

Blood Gas in PICU to include METHB level PRE + Post iNO day 1 and weekly thereafter

Pre procedure

- Check observations prior to inhalation and note and report deviations
- Methaemoglobin monitoring in place and functioning
- Clinical engineering present and Nitric Oxide set up complete
- Reviewed pre-commencement on day 1 by Respiratory consultant on call
- 1:2 nursing staff available for duration of treatment
- Antedote on the ward with dosage and IV sheet
- Urine Dipstick

During Procedure

- Monitor T,P, R, BP and O₂ sats every 15mins during inhalation
- Observe from outside the room observations on the monitor and report deviations
- Monitor Methaemoglobin throughout procedure

Post Procedure

- Monitor observations 30minutes following procedure
- Enter the room 6 minutes following treatment completion
- Monitor Methaemoglobin x 10 episodes post procedure, once these have all returned to baseline, post MetHb monitoring can be discontinued

EFFECTS OF NITRIC OXIDE INHALATION

Side Effects

- iNO combines with oxygen to produce NO₂ which is a toxic gas
- Methemoglobin is formed when NO reacts with haemoglobin
- Methemoglobin is incapable of transporting oxygen
- Platelet dysfunction and bleeding problems are theoretical as iNO may affect platelet aggregation and thrombus formation

Cardiovascular

Common (1% to 10%): [Hypotension](#)

Post marketing reports: [Bradycardia](#) (following abrupt discontinuation of therapy)

Respiratory

Common (1% to 10%): Atelectasis

Post marketing reports: Hypoxia, [dyspnoea](#), chest discomfort, dry throat

Nervous system

Post marketing reports: Headache, dizziness

More Common

Blurred vision, confusion, [dizziness](#), faintness, or lightheadedness when getting up suddenly from a lying or sitting position, sweating, unusual tiredness or weakness

Symptoms of Overdose Bluish-coloured lips, fingernails, or palms, dark urine, fever [headache](#), pale skin, rapid heart rate, [sore throat](#), unusual bleeding or bruising

Treatment of overdose Escalation algorithm for intervention and emergency action (cessation of treatment)??? required antidote methylene blue 1-2 mg/kg pre-prescribed in advance to treatment initiation. Termination of treatment was required if any safety related side-effects (arterial hypotension: systolic <99mmhg, MetHB >5%, SaO₂ <88%, NO₂ >5ppm. (Yaacoby-Bianu *et al*, 2017)