



Procurement, Handling and Recording of Nitrous Oxide and Medical Gases containing Nitrous Oxide Procedure

Effective: 23 December 2020

1. Guiding Principles

Nitrous oxide is classified as a Schedule 4 (prescription only) medication and therefore requires a doctor's order for use, or be managed by a midwife acting under the approved WACHS SASA for nitrous oxide for intrapartum use.

It also needs to be procured, stored and handled in a manner consistent with the requirements for Schedule 4 medications.

Nitrous oxide (with oxygen) or Entonox[®] (50% N₂O and 50% O₂) gases are utilised to manage pain during established labour and as a patient controlled analgesia for short procedures causing acute incident pain, such as dressing changes.

These gases may be available as small portable cylinders for individual patient use or large cylinders for connection to reticulated gas systems.

This procedure relates specifically to the procurement, storage and documentation of use of both nitrous oxide and Entonox[®] gas cylinders at a hospital and ward level within WACHS - South West facilities.

2. Procedure

2.1 Administration

- Administration and use of nitrous oxide and Entonox[®] for pain management in labour is to follow the WACHS endorsed King Edward Memorial Hospital (KEMH) Clinical Guidelines.
- WACHS nursing and midwifery staff involved in the administration of nitrous oxide and Entonox[®] are to work within their professional and individual scope of practice in accordance with organisational requirements and the Nursing and Midwifery Board of Australia's decision making framework and standards for practice which includes the use via the WACHS Structured Administration and Supply Agreement (SASA).
- All use of nitrous oxide and Entonox[®] is recommended to be undertaken utilising scavenging systems to reduce / maintain occupational exposure to the gases to within acceptable limits.
- All nitrous oxide and Entonox[®] prescriptions must be written on the patient medication chart.

2.2 Ward Storage

- The storage of gases is controlled and regulated via the Australian Standards. The Australian Standard AS 4332-2004 provides information on the storage of gases within minor stores including in hospitals.
- Where mixed gases are stored the aggregate is not to exceed 2000L water capacity, including full, partial and empty gas cylinders.
 - D cylinder = 9L water capacity
 - C cylinder = 2L water capacity
- WACHS procedure for storage and handling of gases in cylinders also apply.
- Nitrous oxide and Entonox[®] gas cylinders are required to be stored at a ward level as per a scheduled medication. They are to be stored in a restricted access area, a locked room deemed suitable as a minor gas store or a locked medication room.
- The access to the area/room is restricted to authorised personnel only; nurses/midwives, pharmacy staff or doctors. Individual access within this group is to be based on the individual staff work area and as determined by the Nurse Unit Manager / District Manager.
- Any other staff access, such as Patient Care Assistants (PCAs), Unregulated Health Care Workers (UHCWs) or cleaners, require escorted access. The area/room is to be located in a restricted access area without access by the general public.
- Sufficient firefighting equipment is to be in the immediate vicinity – with a fire extinguisher being the minimum requirement.

2.3 Bulk Storage and Access

- Nitrous oxide and Entonox[®] gas cylinders must be secured with a specific locking mechanism (e.g. cylinders chained to a fixed structure within the gas store and the chain padlocked closed).
- Nursing/Midwifery staff may delegate transportation and collection of cylinders to other staff however overall responsibility remains with the nursing/midwifery staff.

2.3.1 Bunbury Hospital (BH)

- Bulk storage of nitrous oxide and Entonox[®] gas cylinders are within the St John of God Bunbury Hospital (SJGBH) Engineering Department gas stores.
- Access to the specific locking mechanism for the nitrous oxide and Entonox[®] gas cylinders requires the BH staff to request access from the SJGBH Engineering Department. This access is recorded by the SJGBH Engineering Department.
- Overall maintenance of the gas stores areas remains the responsibility of the SJGBH Engineering Department.

2.3.2 District Sites

- Bulk storage of nitrous oxide and Entonox® gas cylinders at district sites are to occur in the gas stores for that hospital, this location is to include the area for connection of reticulated nitrous oxide.
- Access to this area is to be restricted to authorised individuals and monitored (e.g. proximity card). Authorised individuals to these areas may include maintenance personnel and service technicians.
- Installation of cctv coverage within the gas stores is recommended.

2.4 Procurement

2.4.1 Bunbury Hospital (BH)

- Stock for BH is procured via the St John of God Bunbury Engineering Department.

2.4.2 District Sites

- Authorised staff members (see appendix) from district sites order nitrous oxide and Entonox® directly from their local gas distributor utilising their primary BOC gas account.
- All deliveries are to be accepted by an authorised staff member and immediately secured within the gas store.
- A bi-annual report of both ordered nitrous oxide/ Entonox® and an inventory of bottles on hand is to be provided by all WACHS-SW district sites to the Regional Chief Pharmacist (see appendix)

2.5 Recording

- Use of both nitrous oxide and Entonox® require recording as schedule 4 prescription only products.
- Both nitrous oxide and Entonox® are required to be prescribed on the patients Hospital Medication Chart.
- A WACHS - South West recording booklet has been developed and is to be used to record time in use for each portable cylinder (see appendices).
- Use of piped gas is to be recorded as part of the patient's routine documentation within their medical record (use and duration).
- Recording booklets are required to be stored within the ward area and maintained for a minimum of 2 years from the last date of recorded use.

3. Definitions

Entonox®	A commercially prepared, compressed medical gas mixture of 50% N ₂ O (nitrous oxide) and 50% O ₂ (oxygen) supplied in a blue cylinder with white quadrants on the shoulder.
Nitrous oxide 100% N₂O	Is supplied in a blue cylinder with no white shoulders. Nitrous oxide is able to be mixed with oxygen in various concentrations to provide a N ₂ O:O ₂ mix.

