

GUIDELINE FOR THE PRESCRIBING, MONITORING AND ADMINISTRATION OF OXYGEN IN ADULTS

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Introduction

The guideline covers prescribing; monitoring and administration of oxygen for all adult inpatients cared for in general ward areas (refer to page 5 for exclusions).

This guideline is for use by the following staff groups :

All qualified health care professionals involved with the prescribing, monitoring and administration of oxygen for adult inpatients cared for in general ward areas (refer to page 5 for exclusions). Training will be provided by the local respiratory team.

Lead Clinician(s)

Sarah Austin

Respiratory Nurse Specialist
WRH/KGH

Approved by Medicines Safety Committee on:

14th January 2014

Extension approved on:

6th December 2017

Review Date:

8th September 2018

This is the most current document and is to be used until a revised version is available:

Key amendments to this guideline

Date	Amendment	Approved by:
June 04	Guideline approved by Clinical Effective Committee	
November 09	Guideline reviewed by Clinical leads with major amendments made – change of document name	Medicines Safety Committee
06/03/13	Guideline extended to enable Sarah Austin to review and acquire approval	Sarah Austin
12/6/13	Reviewed. National Guidelines unchanged.	Sarah Austin
14/01/2014	Major review. National Guidelines unchanged, but local audit identified significant problems with oxygen administration: <ul style="list-style-type: none"> • Policy reduced in size to encourage people to read it. • Hyperlinks to source document used to reduce size of appendices • Local problems with oxygen/air administration specifically identified and addressed • Examples of how to prescribe oxygen included 	Medicines Safety Committee
31/03/2016	Document extended for 12 months as per TMC paper approved on 22 nd July 2015	TMC
August 2017	Document extended for 6 months as per TMC paper approved on 22 nd July 2015	TMC
December 2017	Sentence added in at the request of the Coroner	
December 2017	Document extended for 3 months as per TLG recommendation	TLG
March 2018	Document extended for 3 months as approved by TLG	TLG
June 2018	Document extended for 3 months as per TLG recommendation	TLG

GUIDELINE FOR THE PRESCRIBING, MONITORING AND ADMINISTRATION OF OXYGEN IN ADULTS.

Introduction

The administration of supplemental oxygen is an essential element of clinical management for a wide range of clinical conditions; however oxygen is a drug and therefore requires prescribing in all but emergency situations. Failure to administer oxygen appropriately can result in serious harm to the patient. The safe implementation of oxygen therapy with appropriate monitoring is an integral component of the Healthcare Professional's role.

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1) Aim

Oxygen therapy is given to prevent cellular hypoxia, caused by hypoxaemia (low P_{aO_2}), and thus prevention of potentially irreversible damage to vital organs. All patients requiring oxygen therapy must receive therapy that is appropriate to their clinical condition and which is in line with national guidance (BTS Guideline; Thorax, 2008).

As patients' oxygen requirements are based on the correction of hypoxia, oxygen must be prescribed according to a target saturation range. This system aims to achieve a specified outcome, rather than specifying the oxygen delivery method alone.

Those who administer oxygen therapy must monitor the patient and keep within the target saturation range.

2) Normal Oxygen Saturations

In adults less than 70 years of age at rest at sea level 96% - 98% when awake.

Aged 70 and above at rest at sea level greater than 94% when awake.

Patients of all ages may have transient dips of saturation to 84% during sleep.

3) Prescribing Oxygen

The national recommendations for the administration of oxygen in the hospital setting were published in a key document, "Emergency oxygen administration in adult patients", published by the British Thoracic Society in 2008 and up-dated in 2010. This was a collaborative document and had input from the colleges representing a range of medical specialties, nursing, ambulance services and the resuscitation council. This document can be accessed [here](#) . The driving principle of the document is that oxygen is a drug and it must therefore be prescribed.

