



City of
BRADFORD
METROPOLITAN DISTRICT COUNCIL

Medical Oxygen

Health and Safety Guidance for Managers and Staff

Issued by Occupational Safety Team

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Use of Medical Compressed Oxygen Cylinders

Introduction

Council staff are increasingly being asked to accommodate service users who use compressed oxygen gas to help with breathing difficulties. These oxygen cylinders represent a risk and the guidance in this document is to advise on how to safely control the risks.

NB - there is an emerging practice/craze to use canisters of oxygen for personal use. This guidance document does not offer advice on their safe use, storage or disposal.

Risks from Compressed Oxygen

If good practice is not observed when oxygen cylinders are in use, oxygen enrichment of the atmosphere can occur. Oxygen gas has no smell, no taste and is colourless so it is difficult to detect. If oxygen leaks and accumulates in a poorly ventilated area, it “enriches” the atmosphere.

Oxygen is not flammable in itself, but strongly supports combustion. In an oxygen-enriched atmosphere a fire will burn more fiercely; may be almost impossible to put out; and things that would not normally burn easily, may catch fire.

Oxygen can react violently with oils, grease and many plastics.

There is an added risk of explosion if an oxygen cylinder is exposed to excessive heat.

The main danger to people from an oxygen enriched atmosphere is that clothing or hair can easily catch fire, causing serious or even fatal burns, e.g. people can easily set their clothing or bedding on fire by smoking while receiving oxygen treatment for breathing difficulties.

Control Measures

Compressed oxygen cylinders should only be allowed on Council premises when absolutely necessary. If a service user requires a personal oxygen cylinder, a suitable and sufficient risk assessment MUST be undertaken prior to use, recorded, and control measures introduced. Datasheets to help with this can be obtained from the oxygen provider, or British Oxygen (BOC). The results of the risk assessment, the control measures put in place and any relevant information should be communicated to staff and other relevant persons.

All staff should have adequate knowledge and training on the

- properties of the gas
- correct procedures on the use of oxygen on the premises
- correct operating procedures for each cylinder in use
- the risks involved and the control measures put in place to reduce the risks
- precautions and actions to be taken in the event of an emergency.

Use of Cylinders **NB – The supplier should give specific instructions on cylinder use, storage, valve operation etc.**

- Do not allow children or untrained persons to use the equipment.
- Use in a well ventilated area.
- Unless staff are qualified to administer oxygen, then the recipient must be able to administer it themselves.
- Before use, make sure that the cylinder is in a safe position where it can't fall over.
- Where possible, position the cylinder at least 3m away from naked flame and heat sources and at least 1.5m away from electrical devices (e.g. TVs, laptops).
- Smoking and naked flames should not be allowed near the cylinder.
- Under no circumstances should oils or grease be used to lubricate any part of the oxygen cylinder, valves or associated equipment.
- When handling the oxygen cylinder and associated equipment, hands and clothes must be free from any oils or grease, including cosmetic products.
- When the cylinder is not in use, close the cylinder valve fully in a clockwise direction and release the pressure in the regulator. Use hand tight pressure only; if excessive force is used it will damage the valve seats and spindles.
- When the cylinder is empty, close the valve and put the plastic cap back onto the valve outlet to prevent moisture getting into the cylinder.
- Cylinders must be handled with care and not knocked violently or allowed to fall.
- Medical gases must only be used for medicinal purposes.
- Oxygen must only be taken by the person for whom it is prescribed.
- When empty, the cylinder should be returned to the store promptly.

Leaks

- Should a leak occur, this will usually be evident by a hissing noise. A procedure must be in place on the action staff need to take if a leak occurs.
- Cylinder valves must be checked for leaks at least twice per day, e.g. morning and evening. The supplier should provide instructions and a spray solution can be purchased from British Oxygen (see BOC website for nearest stockist). Never use soapy water or washing up liquid to check for leaks.
- Sealing or jointing compounds must never be used to cure a leak.
- A leak may occur in the connection between the valve and the regulator. This type of leak can be confirmed by closing the cylinder valve and seeing if there is any fall on the pressure gauge attached to the equipment. Stop the leak by tightening the connection to the valve.
- If any leaks are found, the area should be ventilated and the cylinder moved to the open air immediately. Do not let the concentration of oxygen build up in a room.

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- A cylinder with a damaged or leaking valve should be returned to the oxygen provider as soon as possible. Make sure the oxygen provider knows what is wrong with it.
- If clothing or bedding has been contaminated by oxygen (even if suspected), they should be removed and taken outside for airing / ventilating.

