Acacium Group

Oxygen Therapy (Adult and Child)

Procedure Reference | SOP MEDS 20

Version | 4.0

Procedure Name	Oxygen Therapy (Adult and Child)
Purpose of Document	To ensure that the correct preparation, procedures & outcomes are achieved by implementing a consistent and systematic approach to the use of oxygen therapy in adults and children
Target Audience	All healthcare professionals
Version	V4.0
Author	Karen Matthews-Shard
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Review Frequency	3 yearly or when clinical or operation guidelines change
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Equality Impact Assessment (EIA) Form	Acacium Group is committed to Equality, Diversity and Inclusion and in line with our values, we strive to ensure that everyone that is part of the Acacium community is not disadvantaged or discriminated against given their individual need or characteristics. To support this, an Equality Impact Assessment has been undertaken on this policy/procedure. This information is held centrally and can be requested from the Clinical Governance Team.
About Acacium Group	Details of all Acacium Group trading companies that this policy applies to are detailed within Appendix A

Document History			
Version	**Date**	**Changes made/comments**	**By whom**
V1	Dec 2016	Implementation of document history page	KNF/VM
V1	Apr 2018	Updated front sheet to include new review frequency date	KMS/VM
V2	Sep 2019	3 yearly review and implementation of new template	Clinical Advisory Group
V2.1	Apr 2020	Updated to new Template	CC
V2.2	Oct 2020	Updated re rebrand	CC
V3	Sep 2022	3 Yearly Review	Clinical Advisory Group
V4	Jan 2024	Rebrand	Clinical Advisory Group

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1. Introduction

The use of oxygen in respiratory conditions improves breathing and therefore gaseous exchange. It can be very dangerous for the client to receive too much or too little oxygen. It must be prescribed, and the effectiveness of the administration should be monitored by undertaking regular observations such as the respiratory rate and oxygen saturation levels.

2. Aim

To increase the amount of oxygen circulating in the tissues or reduce raised carbon dioxide by administering prescribed oxygen therapy, promoting Client comfort.

3. Who needs to be aware of this procedure

Only Acacium Group healthcare professionals and carers who have been trained and assessed as competent in the administration of oxygen may administer this form of therapy.

4. Oxygen presentation

Oxygen may be delivered in a concentrator, via oxygen cylinders, liquid oxygen format and portable format. The portable cylinder is white and the oxygen cylinders black with a white rim or concentrators.

5. Types of oxygen therapy

There are now 5 types of oxygen provision:

- Long-term oxygen therapy (LTOT).
- Ambulatory - light portable cylinders lasting up to 6 hours.
- Short burst - via a cylinder.
- Travel - usually portable cylinders. For holidays in the UK, the usual contractor will make reciprocal arrangements with another contractor to supply oxygen at the holiday destination.
- Emergency oxygen Cylinder - can be supplied details of this will be detailed within the clients care plan

6. Oxygen delivery systems

- Nasal cannulae
- Simple semi rigid plastic masks
- Partial re-breathing masks
- Non re-breathing masks
- Fixed performance masks or high flow (Venturi type masks)
- Tracheostomy masks
- Ventilator circuits

7. Indications for oxygen therapy (this list is not exhaustive)

- Infectious respiratory conditions
- Pneumonia
- Pulmonary oedema
- Adult respiratory distress syndrome

- Chronic obstructive pulmonary disease
- Chest wall deformities
- Chest injury
- Conditions that affect the neuromuscular control of breathing such as muscular dystrophy
- Asthma
- Cardiac failure
- Severe pain
- Chest pain
- Decrease in Sp02
- Seizures
- Sickle Cell
- Sepsis
- Medications that may affect respiratory status

8. General considerations and hazards

Oxygen is a colourless, odourless, tasteless, transparent gas that is slightly heavier than air.

