

CORPORATE GUIDANCE ON THE SAFE USE AND STORAGE OF MEDICAL OXYGEN

Introduction

This information is provided to support managers in ensuring that medical oxygen cylinders are stored safely and securely, and that individuals (and their carers) know how to handle and use medical oxygen safely and effectively both in the workplace, and in the home. In cases where Merton care services supply and administer oxygen, it will be the responsibility of the care/day centre manager or the delegated responsible officer to liaise with the community pharmacist and arrange for the supply of oxygen equipment and provide the specialist training that is required prior to administering medical oxygen.

Safe Storage

Medical gas cylinders should be kept in a purpose built cylinder store. The store should allow the cylinders to be kept dry and in a clean condition. The cylinder store should:-

- Be under cover, preferably inside and not subjected to extremes of heat.
- Be kept dry, clean and well ventilated (both top and bottom).
- Have good access for delivery vehicles and reasonably level floor areas to enable tail lift operation.
- Allow for strict stock rotation of full cylinders to enable the cylinders with the oldest filling date to be used first.
- Be totally separate from any non medical cylinder storage areas.
- Be sited away from storage areas containing highly flammable liquids and other combustible material.
- Be sited away from any sources of heat or ignition.
- Have warning notices posted to prohibit smoking and naked lights within the vicinity of the store.
- Allow for F.HX.G. and J size cylinders to be stored horizontally on shelves (made of a material that will not damage the surface of the cylinders).
- Allow for all Entonox cylinders to be stored at above 10°C for 24 hours prior to use (where this is not feasible it is important to consult the Entonox medical Gas data sheet for further information before using the cylinders).
- In the event of a suspected leak from the cylinder or any other damage, the staff member should contact the community pharmacist/London Fire & Emergency Planning Authority (LFEPA) immediately, who will recommend any emergency procedures.

In the care home setting there may only be a requirement for small quantities of medical oxygen to be stored. If a compound is not available cylinders should be stored in an area of negligible risk such as a cupboard used only for this purpose, preferably sited on an external wall, and should not be under a staircase or on a protected fire route. A compressed gas sign should be posted on the cupboard door.

MEDICAL OXYGEN IN THE CLIENTS' HOME OR ACCOMMODATION

Most medical oxygen used in a client's home or individual service user's room is obtained via a prescription from their GP. Liaison is required with the supplying pharmacists regarding the equipments supply and the pharmacist who supplies the oxygen is responsible for its service and upkeep. In care homes/residential extra care housing etc., oxygen can be kept in the individual service users room, but managers must take into account relevant safety advice.

Oxygen isn't dangerous in itself, but it does support combustion and because of this, the following rules should be followed:

- Advise residents not to smoke when oxygen cylinders are in the room.
- Don't use oil, grease or petroleum jelly-based product on or near the equipment. Never lubricate the valve or associated equipment.
- Don't use vapour rub or petroleum jelly when you're using oxygen. Your pharmacist or GP can suggest a safe alternative.
- Don't use excessive amounts of skin lotion and face cream while receiving oxygen.
- Don't use aerosol sprays while receiving oxygen.
- Don't receive or store oxygen near an open flame like a fire or a source of heat like a radiator, (you can use central heating as normal.)
- If you need to cook while receiving oxygen an electric stove or microwave oven does not present a problem. Never receive oxygen near an open flame like a gas stove.
- Don't use in the same room as paraffin or LPG (Calor gas heaters).
- Keep equipment away from sources of ignition.
- Don't subject your cylinder to extremes of hot or cold.
- Make sure your equipment is kept in a well-ventilated room.
- Always turn off cylinder when not in use.
- Don't let untrained people tamper with the equipment.
- Keep the equipment out of the reach of children.
- Ensure the tubing doesn't become kinked.

- Store your equipment in an area well away from flammable liquids and other combustible materials.
- Store cylinders in a safe place where they can't be knocked over.
- Never repaint the cylinder. All labels and marking need to remain clearly visible.
- Do not hang clothes on cylinders

HANDLING AND USE

Managers must identify, assess and control all manual handling hazards, suitable control measures may include:-

- Ensuring a safe working environment such as no uneven slippery or unstable floors.
- Training all staff involved.
- Cylinders should only be moved with a trolley designed for appropriate sized cylinders.
- Cylinders should be handled with care, never knocked violently or allowed to fall over.
- Never roll a cylinder along the ground.

FIRE SAFETY ARRANGEMENTS

In the case of fire it is important that you follow normal evacuation procedures but in addition ensure that the emergency services are informed that you have medical oxygen cylinders on the premises. Staff who use fire extinguishers must receive training in that use

Oxygen strongly supports combustion as it can increase the speed at which things burn once a fire has started. Oxygen equipment should be isolated from potential sources of combustion. All individuals in contact with the client should be fully aware of the potential fire risk and how to avoid it. Smoking should be strictly prohibited in communal areas, and the establishment's fire safety plan should note the area in which oxygen is stored and used.

TRANSPORTATION OF OXYGEN

There may be occasions when a client may be taken on a day trip or visit and this may require the transportation of medical oxygen. When transporting cylinders it is advisable to carry a medical oxygen data sheet and a transport emergency card (road). These are available free of charge from the pharmacist.

The driver must ensure that the cylinder is safely secured for the duration of the journey; this is to avoid injury to the passengers in the event of an accident.

Warning stickers do not necessarily have to be displayed if only small quantities of oxygen are being transported.