Storage of Cylinders

- Oxygen cylinders must only be allowed in small quantities, e.g. one small cylinder for a service user's personal use and one in storage if necessary. Where a service user's needs dictate more have to be stored, reassess the risk assessment to make sure all necessary precautions are taken.
- If more than one service user needs oxygen, the risk assessment should reflect this and the quantities stored should be minimised as far as practicable.
- Oxygen cylinders must be stored undercover (not outdoors), in a secure and well ventilated area/room, kept clean and dry, away from combustible materials and ignition sources and where they will not be exposed to very hot or very cold conditions. Separate full and empty cylinders within the store.
- Do not hang clothes etc. on the cylinder.
- When the cylinder is not with the service user, it should be stored vertically.
- Smoking and any other sources of ignition are strictly prohibited near where oxygen cylinders are stored. A warning sign should be posted in a prominent position, making the location of the oxygen cylinder(s) clearly visible.
- An oxygen cylinder must not have any markings obscured or labels removed.
- When empty, the cylinder should be returned to the oxygen provider promptly.
- Do not store a lot of cylinders. Try to arrange with the oxygen provider for them to be replaced more regularly instead.
- In the event of a fire, the person responsible for the evacuation must inform the Fire Service that they have compressed oxygen cylinder(s) on site and the store location.
- The premises Fire Risk Assessment must take into account the use and storage of compressed oxygen cylinders.

Procedure in the Event of a Fire

If a fire is discovered, notify the Fire Service and warn them that there are compressed oxygen cylinders on the premises.

It is good practice to fix a note next to the fire panel referring to the fact that personal oxygen cylinders may be in use and also the location of any designated store where surplus cylinders are kept. A note should be fixed to the door of the store.

Transporting Personal Oxygen Cylinders in Vehicles

Gas cylinders in vehicles can pose a significant risk of injury to those inside it. Only personal oxygen cylinders should be transported in vehicles. It is safe to carry medical gas

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cylinders in vehicles provided proper precautions are taken. This applies to both full and empty gas cylinders. Ensure cylinders are

- adequately restrained, so cannot move when breaking hard or in the event of a collision.
- not leaking and with valves closed.
- if possible, in a compartment separated from the driver.
- removed from the vehicle as soon as possible.

The vehicle must be adequately ventilated. Ensure the driver is aware of the potential hazards and knows what to do in the event of an accident or emergency.

Where a service user needs to use the oxygen during a journey –

- they should be seated as near as possible to the restrained cylinder
- prohibit smoking in the vehicle
- avoid using the cylinder when the vehicle is being refuelled
- set the vehicle ventilation system to 'fresh air', or open a window, to provide adequate ventilation and to prevent oxygen enrichment within the vehicle.

Oxygen in Domestic Premises - additional guidance for staff working in service user's homes where a small personal oxygen cylinder is used.

Having a ready supply of oxygen at home can make all the difference to a service user's quality of life, but Care Staff need to be aware of the risks and control measures to ensure everyone's safety.

Storage of the Oxygen Cylinder

- The cylinder should be kept under cover, preferably somewhere inside the home where it is not exposed to very hot or very cold conditions.
- The storage place where the cylinder is kept should be clean, dry and well ventilated.
- The cylinder should be stored away from anything flammable (e.g. paint, petrol, paraffin), any burnable materials (e.g. newspapers, cardboard, wood) and away from naked flames and other things that could spark off a fire, e.g. heaters.
- Do not hang clothes, towels, dusters etc. on the cylinder.
- Don't store a lot of cylinders. Try to arrange with the oxygen provider for them to be replaced more regularly instead.

Use of the cylinder in the home (also see page 3)

- Place the cylinder near to an exit wherever possible, so that it can be removed quickly in an emergency such as a fire. However, it should not block the exit.
- Before use, make sure that the cylinder is in a safe position where it can't fall over.
- Where possible, position the cylinder at least 3m away from naked flame and heat sources and at least 1.5m away from electrical devices (e.g. TVs, laptops).

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- When empty, the cylinder should be returned to the oxygen provider as soon as possible.

Leaks (also see page 3)

- Don't let the concentration of oxygen build up in a room. If the cylinder leaks, put it outside in a safe position, until it can be returned to the oxygen provider, and ventilate the room.

Further advice and guidance

British Oxygen freephone 0800 111 333

Website www.bohealthcare.co.uk/

HSE leaflet **Oxygen Use in the Workplace** www.hse.gov.uk

CQC Managing Oxygen in Care Homes

If you have any queries regarding medical compressed oxygen cylinders, please contact the Occ. Safety Team.