

Guidance on oxygen use in prisons providing enhanced primary care and end-of-life services during the COVID-19 pandemic

December 2020, Version 1

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1. Purpose

Oxygen therapy is normally not accessible in prisons, but during the coronavirus (COVID-19) pandemic prisoners whose health deteriorates may require this on site. All healthcare staff involved in administering oxygen therapy in prison settings must read this guidance.

Arrangements for oxygen therapy in prisons settings must be consistent with the NICE guidance and NHS England and NHS Improvement for COVID-19 and managing patients recovering from COVID-19. Readers must refer to these documents for details of the care pathways in place for patients who are COVID-19 symptomatic or recovering from COVID and may require oxygen therapy.

Piped gas line services are not available in prison healthcare settings, and oxygen will be provided from cylinders only.

This document is a guide for prison healthcare providers who will use it to develop local policies for the safe and effective delivery of oxygen therapy from oxygen cylinders to adult patients in prison; that is, equivalent with current community provision. It ensures that:

- all patients who require oxygen therapy receive this appropriately for their clinical condition and in line with national guidance
- oxygen therapy is safely prescribed and administered
- oxygen cylinders are handled and stored in a safe manner.

Other related national guidance:

- O'Driscoll BR, et al (2017) British Thoracic Society (BTS) guideline for oxygen use in adults in healthcare and emergency settings. *Thorax* 2017; 72: i1–i90: https://thorax.bmj.com/content/thoraxjnl/72/Suppl_1/ii1.full.pdf
- NICE (3 April 2020) *COVID-19 rapid guideline: managing symptoms (including at the end of life) in the community (NG163)*: www.nice.org.uk/guidance/ng163
- NICE (3 April 2020) *COVID-19 rapid guideline: managing suspected or confirmed pneumonia in adults in the community*: www.nice.org.uk/guidance/ng165
- [British National Formulary](#)
- [Resuscitation Council Guidelines \(UK\)](#).

The following areas are not been covered in this guidance and require local planning:

- ordering and returning oxygen cylinders and associated equipment

- staff training in the handling and administration of oxygen therapy and use of cylinders.

We are grateful to the following institutions for providing local protocols and policies which were used in the development of this document:

- NHS England and Improvement Hospital Pharmacy lead and Clinical Fellow for the Chief Pharmaceutical Officer
- Berkshire Healthcare NHS Foundation Trust
- Cambridge Community Services NHS Trust
- Cornwall Partnership NHS Foundation Trust
- Devon Partnership NHS Trust
- Kent and Medway NHS and Social Care Partnership Trust
- Northamptonshire Healthcare NHS Foundation Trust.

2. Introduction

The administration of supplemental oxygen is essential in the management of a range of conditions; where clinically appropriate, this includes COVID-19 infection.

In the UK, medical oxygen is a licensed medicine. It should be prescribed in all but emergency situations. Failure to administer and monitor oxygen therapy appropriately can seriously harm patients. Medical oxygen for managing patients should be supplied under a Marketing Authorisation (MA) issued by the Medicines and Healthcare products Regulatory Agency (MHRA), to ensure the correct gas specification, compliant manufacture and correct cylinder filling (Supplies of diving gas for medical treatment, letter from BOC; restricted access via [Future NHS Collaboration Platform](#)).

3. Handling of oxygen cylinders and safety considerations

The main hazards in an oxygen-rich environment are fire and explosion. Incidents can result from:

- leaks from poor connections or worn equipment
- excessive oxygen flow rates
- leaving oxygen equipment on when not in use
- storing oxygen cylinders in poorly ventilated areas.

Common items such as hair, bed linen or chemicals used for cleaning become particularly susceptible to combustion in an oxygen-enriched area. The risk of oxygen-enrichment and

oxidation fires are minimised by following the guidance in this section and using equipment as advised by its manufacturer.

3.1 Storage of oxygen cylinders

Cylinders of compressed oxygen need to be used to deliver oxygen therapy to patients in prisons, where piped gas line services are unavailable. Medical gas cylinders, including oxygen cylinders, are available in various sizes with different valve types. Cylinders must be stored in a designated secure area, access to which can be monitored and controlled. Readers should also refer to the [manufacturer's guidance](#) when identifying a designated area and handling oxygen cylinders. Partnership with Her Majesty's Prison and Probation service (HMPPS) or other health and safety estate leads is essential.

Appropriate safety signage, including the approved graphic symbols for hazard and no smoking, must be displayed in and outside this area to indicate compressed medical oxygen is being stored.