It is recommended that, for the majority of patients, oxygen should be prescribed to maintain their peripheral oxygen saturations within a specific range. Guidance on identifying appropriate oxygen saturations (SpO₂) for patients is provided for the medical staff and other prescribers in the national guidelines, which includes detailed oxygen prescription decision making flow charts [here, in tables 1, 2 and 3.](#)

An oxygen section on the drug chart has been designed to assist prescription and administration.

OXYGEN - The method and rate of oxygen delivery should be altered by nursing staff in order to achieve the target oxygen saturations as per hospital guidelines. Nursing staff must sign that oxygen saturations have been measured and documented on the TPR chart. (Refer to Oxygen Guideline)

YEAR	MONTH	DATE															
DRUG (APPROVED NAME)																	
OXYGEN			08:00														
Circle target oxygen saturation range:			12:00														
88 - 92% 94 - 98%			18:00														
Other:			22:00														
Action must be taken if sats fall outside the prescribed range																	
Check SATS every hours until																	
Check SATS every hours: start																	
START DATE	SIGNATURE	BLEEP															

Adjust oxygen as appropriate to maintain target saturation

For the majority of patients, oxygen should be prescribed to achieve a target saturation of 94-98% for most acutely unwell patients or 88-92% for those at risk of type II respiratory failure (where the patient retains carbon dioxide).

OXYGEN - The method and rate of oxygen delivery should be altered by nursing staff in order to achieve the target oxygen saturations as per hospital guidelines. Nursing staff must sign that oxygen saturations have been measured and documented on the TPR chart. (Refer to Oxygen Guideline)

YEAR	MONTH	DATE															
2013	Nov	27															
DRUG (APPROVED NAME)			08:00														
OXYGEN			12:00														
Circle target oxygen saturation range:			18:00														
88 - 92% 94 - 98%			22:00														
Other:																	
Action must be taken if sats fall outside the prescribed range																	
Check SATS every . 2 . . hours until . . 27/11																	
Check SATS every . 6 . . hours: start . . 28/11																	
START DATE	SIGNATURE	BLEEP															
27/11/13	S.Austin	111															

Adjust oxygen as appropriate to maintain target saturation

There is space for a free hand oxygen prescription, if this is clinically appropriate for the patient, e.g. post operatively where oxygen is required at a specific dose for a specific amount of time.

OXYGEN - The method and rate of oxygen delivery should be altered by nursing staff in order to achieve the target oxygen saturations as per hospital guidelines. Nursing staff must sign that oxygen saturations have been measured and documented on the TPR chart. (Refer to Oxygen Guideline)

YEAR	2013	MONTH	Nov	DATE	27	28														
DRUG (APPROVED NAME)		OXYGEN		08:00																
Circle target oxygen saturation range:		88 - 92% 94 - 98%		12:00																
Other:		2 l/min N/specs for 24 hours		14.30																
Action must be taken if sats fall outside the prescribed range		post op		18:00																
Check SATS every hours until				22:00																
Check SATS every hours: start																				
START DATE	SIGNATURE	BLEEP																		
27/11/13	S Austin	111																		

Adjust oxygen as appropriate to maintain target saturation

4) Administering Oxygen

Unless it is an emergency situation, oxygen must be administered by qualified and appropriately trained health care staff, i.e. doctor, RN, RM, RSCN or physiotherapist in accordance with the [Trust's Medicines Policy](#)

ACTION	RATIONALE
Ensure oxygen is prescribed on prescription chart.	Oxygen should be regarded as a drug and should be prescribed. BTS National guidelines (2008). British National Formulary (2008).
Ensure patency of airway	To promote effective oxygenation
Assess the patient and use the most appropriate oxygen delivery system, (see appendix 1).	The type of delivery system used will depend on the needs and comfort the patient.
Show and explain the oxygen delivery system to the patient.	To obtain consent and cooperation
Inform patient and or relative/ carer of the combustibility of oxygen	Oxygen supports combustion and the fire risk must be minimised
Assemble the oxygen delivery system and connect to the oxygen supply.	To ensure oxygen is given correctly
Attach oxygen delivery system to patient in accordance with manufacturer's instructions.	For oxygen to be administered to patient.
Turn on oxygen flow in accordance with the prescription and manufacturers instruction.	To administer correct dose of oxygen.
The delivery device may be changed in stable patients according to patient preference or comfort	Medical review is not needed when changing delivery device, where the patient's oxygen saturations stay in the prescribed range.
Label all equipment with the patient's name.	Equipment is for single patient use.
Masks should be washed daily and replaced when visibly soiled. Nasal specs should be changed every three days (daily for those with MRSA) or when visibly soiled.	To minimise risk of infection.