Whatever means of transport is used the owner, or company transporting the oxygen should be made aware of this fact prior to travel. It is recommended that the owner of a private vehicle inform their car insurance company if oxygen cylinders are being transported.

Smoking should not be permitted in any vehicle carrying oxygen

RISK ASSESSMENT

It is essential that all employees, clients and volunteers are made aware of the risks and potential hazards associated with oxygen and a generic risk assessment for the transportation of oxygen is attached, (see Attached risk assessment & matrix guidance). This can be used as a basis to produce an individual risk assessment relating to the client, and site-specific issues

TRAINING

Only authorised staff members who have undergone specific training and deemed competent by the community pharmacist should be allowed to assist in the administration of oxygen to the client

GENERIC RISK ASSESSMENT

ESTABLISHMENT:	ROOM / AREA: Various Locations	ACTIVITY/SITUATION: Assessment of transportation of oxygen on vehicles for medical purposes
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HAZARDS IDENTIFIED		POPULATION WHICH MAY BE AFFECTED				POPULATION PARTICULARLY AT RISK			
		EMP	C/S	CON	V/P	CRN	YPS	NEM	DIS
a)	Damage to cylinder, leaks, hissing noise	✓			✓	✓			✓
b)	Damage to neck or valve of cylinders, causing uncontrolled release of contents	✓			✓	✓			✓
c)	Road traffic accident. Uncontrolled release of contents of cylinders	✓			✓	✓			✓
d)	Manual handling of cylinders	✓			✓	✓			✓
e)	Smoking/use of naked lights	✓			✓	✓			✓
f)	Client receives incorrect dosage or low levels of oxygen remaining	✓			✓	✓			✓
g)	Administration of oxygen. Vehicle environment becoming oxygen enriched/spontaneous combustion with other products	✓			✓	✓			✓

EMP=Employee, C/S = Client / Student, CON = Contractor, V/P = Visitor / Public,
CRN = Children, YPS = Young Persons, NEM = New & Expectant Mothers, DIS = Disabled

CONTROL MEASURES (e.g. procedures, supervision, training, safety signs and information, PPE etc.)	
a)	Driver/escort to be trained and competent to check security of cylinder. Under no circumstances, should attempts to cure leaks be carried out if in doubt do not travel, seek replacement cylinder
b)	Ensure all cylinders are stored correctly and secured from movement
c)	Consider emergency procedure and communication systems (mobile phone). In the event of fire, ring 999 and advise the fire service that there are compressed gas cylinders in the vehicle.
d)	Nominated, trained persons to be responsible for cylinder handling, if handling is applicable. Preferably lightweight portable cylinders only to be used
e)	No smoking/naked lights during transportation of oxygen. All vehicles to be equipped with a powder fire extinguisher. Training to be provided. No smoking signs to be displayed
f)	Client supervised by trained personnel throughout journey. Pre-journey checks to include calculation of the amount of oxygen remaining in the cylinder and the length of time it will last.
g)	Ensure adequate ventilation in vehicle

	POTENTIAL SEVERITY (3)				LIKELIHOOD (3) (taking existing control measures into consideration)				RISK RATING (Sev. x L'hd)	ADDITIONAL CONTROL MEASURES TO BE IMPLEMENTED (if required)
	1	2	3	4	1	2	3	4		
a)				✓	✓				4	On-going monitoring
b)			✓		✓				3	On-going monitoring
c)			✓			✓			6	Regular Monitoring of emergency procedures & staff training
d)		✓				✓			4	On-going monitoring
e)				✓	✓				4	On-going monitoring
f)			✓		✓				3	On-going monitoring
g)		✓				✓			4	On-going monitoring

COMPLETED BY:	Name:	Signature:	Date:
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RE ASSESSMENT (Following implementation of additional control measures) OR REVIEW

	POTENTIAL SEVERITY (3)				LIKELIHOOD (3) (taking existing control measures into consideration)				RISK RATING (Sev. x L'hd)	ADDITIONAL CONTROL MEASURES TO BE IMPLEMENTED (if required)
	1	2	3	4	1	2	3	4		
a)										
b)										
c)										
d)										
e)										
COMPLETED BY:		Name:				Signature:				Date:
SEVERITY: 1=Trivial, 2=Minor Injury, 3= Serious injury 4= Major Injury or Death LIKELIHOOD: 1=Remote, 2=Possible, 3=Probable, 4=Likely										

4 x 4 Risk Assessment Matrix

1ST Quantify the Severity of the hazard(something that can cause harm)

1. Trivial/Negligible (hazard will not result in serious injury or illness, remote possibility of damage to property/equipment etc.

2. Minor Injury (hazard can cause illness, injury or equipment damage but the results would not be expected to be serious)

3. Serious Injury (hazard can result in serious injury and/or illness, property & equipment damage)

4. Fatality/ Major Injury (imminent danger exists, hazard capable of causing death and illness on a wide scale)

**2ND Quantify the Likelihood of the hazard being realised (Risk)
Taking into account existing controls**

1. Extremely Remote (unlikely, though conceivable)

2. Possible (could occur sometimes)

3. Probable (not surprised, will occur in time)

4. Likely/frequent (likely to occur, event only to be expected)

THEN

Calculate the risk rating

Severity X Likelihood =

What to do with the Risk Rating

If the Risk Rating is between

1-4. Continue with existing control, needs to be monitored

5-8. Requires attention ASAP to reduce the rating and/or regular monitoring

9-12. Requires immediate attention to bring the risk down to an acceptable level

**13-16. Why are you even considering doing this?
Risk is too high and not acceptable**