

St. Peter's Hospital, Neonatal Unit Intubation Premedication

Premedication should be used for all elective intubations in all neonates regardless of gestation, postnatal age or birth weight. Premedication improves comfort, safety and the likelihood of success (1-4)

Write up the drugs in the 'as required' section of the drug chart for any baby who looks as though they may need intubation, and certainly for any baby who is already intubated.

Suxamethonium should not be given routinely; but should always be drawn up prior to intubation in case of unexpected chest wall rigidity (a rare complication of Fentanyl) or when the baby is excessively active despite 2 doses of fentanyl. However routine use of paralytics is associated with a greater incidence of adverse events (5).

Fentanyl may take 5 minutes to work and should be given first. Apnoea is common, and the baby's ventilation should be maintained carefully. Fentanyl can be reversed, if desired, with Naloxone 10microgram/kg IV (or IM or SC), which may need repeating (due to short half life), or increasing up to 100micrograms/kg. Atropine is then given prior to laryngoscopy to minimise the likelihood of severe bradycardia.

- Flush the line with 0.5 mls of 0.9% saline after each injection.
- If your attempt at intubation fails:
 - You can repeat the dose of fentanyl (wait 5 minutes for it to work)
 - No need to repeat the dose of atropine (duration of action is 30-60 minutes)
 - If after this the baby is still too active use suxamethonium before the next attempt

Drug doses and order of administration

1. FENTANYL 2 MICROGRAMS / kg given intravenously

The vial contains 50 micrograms/ml. Add 1ml of this solution to 9 ml of 0.9% saline to make a solution of 5micrograms/ml. Give 2 micrograms/kg (or 0.4ml/kg) of the diluted solution.

Give as a **slow** intravenous injection over 2 minutes while maintaining ventilation/IPPV.

NB All controlled drugs must be written in letters and numbers

2. ATROPINE 15 MICROGRAMS/ kg given intravenously

The vial contains 600 micrograms/ml

Dilute 1 ml with 9ml normal saline to give 60micrograms /ml: 0.25ml = 15 micrograms

3. SUXAMETHONIUM - 2 MILLIGRAMS / kg given intravenously

The vial contains 100mg in 2ml solution.

Add 2mls (100mg) to 8 mls of 0.9% saline to give 10mg/ml

Give 2mg / kg (0.2ml/ kg) as a rapid bolus.

This is used primarily to rapidly overcome chest wall rigidity – remember that once the baby is paralysed you are entirely responsible for their ventilation.

References

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3. Remifentanyl for endotracheal intubation in neonates: a randomised controlled trial. Choong K, AlFaleh K, Doucette J, Gray S, Rich B, Verhey L, Paes B. *Arch Dis Child Fetal Neonatal Ed.* 2010 Mar;95(2):F80-4
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5. Factors Associated with Adverse Events during Tracheal Intubation in the NICU. Foglia EE, Ades A, Napolitano N, Leffelman J, Nadkarni V, Nishisaki A. *Neonatology.* 2015;108(1):23-9

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