Ensure patient has either a drink or a mouthwash within reach.	To prevent drying of the oral mucosa.
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5) Monitoring Oxygen

ACTION	RATIONALE
All patients should have their oxygen saturation observed for at least five minutes after starting oxygen therapy.	To identify if oxygen therapy is maintaining the target saturation or if an increase or decrease in oxygen therapy is required
<p>Thereafter, the frequency of patient monitoring will depend on the condition being treated, their PARS score and the stability of the patient.</p> <p>For patients on oxygen SpO₂ measurements should be done a minimum of six hourly.</p> <p>The oxygen delivery device and oxygen flow rate should be recorded alongside the oxygen saturation on the bedside observation chart.</p> <p>This should occur alongside a wider assessment of the patient including breathing rate, heart rate, ease of breathing, cyanosis and PARS</p> <p>If a patient has type II respiratory failure and there are concerns about their carbon dioxide level or pH, then blood gas analysis will be needed. (WAHT-RES-006)</p>	<p>To monitor changes in the patient's condition and maintain their safety.</p> <p>Patients requiring supplementary oxygen have a form of respiratory failure and should be monitored regularly.</p> <p>To provide an accurate record and allow trends in oxygen therapy and saturation levels to be identified.</p> <p>SpO₂ cannot be used as a "stand alone" assessment of respiratory function.</p> <p>Oxygen saturations do not provide information on these parameters.</p>
Critically ill patients should have their oxygen saturations monitored continuously and recorded every few minutes	Ensure patient safety in the critically ill patient.
The oxygen dose should be recorded alongside the oxygen saturation on the bedside observation chart.	<p>SpO₂ recording cannot be interpreted unless the patient's oxygen dose is known</p> <p>To allow trends in oxygen therapy and saturation levels to be identified.</p>
If the patient falls outside of the target saturation range, oxygen therapy will be adjusted accordingly. The saturation should be monitored continuously for at least 5 minutes after any increase or decrease in oxygen dose to ensure that the patient achieves the desired saturation range.	To maintain the saturation in the desired range
At each "medicines round" the qualified nurse must check the patient's oxygen saturations to ensure they are within the prescribed range and then sign the medicines chart accordingly	To ensure a formal clinical record is maintained.
As the patient's clinical condition improves their need for supplementary oxygen will	The patient should be weaned off oxygen, as their condition allows.

decrease and the dose should be reduced accordingly.	
Where the patient's clinical condition improves, but they continue to need supplementary oxygen due to low saturation levels, the patient should be referred to the Respiratory Nursing Team for consideration of home oxygen	Some patients have chronic hypoxemia, which needs to be treated at home.

6) Saturation higher than target specified or >98% for an extended period of time.

ACTION	RATIONALE
Unless specifically prescribed otherwise, the oxygen dose must be reduced.	To maintain the saturation in the desired range. SpO2 > 98% at rest is above the normal physiological range
Monitor the patient's response to the dose change by re-checking the SpO2	To ensure the dose change was appropriate