Figure 1: Example safety signage
(available from [BOC Healthcare](#))



Each cylinder main store should have segregated areas for ready to use full oxygen cylinders and for empty or faulty cylinders. Empty or faulty cylinders must be clearly marked as such. Other medical gas cylinders kept in the same store should be clearly identified and segregated from the oxygen cylinders to avoid confusion. All oxygen equipment not in use must be kept in an appropriate locked storage area

Medical gas cylinders including oxygen cylinders must not be stored or used near naked flames, sources of ignition or combustible materials. Smoking or vaping is not permitted in the vicinity of where cylinders are used or stored.

The minimum number of oxygen gas cylinders okay to store and their sizes should be determined locally. Cylinder presentations (eg sizes, pressures or valve types) will vary slightly between manufacturers, and staff will need training in recognising the differences

and risk with each. To minimise confusion and need for extra training, institutions should avoid switching or mixing supplies of oxygen therapy cylinders (Mixing suppliers of medical gas cylinders: Some issues. NHS PhQAC Medical Gases Information & News, April 2020; restricted access via [Future NHS Collaboration Platform](#)).

3.2 Safe transportation of cylinders and delivery of oxygen from cylinders

Oxygen cylinders should be transported in the appropriate trolley or bag. EFA/2010/008 requires that all gas cylinders are secured to a wall bracket or other static/stable structure to stop them falling over. Such anchors are potential ligature points and must not be fixed in prison cells whose occupants are at risk of self-harm.

While supplementary oxygen therapy is in use, the cylinder should be secured to the locally approved anchor. Where anchors are not permitted, an individual risk assessment (including the environmental assessment for the patient) should determine if it is safe and appropriate for a cylinder and trolley to be left with the patient. If suitable, consider placing a staff member with them for the duration of the oxygen therapy. If emergency oxygen is being administered, at least one staff member must always be with the patient to ensure the cylinder trolley is not used as a support or pulled over by the patient.

3.3 Safety checks

The institution must have staff trained and responsible for healthcare services who can regularly undertake the following checks against an established recording system, to ensure equipment is ready for use.

3.3.1 General checks

These should include:

1. Visually inspect the cylinders, including the valve and regulator, for dents and bulges. If found, this should be reported to the wing/unit manager who will contact the provider directly. Damaged cylinders should be returned to the store with a tie-on label to indicate the problem. Chalk or marker must not be used on cylinders.
2. Check the cylinders and the connecting apparatus are not be contaminated with oil, grease, bituminous compounds, acids or corrosive substances, or handled with cloths or gloves previously contaminated with any of these substances as these present an explosion hazard. Contaminated cylinders must be labelled, and local policy followed for their return.

3. Check the cylinder key, tubing and appropriate mask are attached to the cylinder. If the tubing and mask packaging has been opened, they will no longer be clean.
4. Check there is enough oxygen in the cylinder (see Section 6.1: Set up of oxygen equipment).
5. Ensure locally agreed health and safety requirements are being followed
6. Ensure instructions for the use of equipment are being followed as per the supplying organisation and manufacturer.
7. Ensure oxygen cylinders are checked regularly and contain sufficient oxygen as per the locally arranged daily resuscitation checklist system.
8. Ensure cylinders once empty are promptly returned for refilling.

3.3.2 Cylinder leaks and accidental release measures

The following procedure should be followed to check the connection for leaks:

1. Listen for a hissing noise; this will indicate there is a leak.
2. Close the valve, remove the connection, check it and refit.
3. Never use excessive force when connecting equipment to cylinders.
4. If the leak persists, label the cylinder and return it to the supplier.

If a large volume of medical oxygen is escaping (e.g. the cylinder is damaged), it may begin moving at high speed in erratic directions. If safe to do so:

1. Close the cylinder valve.
2. Where possible, isolate all sources of ignition.
3. If escape continues, evacuate the area and ensure that the affected area is adequately ventilated before anyone re-enters.

3.3.3 Firefighting measures

If a small fire (size of a paper basket) occurs near to a medical oxygen cylinder, do the following:

1. If it is safe to move the cylinders, close their valves to stop oxygen flowing and move them away from the heat source.
2. If it is not safe to move the cylinders, cool them with water from a protected position.
3. All types of fire extinguishers may be used when dealing with a fire involving medical oxygen cylinders.

4. If the fire and rescue service attend, it is vital to inform them that medical oxygen cylinders are inside the building and where they are located.