Oxygen supports combustion; therefore, there is always a danger of fire when oxygen is being used. The following safety measures should be remembered:

- Oil or grease around oxygen connections should be avoided.
- Alcohol and other flammable liquids should be used with caution in the vicinity of oxygen;
- Oxygen cylinders should be kept secure in an upright position and away from heat;
- There must be no smoking in the vicinity of oxygen;
- Do not use aerosols near oxygen;
- A fire extinguisher should be readily available though it can be expected that these will be infrequently available in a person's own home;
- Advise smoke alarms should be installed and checked monthly;
- Do not use oil or grease on valves or connectors; also, any oil-based creams/Vaseline etc should not be used either around the Client's nose or mouth etc
- Store cylinders preferably inside, upright and away from heat or cold and flammable liquids.
- Where practical, store oxygen cylinders near an exit, to facilitate rapid removal in emergency situations.

All care requirements must be documented in a care plan and updated as care needs change. All care given must be fully documented in the client daily care records.

9. Respiratory assessment

Before the administration of oxygen, the client should be assessed for:

- Ease and comfort with breathing
- Respiratory rate
- Pattern of breathing
- Position the client has adopted
- General colour and appearance: are there evidence of greyness, cyanosis, pallor and sweating
- Additional audible breath sounds: wheeze or stridor
- Oxygen saturation levels.

10. Consent

Clients have a fundamental legal and ethical entitlement to determine what happens to their bodies. Valid consent to treatment is central to all forms of healthcare. Consent is a Client agreement for a health professional to provide care. This may be indicated nonverbally, orally, or in writing. For consent to be valid the client must be competent to take that decision, be fully informed of the action and its consequences, and not be under duress. Consent should be sought verbally for the purposes of administering oxygen therapy.

If a client declines oxygen therapy recommended in line with the care plan by the Acacium Group health care professional, this should be documented in accordance with the Consent Policy.

Risks and benefits to the procedure should be explained along with the risks of not having the procedure and any possible alternatives to the proposed procedure.

Acacium Group staff should be aware that carers and relatives do not have the right to give consent on behalf of the client if they are over 16 yrs old, however staff may be able to act as long as they are able to demonstrate that any actions are in the best interest of the client. There may be a representative legally appointed to provide consent on the Client's behalf. A child's age of consent is 16 years.

Acacium Group personnel must also remember the issues in relation to gaining consent from children and young people; those that are able to consent for themselves and those who need to have consent given by someone with parental responsibility.

Please read the Acacium Group policy on consent thoroughly and ensure valid consent has been gained.

11. Client and relatives/carers involvement

Relatives and carers may wish to support their family member by managing the oxygen therapy or providing some support directly to the client as they manage their own oxygen therapy. The nurse or carer employed by Acacium Group should assist them with this requirement as long as it is practical, is safe and is in the best interest of the client.

12. Client information

As part of obtaining valid consent the risks, benefits and alternatives to treatment will have been discussed.

The procedure must be explained fully in order to gain full cooperation with the procedure.

The client must be advised of the hazards identified in section 8.

It may be the Client, relatives, or care team that are responsible forensuring that they order regularly to avoid the oxygen from running out this will be documented in the client's Care Plan.
All staff should check cylinders at the beginning of each shift.
https://www.england.nhs.uk/coronavirus/publication/home-oxygen-order-form-hoof-letters-and-guidance/

If holidays are to be arranged, the Client should discuss these requirements early in the planning of the holiday so that suitable arrangements can be made.

13. Monitoring adults and children on oxygen

Not all adults and children will require ongoing monitoring of oxygen saturation. Staff should be aware of the parameters set by specialists and monitoring procedure and ensure they are detailed in the individualised care plan. The care plan will detail the amount of oxygen to be used, mode of delivery used, system required, and equipment needed.

14. Travelling with oxygen

If you need to travel with the Client with oxygen, ensure the following:

- Advise that smoking is not permitted in any vehicle carrying oxygen
- Check the amount of oxygen that is remaining in the cylinder before the journey to ensure there is adequate supply
- Check all equipment to ensure this is working correctly prior to departure
- Cylinders are checked for leaks before a journey
- No more than 2 cylinders are carried at one time
- Cylinders are stored out of direct sunlight
- Cylinders should not be able to move about freely
- The vehicle windows are partially open when oxygen is being transported
- A vehicle TREM card (Transport Emergency card available from oxygen suppliers) is carried at all times
- The car insurance company is informed of the need to carry oxygen
- Public transport companies are informed of the need to carry oxygen before travelling if possible
- Emergency telephone contact details and numbers are taken and the care plan and risk assessment.

