

Trust Guideline for the Distribution of Oxygen Alert Cards to Adult Patients with or at risk of Hypercapnic Respiratory Failure

A Clinical Guideline recommended

For use in:	Department of Respiratory Medicine
By:	Named medical and nursing staff
For:	Adult patients in Respiratory Medicine
Division responsible for document:	Medical Division (Including Emergency)
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Assessed and Approved by the:	Professional Protocols, Policies and Guidelines (PPPG) If approved by committee or Governance Lead Chair's Action; tick here <input checked="" type="checkbox"/>
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If Yes – does the strategy/policy deviate from the recommendations of NICE? If so, why?	No

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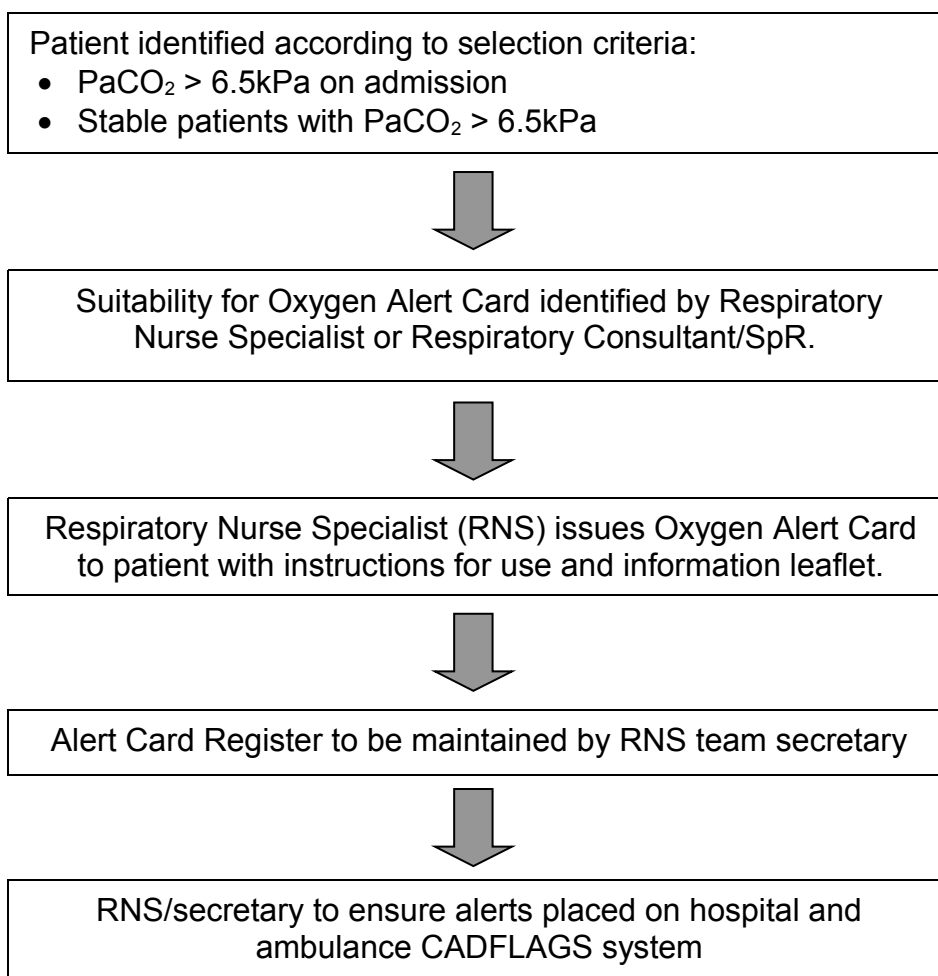
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Version Number	Date of Update	Change Description	Author
5.1	20/10/2021	Reviewed no clinical changes	Elizabeth Wootton

This is a Controlled Document

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Quick reference guideline:



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Objective of Guideline:

To provide guidance for medical and nursing staff caring for breathless patients at risk of hypercapnic respiratory failure and to help ensure safe and effective delivery of oxygen therapy to vulnerable patients.