3.4 After use and infection control

1. Refer to local guidance for advice on infection prevention and control measures and for decontaminating medical gas cylinders potentially contamination with COVID-19.
2. Do not use any cleaning materials that may contain chlorine or ammonium, as they may damage the cylinder.
3. All oxygen equipment (masks and tubes) that comes into contact with the patient is for single patient use only. The mask must be replaced after 72 hours. If the patient is having further therapy, then the mask should be decontaminated with a detergent wipe after each use and dried thoroughly with a disposable paper towel. As nasal prongs cannot be dried thoroughly, they should not be decontaminated and be treated as single patient use.
4. When the compressed medical oxygen cylinder is empty ensure that the:
 - cylinder valve is closed using moderate force only and the pressure in the regulator or tailpipe is released
 - valve outlet cap, where fitted, is replaced
 - empty cylinder is immediately returned to the empty cylinder store for return to the supplier
 - cylinder is not vented after use; it should be returned to the supplier with any residual gas.

4. Support process for oxygen supply issues or incidents

During the COVID-19 pandemic, institutions should in the first instance consult local protocols on the support processes for oxygen supply issues or incidents. Where escalation is required, they should refer to the NHS England and NHS Improvement [COVID-19 oxygen support process](#).

Oxygen is a key medicine in the management of COVID-19 infection. To optimally use this resource and minimise wastage:

- Do not return half full cylinders to the stores. Instead exchange oxygen cylinders where the gauge is in the 'red zone'. Note: oxygen cylinders on resuscitation trolleys or in grab bags should be at least 75% full.
- Do not stockpile oxygen supplies or over supply oxygen to patients.

5. Prescribing oxygen

5.1 Indications

Oxygen therapy is used to prevent hypoxaemia (low PaO₂) and thus potentially irreversible damage to vital organs.

The most common indications are:

- management of specific respiratory viral infections such as COVID-19. Clinicians should refer to:
 - NHS England and NHS Improvement [Clinical guide for the optimal use of oxygen therapy during the coronavirus pandemic](#)
 - NICE [COVID-19 rapid guideline: managing symptoms \(including at the end of life in the community \(NG163\)\)](#), for the use of oxygen therapy for breathlessness
- acute hypoxaemia, eg pneumonia, shock, asthma, heart failure, pulmonary embolus
- ischaemia, eg myocardial infarction, but only if associated with hypoxaemia
- abnormalities in quality or type of haemoglobin, e.g. acute gastrointestinal blood loss or carbon monoxide poisoning.

Outside the use of oxygen therapy for symptomatic COVID-19 infection, oxygen is not a treatment for breathlessness from other causes, e.g. anaemia or ischaemia.

5.2 Contraindications and cautions

If oxygen therapy is judged to be indicated, there are no absolute contraindications to its use. Oxygen should be avoided in known cases of paraquat poisoning (a highly toxic chemical weed killer).

Oxygen therapy is cautioned against in patients with chronic carbon dioxide retention as it may further increase carbon dioxide and respiratory acidosis. This may occur in patients with chronic obstructive pulmonary disease (COPD), neuromuscular disorders, morbid obesity or musculoskeletal disorders. Several factors lead to the rise in carbon dioxide with oxygen therapy in patients with hypercapnic respiratory failure. Further information can be found in the [BTS guideline \(2017\)](#).

5.2.1 Other precautions, hazards or complications of oxygen therapy

- Drying of nasal, oral and pharyngeal mucosa.
- Oxygen toxicity.
- Skin irritation.

- Fire hazard (e.g. cigarettes, electrical ignition sources and paraffin-based emollients).
- Potentially inadequate flow resulting in lower FiO₂ than intended due to high inspiratory demand or inappropriate oxygen delivery device or equipment faults.

5.3 Identifying appropriate target saturations

If the patient carries an oxygen alert card, the information on this should be considered in this process.

5.3.1 Target oxygen saturations in patients with suspected or confirmed COVID-19

For patients with possible or confirmed COVID-19, clinically required supplementary oxygen should be prescribed to achieve a target oxygen saturation of 92–96% in the first instance. Readers should refer to [Clinical guide for the optimal use of oxygen therapy during the coronavirus pandemic](#).

For patients at risk of hypercapnic respiratory failure, such as those with COPD, oxygen should be prescribed to achieve a target saturation of 88–92% ([Guideline on emergency oxygen therapy to treat hypoxic patients with suspected COVID-19 within primary care hot sites v1, 7 April 2020](#)).