15. Equipment

This will depend on individual need but will include:

- Oxygen cylinder - These cylinders have 'medium' (2 litres/minute) and 'high' (4 litres/minute) settings. Portable oxygen cylinders last approximately 2 hours at 2 litres/minute. Oxygen concentrators are more economical than cylinders for more than 8 hours a day. Exceptionally, 2 oxygen concentrators can be combined using a 'Y' connection
- Back up oxygen cylinder
- Portable oxygen cylinder in bag
- Flowmeter – device that controls the flow of oxygen in litres per minute
- Oxygen tubing – disposable of varying diameter and length
- Reduction gauge – to reduce the pressure to that of atmospheric pressure
- Mechanism for delivery such as mask, tracheostomy mask or nasal cannulae. Masks supply either 24% or 28% oxygen. Nasal cannulae allow the Client to talk and eat but the concentration is not controlled, and mucosal drying can occur in sensitive individuals. Flow rate is normally 2 l/minute via nasal cannulae
- Humidifier – to warm and moisten the oxygen before administration
- Water trap if humidifier in use
- Sterile water
- Saturation monitor

16. Servicing and Maintenance

Check contract for delivery and provisions

17. Problem solving

	Problem	Cause	Suggested action
1.	Maintenance of airway	Position of client. Airway secretions.	Position client preferably sitting up at an angle of greater than 45 degrees. Encourage client to cough and expectorate if able or remove secretions by suction if client is unable to do so.
2.	Maintenance of adequate airway	Inadequate oxygen delivery. Client's condition deteriorating. More breathless. Oxygen saturation decreased. Ensure there are no leaks and the client is receiving the prescribed dose	Assess level of oxygen support required by assessing previous medical history and current respiratory function. Increase oxygen delivery using the lowest percentage of oxygen to achieve the individual goal for the client and as prescribed by the specialist or GP.
3.	Dry mouth	Oxygen therapy drying mouth.	Add humidification to the circuit. Give regular mouth care.
4.	Nasal cannulae or mask discomfort	Position or use of cannulae and oxygen mask.	Ensure correct placement and that the client is comfortable.
5.	Development of pressure points on nose/ears	Incorrect placement of cannulae support or mask head strap or long term use	Change position of cannulae or mask. Apply padding around head strap or to bridge of nose to relieve pressure.
6.	Intolerance of oxygen therapy	Fear and anxiety. Confusion. Hypoxia.	Assess client for change. Ensure continual reassurance given to client. If intolerant of mask, nasal cannulae may be tolerated. If lacking oxygen, oxygen may need to be increased – consider review by GP or specialist.
7.	Communication	Mask makes communication difficult; client may not hear health professional and health professional may not hear the client.	Provide client with alternative means of communication or try nasal cannulae if not previously unsuccessfully used.
8.	Inability to maintain personal hygiene	Immobility. On bed rest. Mask restricting independence.	Provide reassurance for client to remain independent where able. Allow them to carry out their own hygiene if able or provide help if not.

9.	Maintenance of safety	Detachment of oxygen from flow meter. Kinked or looped oxygen tubing. Mask removed by client.	Ensure oxygen attached to flow meter. Check client regularly. Ensure no kinks or loops arise. Ensure Client is attached to oxygen.

18. Administration of oxygen via nasal cannula/face mask

	Action	Rationale
1.	Read the client's care plan to ascertain whether the client uses nasal cannula or face mask.	To ensure the correct method is used NB: the client may have both and certain types to be used at different thresholds
2.	Is the client having their oxygen administered via an oxygen concentrator or cylinder? Obtain the information in the client's care plan Check that the oxygen cylinder is over ¼ full	To ensure the correct method of administration is used
3.	Ask the client if you can commence oxygen therapy	To obtain the client's consent
4.	Insert the nasal cannula into the client's nostrils/place the mask over the client's face ensuring that the fit is not too tight	To maintain the skin integrity of the client
5.	Monitor the client's oxygen saturations if a machine is available	To ensure that the client is having adequate amounts of oxygen
6.	Continue oxygen therapy as required	
7.	Administer regular mouth and nose care to the client	Oxygen is a dry gas which can cause client's to develop sore dry mouths/nose

