HOME OXYGEN AWARENESS IN AN EDUCATIONAL SETTING

Paediatric Pan London Oxygen Group

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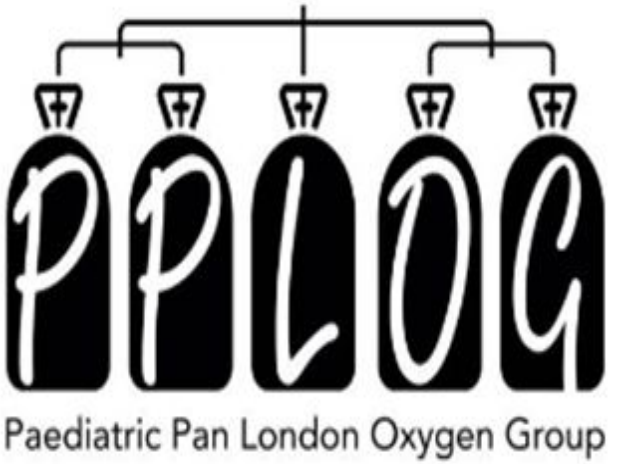
Paediatric Pan London Oxygen Group (PPLOG) is a group of paediatric nurses who have come together to bring their knowledge and experience and set standard guidelines that will ensure the management of children on oxygen therapy is safe and uniform within the London region and beyond.



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Introduction

- Children and Young People (CYP) sometimes requires oxygen within in an educational setting

- The training is typically provided by the CYPs healthcare team

However

- School or Community Nursing Teams may have limited learning opportunities due to the infrequent prescribing of oxygen therapy

- This may limit their own understanding and experience when providing training

- Clinicians can spend a significant amount of time establishing a placement

- Admission can be delayed /refused due to potential anxiety around medical conditions and the safety aspects of oxygen therapy within an educational setting

AIMS AND OBJECTIVES

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Aims and Objectives

Aims

- To provide information around safe usage, storage and administration of oxygen in the educational setting
- To support the educational setting with risk assessment
- To provide appropriate training to non-clinical staff who are responsible for the care of a CYP

Objectives

- The CYP who requires oxygen therapy is supported in an educational setting
- Clinical and non-clinical staff are able to practise safe use and storage of oxygen

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Criteria for Success

- CYP in an educational environment is receiving oxygen correctly and safely
- A Health Care Plan is in place detailing the oxygen prescription
- The educational setting will have an oxygen account with oxygen supplier
- Training is provided for all staff who are identified through the HCP
- Educational setting follows the safety guidelines
- All staff are confident in their abilities to care for the CYP and feel supported by clinical staff
- The CYP is escorted to educational setting safely (if appropriate) and systems in place for transportation with oxygen
- The fire rescue service (FRS) is alerted when oxygen is at the educational setting and are able to provide additional support
- The educational setting notifies their building insurance that oxygen is stored on the premises
- The HCP is reviewed annually or sooner if appropriate
- CYP in the class are prepared about the CYP with oxygen

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LEGAL RESPONSIBILITIES AND DUTIES

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Legal Responsibilities and Duties

The Supporting Pupils with Medical Conditions Policy (DOE) contains statutory guidance and non-statutory advice highlights:

- Pupils with medical conditions should be properly supported to enable full access to education, including school trips and physical education

- Governing bodies must ensure arrangements are in place to ensure that the needs of children with medical conditions are properly understood and effectively supported

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Special Educational Needs and Health Care Plan

CYPs with Special Educational Needs (SEN)

- Call for special educational provision to be made for them
- Should have an Education Health Care Plan (EHCP)

CYPs Health Care Plan

- Ensures medical conditions can be safely supported by those caring for them
- Is typically written in partnership
- Identifies medical conditions and actions to follow / review
- Staff must be familiar with the HCP

In Relation to Oxygen

- The Plan(s) will state the flow rate, duration and interface (e.g. nasal cannula etc.)
- Within the Plan(s), an agreed plan with be documented
- Records must be maintained and kept up to date

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RATIONALE FOR SUPPLEMENTAL OXYGEN

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Rationale for Supplemental Oxygen