5.3.2 Target oxygen saturations in patients not infected with COVID-19

Given the demands on oxygen delivery, advice from NHS England and NHS Improvement is that adults with non COVID-19 conditions requiring oxygen therapy should also be prescribed oxygen to achieve a target oxygen saturation range of 92–96% in the first instance. This differs from the pre COVID-19 pandemic advice that for most acutely unwell patients the target range should be 94–98% ([BTS guideline, 2017](#)).

For patients at risk of hypercapnic respiratory failure, such as COPD, oxygen should be prescribed to achieve a target oxygen saturation of 88–92% ([BTS guideline, 2017](#)).

5.4 Prescribing supplementary oxygen

Oxygen should be prescribed on a specific medicine chart (see Appendix 2 for a template oxygen prescription), including whichever is mostly clinically appropriate of:

- litres per minute
- percentage oxygen in inhaled gas
- target saturation.

In all cases, the device through which the oxygen is to be administered must also be specified.

6. Administration, monitoring and recording of oxygen

Humidification is not required for the delivery of low-flow oxygen via mask or nasal cannula, or the short-term use of high-flow oxygen ([BTS guideline, 2017](#)). Humidification is therefore not expected to be required in prison healthcare settings. Ventilatory support, including continuous positive airway pressure (CPAP) is not to be used in the prison healthcare setting. Patients requiring ventilatory support should be transferred to secondary care services as per local pathways.

6.1 Set up of oxygen equipment

Oxygen cylinders are available in a variety of sizes and there may be slight variations in how they operate. The following set-up instructions are generic and must be followed in conjunction with those provided by locally used equipment's manufacturer/supplier.

1. Oxygen is supplied in cylinders that mostly have a black cylinder and white shoulder.
2. Before handling cylinders, ensure hands are clean. If alcohol-based gels or liquids have recently been applied to hands, ensure they have completely evaporated, and if moisturisers or creams, ensure hands are dry, before handling oxygen cylinders.
3. Refer to the cylinder's batch label to ensure that it contains the correct medical gas and is within its expiry date.
4. Check the cylinder contents gauge on the cylinder valve to ensure that the cylinder contains sufficient gas to maintain the required supply of oxygen for the indication.
5. Remove the tamper evident seal and cover fitted over the valve outlets.
6. Set up the cylinder for patient use (steps 7 to 10) before placing it close to the patient. The cylinder valve should be closed before moving a cylinder with the apparatus attached. Extra care must be taken if the patient is to be moved along with a cylinder.
7. Ensure the flow selector is set to zero before opening the cylinder valve. If the resistance to opening the cylinder is excessive, it should be returned to the supplier. Lubrication must not be applied.
8. Open the cylinder valve slowly and check for any leaks.

9. Ensure the outlet is not obstructed. If dirt or other obstruction is seen, briefly turn the flow dial to maximum to clear it.
10. Ensure that the correct equipment to be connected to the cylinder is selected.
11. Connect the tubing to the connector and select the appropriate flow rate.
12. Place the cylinder in an appropriately designed holder.
13. Avoid placing the cylinder on the bed next to the patient if at all possible; use extra care when there is no option but to do this, ensuring the cylinder has been turned on first and the flow selected.
14. Cylinders must be handled with care. Refer to Section 3.2: Safe transportation of cylinders and delivery of oxygen from cylinders, to ensure cylinders are housed in the appropriate and secure manner.
15. Oxygen is administered through an oxygen mask or nasal prongs and tubing. A re-breath oxygen mask adult size must be attached to cylinders at all times to ensure that oxygen can be delivered in an emergency without delay.
16. When in use, the mask or other device is attached to the cylinder by tubing which should be of sufficient length to cover all situations, i.e. a 2.5–4m length, but not so long that it kinks or touches the floor.

6.2 Procedure for the administration of oxygen

Oxygen should be administered by staff trained in this. Once the target oxygen saturation has been identified and prescribed, the appropriate devices and flow rates should be used to achieve the target oxygen saturations. See Appendix 4 and Annex A (published separately).

Before administering oxygen therapy, staff should ensure they have all the necessary equipment. They should be proficient in using a range of oxygen delivery devices to safely administer oxygen ([BTS guideline, 2017](#)).