19. Administration of oxygen via a ventilator circuit

	Action	Rationale
1.	Read the client's care plan to ascertain which part of the ventilator circuit does the client have their oxygen administered through	To ensure the correct method is used NB: there are various options for administering oxygen via a ventilator circuit – the appropriate method will be documented in the client's care plan These will differ for dry and wet ventilator circuits
2.	Is the client having their oxygen administered via an oxygen concentrator or cylinder? Obtain the information in the client's care plan Check that the oxygen cylinder is over ¼ full	To ensure the correct method of administration is used
3.	Ask the client if you can commence oxygen therapy	To obtain the client's consent
4.	Attach the oxygen tubing to the ventilator circuit ensuring that the fit is secure	To avoid leakage and loss of oxygen and ventilator pressure
5.	Monitor the client's oxygen saturations if a machine is available	To ensure that the client is having adequate amounts of oxygen
6.	Continue oxygen therapy as required	
7.	Ensure that you regularly check the oxygen tubing remains attached to the ventilator circuit	To ensure that the Client is receiving the oxygen and correct ventilator pressures

20. In the event of power failure when a Client has oxygen administrated via an oxygen concentrator

	Action	Rationale
1.	Transfer the client from the oxygen concentrator to the oxygen cylinder. Refer to contingency and power cut procedure	The oxygen concentrator does not work without power
2.	Check the client's oxygen saturations are within normal limits. If the client does not have an oxygen saturation monitor, please check their colour	To ensure that the client is not hypoxic
3.	Check that you have adequate supply of oxygen	To prevent the client from running out of oxygen
4.	Consider transferring the client to hospital if oxygen supplies are running low	To ensure that the client is in place of safety

21. Associated Policies / SOPs

Policies
CLIN 02 Assisted Ventilation Policy
CLIN 03 Medicines Management Policy
CLIN 06 Consent Policy
ORG 03 Health & Safety Policy

SOPs
SOP Meds 01 Controlled Drugs
SOP Meds 02 Oral Administration
SOP Meds 03 Rectal Administration
SOP Meds 04 Subcutaneous Administration of Medicines
SOP Meds 05 Administration via Gastrostomy and Jejunostomy Tubes (PEG, PEJ and JEJ)
SOP Meds 06 Intramuscular Injection Administration
SOP Meds 07 Peripheral Intravenous Administration
SOP Meds 08 Administration via Central Line (Hickman, PIC and Porta Cath)
SOP Meds 09 Removal of Medicines from Client's Home
SOP Meds 10 Vaginal Administration
SOP Meds 11 Topical & Transdermal Application of Medicines
SOP Meds 12 Administering Ear Drops
SOP Meds 13 Administration of Eye Drops or Ointments
SOP Meds 16 Buccal or Sublingual Administration of Medicines
SOP Meds 17 Administration of Medication via a Metered Dose Inhalers
SOP Meds 18 Administration of Epi-pen, Anapen and Emerade
SOP Meds 19 Self Administration of Medicines
SOP Meds 21 Administration of Medications via NG tube
SOP Vent 03 Humidification of a Client with a Tracheostomy

22. References

- NMC 2018 Guidelines for records and record keeping (this is updated version) Procedure no 4
- The Royal Marsden 2015 Manual of Clinical Nursing procedures 9th Edition (this is updated version)

- CQC Medicines training and competency in adult social care settings – this relates to appropriate training, support and competencies making care safe, high quality and consistent (Training is referred to in all SOP's)
- NICE Guidance NG67 Managing medicines for adults receiving social care in the community March 2017 – this relates to general medicines management and details all processes
- Prescribing oxygen: http://www.patient.co.uk/doctor/Prescribing-Oxygen.htm
- https://www.england.nhs.uk/coronavirus/publication/home-oxygen-order-form-hoof-letters-and-guidance/

Appendix A: About Acacium Group

Acacium Group consists of a number of trading companies, each providing services within core niche areas of the health and social care industries. Therefore, as this document is a Group Policy, the Policy herein applies to all trading companies detailed below:

pulse Part of Acacium Group	Thornbury Nursing Services Part of Acacium Group
Thornbury Community Services Part of Acacium Group	Scottish Nursing Guild Part of Acacium Group