7) Saturation lower than target specified

ACTION	RATIONALE
Check all elements of oxygen delivery system for faults or errors.	Equipment faults should be excluded.
Increase the oxygen dose	To keep the saturation in the desired range
Any sudden fall in oxygen saturation should lead to clinical evaluation of the patient (including PARS score) with actions taken in accordance with the Policy on the recognition and management of the deteriorating patient	Falling oxygen saturations are one of the indicators of patient deterioration. Where a patient requires an increase in their oxygen, the cause of their increasing oxygen need must be formally assessed.
Monitor the patient's response to the dose change by re-checking the SpO2	To ensure the dose change was appropriate
In people who are at risk of carbon dioxide retention, repeat arterial or capillary blood gas analysis half to one hour after the dose oxygen change.	To assess the patients response to oxygen increase, and ensure that PaCO2 has not risen to an unacceptable level, or pH dropped to an unacceptable level Arterial blood gas sampling is painful and should only be done when the results will affect clinical decision making.

8) Exclusions and Exceptions

Emergency situations

In emergency situations an oxygen prescription is not required. All patients who have had a cardiac or respiratory arrest should have the maximum possible oxygen dose provided along with basic/advanced life support.

Any qualified nurse/ health professional can commence oxygen therapy in an emergency situation. Qualified nurses should follow the relevant Patient Group Direction and refer to [Policy on the recognition and management of the deteriorating patient](#)

All peri-arrest and critically ill patients should be given oxygen at 15 l/m via a reservoir mask (delivering approximately 80% oxygen) whilst awaiting immediate medical review. Patients with COPD and other risk factors for hypercapnia who develop critical illness should have the same initial target saturations as other critically ill patients pending the results of urgent blood gas results, after which these patients may need controlled oxygen therapy or supported ventilation if there is severe hypoxaemia and/or hypercapnia with respiratory acidosis.

A subsequent written record must be made of what oxygen therapy has been given to every patient alongside the recording of all other emergency treatment.

Specialist Areas

This policy is for general use within general wards and departments. Where specific clinical guidelines are required for oxygen administration within specialist areas, they must be approved via the appropriate clinical governance forum. They should reflect wherever possible the principles within this policy. Patients transferring from specialist areas must be transferred with a prescription for their oxygen therapy utilising target saturation, if the clinical indication is on-going. If a patient transfers from an area not utilising the target saturation system, their oxygen should be administered as per the transferring area's prescription until the patient is reviewed and transferred over to the target saturation scheme, which should occur as soon as possible.

End of life care

Patients receiving oxygen as part of palliative care or patients on the end of life care pathway (in which case, the prescriber documents 'target saturations not indicated' on the drug chart and inpatient case notes).

Specific clinical situations

Carbon monoxide poisoning: this affects pulse oximetry readings, rendering them inaccurate. Oxygen should be given on the basis of capillary or arterial blood gas analysis. The oxygen device and flow rate must be prescribed on the drugs chart.

Pneumothorax: oxygen may increase the rate of resolution of pneumothorax in patients for whom a chest drain is not indicated. The oxygen device and flow rate must be prescribed on the drugs chart.

Post operative state: there is some evidence to suggest a decreased incidence of post operative wound infections with short-term oxygen therapy following bowel surgery. The oxygen device and flow rate must be prescribed on the drugs chart.

9) Contra-Indications

There are no absolute contraindications to oxygen therapy if indications are judged to be present. The goal of oxygen therapy is to achieve adequate tissue oxygenation using the lowest possible FiO₂. Supplemental O₂ should be administered with caution in patients suffering from paraquat poisoning, and with acid inhalation or previous bleomycin lung injury. The lower oxygen saturation target range should be used for these patients.

10) Cautions

Oxygen administration and carbon dioxide retention

In patients with chronic carbon dioxide retention, oxygen administration may cause further increases in carbon dioxide and respiratory acidosis, (Type II respiratory failure). This may occur in patients with COPD, neuromuscular disorders, morbid obesity or musculoskeletal disorders.

Patients at risk of Type II Respiratory Failure should have blood gas analysis to check their carbon dioxide levels and pH prior to starting oxygen therapy. Where Type II respiratory failure is confirmed, oxygen should be prescribed in the lower saturation range.

Fire hazard

Oxygen is part of the “fire triangle”. Oxygen equipment must not be allowed to come into contact with flames or sparks.