To administer oxygen therapy, staff should:

1. Ensure patency of airway.
2. Explain to the patient why oxygen is being used and its effects.
3. Assemble the oxygen delivery system carefully.
4. Attach the oxygen delivery system to the oxygen source.
5. Provide the patient with verbal instructions on how to use the oxygen mask or nasal cannula.
6. Place or assist the patient to place the mask or nasal cannula.
7. Open the flow valve to the prescribed flow rate.

8. Ensure mask or nasal cannula is comfortable and the patient is sitting or lying in a comfortable position.
9. Attach any required monitoring equipment, e.g. a pulse oximeter, and start clinical monitoring as described below.
10. Maintain safety by checking the patient regularly.
11. Turn off oxygen when not in use, e.g. if the patient goes to the toilet or shower.
12. Following use, ensure the flow and cylinder valves are closed and that the cylinder is stored correctly.

6.3 Monitoring and recording oxygen administration

All monitoring measurements and the oxygen delivery system used should be recorded on a [National Early Warning Score 2 \(NEWS2\)](#) observation chart, or on a locally agreed template.

Oxygen saturations must be observed for the first five minutes after starting or changing oxygen therapy. The frequency of observations thereafter depends on the condition being treated and patient stability and should be specified by the prescriber. For example, unstable patients may require continuous or quarter-hourly monitoring, whereas stable patients may only require four times a day monitoring.

The following observations should be done regularly for patients receiving regular oxygen therapy:

- respiratory rate
- oxygen saturation by pulse oximetry (see Annex A, published separately)
- visual observations of skin colour for central cyanosis (e.g. blue lips).

The observer must report any signs of deterioration or respiratory distress immediately. If the oxygen saturation is above or below the target saturations, they must inform the personnel qualified to administer oxygen.

NEWS2 should be used in the management of COVID-19 patients, to ensure those who deteriorate or are at risk of deteriorating have a timely assessment and intervention. The oxygen requirements for these patients may increase rapidly if their respiratory function deteriorates, but without significant increase in the NEWS2 score. Consequently, staff must seek medical advice if there is any increase in oxygen requirements, in addition to increasing the observation frequency (Royal College of Physicians, [NEWS2 and deterioration in COVID-19](#)).

Readers should refer to the [Royal College of Physicians \(RCP\) NEWS2 resource site](#) and [RCP NEWS2 additional implementation guidance page](#) for further information on the use of NEWS2.

6.4 Oxygen in an emergency situation

An oxygen prescription is not required in a medical emergency. Oxygen should be given to the patient immediately. Any clinical staff member who has completed oxygen administration training can start oxygen therapy in an emergency. A written record of the oxygen therapy must subsequently be made in the patient's clinical notes, alongside the record of any other emergency interventions.

Appendix 3, adapted from the *Oxygen therapy outside acute settings during the COVID-19 pandemic*, NHS London Clinical Networks (Version 3.3; 7 May 2020), supports healthcare professionals with clinical decision-making in the emergency use of oxygen therapy to treat hypoxaemia associated with possible or confirmed COVID-19. This should be used in conjunction with the locally agreed policy on emergency oxygen therapy to treat hypoxic non COVID-19 patients.

7. Roles and responsibilities

Employees have a duty to take reasonable care for the health and safety of themselves and others. This includes any acts of omission that may have an impact on themselves or others, and co-operation with the organisations enabling prison health and safety management. Employers have a duty to report or resolve any hazards or unsafe practices in the working environment, through the appropriate channels as laid out in local policy. In addition, unit managers are responsible for ensuring that there is a safe environment for oxygen therapy storage and use. Staff members, and where appropriate patients and visitors, should be made aware of the right safety requirements. Locally established up-to-date systems or protocols should communicate the following:

- maintenance of a strict no-smoking policy
- storage, handling and administration of oxygen against health and safety requirements
- safe and correct use of administration and monitoring equipment
- display of appropriate safety notices and signs in areas where there are oxygen cylinders
- staff training, including the maintenance of training records
- fire precautions

- compliance with and maintenance of Control of Substances Hazardous to Health (COSHH) documentation, and manual handling issues with locally agreed requirements
- reporting and review of all clinical incidents.

7.1 Service/unit managers

It is the service/unit manager's responsibility to ensure:

- all staff involved in the oxygen therapy pathway understand and adhere to the guidance and procedures laid out in the local policy
- risk assessments are undertaken appropriately
- all adverse incidents relating to oxygen therapy are reported and investigated in accordance with the locally established system
- all staff involved in the prescription, administration and handling of oxygen therapy have adequate training and are competent to carry out these tasks.

