Naloxone for neonates

BRIEF ADMINISTRATION GUIDE

For detailed information refer to The Australasian Neonatal Medicines Formulary (ANMF) **naloxone** guideline

Note: Shaded text indicates where Te Whatu Ora Waikato practice differs from ANMF

1. Medicine

1.1. Indications:

- Opioid induced respiratory and CNS depression
  Note: Naloxone can be used as an adjuvant therapy to resuscitation efforts. Before naloxone is administered, restore heart rate and colour by supporting ventilation.
- Opioid overdose

Note: **Not to be administered to infants of mothers known or suspected to be dependent on opioids**

1.2. Route and Presentation:

Intravenous (preferred), intramuscular or subcutaneous (recommended only if intravenous access is not available as onset of action may be delayed and absorption can be erratic and unpredictable in children)

- Supplied as naloxone hydrochloride 400 microgram/ml ampoule
  - Naloxone has a pH of 3.5

1.3. Dose:

Reversal of opioid induced respiratory and CNS depression
10 microgram/kg/dose (0.025 mL/kg/dose of undiluted naloxone)
Dose may be repeated at 2 to 3 minute intervals if required according to response

Acute opioid overdose (complete reversal)
100 microgram/kg (0.25 mL/kg/dose of undiluted naloxone)
Further doses may be required if respiratory function deteriorates

Note:

- The duration of naloxone antagonism may be less than the clearance of the opioid being antagonised, thus repeat doses may be required (and prolonged monitoring)
- If no response is seen after 2 to 3 doses, respiratory and central nervous system depression is unlikely to be secondary to opioids

2. Preparation and Administration

2.1. Compatible fluids:

sodium chloride 0.9%, glucose 5%

2.2. Administration method

If dose is unable to be drawn up accurately from undiluted solution dilute as follows:

- Draw up 1 mL (400 microgram) of naloxone and make up to 10 mL with compatible fluid. The resulting solution has a concentration of **40 microgram/mL**.

Direct IV Injection

- Administer prescribed dose by intravenous injection over 30 seconds

Intramuscular Injection

- Administer prescribed dose by intramuscular injection

Subcutaneous Injection

- Administer prescribed dose by subcutaneous injection

2.3. Monitoring:

- Monitor heart rate, respiratory rate, pulse oximetry and level of consciousness closely for at least 6 hours after naloxone is used
- Assess for signs of anaphylaxis or adverse reactions, including acute withdrawal which may present with seizures, excessive crying and hyperactive reflexes
- Monitor for injection site reactions

2.4. Storage and Stability

- Discard any unused contents of the ampoule remaining
- Diluted solution should be used within 24 hours

2.5. Competency for Administration:

This procedure is carried out by, or under, the direct supervision of a registered nurse/registered midwife who holds current Te Whatu Ora Waikato Generic Medicine Management and IV certification as well as Neonatal specific competency NCV/NAC (if administering via CVAD).

2.6. Guardrails:

Naloxone is NOT Guardrail profiled on the NICU infusion pumps.

3. References

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- Ainsworth SB. Neonatal Formulary: Drug Use in Pregnancy and the First Year of Life 7th ed. John Wiley & Sons Incorporated; 2014.

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