- Supplemental oxygen therapy is a treatment for those affected by low levels of oxygen in the bloodstream (hypoxaemia)
- Providing supplemental oxygen helps to correct the oxygen levels
- Supplemental oxygen is greater concentration than that in ambient air (21%)
- Supplemental oxygen therapy is a medicinal product; it is therefore subject to medicine management protocols as well as health and safety precautions
- It’s essential for the key person to be fully informed of the CYP 's clinical condition and has knowledge of how to respond to changes in their clinical condition

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Rationale for Supplemental Oxygen

- The flow rate (litres per minute) and duration (minute or hours per day) will be pre-determined by a Healthcare Professional following a clinical assessment
- The flow rate and duration cannot be altered without further assessment or instructions from a Healthcare Professional
- A change in prescription MUST be supported with a ‘new’ HOOF (Home Oxygen Order Form) A variable flow may be prescribed from the outset
- Oxygen is prescribed on an individual basis and cannot be shared with anyone else, even in the event of an ‘emergency’ situation
- Oxygen can be detrimental in some individuals who are ‘oxygen sensitive’

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Oxygen in an Educational Setting

CYPs who bring their own oxygen supply from home. However, they may encounter the following issues:

- Administration errors to the home account
- The Fire Rescue Service (FRS) not alerted of the presence of oxygen
- Compromised safety due to lack of training for non-clinical staff in an educational setting
- No formal oxygen risk assessment performed
- Uncertainty over safe storage

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Best Practice

Best Practice Dictates

- Setting up a dedicated account with the oxygen supplier
- Responsible healthcare professional creating an account
- CYP's own home supply not depleted
- Educational setting has control over the safety, storage and usage of the oxygen equipment
- Oxygen supplier will carry out six monthly maintenance and risk assessment
- Educational setting managing replenishments and record keeping
- FRS automatically alerted of the presence of oxygen on the premises by the supplier
- FRS can support the educational setting with risk management

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Oxygen Account at the Educational Setting

A CYP who brings their home account oxygen cylinders to the educational setting must

- Swap their over to school supply on arrival and vica versa at the end of the day
- A dedicated person should oversee this process; regarded as a drug and kept in a locked, well ventilated room
- All oxygen equipment have a unique barcode that identifies the account to which it belongs as this is scanned by the Technician. It is therefore important to ensure that the equipment is returned to the correct account
- The labelling of equipment will help reduce errors especially if more than one CYP has oxygen therapy in the educational setting

ROLE AND RESPONSIBILITIES OF CLINICAL AND NON-CLINICAL STAFF

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Role and Responsibilities of Clinical Staff

Clinical Staff

- Notifying the educational setting when a CYP has been identified as requiring oxygen therapy
- Liaising locally with lead clinicians
- Ensure the CYP has an up to date HCP and contribute to the EHCP if necessary
- Responsible for making adjustments to account and arranging a secondary supply
- Provide training to appropriate staff

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Role and Responsibilities of Non-Clinical Staff

Non-Clinical Staff at the Educational Setting

- Undertaking training to achieve the necessary competency for supporting children with medical conditions
- Taking appropriate steps to support CYP with medical conditions
- Administering medication as per prescription
- Knowing how to respond when a CYP with a medical condition requires medical attention
- Record Keeping

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RISK ASSESSMENT

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Risks

- Oxygen is safe when used in the correct way
- When combined with heat and fuel, oxygen supports combustion
- Oxygen increases the speed at which things burn once a fire starts
- Adhering to Health and Safety requirements will ensure oxygen is used in a safe manner
- The handling of oxygen is in accordance with requirements of the Medicines Act, Misuse of Drugs Act and the standards for medicines administration

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Oxygen Supplier’s Risk Assessment

- The oxygen supplier’s technicians visits the educational setting to perform a field-based risk assessment (FBRA) before installing the equipment

- The FBRA is completed every six months:
  - Smoking check
  - Smoke alarm check
  - Storage
  - Staff understanding of equipment

Field Risk Assessments - Key Points

- Safe position of equipment:
  > 3m from open flames
  > 1.5m from electrical equipment and heat sources
- Safe power outlets (sockets are checked, for a concentrator)
- The technician measures and cut only the length of tubing that is required in order to mitigate tripping risk (as much as practical)
  Maximum tubing length 15m from ‘nozzle to nose’
- Discuss the rules on NO SMOKING and ignition source

OXYGEN EQUIPMENT

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Cylinders

Supplemental oxygen is delivered either in a cylinder or drawn from the atmosphere through a machine called a concentrator