7.2 Clinical staff

It is all clinical staff's responsibility to:

- co-operate with managers to achieve compliance with the local policy
- fulfil the requirements with respect to the storage, handling, prescribing, administration and monitoring of oxygen therapy. Where duties are delegated, this duty extends to the supervisor of support staff
- report all adverse incidents relating to oxygen therapy in accordance with the locally established system
- raise any concerns and needs relating to training or delivery of relevant staff member.

7.3 Consultations and communication with stakeholders

It is essential that institutions develop a local policy and procedure by agreeing and ratifying its implementation with the appropriate stakeholders. This will include, but is not limited to, the equivalence of:

- the chief pharmacist
- local medicines management committee
- medical gas group or equivalent
- policy committee

- estates team
- health and safety team.

Appendix 1: Definitions

Air: Normally consisting of 21% oxygen. In clinical practice, the proportion of oxygen can be increased up to 100%.

Emergency oxygen administration: The administration of oxygen in any situation where an individual's physical health has deteriorated and requires urgent intervention to prevent further deterioration, or cardiac arrest has occurred or is imminent.

Fraction of inspired oxygen (FiO₂): A measure of the oxygen concentration of air the patient has inhaled, eg FiO₂ 0.85 indicates the patient is inhaling air that is 85% oxygen.

Hypercapnia: Abnormally high blood concentration of carbon dioxide.

Partial pressure of oxygen (PaO₂) and partial pressure of carbon dioxide (PaCO₂): Partial pressures of oxygen and carbon dioxide in arterial blood respectively, measured in kilopascals (kPa) by a blood gas analyser. Normal ranges for a healthy person breathing in room air are:

- PaO₂ = >12.0kPa (>90mmHg)
- PaCO₂ = 4.7– 6.0kPa (35–45mmHg).

Peripheral capillary oxygen saturation (SpO₂): Percentage of haemoglobin in arterial blood saturated with oxygen, measured by a pulse oximeter. A healthy individual with normal lungs will have a SpO₂ between 95% and 100%.

Supplementary oxygen therapy: Oxygen prescribed in advance for the management of an underlying medical condition.

Type I respiratory failure: Occurs when pulmonary gas exchange fails to maintain normal arterial oxygen levels, but blood carbon dioxide levels remain normal.

Type II (hypercapnic) respiratory failure: Occurs when patients have a low arterial oxygen level and a high carbon dioxide level.

Appendix 2: Template oxygen prescription

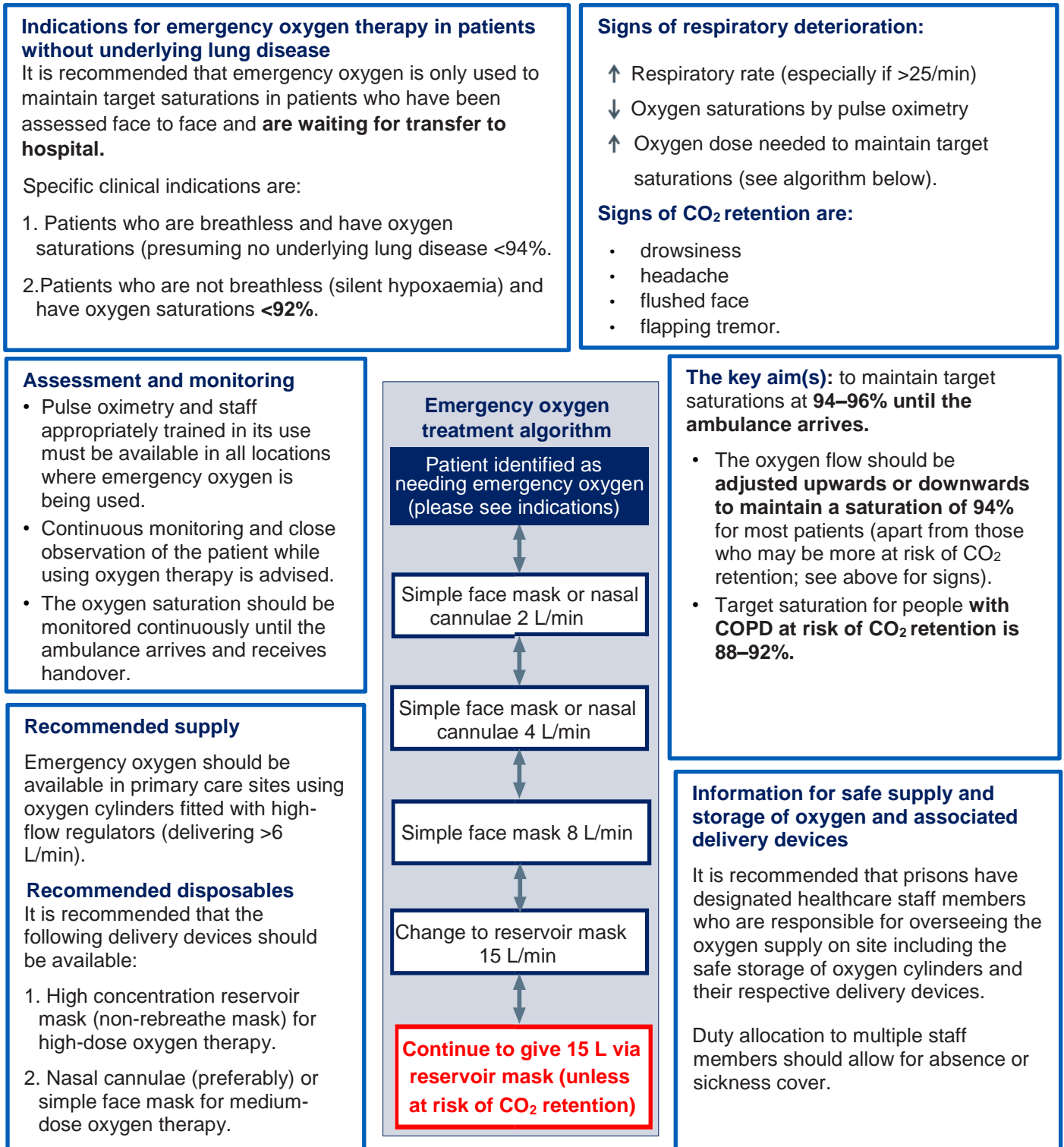
ONLY USE OXYGEN IF A PULSE OXIMETER IS AVAILABLE

