

Prescribing oxygen for community patients during the COVID-19 pandemic

The following guidance is to support community professionals in making decisions regarding oxygen use in the context of the current COVID-19 pandemic. It is not a replacement for more comprehensive oxygen guidance. Given the oxygen requirements of the most critically ill patients, there is potential for oxygen supplies to be limited elsewhere. This makes appropriate prescription and administration of oxygen even more vital in these unprecedented times.

Oxygen is a drug, which must be prescribed only in the presence of hypoxia. For community patients, this can be measured by checking peripheral oxygen saturations (SpO₂) with a pulse oximeter. **Oxygen is not a treatment for breathlessness or anxiety in a person with normal oxygen saturations.**

NHS England has made changes to target oxygen saturations (SpO₂) for some groups of patients:

<https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C0256-specialty-guide-oxygen-therapy-and-coronavirus-9-april-2020.pdf>

Low SpO₂ - No suspicion of COVID-19

The concentration of oxygen required depends on the condition being treated. In some patients, the administration of high flow oxygen can be harmful. High flow oxygen therapy is usually inappropriate for patients who are at risk of retaining carbon dioxide (hypercapnoea). These patients may have conditions including:

- Moderate to severe COPD
- Neuromuscular diseases affecting the chest wall
- Severe obesity
- Kyphoscoliosis
- Bronchiectasis

Following an individualised risk assessment:



*please note that some hospital trusts are aiming for levels >92%, dependant on individual clinical circumstances

Low SpO₂- confirmed/suspected COVID-19

Initial evidence suggests that hypoxia is a common feature in the last hours to days of life of a patient with COVID-19. Once hypoxia has been confirmed, treatment with oxygen may be appropriate for symptomatic relief. The target oxygen saturations for those patients with COVID-19 being managed **outside hospital** are as documented for patients without COVID-19 infection (as above). Please also consider treating respiratory distress with medication as per guidance on the Kirkwood Toolkit.

Oxygen delivery

Where possible, oxygen should be delivered via concentrator rather than risk potential supply issues with bottled oxygen. Oxygen can then be administered at a prescribed flow rate (FiO₂) as below:

- Nasal cannulae – 1-4L/min
- Venturi mask – (see below)
- Simple face mask – 5L/min
- Reservoir mask – 15L/min, for emergency use only

Venturi masks

Blue - 24%
2-4L/min



White - 28%
4-6L/min



Yellow - 35%
8-10L/min



Red - 40%
10-12 L/min



Green - 60%
12-15L/min



Oxygen safety

There are risks associated with oxygen use, particularly in patients who smoke. This risk also extends to those who smoke e-cigarettes. A risk assessment needs to be conducted prior to oxygen being prescribed for someone who smokes, or who shares a residence with someone who smokes.

Please see the British Thoracic Society guidance for home oxygen use in adults, and the BOC Living healthcare leaflet "Dangers of smoking whilst on oxygen therapy" for further information.

Due to a theoretical risk of spontaneous ignition due to build up on clothing and sheets, national and MHRA guidance suggests that the use of paraffin containing products (e.g. emollients) should be avoided in people who are on oxygen.

For more detailed information regarding home oxygen generally and in the context of COVID-19, please see:

http://www.bochomeoxygen.co.uk/en/images/406765_Healthcare_A_Guide_for_Professionals_Handbook_NHS_x3_RZ_tcm1109-176796.pdf

<http://www.bochomeoxygen.co.uk/en/Clinicians/>

<https://www.brit-thoracic.org.uk/about-us/covid-19-information-for-the-respiratory-community/>

<https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C0256-specialty-guide-oxygen-therapy-and-coronavirus-9-april-2020.pdf>