Cylinders

- There are several different types of static and portable cylinders
- They all look similar to each other but deliver a range of flow rates
- A ‘regulator ‘ is sometimes attached to a cylinder which enables lower oxygen flow rates to be delivered **LINK**

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Oxygen Concentrators

- Concentrators use electricity to draw air through the inlet, passing a filter that removes dust
  - The air is compressed before it passes through a chamber (molecular sieve) removing nitrogen but allowing the oxygen to pass through
  - Oxygen is collected in a product tank where it is **concentrated** to a high purity before being pumped down the tubing at the prescribed flow rate
  - All concentrators work in this way
- All oxygen accounts are provided with 8 hours of oxygen in the event of power cuts and machine faults in compressed gas cylinders
- For safety reasons the concentrator should be switched off when not in use
- Click on Individual picture for **VIDEO TUTORIAL**

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KEY SAFETY POINTS

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Key Points: Safety

Fire Risks Materials will become saturated or enriched with oxygen and may burn very quickly and fiercely if they catch fire:

- **NEVER** smoke or let anyone smoke near oxygen equipment
- **NEVER** use the oxygen equipment near (within 3m) open fires or naked flames (ovens, Bunsen burners)
- **NEVER** store oxygen equipment close to paint, oil, grease or any domestic heating gases
- **NEVER** keep combustible materials near oxygen equipment e.g. newspapers, magazines, and other items that may burn easily
- **ALWAYS** wash hands before handling the equipment to ensure no grease is present on the hands

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Key Points: Storage

- **ALWAYS** follow the advice given by the oxygen supplier's or the clinician about the safest place to store and use the oxygen equipment
- **ALWAYS** ensure oxygen equipment is stored in a well ventilated area, kept clean, dry and away from any sources of heat or fire e.g. convection heaters, gas or electric fires, gas cookers etc.
- **ALWAYS** store oxygen concentrators upright. Plug them directly into the mains. Do not use an extension lead

It is advisable to keep back up cylinders and cylinders not in use in a locked room with appropriate signage – easily accessible when required

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Key Points: Usage

- **ALWAYS** check the oxygen is reaching the CYP
- **ALWAYS** turn off the oxygen equipment when not in use
- **ALWAYS** check the gauge to ensure there is sufficient oxygen. Check the expiry date of the oxygen cylinders on a regular basis

- **NEVER** alter the length of tubing. This should only be altered by the oxygen supplier
- **BE AWARE** of tubing as a potential trip hazard
- **TAKE CARE** any tubing lying on the floor and make sure it is doesn't become trapped, tangled or kinked
- **NEVER** use petroleum-based products (Vaseline) or other oil based creams to soothe a sore area around nose or mouth when using oxygen equipment. Speak to the clinical team with regards to alternative products

Key Points: Administration

- **ALWAYS** place statutory hazard notices in areas where oxygen is stored. This includes all the areas where the child receives lessons
- **ALWAYS** inform emergency service personnel about the oxygen cylinder storage areas in the event of a fire alarm or fire
- **ALWAYS** ensure oxygen equipment is used for the named patient. It might be advisable to label individual equipment if more than one child is using oxygen in the educational setting
- **ALWAYS** ensure oxygen is given in line with the prescription: *Litres per minute/hours per day*

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MAINTENANCE

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Maintenance

Cleaning & Hygiene

- The concentrator filter (sponge) should be washed and cleaned once a week. The sponge should not be dried on a radiator as this will cause the sponge to shrink
- The nasal cannula should be changed at least once a month (more often if it becomes contaminated)

Repairs

- Should the oxygen equipment fail for any reason, switch to the backup cylinder and call the Customer Helpline
- **NEVER** attempt to repair or modify any fault or attach any equipment not supplied by Air Liquide
- Advice and support relating to oxygen administration can be obtained from the Healthcare Professional who prescribed the oxygen
- Air Liquide is available 24 hours, 7 days a week to provide advice on the use of oxygen equipment

Resources

- There are various resources available from PPLOG including:
- Management of a child on home oxygen (Discharge Bundle)
- Guidelines for home oxygen weaning in the community
- Transition from paediatrics home oxygen to adult services
- Home oxygen awareness in an educational setting

- For updates and study days please visit:
- Facebook: PPLOG2
- Twitter: PPLOG2
- If you are a oxygen prescriber in London go to Air Liquide Portal
- to access information

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