SURNAME:		FIRST NAME:			
NHS No.	DOB	UNIT	CONSULTANT		

OXYGEN	DATE (DD/MM) ►																						
	TIME ▼																						
Target oxygen saturation (circle): 88-92% 94-98% Other _____ Continuous / When required (Delete as appropriate) Device required for administration (✓): <table border="1"> <tr> <td>Nasal cannula</td><td></td> <td>Reservoir mask</td><td></td> </tr> <tr> <td>Simple mask</td><td></td> <td>Tracheostomy mask</td><td></td> </tr> <tr> <td>Continuous positive airway pressure machine</td><td></td> <td>Other device (specify):</td><td></td> </tr> </table> Flow-rate _____ L/min Tick if oxygen saturation monitoring not required* <input type="checkbox"/> <small>*Saturation is indicated in almost all cases except for terminal palliative care</small>	Nasal cannula		Reservoir mask		Simple mask		Tracheostomy mask		Continuous positive airway pressure machine		Other device (specify):		08:00										
	Nasal cannula		Reservoir mask																				
	Simple mask		Tracheostomy mask																				
	Continuous positive airway pressure machine		Other device (specify):																				
	12:00																						
18:00																							
22:00																							
Prescriber's signature:										Date:													
Prescriber's name/contact number (PRINT):										Pharmacy:													

Appendix 3: Summary of emergency oxygen therapy for patients with possible or confirmed COVID-19

This has been adapted from the algorithm in [Guideline on emergency oxygen therapy to treat hypoxic patients with suspected COVID-19 within primary care hot sites v1, 7 April 2020](#).



Reference: British Thoracic Society emergency oxygen guidance (2017): <https://brit-thoracic.org.uk/quality-improvement/guidelines/emergency-oxygen>

Appendix 4: Flowchart for oxygen administration

See patient's drug chart and Chart 1 and tables 1-4 for starting dose and target saturation
Choose the most suitable delivery system and flow rate

Titrate oxygen up or down to maintain the target oxygen saturation.

