The Newcastle upon Tyne Hospitals NHS Foundation Trust

Medical Gas Cylinder Management Policy

<table>
<thead>
<tr>
<th>Version No.:</th>
<th>1.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective From:</td>
<td>04 November 2016</td>
</tr>
<tr>
<td>Expiry Date:</td>
<td>07 January 2019</td>
</tr>
<tr>
<td>Date Ratified:</td>
<td>19 May 2016</td>
</tr>
<tr>
<td>Ratified By:</td>
<td>Medical Gas Committee</td>
</tr>
</tbody>
</table>

1 Introduction

Following several serious incidents involving oxygen stored in and administered from cylinders, the National Patient Safety Agency (NPSA) issued a Rapid Response Report in September 2009 focussing on oxygen safety in hospitals. It outlined areas for immediate action, incorporating prescribing, monitoring, administration and equipment. The principles outlined in the report are applicable to all medical gases stored in cylinders hence the scope of this policy covers all medical gas cylinders.

Key points:

- Minimise the use of cylinders, and increase the amount of piped gas used, where necessary
- Reliable systems should be in place for stocktaking and checking of medical gas cylinders, ensuring adequate supplies are always available
- Minimise risks of confusing oxygen and medical compressed air
- Prescribe medical gases in all situations in accordance with British Thoracic Society (BTS) guidelines (acknowledging that the BTS guidelines do not cover critical care)
- Ensure pulse oximetry is available in all locations where oxygen is used
- A multidisciplinary team should be responsible for review medical gas-related incidents, developing a policy and a training programme.

The report and supporting documentation can be found at: [www.nrls.npsa.nhs.uk/resources/?entryid45=62811](http://www.nrls.npsa.nhs.uk/resources/?entryid45=62811)

2 Scope of the Policy

This policy covers the prescribing, cylinder supply, cylinder storage, administration, monitoring and equipment relating to medical gases for all inpatients within the Newcastle Upon Tyne Hospitals NHS Foundation Trust.

This policy should be read in conjunction with the document “Clinical Guidance. The Prescription and Administration of Oxygen in Adult Hospital In-Patients” and “Transportation and Storage of Medical Gases”
3 Aims of the Policy

The aim of this policy is ensure the safe and appropriate management of the use of medical gas cylinders within the Trust.

4 Roles and Responsibilities

4.1 Staff groups

Pharmacy is responsible for the procurement and quality of medical gases used in the Trust. In addition, Pharmacy monitor stock holding arrangements in external stores as outlined in the policy.

Porters are responsible for the delivery of gas cylinders to clinical areas.

“Gas” porters are responsible for the replacement of empty cylinders on manifolds

Ward managers are responsible for the storage and handling of cylinders in local stores in clinical areas and whilst in use.

All staff who are involved in prescribing, administering, handling and managing medical gases and medical gas equipment should receive training. This includes nursing, medical, pharmacy, midwifery, allied health professional, portering, clinical engineering and estates staff.

4.2 Governance

The Medical Gases Committee is responsible for:

- Ensuring the safe use of the Medical Gas pipeline system in line with HTM 2022
- Overseeing all policies and protocols relating to medical gases.
- Monitoring provision of medical gas training for all relevant staff groups.
- Reviewing all medical gas-related incidents within the Newcastle Upon Tyne Hospitals NHS Foundation Trust.

Further information regarding the role of the Medical Gases Committee may be found in their Terms of Reference (Appendix 1).

5 Definitions

No specific definitions have been identified in this policy.
6 Cylinder Management

6.1 Provision of Piped Medical Gases and Medical Gas Cylinders

Where possible, piped medical gases should be used in preference to cylinders.

Within NUTH, areas with a high use of particular medical gases have a piped supply; this includes all inpatient ward areas and theatres. Where this does not exist, for example through a change of use, clinical areas must highlight their usage to the medical gas committee who will assess their need and where appropriate support the development of a business case to provide the required medical gas via the medical gas pipeline system.

Cylinders must be appropriately stored at all times; this includes the use of storage racks and trolleys. Trust Advice re appropriate local storage of gas cylinders can be obtained from the Policy for transportation and storage of Medical Gases. Further information can also be gained from the Estates Department. Clinical areas should undertake a departmental risk assessment with respect to the safe and secure storage of these medicines and where necessary contact the Trust Pharmacy and / or Health & Safety team for advice.

Medical Gas cylinders may be obtained from the gas cylinder store by contacting the Trust portering service.

All medical gas cylinders in the Trust’s medical gas stores or connected to manifolds are checked on a six monthly basis by the Pharmacy department to ensure that they are in date. Cylinders identified as having less than six months expiry remaining are then tracked within the pharmacy stock taking system for monitoring short dated stock.

Medical gas cylinders in clinical areas are audited every 2 years by Pharmacy as part of a review of total stock holding; expiry date of all cylinders is checked at this time. In addition medical gas cylinders on resuscitation trolley are checked on a daily basis by clinical staff. Similarly, back up cylinders on anaesthetic machines are checked daily prior to use by the anaesthetic teams.