The Trust’s Advanced Life Support policy is designed to minimise the risk of fire during emergency procedures.

Patients who are having supplementary oxygen and who chose to leave the ward areas to go outside to smoke a cigarette must not use oxygen while they smoke.

Accidental delivery of air instead of oxygen

Some ward areas have piped air available as well as piped oxygen. It is essential that all ward “air ports” have an air dial rather than a flow meter to prevent accidental administration of air instead of oxygen, (see appendix 1).

11) Transfer and Transportation Of Patients Receiving Oxygen

Patients who are transferred from one area to another must have clear documentation of their on-going oxygen requirements and documentation of their oxygen saturation. This information should be included on the “White Boards” where these are being used for patient hand over. If a patient transfers from an area not utilising the target saturation system (see specialist areas above) their oxygen should be administered as per the transferring areas prescription until the patient is reviewed and transferred over to the target saturation scheme, which should occur as soon as possible.

Patients requiring oxygen therapy whilst being transferred from one area to another should be accompanied by a trained member of the nursing staff wherever possible. If this does not occur, clear instructions must be provided for personnel involved in the transfer of the patient, which must include delivery device and flow rate.

12) Peri-Operative And Immediately Post Operatively

The usual procedure for prescribing oxygen therapy in endoscopy and theatres should be adhered to. If a patient is transferred back to the ward on oxygen therapy and is not on the target saturation system, the need for on-going oxygen therapy should be reviewed as soon as possible. If oxygen therapy is to be continued, it should be prescribed either using the target saturation scheme outlined in this guideline or, where oxygen is continued for a specified period at the anaesthetists’ specification, e.g. following major surgery, this must be prescribed freehand on the medicines chart (see section 3) and should also be documented in the medical notes.

13) Nebulised Therapy And Oxygen

In accordance with the Trust’s medicines policy, patient’s requiring nebulised medication must have both the drug and the driving gas for the nebuliser prescribed.

Usually this prescription should indicate that patients at risk of hypercapnic respiratory failure should have their nebuliser driven by compressed air. If necessary, supplementary oxygen should be given concurrently by nasal prongs at 1-4 litres per minute to maintain an oxygen saturation of 88-92% or other specified target range.

14) Humidification

Humidification may be required for some patient groups, especially for those with a tracheostomy and for those with hypersecretory lung disease.

Where humidifiers are used there is a risk that the water/saline used may become contaminated with bacteria. Consequently, only closed systems should be used.

Humidification equipment and circuits should be replaced every 48 hours. Care must be taken to remove any condensate from humidification tubing which can also be an infection risk.

15) Implementation

All nurses, nursing assistants and other healthcare professionals involved in prescribing or administering oxygen should be taught on the oxygen policy. Teaching aides are available on www.brit-thoracic.org/emergencyoxygen. A record of all those who have been taught will be kept.

All doctors should be taught about the oxygen policy. Teaching aids are available on the BTS website. Audits will be performed in all clinical areas. Audit proformas are available on the BTS website. The hospital will participate in the national audits organised by the BTS.

The BTS has appointed oxygen champions in all Trusts to help introduce the Guideline. Sarah Austin and Lynn Dale are the Oxygen Champions for WAHT.

16) Monitoring Tool (ensure audits are included in the Divisional Audit Plan)

How will monitoring be carried out?

Audit of the prescription chart and observation chart against the standards set below.

When will monitoring be carried out? Annually

Who will monitor compliance with the guideline?

Medical Division/Respiratory Medicine

STANDARDS	%	Clinical Exceptions
Oxygen is prescribed on the inpatient oxygen prescription for all patients receiving oxygen therapy.	90%	
Oxygen administration is recorded on the inpatient oxygen prescription for all patients receiving oxygen therapy	90%	
Oxygen saturation and oxygen dose are recorded on the observation chart.	90%	
Oxygen therapy is increased or weaned in accordance with the guideline.	90%	

17) References

- O’Driscoll B R, Howard L S, Davison A G. BTS guideline for emergency oxygen use in adult patients. Thorax 2008; 63: Supplement VI.
- NPSA Rapid Response Report. Oxygen safety in hospitals. September 2009.