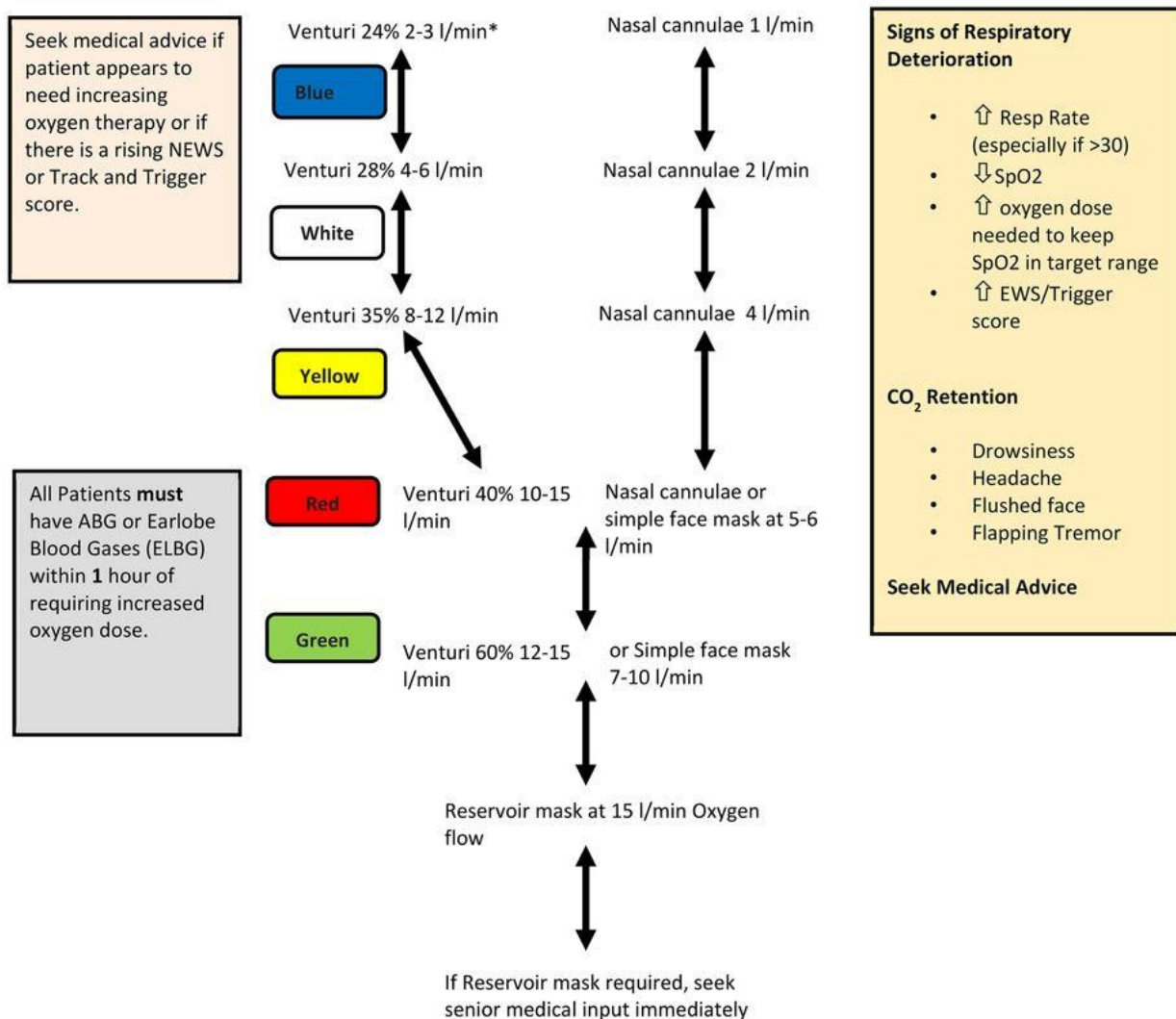
The table below shows available options for stepping dosage up or down.

The chart does NOT imply any equivalence of dose between Venturi masks and nasal cannulae.

Allow at least 5 minutes at each dose before adjusting further upwards or downwards

(except with major and sudden fall in saturation – falls $\geq 3\%$ also require clinical review)

Once your patient has adequate and stable saturation on minimal oxygen dose, consider discontinuation of oxygen therapy.



* For Venturi masks, the higher flow rate is required if the respiratory rate is >30

Patients in a peri-arrest situation and critically ill patients should be given oxygen therapy at 15 l/min via reservoir mask or bag-valve mask whilst immediate medical help is arriving.

(Except for patients with COPD with known oxygen sensitivity recorded in patient's case notes and drug chart or in the Electronic Patient Record (EPR): keep saturation at 88-92% for this sub-group of patients)

Reference: BTS Guideline for Oxygen Use in Adults in Healthcare and Emergency Settings (2017):
<https://brit-thoracic.org.uk/quality-improvement/guidelines/emergency-oxygen>