Rationale for the recommendations:

The administration of high oxygen concentrations in acute chronic obstructive pulmonary disease (COPD)/emphysema and other conditions (chronic musculoskeletal and neurological disorders, obesity-hypoventilation syndrome) may lead to worsening of hypercapnic respiratory failure and respiratory acidosis.

This has typically occurred when these patients present to the emergency services with acute breathlessness and exacerbation of their condition, prior to measurement of arterial blood gases and before a definitive diagnosis is known. Optimal oxygen therapy during transfer to hospital, assessment in Accident and Emergency (A & E) and admission to hospital is crucial but ambulance teams may not be aware of the presence of high risk conditions. Uncontrolled oxygen therapy in patients with impaired respiratory drive may result in severe respiratory acidosis, particularly if a prolonged rural ambulance journey is required, and is associated with a significant increase in complication rate during admission.

The original guideline was developed in association with Norfolk Respiratory Interest Group (NRIG) to reduce the risk of hypercapnia from over-oxygenation in at risk patients by ensuring selected patients are issued with an Oxygen Alert Card. [Trustdocs ID 12466](#).

Broad recommendations:

Procedure for the distribution of Oxygen Alert Cards:

1. Patients will be identified to be given an Oxygen Alert Card according to the following criteria:
 - a) **Evidence of underlying disorder resulting in chronic hypercapnic respiratory failure.**
 - b) **Admitted with a raised PaCO₂ (>6.5kPa).**
 - c) **Stable patients with a PaCO₂ greater than 6.5kPa.**
2. The decision to issue an oxygen alert card to the patient will be made in discussion with the Consultant Respiratory Physician or the Respiratory SpR.
3. Patients will be issued with the Oxygen Alert Card by the Respiratory Nurse Specialist. They will be provided with an information leaflet explaining the role of the Oxygen Alert Card (appendix 1)
4. The patient will be advised to show the Oxygen Alert Card to a healthcare professional attending in an emergency. The patient will be advised that they should be treated with oxygen via Venturi mask, to maintain oxygen saturations within a target range of 88-92% until arterial blood gases are checked. Refer to Trust guideline Prescription and Administration of Oxygen in Adults [Trustdocs ID 1313](#).

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5. The Oxygen Alert Card will be presented to A&E/AMU staff or identified via alert system on PAS within 15-30 minutes of arrival to hospital and the patient will have arterial blood gases checked. Target oxygen saturation range and inspired oxygen will be altered according to the results.

Communication:

- A register of patients issued with the Oxygen Alert Card will be kept and updated by the Respiratory Nurse Specialist (RNS) team secretary.
- An alert will be placed on the Hospital PAS system by the RNS team secretary.
- A copy of the alert documentation will be sent to the patient's GP and Ambulance Trust.

Evaluation:

12 monthly report to lead clinician and Service Director to include:

- Retrospective review of 20 case notes of patients identified with hypercapnic respiratory failure during admission.
- Proportion of those patients issued with Oxygen Alert Cards.
- Proportion of patients where respiratory acidosis was due to excessive oxygen (inappropriately high PaO₂ and raised PaCO₂).
- Proportion of at risk patients given oxygen via uncontrolled delivery device (nasal cannula/simple face mask/reservoir mask) on admission to hospital.
- Proportion of patients where Oxygen Alert Card was documented by ambulance/A&E/AMU staff on arrival.
- Proportion of patients where blood gases were performed within 15-30 minutes of arrival.

Summary of development and consultation process undertaken before registration and dissemination

This protocol was drafted by the authors listed above. During its development it has been circulated for comment to Consultant Physicians in Respiratory Medicine, Comments have been discussed and points clarified as appropriate.

This version has been endorsed by the Professional Protocols, Policies and Guidelines (PPPG)

Distribution list / dissemination method

Consultant Physicians in Respiratory Medicine
Named registered nurses in Respiratory Medicine
Trust Intranet

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References / source documents:

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NICE. (2010) Chronic obstructive pulmonary disease in over 16s: diagnosis and management. Clinical guideline CG101 <https://www.nice.org.uk/guidance/CG101>

O'Driscoll BR, Howard LS, Earis J et al (2017) BTS guideline for oxygen use in adults in healthcare and emergency settings. Thorax; 72 (suppl 1): i1-i90

Oxygen Alert Card [Trustdocs ID12466](#)