All cylinders within one month of their expiry are returned to Pharmacy where they are marked for return and replacement.

Patients who require a medical gas to be available for administration during transfer from one area to another should routinely be accompanied by a trained member of the nursing staff though this may not be necessary in patients who are designated medically stable by their clinical team – see Transfer of Patients Policy. The need for trained supervision should be assessed prior to transfer. If the patient is not accompanied by a nurse clear instructions must be provided for personnel involved in the transfer. These should include the medical gas delivery device and flow rate.
Where patients require treatment with a medical gas at home subsequent to their hospital stay, arrangements must be put in place to ensure that any cylinders removed from the Trust are returned to the hospital pharmacy in order to prevent financial loss to the Trust (cylinder rental).

6.2 Management of Piped Medical Gas Supplies

If both piped air and oxygen are available, particular care should be taken to ensure that the correct flow meter is used and attached to the correct supply. When not in use medical air flow meters should be removed from the wall outlets.

See Medical Gas Pipeline Systems (MGPS) Policy.

Prescribing and Administration of Medical Gases to Inpatients

The “Clinical Guidance: the Prescription and Administration of Oxygen in Adult Hospital In-Patients” covers all aspects of oxygen prescribing and administration and is available on the intranet.

With the exception of an emergency situation, all medical gases should always be administered against a prescription.

Medical Gases should be prescribed using the Trust electronic prescribing system. This details method of delivery, flow rate to be delivered and target saturations (including both upper and lower limits). Frequency of monitoring should also be specified. Areas without electronic prescribing are exempt from prescribing oxygen until e-prescribing is rolled out.

6.3 Pulse Oximetry

Pulse oximetry is accessible in all areas where oxygen is regularly administered. Additional pulse oximetry meter are available from the equipment library.

7 Training

All staff who are involved in prescribing, administering, handling and managing oxygen and oxygen equipment should be competent to do so. Training is required. This includes nursing, medical, midwifery, allied health professional, portering, clinical engineering and estates staff.
<table>
<thead>
<tr>
<th>Training Domain</th>
<th>Staff Groups</th>
<th>Delivery Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Awareness Training:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicines Identification</td>
<td>All who come in contact with medical gases; All Nursing staff (qualified and</td>
<td>Breeze package, every 3 years (In development)</td>
</tr>
<tr>
<td>Cylinder storage and transportation</td>
<td>unqualified) Porters Pharmacy Staff Medical Electronics Physiotherapists</td>
<td></td>
</tr>
<tr>
<td>Basic clinical usage</td>
<td>Occupational Therapists Operating Department Practitioners (ODPs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manifolds</td>
<td>Gas Porters Pharmacy Stores staff</td>
<td>BOC trainers (In development)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacy Role</td>
<td>All Pharmacists, particularly those covering out of hours</td>
<td>Local Session and then as part of local induction. Essential for all Pharmacists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and Technicians.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Gas Pipeline Systems</td>
<td>Approved Persons (APs) (Estates)</td>
<td>External Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Gas Testing</td>
<td>Qualified Controllers (QC – MGPS) (Pharmacy)</td>
<td>External Training every 5 years</td>
</tr>
</tbody>
</table>

8 **Equality and Diversity**

The Trust is committed to ensuring that, as far as is reasonably practicable, the way we provide services to the public and the way we treat our staff reflects their individual needs and does not discriminate against individuals or groups on any grounds. This document has been appropriately assessed.

9 **Monitoring**

<table>
<thead>
<tr>
<th>Standard / process / issue</th>
<th>Monitoring and audit Method</th>
<th>By</th>
<th>Committee</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen cylinder date check</td>
<td>Pharmacy staff will physically check stock across the Trust on a 6 monthly basis</td>
<td>Pharmacy Operations Manager.</td>
<td>Medical Gas Committee and feed it into Medicines Management Committee</td>
<td>6 monthly</td>
</tr>
<tr>
<td>Oxygen Prescribing Audit</td>
<td>Audit using electronic prescribing system</td>
<td>Informatics Pharmacist</td>
<td>Medical Gas Committee and feed it into Medicines Management Committee</td>
<td>Annually</td>
</tr>
</tbody>
</table>
10 Consultation and review

The Medical Gas Committee were consulted in drawing up and reviewing this policy.

11 Implementation (including raising awareness)

This policy has minor amendments only. It has been ratified by the Medical Gas Committee (Chair's action) and approved by the Assistant Director of Pharmacy – Operational Management.

Implementation will be via Team briefings in Pharmacy and Communication with the Nursing Forum.

