Naloxone* (Narcan) intravenously in the smallest dose, which will raise the respiratory rate to the desired level without abolishing analgesia. Institute other resuscitation measures as necessary. When the patient's condition is stable, but not before one hour, recommence narcotic infusion at 1/3 - 1/2 previous rate and adjust dose as necessary.*
****Naloxone:*** *usage may be contraindicated in infants with respiratory depression of a mother addicted to opiates' – may precipitate seizure activity.*

Administration of other drugs during narcotic infusion
Concurrent use of other sedatives and opiates, particularly by intravenous injection, can lead to life-threatening complications. Discuss with the consultant in charge of the unit.

Dose Adjustments
Rate changes should be recorded on the neonatal observation chart.

ROUTINE OBSERVATIONS
- Any infant who has a morphine infusion running must have their heart rate, respiratory rate and oxygen saturation constantly monitored.
- Observations must be recorded **hourly** on the observation chart. Documentation should include the infant's general condition, level of analgesia, and conscious state. The following respiratory rates are suggested as lower limits for non-ventilated infants even infants on respiratory support such as prong CPAP.
- **30 breaths per minute -** If the respiratory rate drops below this minimum and the infant is exhibiting signs of **CNS depression such as increasing episodes of apnoea and bradycardia** the infusion must be stopped and a Dr informed. Initiate resuscitation and a " **Code Blue Paediatric**" if the doctor is unavailable.

Compatibility of other drugs during narcotic infusion
When the infant requires other intravenous medications, such as antibiotics, the narcotic infusion should be stopped unless compatibility has been checked with Pharmacy. The narcotic should be stopped for the shortest period required for administration of the medication.
If the medication must be given by infusion, a bolus dose of narcotic beforehand should ensure that analgesia remains adequate. If the narcotic infusion must be interrupted for more than 30 minutes, a second intravenous site may be necessary.