

Entonox Administration Adults and Children over 12 years

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Purpose/Policy

To ensure that Entonox is delivered safely and effectively to patients/women in labour by appropriately trained personnel.

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Scope

- Registered Nurses who have completed the Entonox Self learning Package.
- Midwives
- Registered Medical Officers
- Specialist Wound Management Services - Nurse Maude
- Enrolled Nurses who have been approved by the Director of Nursing/Midwifery and have successfully completed the self-learning package.

Associated documents

- [Entonox Administration Self Learning Package](#)
- [Acute Pain Service Manual](#)
- Patients Medication Chart
- [The Blue Book](#)

Indications for use

- Labour

Please note: A Midwife under their scope of practice can prescribe and administer Entonox to a labouring woman

- Procedures such as change of dressings, removal of drains.
- Minor orthopaedic manipulation

Absolute Contraindications for Use (if present do not use Entonox):

- Impaired level of consciousness
- Head injury
- Chronic neurological disease
- Intoxication
- Myringoplasty
- Recent Vitreoretinal surgery (eye surgery)
- Obstruction of the middle ear or sinus cavities
- Severe obstructive airway disease, lung cysts, acute asthma
- Acute airway obstruction or airway burns
- Pneumothorax without effective chest drain
- Severe bone marrow depression or similar haematological disorder eg: known homocystinaemia

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- Undiagnosed abdominal pain, bowel obstruction, ileus or gas embolism
- Patient unable or unwilling to use nitrous oxide
- Patient aged less than 12 years of age
- First trimester of pregnancy
- Decompression sickness
- Pulmonary Hypertension

Staff/Support persons Safety Contraindications for use

Staff members or support persons in the first trimester of pregnancy should not be present where Entonox is being given to a patient

Relative: Contraindications for Use i.e.: (if present, the use of Entonox must be discussed first with a senior registrar or consultant)

- Concurrent sedatives/analgesic agents (e.g. Benzodiazepines, opioids)
- Patient who is already oxygen dependant, or has an oxygen saturation on air of less than 95% e.g. COPD
- Patient with known/possible vitamin B12 deficiency (e.g. vegetarians)
- The prolonged use of Entonox from early labour should be avoided

Administration

Pre administration

- Ensure patient and staff have been assessed for any absolute or relative contraindications
- Education prior to labour/therapy helps the woman/patient to have a realistic expectation of the effects of Entonox
- Explain to the patient/women/parents the risks & benefits of Entonox
- Explain that patients/women must be able to hold the mask or mouthpiece themselves and breathe deeply enough to activate the Entonox.
- Familiarise the patient with the equipment, and ensure the patient is able to demonstrate an effective suck and the single use mask/mouth piece is a good fit
- Verify prescription for Entonox on patient's drug chart.

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- Ensure O2 is available and has been prescribed for adjunctive therapy as required and post administration
- Ensure there is sufficient gas in the cylinder to complete the intended procedure
- Ensure availability of resuscitation equipment and pulse oximetry
- There is no fasting requirement

Baseline observations required

- Level of consciousness as per the CDHB sedation score
- PEWS/EWS score (respiratory rate, pulse, o2 saturation)
- Partogram (midwifery)
- Pain score
- Presence of nausea/vomiting

During:

- To maximise analgesia allow the patient to breathe the Entonox continuously for 3 to 5 minutes then assess effectiveness.
- With labouring women breathing at the onset of a contraction and through a contraction.

Observations/Monitoring

- The administrator must continuously assess the patient's level of consciousness using the sedation score and ensure the patients ability to maintain rational communication
- Respirations must be continuously observed for evidence of obstruction and/or hypoventilation.
- Continuous pulse oximetry should be used and continued until the patient has returned to their pre procedural baseline observations and sedation score
- Documentation observations and pain score at 5 minute intervals while using Entonox and post procedure until patients observations have returned to pre procedural **levels/scores or as local policy dictates**
- Respond appropriately to any adverse reactions and document the therapies effectiveness.
- Document observations on the Adult/Women's / Child Observation Chart
- With labouring women, use of pulse oximetry is advised if administration of Entonox has been prolonged, if opioids are co administered or any uncertainty exists

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Adverse Reactions

- Entonox must be immediately ceased if the patient has
- loss of airway control
- loss of consciousness
- Sedation score > or equal to 2

Actions

Institute appropriate emergency measures for timely medical assistance. Refer to the EWS Management pathway

Call a clinical emergency if Cardiac/Respiratory arrest is imminent.

Common side effects

Nausea, vomiting, dizziness, tingling of fingers/face

Actions

- Cease Entonox administration and monitor until resolved
- Vital signs observations continue as per EWS/Sedation scores.

Please Note

If there have been any problems in the administration of entonox in a given patient, this must be documented in the clinical notes and discussed with a Senior Registrar or Consultant as soon as is practical, and entonox must not be given again to that patient until this has occurred.

Post procedure

- Record in the patient's clinical record treatment, the therapy's effectiveness (pain score prior and post), and any adverse effects/reactions.
- For adults O2 at 6L via Hudson Mask should be administered, as tolerated, for 5-10 minutes post Entonox administration to prevent the transient risk of diffusion hypoxia
- Continue to monitor vital signs until observations and scores are within pre - procedural levels
- Turn off the entonox, using the attached key (if any).
- Remove and dispose of the filter and mask/mouthpiece, and clean equipment as per infection control guidelines (refer to Vol 10)
- Replace the cylinder if less than quarter full at end of procedure (Further supplies of Entonox can be requested from the orderlies)

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- If there is a fault or irregularity with the Entonox machine contact Technical Services

Long term use of Entonox considerations

Patients requiring daily or twice daily Entonox for longer than 2-3 weeks should be prescribed prophylaxis Folic acid by medical staff to reduce the risk of bone marrow depression.

Measurement or Evaluation

- Staff completion of SLP by Educators
- Incident management process

References

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