4. Roles and Responsibilities

4.1 All Staff

All staff are required to work within policies and guidelines to make sure that WACHS is a safe, equitable and positive place to be.

4.2 PCAs and Unregulated Health Workers

Are required to be aware of the transport and handling requirements for nitrous oxide and Entonox® gases. They are to assist nursing/midwifery staff in the handling of these gases working under the direct instruction of nursing/midwifery staff.

PCAs and Unregulated Health Workers can act as an authorised staff member as delegated and recorded on the Authorised staff list for ordering of nitrous oxide and Entonox® gases.

4.3 Engineering Staff

Engineering staff are responsible for the overall maintenance of the hospitals gas stores area.

Engineering staff can act as an authorised staff member as delegated staff and recorded on the Authorised staff list for ordering of nitrous oxide and Entonox® gases.

4.4 Nursing and Midwifery Staff

Nursing and midwifery staff are responsible for the appropriate handling, storage and administration of nitrous oxide and Entonox® gases within their facility

4.5 Medical Staff

Medical staff are responsible for the appropriate prescribing of nitrous oxide and Entonox® gases for patients within WACHS - South West facilities.

5. Compliance

Failure to comply with this policy document may constitute a breach of the WA Health system MP0031/16 Code of Conduct (Code). The Code is part of the [Integrity Policy Framework](#) issued pursuant to section 26 of the [Health Services Act 2016](#) (WA) and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers, researchers, contractors for service (including all visiting health professionals and agency staff) and persons delivering training or education within WACHS.

WACHS staff are reminded that compliance with all policies is mandatory.

6. Records Management

[Records Management Policy](#)

[Health Record Management Policy](#)

7. Evaluation

Monitoring of compliance with this document is to be carried out by the Nurse Unit Manager at a ward level.

Monitoring of ordering processes is to be carried out by the Chief Pharmacist.

8. Standards

[National Safety and Quality Healthcare Standards](#) 1.7, 4.1

9. References

[Australian Standard AS4332-2004 The storage and handling of gases in cylinders.](#)

[Australian/New Zealand Standard](#)

[BOC gases Medical Nitrous Oxide E.P.](#) Accessed November 2014.

10. Related Policy Documents

KEMH [Clinical Guidelines Pain Management in Labour](#)

WACHS [Storage and Handling of Gases in Cylinders Procedure.](#)

11. Policy Framework

[Clinical Governance, Safety and Quality](#)

12. Appendices

Appendix 1 - [Nitrous oxide recording sheet booklet](#)

Appendix 2 - [Entonox® recording sheet booklet](#)

Appendix 3 - [Authorised staff list](#)

Appendix 4 - [Fax cover – Nitrous/Entonox®](#)

**This document can be made available in alternative formats
on request for a person with a disability**

Contact:	Chief Pharmacist (N. Lillywhite)	TRIM Record #	ED-CO-15-2948
Directorate:	Medical Services	Date Published:	23 December 2020
Version:	3.00		

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Nitrous Oxide Recording Sheet Booklet

Administration of nitrous oxide combined with oxygen within the WACHS - South West requires Nursing and Midwifery staff to be working within their professional and individual scope of practice in accordance with organisational requirements and the Nursing and Midwifery Board of Australia's decision making framework and standards for practice

A Nitrous Oxide Recording Sheet should be completed for each gas cylinder.

Hospital: _____

Ward: **MATERNITY**

All nitrous oxide cylinders are required to be stored in a secure manner

WACHS SOUTH WEST

Nitrous Oxide Recording Sheet

Nitrous Oxide is a scheduled medical gas which can be utilised as 50% nitrous oxide and 50% oxygen as Entonox. Administration of Nitrous Oxide with oxygen within WACHS - South West requires Nursing and Midwifery staff to be working within their professional and individual scope of practice in accordance with organisational requirements and the Nursing and Midwifery Board of Australia's decision making framework and standards for practice.

A Nitrous Oxide Recording Sheet should be completed for each gas cylinder.

Nitrous Oxide Cylinder Bar Code : _____

Date	Time Started	Time Stopped	Patient Name	Patient URM

Appendix 2

Entonox Recording Sheet Booklet

Administration of Entonox within the WACHS - South West requires Nursing and Midwifery staff to be working within their professional and individual scope of practice in accordance with organisational requirements and the Nursing and Midwifery Board of Australia's decision making framework and standards for practice.

A Entonox Recording Sheet should be completed for each gas cylinder.

Hospital: _____

Ward: _____

Appendix 3

Authorised Staff Members for Ordering and Receiving Entonox[®] and Nitrous Oxide Gases

Site : _____

Authorised Staff Member			Authorised by	
Staff Member Name	Position Title	Signature	Name (NUM / District Manager)	Signature

Biannual Review of Ordering and Stockholding

- Please provide the number of bottles ordered and a physical count of stock on hand of the bottles specified in the table below.

District site: _____

Reporting period: _____

Gas	Number of bottles ordered	Number of bottles on hand
Nitrous Oxide 610 – C		
Nitrous Oxide 610 – D		
Nitrous Oxide 610 – E		
Nitrous Oxide 610 – G		
Entonox 570 – C		
Entonox 570 – D		
Entonox 570 – E		
Entonox 570 – G		

Name: _____

Signature: _____

Please email reports to WACHS-SW BYHC PHARMACY SUPPORT by 1st April and 1st October of each year.