12 References

- Oxygen cylinders and their regulators - top tips leaflet, MHRA

13 Associated documentation

- Clinical Guidance. The Prescription and Administration of Oxygen in Adult Hospital In-Patients
- Medical Gas Pipeline Systems (MGPS) Policy.
Medical Gases Committee

Terms of Reference

Purpose

The Medical Gas Committee will oversee the development and implementation of the Trust’s operational management responsibilities in accordance with HTM 02-01: Medical Gas Pipeline Systems Part B.

Terms of Reference

The establishment of a Medical Gas Committee will provide a mechanism for communication on Medical Gas issues within the Trust.

The Medical Gas Committee will ensure that the Trust’s medical gas operational policy and procedures conform to current legislation.

The Medical Gas Committee will monitor the training and education of staff responsible for day to day operation of medical gas piped systems (MGPS).

The Medical Gas Committee will identify areas of best practice – both within and outside the Trust. This will improve working practices, thereby reducing risks to patients.

The Medical Gas Committee will meet three times per year.

Minutes of group meeting will be reported at the Trust Medicines Management Committee.

The Committee shall be comprised of:
- Authorised Person (MGPS) per site
- Quality Controller (MGPS) - CHAIR
- Nursing Representatives (Theatres and Patient Services Coordinator)
- Portering / Security Manager
- Health and Safety Representative
- Medical Electronics Representative
- Authorised Engineer
- CGARD Representative

Three members of the Committee will constitute a forum. Deputies may be appointed to represent members who are unable to attend. Other Trust staff may be co-opted onto the Committee when necessary, or may be asked to provide expert advice and help on specific issues that may arise.

Updated October 2012.
The Newcastle upon Tyne Hospitals NHS Foundation Trust

Equality Analysis Form A

This form must be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval.

PART 1

1. **Assessment Date:** 11.7.16

2. **Name of policy / strategy / service:**
   Medical Gas Cylinder Management Policy

3. **Name and designation of Author:**
   Anne Black, Assistant Director of Pharmacy – Quality Assurance

4. **Names & designations of those involved in the impact analysis screening process:**
   Ian Clayton. Authorised Person – Medical Gases

5. **Is this a:**
   Policy [X]   Strategy [ ]   Service [ ]

   **Is this:**
   New [ ]   Revised [X]

   **Who is affected**
   Employees [X]   Service Users [ ]   Wider Community [ ]

6. **What are the main aims, objectives of the policy, strategy, or service and the intended outcomes?** *(These can be cut and pasted from your policy)*
   The aim of this policy is to advise re standard practices expected with respect to the storage and handling and usage of medical gas cylinders within the Trust

7. **Does this policy, strategy, or service have any equality implications?**
   Yes [ ] No [X]

   If No, state reasons and the information used to make this decision, please refer to paragraph 2.3 of the Equality Analysis Guidance before providing reasons:
   This Policy states approved practice for handling and use of medical gas cylinders
### 8. Summary of evidence related to protected characteristics

<table>
<thead>
<tr>
<th>Protected Characteristic</th>
<th>Evidence, i.e. What evidence do you have that the Trust is meeting the needs of people in various protected Groups</th>
<th>Does evidence/engagement highlight areas of direct or indirect discrimination? If yes describe steps to be taken to address (by whom, completion date and review date)</th>
<th>Does the evidence highlight any areas to advance opportunities or foster good relations. If yes what steps will be taken? (by whom, completion date and review date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race / Ethnic origin (including gypsies and travellers)</td>
<td>Patient characteristics are considered when prescribing medication.</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Sex (male/ female)</td>
<td>As above</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Religion and Belief</td>
<td>As above</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Sexual orientation including lesbian, gay and bisexual people</td>
<td>As above</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Age</td>
<td>As above</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Disability – learning difficulties, physical disability, sensory impairment and mental health. Consider the needs of carers in this section</td>
<td>As above</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Gender Re-assignment</td>
<td>As above</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Marriage and Civil Partnership</td>
<td>As above</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Maternity / Pregnancy</td>
<td>As above</td>
<td>Precautions need to be considered for pregnant staff working with heavy cylinders. This is covered by other specific policies and is not appropriate for this policy.</td>
<td>No</td>
</tr>
</tbody>
</table>

### 9. Are there any gaps in the evidence outlined above? If ‘yes’ how will these be rectified?

No

### 10. Engagement has taken place with people who have protected characteristics and will continue through the Equality Delivery System and the Equality Diversity and Human Rights Group. Please note you may require further engagement in respect of any significant changes to policies, new developments and or changes to service delivery. In such circumstances please contact the Equality and Diversity Lead or the Involvement and Equalities Officer.

Do you require further engagement?  
Yes [ ]  No [X]
11. Could the policy, strategy or service have a negative impact on human rights? (E.g. the right to respect for private and family life, the right to a fair hearing and the right to education?)

No

PART 2

Name:
Anne Black, Assistant Director of Pharmacy – Quality Assurance

Date of completion:
11.7.16

(If any reader of this procedural document identifies a potential discriminatory impact that has not been identified, please refer to the Policy Author identified above, together with any suggestions for action required to avoid/reduce the impact.)