



## British Thoracic Society

17 Doughty Street, London WC1N 2PL  
T: +44 (0) 20 7831 8778 F: +44 (0) 20 7831 8766  
bts@brit-thoracic.org.uk  
www.brit-thoracic.org.uk

Registered as a charity in England and Wales No. 285174  
Scottish Charity No. SC041209  
Company Registration No. 1645201

### **CLINICIANS URGED TO USE NEW GUIDANCE ON EMERGENCY OXYGEN TO SAVE LIVES**

Health professionals from across the NHS and beyond are being urged to adopt the latest version of the world's first evidence-based guideline on the use of emergency oxygen, published today (Monday 15 May).

The updated guidance is based on new evidence about how effective prescribing and delivery of emergency oxygen for patients can both improve health and save lives.

The updated British Thoracic Society (BTS) Guideline for Oxygen Use in Adults in Healthcare and Emergency Settings, first published in 2008 and endorsed by over 20 clinical societies and colleges, advises health practitioners when prescribing oxygen to always specify a safe 'target range' of oxygen in the blood, which can then be monitored. This vital action is designed to ensure that patients are not given too little, or too much, oxygen which can result in greater illness and, in rare cases, even death.

The rationale for giving emergency oxygen treatment is to treat low blood oxygen levels (hypoxaemia) where the body's cells are starved of oxygen, which can cause damage to vital organs which can lead to death. Oxygen can be used to help treat a number of lung diseases, such as pneumonia or deteriorations in asthma or chronic obstructive pulmonary disease (COPD). Oxygen is also used with other diseases such as heart failure and sepsis, which do not directly involve the lungs.

The updated Guideline now covers:

- Emergency oxygen use, and most other oxygen use, in healthcare settings
- Short-term oxygen use by healthcare workers outside of healthcare settings

The new areas included are:

- Endoscopy (for example, gastroscopy) and other procedures requiring sedation
- Care before, during and after operations including patient-controlled analgesia
- Palliative care settings like hospices
- Use of oxygen mixtures, like Entonox ('gas and air') – widely used in childbirth
- Use of high-flow humidified nasal cannulae (a relatively new method for oxygen delivery)
- Use of oxygen by healthcare professionals in patients' homes
- Use of oxygen by voluntary rescue organisations and other non-NHS first responders

Evidence of the Guideline's effectiveness has been increasing since it was first launched in 2008.

Among a number of studies in support of its impact, one randomised controlled trial and two observational studies have supported decades of evidence that giving high concentration oxygen to patients with severe exacerbations of COPD can increase the likelihood of death, often associated with critically high levels of carbon dioxide in the blood. These studies support the case for the BTS Guideline's recommendation of a lower safe 'target range' of 88-92% oxygen saturation for patients with COPD.

Another example of evidence spotlights the issue of patients with heart attacks with normal blood oxygen levels being given high concentration oxygen - this was common practice until very recently but probably increases the size of the heart attack due to constriction of the blood vessels in the heart in response to high doses of oxygen. There is also mounting evidence which indicates that very high blood oxygen levels in intensive care unit (ICU) patients are also associated with increased death rates. These recent studies support the effectiveness of the BTS Guideline-recommended 'target range' for improving patient outcomes.

Dr Ronan O'Driscoll, Consultant Respiratory Specialist at Salford Royal NHS Foundation Trust, and first author of the British Thoracic Society's Guideline for Oxygen Use in Adults in Healthcare and Emergency Settings, said:

"Oxygen is a very important drug and should always be prescribed and monitored like any other medication. It is very beneficial to many patients, but can be harmful if misused.

We urge all clinicians to adopt the updated BTS Guideline so that emergency oxygen is always used in an optimal and safe way.

We're delighted that a new body of evidence is confirming how effective following the Guideline can be in improving patient outcomes and reducing avoidable deaths.

The Guideline has now been extended to include more uses of oxygen ranging from procedures requiring sedation such as endoscopy, through to use of oxygen mixtures like 'gas and air' widely used in childbirth, to benefit an even greater number of patients."

1 in 7 patients in UK hospitals receives oxygen therapy for their condition on any given day, according to the BTS Emergency Oxygen Audit report (2015). Yet more than 4 in 10 of these patients (about 6,000 on an average day) are receiving oxygen with no prescription or other written order to help ensure that staff deliver and monitor oxygen use safely and effectively. Furthermore, over half of hospitals don't provide sufficient training in oxygen provision and monitoring for doctors or nurses.

However, the 2015 audit also reflected some real progress in the UK:

- 85% of hospitals have implemented an oxygen policy
- 100% used pulse oximeters to measure a patient's oxygen levels on all nursing observation rounds

- 72% recorded the patient's oxygen levels in a dedicated oxygen section on the monitoring chart consistent with the BTS oxygen guidelines

BTS won a National Patient Safety Award in 2011 for its campaigning work in the area of safe oxygen use, which has included the delivery of Guidelines, educational resources and audit to help hospitals provide oxygen safely and effectively.

The BTS Guideline for Oxygen Use in Adults in Healthcare and Emergency Settings can be downloaded here: <https://www.brit-thoracic.org.uk/standards-of-care/guidelines/bts-guideline-for-emergency-oxygen-use-in-adult-patients/>

The BTS Guideline for oxygen use in adults in healthcare and emergency settings has been endorsed by: Association of British Neurologists, Association of Chartered Physiotherapists in Respiratory Care, Association for Palliative Medicine, Association of Respiratory Nurse Specialists, Association for Respiratory Technology and Physiology, British Association of Stroke Physicians, British Geriatrics Society, College of Paramedics, Intensive Care Society, Joint Royal Colleges Ambulance Liaison, Primary Care Respiratory Society UK, Resuscitation Council (UK), Royal College of Anaesthetists, The Royal College of Emergency Medicine, Royal College of General Practitioners, Royal College of Nursing (endorsement granted until April 2020), Royal College of Obstetricians and Gynaecologists, Royal College of Physicians London, Royal College of Physicians of Edinburgh, Royal College of Physicians and Surgeons of Glasgow, Royal Pharmaceutical Society and The Society for Acute Medicine.

Ends.