18) Contribution List

Key individuals involved in developing the document 2013 (2004, 2009)

Name	Designation
Sarah Austin	Respiratory Nurse Specialist, WRH
(Sharon Ellson)	(Professional Development, WRH)
(Dr S P O’Hickey)	Respiratory Consultant, WRH
Lynn Dale	Respiratory Nurse Practitioner, AH
Rachael Leese	Lead Respiratory Pharmacist, AH

Circulated to the following individuals for comments (2004, 2009)

Name	Designation
(Prof R A Lewis)	Respiratory Consultant, WRH
(Dr S Vathenan)	Respiratory Consultant, AH
(Dr G Summers)	Respiratory Consultant, KGH
(Dr D Brocklebank)	Respiratory Consultant, AH
(Irene Bunn)	Respiratory Nurse Specialist, KGH
(Tracey Lucas)	Respiratory Nurse Specialist, AH
(Gina Williams)	Respiratory Nurse Specialist, AH
(Cynthia Cudal)	Respiratory Nurse Specialist, AH
(Lindsay Smith)	Specialist Respiratory Pharmacist, WRH
(Dr S Greystone)	Consultant Anaesthetist, WRH
(Sally McNally)	Specialist Respiratory Physiotherapist, WRH
Emma Welch	Manager Laurel 2 – Respiratory Ward WRH
Marsha Jones	Manager Ward 5 – Respiratory Ward AH
Dr I Levitt	A&E Consultant
Dr I Du Rand	Respiratory Consultant WRH

Circulated to the following CD’s/Heads of dept for comments from their directorates / departments (2004, 2009)

Name	Directorate / Department
(Dianne Thomlinson)	Infection Control Team
Heather Gentry	Infection Control Team
Julian Berlet	Anaesthetic Consultant
(Ruth Mullett)	Critical Care Outreach
Alison Smith	Principal Pharmacist Medicines Safety

Circulated to the chair of the following committee’s/groups for comments (2009)

Name	Committee / group
Steve Graystone	Medicines Safety Committee

Appendix 1

Oxygen delivery systems

DEVICE	DESCRIPTION
<p>Oxygen Flow Meter</p> 	<p>In this Trust, this device is used to delivering oxygen from a wall mounted oxygen port. This style of device must never be used for delivering air from a wall mounted air port.</p> <p>The oxygen flow is adjusted by switching on the oxygen using the white and dial, and reading the oxygen dose being delivered using the graduated markings on the side of the device.</p> <p>The graduated markings should be read against the middle of the floating ball.</p> <p>A low flow oxygen meter must be used for oxygen flow rates less than 1 l/min</p>
<p>Air Flow Dial</p> 	<p>Many ward areas have piped air available as well as piped oxygen. This creates a risk that the patient could have air administered instead of oxygen.</p> <p>Where ward areas do not use air (e.g. to drive nebulisers) on a regular basis, air flow meters must be removed from the socket, leaving just oxygen available in the bed space.</p> <p>Where piped air is used regularly, air flow meters must not be used. Instead, a black air flow dial must be used.</p> <p>Staff must be aware of the difference between the air flow dial and the oxygen flow meter, and this should form part of the ward/department induction program.</p>
<p>Nasal Cannulae</p> 	<p>Nasal cannulae consist of pair of tubes about 2cm long, each projecting into the nostril and stemming from a tube which passes over the ears and under the chin, to hold it in place.</p> <p>Usually used to deliver oxygen flows of 4 l/min or less.</p> <p>One cannot predict the percentage oxygen (FiO₂) delivered via nasal cannulae. This is not important if the patient is in the correct target oxygen saturation range.</p> <p>Often more comfortable than a mask and they allow the patient to eat, drink and cough easily</p> <p>Overlong nasal specs can be uncomfortable, and may cause pressure or friction. The ends of the nasal specs can be trimmed if they are too long.</p> <p>Check for pressure sore development behind the ears.</p>

<p>Medium Concentration Mask</p> 	<p>A simple mask with an elastic strap that goes behind the patient's head, to hold the mask in place.</p> <p>Used to deliver oxygen at 5 – 10 l/min.</p> <p>One cannot predict the percentage oxygen (F_iO₂) delivered via this mask and it is not appropriate for use with patients in Type II Respiratory Failure</p> <p>Adjust the tension of the elastic strap to ensure a good fit.</p> <p>Remove mask and swap to nasal specs when eating.</p> <p>Mask will require regular cleaning if the patient has a productive cough.</p>
<p>Non-rebreathe Mask</p> 	<p>This mask has an oxygen reservoir bag that increases the amount of oxygen available for the patient to breathe. It is used in an emergency situation where the patient has suddenly deteriorated (but is still breathing).</p> <p>Use a flow rate of 15 l/min oxygen or more.</p> <p>The mask must fit tightly for it to work properly. The reservoir bag should deflate by about a third when the patient breathes in. If there is no movement of the reservoir bag then adjust the mask fitting. In some circumstances, the health care professional may need to hold the mask in position when it is first being used, to ensure a good fit.</p> <p>This mask is not licenced for on-going use, and must be specifically prescribed if it is being used outside of an emergency situation.</p>
<p>Venturi Mask</p> 	<p>This mask is the only one where the F_iO₂ can be regulated. It is appropriate for use where the patient is in type II respiratory failure.</p> <p>Different attachments can be fitted to the mask to deliver controlled oxygen.</p> <p>Oxygen attachments can deliver either:</p> <ul style="list-style-type: none"> 24% (blue) 28% (white) 31% (orange) 35% (yellow) 40% (red) 60% (green) <p>The oxygen flow rate needed for each of these options is embossed on each attachment.</p> <p>This type of oxygen delivery system needs to be prescribed in free hand on the Trust's medicines chart.</p>

Appendix 2

Glossary

Hypercapnia	Carbon dioxide levels in the blood are higher than the normal range (Usually over 6.1 kpa)
Hypoxemia	Abnormally low oxygen levels in the blood (usually said to be an arterial oxygen tension less than 8 kpa)
Hypoxia	Abnormally low oxygen levels in the tissues
PaO ₂	The amount of oxygen in the blood, obtained by arterial blood gas analysis. The unit of measurement is in kilopascals (kpa).
PaCO ₂	The amount of carbon dioxide in the blood, obtained by arterial blood gas analysis. The unit of measurement is in kpa
SpO ₂	Peripheral oxygen saturations, obtained by pulse oximetry
Type I Respiratory Failure	Low oxygen (less than 8 kpa) with a normal or low carbon dioxide level. People with type I respiratory failure can usually tolerate oxygen well.
Type II Respiratory Failure	Normal or low oxygen with a high carbon dioxide level (above 6.1 kpa). People with type II respiratory failure are often at risk of worsening problems unless they are given controlled doses of oxygen.

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	Does the policy/guidance affect one group less or more favourably than another on the basis of:		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Transgender	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
	• Disability - learning disabilities, physical disability, sensory impairment & mental health problems	No	
2.	Is there any evidence that some groups are affected differently?	No	
3.	If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?	N/A	
4.	Is the impact of the policy/guidance likely to be negative?	No	
5.	If so can the impact be avoided?	N/A	
6.	What alternatives are there to achieving the policy/guidance without the impact?	N/A	
7.	Can we reduce the impact by taking different action?	N/A	

If you have identified a potential discriminatory impact of this key document, please refer it to Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact Human Resources.

WAHT-RES-001

It is the responsibility of every individual to check that this is the latest version/copy of this document.

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	Yes We do not have the staff available to supervise this policy. However it is a national standard and MUST be met on the grounds of patient safety
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval