COUNTYWIDE COMMUNITY
RESPIRATORY SERVICES

Assessment and
Review of Patients on Home Oxygen

<table>
<thead>
<tr>
<th>Reference No:</th>
<th>G_CS_74</th>
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<tbody>
<tr>
<td>Version:</td>
<td>1</td>
</tr>
<tr>
<td>Ratified by:</td>
<td>Lincolnshire Community Health Services NHS Trust Board</td>
</tr>
<tr>
<td>Date Ratified:</td>
<td>9th February 2016</td>
</tr>
<tr>
<td>Approved by (Committee name):</td>
<td>Medicines Optimisation Group</td>
</tr>
<tr>
<td>Date approved:</td>
<td>5th January 2016</td>
</tr>
<tr>
<td>Date issued:</td>
<td>February 2016</td>
</tr>
<tr>
<td>Review date:</td>
<td>January 2018</td>
</tr>
<tr>
<td>Target audience:</td>
<td>LCHS Staff</td>
</tr>
<tr>
<td>Distributed via:</td>
<td>Website</td>
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# Countywide Community Respiratory Services

## Assessment and Review of Patients on Home Oxygen

### Version Control Sheet

<table>
<thead>
<tr>
<th>Version</th>
<th>Section/Para/Appendix</th>
<th>Version/Description of Amendments</th>
<th>Date</th>
<th>Author/Amended by</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All</td>
<td>Whole document reviewed</td>
<td>July 2015</td>
<td>Countywide Community Respiratory Services – Adult Home Oxygen Assessment Service Team</td>
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</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Page No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 – 8</td>
<td>Adult Oxygen Assessment Service Specification.</td>
</tr>
<tr>
<td>9</td>
<td>Definition of terms.</td>
</tr>
<tr>
<td>10</td>
<td>Oxygen Assessment Pathway.</td>
</tr>
<tr>
<td>11</td>
<td>Referral and Communication Pathway for the Adult Oxygen Assessment Service – Primary Care referrals.</td>
</tr>
<tr>
<td>12</td>
<td>Referral and Communication Pathway for the Adult Oxygen Assessment Service – Secondary Care referrals.</td>
</tr>
<tr>
<td>13</td>
<td>Cross boundary referral and communication pathway between the Adult Oxygen Assessment Service and other Hospital Trust providers outside the boundaries of NHS Lincolnshire.</td>
</tr>
<tr>
<td>16</td>
<td>Countywide Community Respiratory Services Referral Form for North East Lincolnshire.</td>
</tr>
<tr>
<td>17</td>
<td>Countywide Community Respiratory Services Referral Form for North West Lincolnshire.</td>
</tr>
<tr>
<td>18</td>
<td>Countywide Community Respiratory Services Adult Oxygen Assessment Referral Form for South West Lincolnshire.</td>
</tr>
<tr>
<td>19</td>
<td>Countywide Community Respiratory Services Adult Oxygen Assessment Referral Form for South East Lincolnshire.</td>
</tr>
<tr>
<td>20</td>
<td>Initial Oxygen assessment.</td>
</tr>
<tr>
<td>21</td>
<td>Short Burst Oxygen Therapy Annual Review</td>
</tr>
<tr>
<td>22</td>
<td>Ambulatory Oxygen therapy 6 month review</td>
</tr>
<tr>
<td>23</td>
<td>LTOT: 4 week home visit assessment</td>
</tr>
<tr>
<td>24</td>
<td>LTOT: 3 month assessment</td>
</tr>
<tr>
<td>25</td>
<td>LTOT: 6 month assessment</td>
</tr>
<tr>
<td>26</td>
<td>LTOT: 12 month review</td>
</tr>
<tr>
<td>27 - 28</td>
<td>Home Oxygen Consent Form (HOCF).</td>
</tr>
<tr>
<td>29</td>
<td>Home Oxygen Order Form (HOOF)</td>
</tr>
<tr>
<td>30</td>
<td>Oxygen flow rates &amp; percentage delivered.</td>
</tr>
<tr>
<td>31-32</td>
<td>References, further information and contact details</td>
</tr>
<tr>
<td>33</td>
<td>APPENDIX 1: Protocol for amending oxygen flow rate for COPD patients with Long Term Oxygen Therapy using capillary blood gases</td>
</tr>
<tr>
<td>34 – 39</td>
<td>APPENDIX 2: Home Oxygen Disclaimer Form and East Midlands Home Oxygen Risk assessment tool (EMHORT)</td>
</tr>
<tr>
<td>40 - 43</td>
<td>APPENDIX 3: Standard Operating Procedure for minimising the risk from fire when considering home oxygen for COPD patients</td>
</tr>
<tr>
<td>44</td>
<td>APPENDIX 4: Competencies for Oxygen Assessment.</td>
</tr>
<tr>
<td>45-46</td>
<td>APPENDIX 5: Procedure for Obtaining an arterialised capillary blood gas sample and analysis using i-STAT blood gas analyser</td>
</tr>
</tbody>
</table>
Countywide Community Respiratory Services

Adult Oxygen Assessment Service Specification

Overview of service

Long Term Oxygen Therapy (LTOT) is a widely used treatment that improves survival in patients with Chronic Obstructive Pulmonary Disease (COPD) and severe hypoxaemia. Once started this therapy is likely to be life long. Ambulatory oxygen therapy refers to the provision of oxygen therapy during exercise and activities of daily living. In 2015 the British Thoracic Society (BTS) published updated guidelines and a structured framework for the assessment and follow up care of patients requiring home oxygen therapy. There is a strong recommendation in the guidelines that both LTOT and ambulatory oxygen therapy should only be prescribed after appropriate assessment by a respiratory specialist. The Adult Oxygen Assessment Service provides the primary care component of a joint primary/secondary care model for the provision of specialist oxygen assessment and follow up care which are based on the clinical standards set out by the BTS (2015). Patients across Lincolnshire will have access to standardised clinical assessment, appropriate and safely prescribed oxygen therapy and formal arrangements for community based follow–up care thus ensuring that the prescribed LTOT adequately corrects hypoxaemia, that there is good compliance with LTOT and ambulatory oxygen therapy, to detect clinical deterioration and to ensure continuing requirement for domiciliary oxygen.

Aim of the Service

To provide a primary care based oxygen triage and assessment service, improving choice and access for patients and by working in partnership with secondary care providers ensure a seamless patient journey between assessments and follow on care.

Scope of the Service

Adult patients with COPD or severe chronic asthma currently receiving oxygen therapy and those who are considered to require assessment and subsequent initiation.

The service will cover the geographical area and practices within the boundaries of Lincolnshire (CCGs: NHS Lincolnshire West CCG, NHS Lincolnshire East CCG, NHS Lincolnshire South West CCG and NHS Lincolnshire South CCG.

Statement of principles

The Home Oxygen Service will:-

- Provide advice and information to service users and their carers and relatives.
- Provide a confidential and safe service in line with Caldicott guidelines on confidentiality.
- Provide a clinical assessment for patients who may require home oxygen therapy.
- Provide or co-ordinate a review of patients who are already in receipt of home oxygen therapy and where appropriate, in line with national and local evidence, support the removal of oxygen therapy.
Wherever possible patients will be seen in a clinic setting (if they are currently able to visit the GP). However a home visit will be offered in those patients who are housebound and cannot get to a clinic.

Ensure compliance with LCHS policies and Health and Safety legislation.

Work within clinical competencies and to the code of ethics for relevant profession e.g. NMC.

Ensure all complaints are responded to in line with LCHS policy in a timely manner.

All patients will have a confirmed diagnosis of COPD and wherever possible a hard copy of spirometry results to be provided be seen.

Referral Pathway

Patients identified from Primary and Secondary Care and referred via a standardised referral form to the appropriate locality office (based at The Contact Centre, Gainsborough; Grantham and Boston) either by fax or by post.

Following initial assessment, those patients who require LTOT and Ambulatory oxygen assessment will be referred by letter to a Secondary Care provider, and will subsequently be handed back to the Primary Care team for follow up.

Inclusion Criteria

Patients are required to have:

- A confident clinical diagnosis of COPD, confirmed by spirometry.
- Optimal medical management and a period of stability for a recommended 8 weeks prior to the assessment.
- A resting SpO$_2$ of ≤ 92% breathing air or a fall in SpO$_2$ of 4% to below 90% on exertion.
- A resting SpO$_2$ of ≤ 94% with evidence of peripheral oedema, polycythaemia (haematocrit ≥55%) or pulmonary hypertension.
- Be in receipt of oxygen therapy without ever having been formally assessed.
- Those patients who currently receive oxygen therapy but do not require follow up in Secondary Care.

Exclusion Criteria

- Patients without a confirmed clinical diagnosis.
- Patients who are not pharmacologically optimised.
- Patients who are not in a stable phase of their disease.
- Patients receiving oxygen therapy for conditions other than COPD and severe chronic asthma.
- Palliative patients who are normoxic i.e. SpO$_2$ ≥93% on air.

Communication pathways and access timelines.

- Referral form received by Adult Oxygen Assessment Service via fax or post.
- Triage of referral within 5 working days.
- Outcome of triage communicated to referrer by letter with copy to GP if appropriate within 10 working days.
- Patient is offered an assessment, either in a Primary Care clinic or at home. Date of assessment will be within 8-10 weeks of date the referral was received. The letter
offering an appointment and a patient information leaflet will be sent within 10 working days of the referral being received.

Following assessment/intervention a letter or task (for SystmOne users) will be sent to the referrer and copied to the patient and their GP detailing assessment outcomes within 10 working days.

Patients refusing 3 offers of an appointment or failing to attend 3 appointments will be discharged back to their GP.

Patients requiring referral to secondary care for further assessment and oxygen initiation will be referred by letter (copy to patient and GP) within 10 working days.

Patients requiring referral to other community health services will be referred by letter/form (copy to patient and GP) within 10 working days.

**Process of Care**

The pathway of this service will be:

1. Patient identified by Primary Care (either in general practice or community care setting) for oxygen assessment.
2. Patient referred to Adult Oxygen Assessment Service.
3. Referral is triaged, possible outcomes will be: referral accepted or patient deemed inappropriate (see inclusion/exclusion criteria) and referral not accepted.
4. Outcome of triage communicated to referrer by letter, detailing reasons for non-acceptance and recommendations for improving care if appropriate.
5. Patient assessed at a community clinic/Primary Care centre, or at home if the patient is housebound. If SpO₂ ≤92% (and clinically stable for 8 weeks) capillary blood gases will be performed.

**Outcomes**

a) Ambulatory oxygen candidates will be referred on to Secondary Care for formal assessment.

b) Patients in receipt of Short Burst Oxygen Therapy (SBOT) will be reviewed by Primary Care oxygen team annually.

c) If capillary blood gas results confirm hypoxaemia – patient referred to Secondary Care for second set of blood gases and/or ambulatory assessment. If appropriate, initiation of oxygen therapy.

d) Patient is handed back to Primary Care oxygen team for follow up and ongoing management.

Each follow up appointment by the primary care oxygen team will include: patient review, clinical examination, personalised health and care planning in partnership with the patient and review of care plans, education and risk assessment. Additionally, lung function tests (i.e. Spirometry), assessment of inhaler technique and capillary blood gas analysis will be performed as required. Quality of Life measurement will be carried out 6 monthly using the Medical Research Council dyspnoea scale.

- Follow up by primary care oxygen team for LTOT at 1 month (home visit), 3 months, 6 months and 12 months, with twice yearly follow up thereafter (including capillary blood gas analysis).
- Ambulatory oxygen patients will receive follow up in Secondary Care at 2 months, then by Primary Care oxygen team at 6 months and 12 months, and twice yearly thereafter.
- Patients using Short Burst Oxygen will be reviewed annually by the primary care oxygen team.
• Patients who demonstrate deterioration in their condition will be managed appropriately by the Primary Care oxygen team unless there is a necessity to refer back to Secondary Care for specialist review, e.g. marked and unexpected deterioration in lung function and/or blood gases, unstable hypercapnia, assessment of nocturnal hypoxaemia.
• Borderline patients who do not qualify for oxygen therapy will be discharged back to the initial referrer/key worker for monitoring of condition.
• Existing oxygen users will have their oxygen prescription checked by the primary care oxygen team against their actual usage (using Air Liquide information hotline) and amended as clinically appropriate to their needs.
• Existing oxygen users who do not formally qualify for their therapy will work in partnership with the primary care oxygen team clinician to develop a personalised care plan and be assisted in weaning off their oxygen use prior to it being withdrawn (in as many cases as possible).
• Patients identified as having additional health care needs will, with their consent, be referred or signposted as required to the appropriate community services and managed in partnership between the primary care oxygen team and other services e.g. Complex Case Management, Case Management, Specialist Nurse Case Management, Key Worker, GP.
• Travel advice to include holiday orders for Oxygen provision by primary care oxygen team
• Service user feedback will be sought annually by primary care oxygen team via a Patient Satisfaction Questionnaire.

Outcome of Service/intervention

• A service ensuring that all appropriate patients receive a formal oxygen assessment and appropriate diagnosis and treatment of chronic hypoxaemia.
• Adherence to evidence based recommendations and guidelines.
• Improved patient quality of life and symptom relief.
• Quality assurance of service for all patients across the Primary/Secondary Care interface.
• Equity of services for patients in Lincolnshire
• Service enabling patients to be managed in the community, thus improving patient choice and access.
• Cost effectiveness of limited resources.
• Documentation and communication with oxygen contract supplier (Air Liquide) will be maintained.
• Patients will have access to appropriate integrated community services such as Complex Case Management, Case Management, Specialist Nurses, Key Worker.
• Countywide solution for Secondary Care providers who have not had an oxygen assessment service.
• Partnership working between Primary and Secondary Care.
• Supporting Complex Case Management and Palliative Care.

Discharge Criteria

Patients will be discharged from the service if:

• They do not attend or decline 3 offers of appointment.
• Oxygen therapy is not required.
• Oxygen therapy is withdrawn.
Reporting Mechanisms/service standards

Performance monitoring of the Adult Oxygen Assessment Service will be undertaken by reporting and audit which will include the following:

Quarterly report on number of patients:
- Referred into the service.
- Currently receiving oxygen therapy who have undergone formal assessment (thus identifying those who have not).
- Who have had oxygen removed.
- Not fulfilling criteria for oxygen therapy but in whom it is impossible to remove the oxygen.
- Who have received more appropriate therapy as a result of oxygen assessment.
- To have Patient Satisfaction Questionnaire offered prior to discharge from the service.

Also:
- Waiting times from referral to assessment.
- Number of assessments performed.
- Location of assessment.
- Number of referrals made to Secondary Care.
- Number of referrals made to other community health services e.g. Pulmonary Rehabilitation Smoking Cessation Service, Complex Case Manager.
- Amendments made to existing oxygen orders/prescription.
- Clinical indicator comparison to evaluate quality effectiveness of community provision.

Annual audit of Key Performance Indicators including:

- No of patients who receive a letter offering them an appointment
- No of patients who receive a Patient Information Leaflet with their first appointment letter.
- Recording and reporting of the number of ethnic minority patients seen within the service.
- No of personalised care plans offered to patients.
- Savings achieved through appropriate oxygen provision.
- Workforce development.

Standards:

- Improvement in patient quality of life and symptom management.
- Reduction in inappropriately prescribed home oxygen therapy.
- The Adult Oxygen Assessment Service will wherever possible adhere to the clinical guidance and structure of care recommended by the British Thoracic Society (2015). It may be necessary in rare circumstances to review patients outside of this pathway. Such situations will be individually negotiated with the patient, clinician and if appropriate, under consultant review.
- Patients will have their consent obtained prior to any intervention or further referrals being made as a result of their oxygen assessment in Primary Care.
- Patients will receive education and information including risk assessment and if appropriate liaison with the Fire Department in order to promote and ensure safe home oxygen usage, throughout the pathway.
- A cost effective service.
- A full set of key performance indicators are available on request.
Definition of terms

**Long Term Oxygen Therapy (LTOT)** refers to the provision of oxygen therapy for continuous use via an oxygen concentrator at home for patients with chronic hypoxaemia (Pa02 at or below 7.3 kPa when stable or Pa02 of 7.3 to 8.0 kPa when stable but with evidence of Cor Pulmonale, secondary polycythemia or nocturnal hypoventilation). The oxygen flow rate must be sufficient to raise the waking oxygen tension above 8 kPa. Once started, this therapy is likely to be life long. LTOT is usually given for at least 15 hours daily, to include night time, in view of worsening hypoxaemia during sleep. It is important to differentiate LTOT from the use of oxygen as a palliative measure for symptomatic relief in breathless patients which is not recommended in the absence of hypoxaemia.

**Ambulatory Oxygen Therapy (AOT)** refers to the provision of oxygen therapy during exercise and activities of daily living. It has been shown to improve exercise capacity and reduce breathlessness in patients with arterial oxygen desaturation, defined as a fall in Sa02 of 4% to a value <90%. The purpose of ambulatory oxygen is to enable the patient to leave home for a longer period of time, to improve daily activities and quality of life and therefore should only be prescribed for patients who are mobile outdoors. Ambulatory oxygen should only be prescribed after appropriate assessment by the hospital specialist.

**Short Burst Oxygen Therapy (SBOT)** is typically given to patients for the relief of breathlessness not relieved by any other treatments. It is used intermittently for short periods of 10-20 mins at a time. Evidence shows that SBOT does not improve exercise tolerance or reduce breathlessness when administered either before or following exercise to hypoxic or non-hypoxic patients with moderate-severe COPD. Nor does it improve health-related quality of life or reduce healthcare utilisation when ordered for patients following an acute exacerbation of COPD.

British Thoracic Society guidelines for home oxygen use in adults, *Thorax* 2015; Vol 70, (Supplement 1) i1-i43
Oxygen Assessment Pathway

**Non-oxygen patients identified**

**Triage of patient**
- Patient with criteria and optimised treatment, stabilised for 5 weeks, rehab etc...

**If appropriate**
- Refer to Oxygen Assessment Service.

**Initial Assessment**
- Is chronic hypoxemia/desaturation confirmed?
  - (If borderline re-assess in 3 months).

**Follow up at**
- 4 weeks (home).
- 3 months (ABG).
- 6 months.
- Thereafter (ABG to be checked annually).

**Follow up at 3 weeks**
- Commence LTOT prescription. Consider overnight SaO2.

**Follow up at 2 months**
- LTOT enter Follow up 6 months.
- Follow up Non LTOT exercise desaturators annual follow up.

**Ambulatory Assessment**
- LTOT Low activity.
- LTOT active group.
- Non LTOT exercise desaturators.
- Commence prescription.

**Follow up annually**
- Consider removal of supply if no improvement in exercise tolerance or breathlessness can be documented.

This will be the pathway the majority of patients within the indicated conditions list will follow, however it must be acknowledged that patients may deviate from pathway and providers, particularly with regards to follow up needs. Other specialist conditions will not get referred onto PC pathway.
Referral and Communication Pathway for the Adult Oxygen Assessment Service.

**Primary Care Generated Referrals To The Service.**

**New patients** – non-oxygen users with a resting SpO2 <92% on air, or who desaturate by 4% to below 90%, referred by GP practice/CCM/Specialist Nurse via Adult Oxygen Assessment Service Referral Form.

- Referral received by Adult Oxygen Assessment Service, triaged and appointment sent to patient. cc. letter to patient’s GP.

- First assessment in Primary Care at local clinic or home visit if housebound.

- Chronic hypoxemia (or desaturation confirmed?).

- NO
  - Borderline patients are retained for 3 month follow up. Outcome of assessment copied to Patient and GP by letter or task if SystmOne user.

- NO
  - Patient is discharged back to their GP by letter. Cc. Patient.

- YES
  - Referral to Secondary Care oxygen assessment service by letter including diagnosis, spirometry, PMH, inhaled medications, SpO2, capillary blood gas analysis. cc. patient and GP

  - Patient assessed in Secondary Care.
    - LTOT patients will have second set of blood gases taken.
    - Ambulatory assessment plus 8 week follow up.
    - Oxygen therapy initiated or altered.

  - Discharge for follow up to Primary Care Adult Oxygen Assessment Service by letter including relevant Risk Assessment eg EMHORT information. cc patient.
Referral and Communication Pathway for the Adult Oxygen Assessment Service.

Secondary Care Generated Referrals To The Service.

Patient identified by Respiratory Physician or Respiratory Nurse Specialist
(New patients requiring assessment and patients on oxygen who have never been assessed).

Patient is assessed by Secondary Care Oxygen Assessment Service (LTOT or Ambulatory Assessment).

Oxygen therapy initiated or withdrawn by Secondary Care.

If patient retained by Secondary Care due to complex respiratory needs or unstable hypercapnia, letter to Primary Care team (or copy of GP letter)

Patient seen in Secondary Care and either retained for further follow up or discharged to Primary Care Oxygen Assessment Service with a management plan detailed in the discharge letter.

Inpatients sent home with oxygen therapy.

Patient returns to Secondary Care for Oxygen Assessment outpatient appointment.

Stable LTOT/SBOT/AMBULATORY patients currently managed by Secondary Care oxygen assessment service.

Discharge to care of Primary Care Adult Oxygen Assessment Service by letter including diagnosis, Spirometry, SP02, previous blood gases, history of oxygen use including flow rates, oxygen delivery device and copy of relevant Risk Assessment Forms e.g EMHORT.

Primary Care LTOT/AMBULATORY/SBOT follow up as per DOH guidelines. Outcome letter sent to GP (cc. patient).

If patient’s condition becomes unstable or hypercapnic.

Primary Care Adult Oxygen Assessment Service refers the patient back to Secondary Care for urgent oxygen assessment +/- consultant review by letter. cc. Patient and GP.
Cross boundary referral and communication pathway between the Adult Oxygen Assessment Service and other Hospital Trust providers outside the boundaries of NHS Lincolnshire.

Non-COPD patients who choose (or it is recommended by their health professional) that their oxygen assessment takes place under another hospital provider.

Primary Care generated referral triaged by Adult Oxygen Assessment Service and passed on to appropriate hospital provider by post.

Initial assessment and all subsequent follow up appointments provided by Secondary Care Service (LTOT or Ambulatory Assessment)

Non-COPD patients who choose (or it is recommended by their health professional) that their oxygen assessment takes place under another hospital provider.

Primary Care generated referral triaged by Adult Oxygen Assessment Service and passed on to appropriate hospital provider by post.

Primary Care generated referral triaged by Adult Oxygen Assessment Service. Initial assessment carried out in Primary Care by Adult Oxygen Assessment Team including 1st set of blood gases.

Patients who qualify for LTOT or Ambulatory oxygen are referred to other hospital trust provider by letter including diagnosis, Spirometry, SP02, previous blood gases, history of oxygen use including flow rates and oxygen delivery device. Cc letter to patient and GP.

COPD patients who require oxygen therapy at discharge as a result of an inpatient stay with another hospital provider.

Patient is assessed by Secondary Care Assessment Service during inpatient stay and is discharged with emergency provision of oxygen.

Referred to the care of Primary Care Adult Oxygen Assessment Service by letter including diagnosis, Spirometry, SP02, previous blood gases, history of oxygen use including flow rates and oxygen delivery device. Cc letter to patient and GP

COPD patients who choose (or it is recommended by their Health Care Professional) that their oxygen assessment takes place under another hospital provider.

Primary Care generated referral triaged by Adult Oxygen Assessment Service.

Patients who qualify for LTOT or Ambulatory oxygen are referred to other hospital trust provider by letter including diagnosis, Spirometry, SP02, previous blood gases, history of oxygen use including flow rates and oxygen delivery device. Cc letter to patient and GP.

Unstable/hypercapnic patients. Primary Care Adult Oxygen Assessment Service refers back to Secondary Care for urgent oxygen assessment +/- consultant review by letter. Cc patient and GP.

Patient is discharged to Primary Care service for LTOT/AMBULATORY/SBOT follow up as per BTS guidelines. Outcome letters sent to patient and GP.

Patient seen in Secondary Care and either retained for further follow up or discharged to Primary Care oxygen assessment service with a management plan detailed in the discharge letter. Cc Patient and GP

Primary Care LTOT/AMBULATORY/SBOT follow up. Outcome letter sent to Secondary Care provider Patient and GP.

LTOT patients return to Secondary Care for Oxygen Assessment outpatient appointment for 2nd set of blood gases and initiation of LTOT.
Adult Oxygen Assessment Service
Guide to referral pathway

Inclusion Criteria
Patients are required to have:

- A confident clinical diagnosis of COPD, confirmed by spirometry.
- Optimal medical management and a period of stability for a recommended 8 weeks prior to the assessment.
- A resting $\text{SpO}_2$ of $\leq 92\%$ breathing air or a fall in $\text{SpO}_2$ of 4% to below 90% on exertion.
- A resting $\text{SpO}_2$ of $\leq 94\%$ with evidence of peripheral oedema, polycythaemia (haematocrit $\geq 55\%$) or pulmonary hypertension.
- Be in receipt of oxygen therapy without ever having been formally assessed.
- Those patients who currently receive oxygen therapy but do not require follow up in Secondary Care.

What are the referral criteria?
Due to the significant risk of fire and personal injury associated with smoking and the use of Home Oxygen therapy it is recommended that patients referred into the service have ceased smoking prior to the referral. In order for the referral to be accepted, patients must:

- Have a confirmed diagnosis of COPD (hard copy of spirometry must be attached to the referral).
- Have inhaled therapies optimised (i.e. short acting bronchodilator, long acting anticholinergic, plus long acting beta-agonist/inhaled corticosteroid combined inhaler if appropriate).
- Be in a stable condition (i.e. 8 weeks since last exacerbation)
- For ambulatory oxygen referrals patients ideally should have completed a Pulmonary Rehabilitation programme prior to oxygen assessment.

Exclusion Criteria

- Patients without a confirmed clinical diagnosis.
- Patients who are not pharmacologically optimised.
- Patients who are not in a stable phase of their disease.
- Patients receiving oxygen therapy for conditions other than COPD and severe chronic asthma.
- Palliative patients who are normoxic i.e. $\text{SpO}_2 \geq 93\%$ on air.

What about non-COPD patients?
Referrals for patients who may require oxygen assessment but do not have COPD (e.g. Heart Failure, Pulmonary Fibrosis, cluster headaches) will be passed straight on to Secondary Care for formal oxygen assessment.

How do I refer?
By completing IN FULL the Community Respiratory Referral Form for your area and faxing it to your locality office (fax number can be found on the bottom of the referral form). Please remember to attach a hard copy of the patient’s spirometry and a print out of current medications.
What happens next?

- The referral will be triaged, and either accepted or declined. You will be contacted by letter if your referral has been declined, with an explanation of the reasons for non-acceptance.
- If the referral is accepted the patient will be contacted by letter and offered an appointment with a Respiratory Nurse Specialist in a locality clinic (home visits are available for truly housebound patients).
- At clinic the patient will be assessed in line with the BTS guidelines for home oxygen, which may include capillary blood gas analysis. If the result of the assessment shows that the patient meets the criteria for Long Term Oxygen Therapy or Ambulatory Oxygen Therapy they will be referred on to their local Secondary Care provider for further assessment and initiation of oxygen.
- Once oxygen therapy has been initiated, patients will receive follow up locally by the community team.

Please contact the Adult Oxygen Assessment Team for advice and support:

**Boston Office:** Tel: 01205 315247  Fax: 01205 312803.

**Grantham Office:** Tel: 01476 590416 Ext 209  Fax: 01476 579037.

**Lincoln Office:** Tel: Contact Centre 01522 707274 ext 1  Fax: 01427 816576

**Louth Office:** Tel: 01205 315247 opt 5  Fax: 01507 354957
# Community Respiratory Team
## Referral Form for North East Business Unit

**Please tick service required**
- [ ] Respiratory Complex Case Management (CCM)
- [ ] Acute Respiratory Assessment Service (ARAS)
- [ ] Oxygen Assessment
- [ ] Pulmonary Rehabilitation

### Patient Details
- **Name:**
- **Address:**
- **Post Code:**
- **Date of Birth:**
- **NHS No.:**
- **Telephone No.:**
- **Carer’s Name (if applicable):**
- **Is the patient Housebound?:**
- **Social Circumstances:**

### Referrer’s Details
- **Name:**
- **Surgery Name and Address:**
- **Post Code:**
- **Telephone No.:**
- **Fax No.:**
- **Date of Referral:**
- **Carer’s Contact No:**

### Confirmed COPD Diagnosis:
- **Has the patient used antibiotics or steroids in the last 5 weeks?:**

### Co-morbidities:
- **History of Presenting Illness:**

### Current Medications (Please attach printout):
- **Smoking Status:**
  - **History:** ………….. pack years
  - **Cessation advice:**

### Spirometry Date:
- **Result**
- **%**
- **VC**
- **FEV1**
- **FVC**
- **FEV1/VC**
- **FEV1/FVC**

### Current Oxygen Prescription (if appropriate)
- **Long-term Oxygen Therapy**
  - **Litre/min:**
  - **Hours/day:**
- **Ambulatory**
  - **Litre/min:**
  - **Hours/day:**
- **Short Burst Oxygen Therapy**
  - **Litre/min:**
  - **Hours/day:**

### OBSERVATIONS:
- **Any other information:**
  - **Temperature:**
  - **Pulse Rate:**
  - **Oxygen Saturation:** on rest on exercise
  - **BP:**
  - **Respiratory Rate:**
  - **Sputum Production – Colour/Volume:**
  - **Is the patient more breathless than usual:**

### Informed consent given?
- **Signature:**
- **Date:**
- **Name of referrer (print):**
- **Designation:**
- **Telephone Number:**

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**PLEASE FAX A COPY TO 01507 354957  Tel: 01205 315247 option 5.**
### Community Respiratory Team
Referral Form for North West Lincolnshire and Lincoln South

**Please tick service required**
- □ Respiratory Complex Case Management (CCM)
- □ Oxygen Assessment
- □ Acute Respiratory Assessment Service (ARAS)
- □ Pulmonary Rehabilitation

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<tr>
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<td>Long-term Oxygen Therapy</td>
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<td>Result</td>
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<th>Any other information:</th>
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<td>ECG:</td>
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<td>Oxygen Saturation:</td>
<td>on rest ........ on exercise</td>
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<td>........</td>
<td>Echocardiogram:</td>
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<td>BP:</td>
<td>FBC:</td>
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<td>Respiratory Rate:</td>
<td>MRC Score:</td>
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<tr>
<td>Sputum Production – Colour/Volume:</td>
<td>Walking Tolerance (metres) ............... MRC:</td>
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<tr>
<td>Is the patient more breathless than usual:</td>
<td>Walking aid/appliance used:</td>
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# Community Respiratory Team

**Referral Form for South West Lincolnshire**

**Please tick service required**

- □ Respiratory Complex Case Management (CCM)
- □ Oxygen Assessment
- □ Acute Respiratory Assessment Service (ARAS)
- □ Pulmonary Rehabilitation

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<td><strong>Date of Referral:</strong></td>
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**Carer’s Name (if applicable)**

**Social Circumstances:**

- Is the patient Housebound?

**Confirmed COPD Diagnosis:**

**Has the patient been stable for the last 5 weeks?**

<table>
<thead>
<tr>
<th><strong>Co-morbidities:</strong></th>
<th><strong>History of Presenting Illness:</strong></th>
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**Current Medications (Please attach printout):**

**Smoking Status:**

- History: …………………….. pack years
- Cessation advice:

<table>
<thead>
<tr>
<th>Spirometry Date:</th>
<th>Current Oxygen Prescription (if appropriate)</th>
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<tbody>
<tr>
<td>□ VC</td>
<td>□ Long-term Oxygen Therapy</td>
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<td>□ FEV1</td>
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<td>□ FVC</td>
<td>□ Short Burst Oxygen Therapy</td>
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**OBSERVATIONS:**

- Temperature:
- Pulse Rate:
- Oxygen Saturation: on rest ……… on exercise ………
- BP:
- Respiratory Rate:
- Sputum Production – Colour/Volume:
- Is the patient more breathless than usual:
- Chest X-Ray:
- ECG:
- Echocardiogram:
- FBC:
- MRC Score:
- Walking Tolerance (metres) ………………. MRC:
- Walking aid/appliance used:
- Height:…………………………Weight: ……………….|

**Informed consent given? Yes/No**

**Signature:**

**Date:**

**Name of referrer (print):**

**Designation:**

**Telephone Number:**

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**PLEASE FAX A COPY TO Grantham Community Base 01476 579037**
**Community Respiratory Team**
**Referral Form for South East Business Unit**

*Please tick service required*
- □ Respiratory Complex Case Management (CCM)
- □ Acute Respiratory Assessment Service (ARAS)
- □ Oxygen Assessment
- □ Pulmonary Rehabilitation
- □ Respiratory Physiotherapy

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**OBSERVATIONS:**
- Any other information:
  - Temperature: Chest X-Ray:
  - Pulse Rate: ECG:
  - Oxygen Saturation: on rest ……… on exercise
  - ………
  - BP: Echocardiogram:
  - Respiratory Rate: FBC:
  - Sputum Production – Colour/Volume: MRC Score:
  - Is the patient more breathless than usual: Walking Tolerance (metres) ………………..
  - Walking aid/appliance used: ………………..
  - Height: ……………….. Weight: ………………..

**Informed consent given? Yes/No**
**Signature:**
**Date:**
**Name of referrer (print):**
**Designation:**
**Telephone Number:**

**PLEASE FAX A COPY TO ADMIN HUB 01205 312803 Tel: 01205 367358 #331.**
Initial Oxygen assessment

The clinical assessment will be carried out in the appropriate clinic or if the patient is housebound their home. Prior to assessment the referral will have been assessed and deemed to be appropriate, patients will have to have a confirmed diagnosis of COPD, on optimised therapy and clinically stable for at least 8 weeks.

- Review of patient’s history and current therapy.
- Check patients understanding of the referral and gain verbal consent.
- Health status check including B/P pulse, spirometry (if recommended) height and weight. Advise on Flu and pneumococcal vaccination.
- Inhaler technique and medication concordance.
- Measure pulse oximetry on air, if SpO2 >92% or SpO2 ≤ 94% with clinical evidence of peripheral oedema, polycythaemia (haematocrit >55%) or pulmonary hypertension assess also for ambulatory desaturation. If SpO2 <92% or SpO2 ≤ 94% with risk factors, continue with an ear lobe blood gas (CBG) (refer to protocol for CBG).
- P02 >7.3 but below 8kpa (and the patient does not have pulmonary hypertension or polycythaemia) then arrange a repeat assessment in 3/12 consider referral for overnight oxygen.
- P02 <7.3kpa arrange a referral for Secondary Care LTOT assessment, if housebound can have second assessment at home, at least 3 weeks between each assessment and clinically stable for 8 weeks.
- In patients with clinical evidence of peripheral oedema, polycythaemia (haematocrit >55%) or pulmonary hypertension with a resting PO2 ≤ 8kPa arrange a referral for Secondary Care LTOT assessment.
- Check smoking status, if still smoking or members of family smoking then give smoking cessation advice. Note caution on smoking and oxygen. Initiate smoking risk assessment protocol in partnership with the patient. FULLY ADVISE PATIENT ON RISK OF SMOKING WITH OXYGEN
- Refer to Appendix – EMHORT pathway and complete EMHORT Form
  - refer to Allied Professionals – risk assessment.
  - refer to Community Fire Safety team.
  - withdraw oxygen if significant risk
- Complete quality of life measurement by use of MRC Dyspnoea Scale
- Whilst awaiting 2nd review if symptomatic consider prescription of appropriate oxygen therapy, complete Home Oxygen Consent Form (HOCF)/and Home Oxygen Order Form (HOOF).
Short Burst Oxygen Therapy (SBOT) refers to intermittent use of supplemental oxygen at home usually for periods of 10 – 20 minutes at a time to relieve dyspnoea which is not relieved by other treatments.

SBOT has traditionally been used for:

- Pre-oxygenation before exercise.
- Breathlessness during recovery from exercise.
- Control of breathlessness at rest.
- Used in palliative care.
- Used after an exacerbation of COPD to bridge the time to full LTOT assessment.

Despite extensive prescription of SBOT there is no adequate evidence available for firm recommendation for the therapy.

- SBOT does not improve exercise tolerance or reduce breathlessness when administered either before or following exercise to hypoxic or non-hypoxaemic patients with moderate to severe COPD.
- SBOT does not improve health related quality of life or reduce healthcare utilisation when ordered for patients (BTS 2015)

Patients receiving SBOT will be reviewed annually at a clinic, housebound only at home:

- Review of how often SBOT is being used, flow rate and delivery device and any problems.
- Record Sp02 if >92% record only but if lower perform CBG (as per protocol).
- Aim to wean down use of and remove SBOT if no benefit or no improvement in symptoms are present.
- Assess effectiveness of SBOT in managing breathlessness. Provide patient information leaflet regarding correct use of SBOT.
- Health status review, B/P, pulse, height, weight, spirometry if indicated and smoking cessation advice.
- Assess the need for completion of HADS.
- Review of inhalers, technique, concordance and ensure they are fully optimised.
- Chest examination.
- Note any exacerbations.
- Discuss need for Flu/Pneumococcal vaccination.
- Discuss benefits of pulmonary rehabilitation.
- Explore other strategies for the management of breathlessness.
- Develop a personalised care plan in partnership with the patient.
- Record Quality of Life Measurement using MRC score.
- Offer a patient Satisfaction questionnaire annually.
Ambulatory Oxygen assessment 6 monthly review

Patients without chronic hypoxaemia and LTOT, should be considered for ambulatory oxygen therapy only if they show evidence of exercise oxygen desaturation, a fall in SpO2 of 4% to a value <90%. Show an improvement in exercise capacity and/or less breathlessness with ambulatory oxygen therapy. Initiation of ambulatory therapy grade 3 will be performed in Secondary Care with a follow-up 8 weeks later. If stable they will be discharged to the community oxygen assessment team where 6 monthly reviews will be carried out.

- Ensure that current oxygen flow rate corrects desaturation when walking to the patients maximum tolerated distance to SpO2 ≥ 90%
- Provide patient information leaflet regarding correct use of ambulatory oxygen therapy.
- Consider weaning down or removing if not being used or is not mobile outdoors
- Health status, check B/P, pulse, weight and height, Spirometry if indicated.
- Smoking status and cessation advice.
- Perform capillary blood gas analysis if SpO2 indicates LTOT assessment
- Discuss exercise and Pulmonary Rehabilitation if appropriate.
- Discuss flu/pneumococcal vaccination.
- Develop a personalised care plan in partnership with the patient.
- Record Quality of Life Measurement using MRC Dyspnoea Scale every 6 months
- Offer a patient Satisfaction questionnaire annually.
LTOT: Oxygen 4 week home visit assessment

A home visit will normally be organized 4 weeks after LTOT has been prescribed. If possible it is ideal to have the main carer, family member or spouse present during the visit. There are two main categories that need to be addressed Education and Assessment.

**Education**

Discussion about the reasons for the oxygen therapy, and length of time that it should be administered (both LTOT and ambulatory). Provide appropriate patient information leaflets.

Discuss any problems that may have arisen and look at the nasal cannulae/masks ensure that they are suitable.

Ensure that the concentrator is in a suitable location away from fires, heating and not obstructing any exits.

Requirement for back-up cylinder and where it is to be sited.

Make referral to the fire service if required.

Smoking cessation advice if required and ensure that all visitors to the house will be aware of the need for NO SMOKING and of the dangers of smoking and oxygen.

Review of inhalers and inhaler technique checked.

Ensure that the contact telephone numbers for the oxygen supplier and Respiratory Nurse have been provided.

**Assessment**

Pulse Oximetry should be recorded. If over 92% whilst on oxygen then the flow rate can stay the same. If SpO2 is below 92% they will need reassessing as per flow rate change protocol.

Observe for and question about signs of hypercapnia.

Check for any signs of exacerbation/infection.

Chest examination and discussion regarding sputum and management plan.

Ensure there is an emergency course of antibiotics and steroids at home.

Review existing personalised care plans and develop new care plans in partnership with the patient.
LTOT: Oxygen 3 month assessment

All patients should be reviewed by the Respiratory Nurse Specialist, Oxygen, at 3 months after initial LTOT prescription. The following should be carried out:

- Arterial blood gas measurements with supplemental oxygen at the prescribed flow rate. Ear lobe capillary blood gases will be sampled using the ISTAT machine.

- PO2 <8 kPa but no rise in PC02 of above 6 kPa, then the flow rate will be changed (see oxygen flow rate change protocol).

- Referral to hospital specialist for reassessment when there is a clinical deterioration (other than lowering of the Sp02) or symptoms of worsening Hypercapnia.

- A review of respiratory medication and inhaler technique checked.

- Spirometry performed if indicated.

- Smoking cessation and safety advice to be discussed and reinforced with patient and or/carers/family members.

- Review of ambulatory needs.

- Review existing personalised care plans and develop any new care plans in partnership with the patient.

- Refer to SOP for reducing risk from fire (see Appendix)
LTOT: Oxygen 6 month assessment

All LTOT patients should be followed up 6 monthly with measurements of Sp02 on air and LTOT.

- In patients where the Sp02 is under corrected <92% on LTOT the patient will need to have a repeat blood gas assessment on oxygen to adjust the LTOT flow rate.
- Although the oxygen flow rate can be increased using Oximetry, there is a risk of worsening hypercapnia with increasing supplemental oxygen flow rate.
- Where the Sp02 is noted to be at level of 92% or above on air, the patient should be visited again in 4 weeks for repeated oximetry. If the Sp02 is still at 92% or above the patient should be reassessed to see if they require LTOT.

Attention should also be paid to:

- Concentrator location.
- Nasal cannulae/masks.
- Requirements for back-up cylinder.
- Check oxygen usage with the patients and their understanding of the need for compliance.
- Reinforce no smoking with patient and family/visitors.
- Check inhaler technique and concordance.
- Review of ambulatory needs.
- Review existing personalised care plans and develop any new care plans in partnership with the patient.
- Complete quality of life measurement by use of MRC Dyspnoea Scale.
- Refer to SOP for reducing risk from fire (see Appendix)
LTOT: Oxygen assessment 12 month annual review

A full review of all patients on oxygen therapy is carried out annually from the date of the first appointment with the service, this consists of:

- Pulse Oximetry on both air and the flow rate of oxygen the patient is currently using at home. To qualify for oxygen SpO₂ on air should be <92% and >92% on oxygen. If levels are >92% on air then a further test will need to be carried out in 4 weeks.

- Full CBG via the ear lobe using the ISTAT machine will be carried out after having oxygen at the prescribed rate for 20 minutes. PCO₂ should ideally be <6 kPa with a level of PO₂ of above 8 kPa.

- If the PO₂ levels have fallen when on oxygen then the patient will need a further assessment on a higher flow rate. This can be carried out during the same appointment, time permitting or a further appointment made. The PO₂ should have risen without the PCO₂ having increased by more than 1.0 kPa. If the PCO₂ has risen above the recommended rate the oxygen prescription should stay on the same rate, the patient should undergo further medical optimisation and reassessed in 4 weeks. If this continues on 2 occasions a referral (admission arranged if acidosis to Secondary Care).

- Assessment on the amount of oxygen that is being used and check patients understanding of the need of adequate compliance. Provide patient information leaflet.

- Health status check including B/P pulse, spirometry (if recommended), height and weight,

- Inhaler technique and medication concordance.

- Review existing personalised care plans and develop any new care plans in partnership with the patient.

- Complete quality of life measurement by use of MRC Dyspnoea Scale

- Refer to SOP for reducing risk from fire (see Appendix)

- Any other questions

Oxygen Support Visits.

Some patients may require extra support with the understanding of and use of their oxygen therapy. It may be necessary to offer extra visits outside the pathway described in this document in order to:

- Reinforce education
- Promote correct practice and appropriate use of therapy
- Support smoking cessation
- Provide emotional support and assist with confidence building/anxiety management.
- Support with weaning off oxygen therapy
- Teaching of inhaler technique/concordance with inhaled medications.

This support will be offered by clinicians within the multidisciplinary team e.g. Respiratory Nurse Specialist, Trainee Assistant Practitioner or Assistant Practitioner.
### Patient agreement to sharing information
(as part of the supply of Oxygen by the Home Oxygen Service)

<table>
<thead>
<tr>
<th>Form issued by:</th>
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<tbody>
<tr>
<td>Unit/Surgery</td>
<td>Address</td>
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<tr>
<td>Contact name</td>
<td>Tel no.</td>
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<tbody>
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<td>Address</td>
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<tr>
<td>D.O.B.</td>
<td>Tel/mobile no.</td>
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<tr>
<td>NHS number</td>
<td>Postcode</td>
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<td>E-mail</td>
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My doctor or a member of my care team has explained the arrangements for supplying Oxygen at my premises, that my information will be stored in line with the Data Protection Act 1998, and I understand these arrangements, such that:

1. information about my condition/condition of the patient named above* will be transmitted to the Home Oxygen Service (HOS) Supplier to enable them to deliver the Oxygen treatment as per the Home Oxygen Order Form (HOOF),

2. information will be exchanged between my hospital care team, my doctor, the home care team and such other teams as necessary related to the provision, and review, of my Oxygen treatment and safety,

3. the HOS Supplier will be granted reasonable access to my premises, so that the Oxygen equipment can be installed, serviced, refilled and removed (as appropriate),

4. information will also be shared with the local Fire Rescue Services team to allow them to offer safety advice at my premises and where appropriate install/deliver suitable equipment for safety, and

5. information will also be shared with my electricity supplier/distributor where electrical devices have been installed.

6. From time to time, I may be contacted to participate in a patient satisfaction survey/audit. *(should you wish not to participate please inform your HOS supplier)*

7. I understand that I may withdraw my consent at any time (at which point my HOS equipment will be removed)

* Delete as applicable

<table>
<thead>
<tr>
<th>Patient’s signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>(see note 3 where signed and witnessed on patient’s behalf)</td>
<td></td>
</tr>
</tbody>
</table>

I confirm that I have responsibility for the above-named patient.

<table>
<thead>
<tr>
<th>Carer’s signature</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship to patient</td>
<td>Date</td>
</tr>
</tbody>
</table>

I confirm that I am the healthcare professional responsible for the care of this patient and I have completed this form on his/her behalf as s/he is unable to provide/withhold consent. The patient has been given a copy of this form.

<table>
<thead>
<tr>
<th>Clinician’s signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
</tr>
</tbody>
</table>
GUIDANCE NOTES

Who may give consent?

1. It is presumed that anyone aged 16 or over is competent to give consent for her/himself unless the opposite is demonstrated. If a child under the age of 16 has 'sufficient understanding and intelligence to enable him or her to understand fully what is proposed', then he or she will be competent to give consent for him/herself. Young people aged 16 and 17, and legally 'competent' younger children, may therefore sign this form for themselves, but may like a parent to countersign as well.

2. If a child is unable to give consent him/herself, person(s) with parental responsibility for the child may provide information about their wishes in relation to the child. However, the final decision to disclose information lies with the healthcare professional in charge of caring for the child. Any decisions taken must be in the best interests of the child. Even where a child is able to give consent him/herself, a healthcare professional with responsibility for caring for the child should involve those with parental responsibility for the child's care, unless the child specifically asks the healthcare professional not to do so.

3. If a patient is mentally competent to give consent but is physically unable to sign a form, this form should be completed and signed by an independent witness as confirmation that the patient concerned gave consent orally or non-verbally.

4. Where an adult patient (aged 18 or over) lacks capacity to give or withhold consent, decisions must be taken by the healthcare professional in charge of the care of the patient. Decisions must be made in the best interests of the patient, taking into account any wishes that may have been previously expressed by the patient (for example, before he loss of capacity) and any views or wishes expressed by the patient’s family or friends.

Guidance on the law on confidentiality and consent

For a comprehensive summary, see the Department of Health publication Confidentiality: NHS Code of Practice available at http://www.dh.gov.uk/en/Managingyourorganisation/Informationpolicy/Patientconfidentialityandcaldicottguardians/DH_4100550
# Home Oxygen Order Form (HOOF)

**Part B (After Specialist / Paediatric Oxygen Assessment)**

All fields marked with an asterisk (*) are mandatory and the HOOF will be rejected if not completed.

## 1. Patient Details

<table>
<thead>
<tr>
<th>1.1 NHS Number*</th>
<th>1.7 Permanent address*</th>
<th>1.9 Tel no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 Title</td>
<td></td>
<td>1.10 Mobile no.</td>
</tr>
<tr>
<td>1.3 Surname*</td>
<td></td>
<td>2.1 Name</td>
</tr>
<tr>
<td>1.4 First name*</td>
<td></td>
<td>2.2 Tel no.</td>
</tr>
<tr>
<td>1.5 DoB*</td>
<td></td>
<td>2.3 Mobile no.</td>
</tr>
<tr>
<td>1.6 Gender [ ] Male [ ] Female</td>
<td>1.8 Postcode*</td>
<td></td>
</tr>
</tbody>
</table>

## 2. Carer Details (If applicable)

<table>
<thead>
<tr>
<th>2.1 Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2 Tel no.</td>
</tr>
<tr>
<td>2.3 Mobile no.</td>
</tr>
</tbody>
</table>

## 3. Clinical Details

<table>
<thead>
<tr>
<th>3.1 Clinical Code(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2 Patient on NIV/CPAP [ ] Yes [ ] No</td>
</tr>
<tr>
<td>3.3 Paediatric Order [ ] Yes [ ] No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3.4 Postcode*</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Main Practice name:*</td>
</tr>
<tr>
<td>4.2 Practice address:</td>
</tr>
<tr>
<td>4.3 Postcode*</td>
</tr>
<tr>
<td>4.4 Telephone no.</td>
</tr>
</tbody>
</table>

## 4. Patient’s Registered GP Information

<table>
<thead>
<tr>
<th>4.1 Main Practice name:*</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2 Practice address:</td>
</tr>
<tr>
<td>4.3 Postcode*</td>
</tr>
<tr>
<td>4.4 Telephone no.</td>
</tr>
</tbody>
</table>

## 5. Assessment Service (Hospital or Clinical Service)

<table>
<thead>
<tr>
<th>5.1 Hospital or Clinic Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2 Address</td>
</tr>
<tr>
<td>5.3 Postcode:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5.4 Tel no:</th>
</tr>
</thead>
</table>

## 6. Ward Details (If applicable)

<table>
<thead>
<tr>
<th>6.1 Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2 Tel no:</td>
</tr>
<tr>
<td>6.3 Discharge date: / /</td>
</tr>
</tbody>
</table>

## 7. Order*

### For more than 2 hours/day it is advisable to select a static concentrator

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
<th>Conserving Device</th>
<th>Nasal Cannula</th>
<th>Mask % and Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1</td>
<td>Static Concentrator</td>
<td>Back up static cylinder(s) will be supplied as appropriate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.2</td>
<td>Static Cylinder(s)</td>
<td>A single cylinder will last for approximately 32 days at 4l/min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.3</td>
<td>Self Fill Concentrator</td>
<td>Same as static concentrator and can fill ambulatory cylinder(s) (8.5/8.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.4</td>
<td>Transportable Concentrator (trolley based)</td>
<td>Can be used in place of a static concentrator and / or for ambulatory use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.5</td>
<td>Standard Ambulatory Cylinder(s)</td>
<td>Cylinders for use outside of a home setting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.6</td>
<td>Lightweight Ambulatory Cylinder(s)</td>
<td>Lighter than the standard ambulatory cylinder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.7</td>
<td>Portable Concentrator (carry over shoulder)</td>
<td>Lighter weight than transportable concentrator and limited to pulse dose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.8</td>
<td>Liquid Oxygen (LOX) Dewar</td>
<td>Please select number of tanks required below</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.9</td>
<td>Liquid Oxygen (LOX) Tank</td>
<td>To be used in conjunction with the LOX Dewar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## 8. Equipment*

### (select one for each equipment type)

## 9. Consumables*

### (select one for each equipment type)

## 10. Additional Equipment

<table>
<thead>
<tr>
<th>10.1 Humidification (not usually indicated for less than 4l/min) [ ] Yes [ ] No</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.2 Tracheostomy (mask only) [ ] Yes [ ] No</td>
</tr>
</tbody>
</table>

## 11. Delivery Details*

<table>
<thead>
<tr>
<th>11.1 Standard (3 Business Days) [ ] 11.2 Next (Calendar) Day [ ] 11.3 Urgent (4 Hours) [ ]</th>
</tr>
</thead>
</table>

## 12. Temporary Secondary Supply

### (e.g. Holiday Order with different modality)

<table>
<thead>
<tr>
<th>12.1 Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2 Postcode:</td>
</tr>
</tbody>
</table>

## 13. Contact Details

### (If applicable)

<table>
<thead>
<tr>
<th>13.1 Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.2 Tel no.</td>
</tr>
</tbody>
</table>

## 14. Additional Patient Information

<table>
<thead>
<tr>
<th>14.1 Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 Tel no.</td>
</tr>
</tbody>
</table>

## 15. Clinical Contact (If applicable)

<table>
<thead>
<tr>
<th>15.1 Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2 Tel no.</td>
</tr>
<tr>
<td>15.3 Mobile no.</td>
</tr>
</tbody>
</table>

## 16. Declaration*

I declare that the information given on this form for NHS treatment is correct and complete. I understand that if I knowingly provide false information, I may be liable to prosecution or civil proceedings. I confirm that I am the registered healthcare professional responsible for the information provided. I also confirm that the patient has read and signed the Home Oxygen Consent Form.

<table>
<thead>
<tr>
<th>Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature:</td>
</tr>
<tr>
<td>Date:</td>
</tr>
</tbody>
</table>

Fax back no. or NHS email address for confirmation / corrections:
OXYGEN FLOW RATES & PERCENTAGE DELIVERED

<table>
<thead>
<tr>
<th>Flow Rate</th>
<th>Mask</th>
<th>Nasal Cannulae</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 l/min</td>
<td>24%</td>
<td>24%</td>
</tr>
<tr>
<td>2 l/min</td>
<td>24%</td>
<td>28%</td>
</tr>
<tr>
<td>3 l/min</td>
<td>28%</td>
<td>29.5%</td>
</tr>
<tr>
<td>4 l/min</td>
<td>28%</td>
<td>31%</td>
</tr>
<tr>
<td>5 l/min</td>
<td>31%</td>
<td>33%</td>
</tr>
<tr>
<td>6 l/min</td>
<td>31%</td>
<td>35%</td>
</tr>
<tr>
<td>7 l/min</td>
<td>35%</td>
<td>37.5%</td>
</tr>
<tr>
<td>8 l/min</td>
<td>35%</td>
<td>40%</td>
</tr>
<tr>
<td>10 l/min</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>15 l/min</td>
<td>60%</td>
<td></td>
</tr>
</tbody>
</table>

Masks will only deliver the % oxygen stated on the venturi barrel and must have the appropriate flow rate, i.e. in order to deliver 28% oxygen to a patient the venturi barrel MUST be 28% and the flow rate MUST be 4 l/min. Turning the flow rate up on a 24% mask will not deliver a higher % of oxygen.

Nasal cannulae can deliver up to 6 l/min, however HIGH FLOW nasal cannulae can be ordered for flow rates above 6 l/min.

Any changes to masks or nasal cannulae need to be made via a Home Oxygen Order Form (HOOF), stating the changes required.

Humidification

Humidification can be ordered via a HOOF for patients who are experiencing discomfort through a dry mouth, throat or have tenacious secretions.

Please Note:

- Humidification can only be added to concentrators, however may be used with either a mask or nasal cannulae.
- Humidifiers require a supply of sterile/distilled water which is NOT supplied by Air Products, and must be changed daily.
- Humidification works most effectively when used with a short length of oxygen tubing.
- The water bath requires careful maintenance including DAILY washing with hot soapy water.
- Humidifiers can be ordered at no extra cost on section 7 of a HOOF.
References

1. BTS Guidelines for Home Oxygen Use in Adults (2015)


3. Home Oxygen Clinical Assessment and Follow-up Service Commissioning Framework.


Further information

1. DOH website – www.dh.gov.uk

2. Thorax website – www.thorax.bmj.com

3. BTS website – www.brit-thoracic.org.uk

4. Adult Home Oxygen Assessment Service for Lincolnshire have 4 main offices over the county, working/office hours are Monday to Friday 9am to 5pm (excluding Bank Holidays).

South East Lincolnshire office:
Countywide Community Respiratory Services
Lincolnshire Community Health Services (LCHS)
Boston Enterprise Centre -Venture House,
Enterprise Way
Endeavour Park,
Boston, Lincolnshire
PE21 7TW
Tel: 01205 315247 (with answer phone)
Fax: 01205 312803

North West Lincolnshire office:
Countywide Community Respiratory Services
Lincolnshire Community Health Services (LCHS)
Contact Centre
Community Suite
John Coupland Hospital
Ropery Road
Gainsborough
Lincs
DN21 2TJ
Tel: 01522 707274 option 1
Fax: 01427 816576

North East Lincolnshire office:
Countywide Community Respiratory Services
Lincolnshire Community Health Services (LCHS)
Louth Locality Offices, Louth Hospital,
High Holme Road,
Louth.
LN11 0QF
Telephone: 01205 315247 option 5
**Personnel issues**

This policy applies to all members of the Home Oxygen Service regardless of grade.

**Training**

- All members of the oxygen team must ensure that they meet the registration and fitness to practice requirements of their relevant professional governing body.
- All team members will attend Lincolnshire Community Health Services annual mandatory training.
- Any training laid out in the job description and KSF will be attained by the relevant member of the team.
- All team members must demonstrate a record of achievement of competency using Countywide Community Respiratory Service competency guidelines and documents.

**Monitoring against targets**

This service will be monitored against targets in line with requirements of the Department of Health in relation to Provision of Home Oxygen. These are laid down in the Service Specification published by DoH in 2005.

The Adult Oxygen Assessment Team will carry out Annual audit and performance reporting as laid out in the Adult Oxygen Assessment Service Key Performance Indicators.

**Related procedures, policies and protocols**

2. Countywide Community Respiratory Services oxygen competencies.
3. Countywide Community Respiratory Services competencies.
APPENDIX 1

Protocol for amending oxygen flow rate for COPD patients with LTOT oxygen Using capillary blood gases.

Is the pO2 > 8.0kPa or within normal range.

- **NO**
  - Adjust flow rate using SpO2 monitoring and repeat blood gases after 20 minutes.
  - Until pO2 reaches 8.0kPa.

- **YES**
  - Is the PCO2 above 6.0kPa.
    - **NO**
      - Maintain current oxygen flow rate.
    - **YES**
      - Is pCO2 stable.
      - Using clinical judgement adjust flow rate and monitor with pulse oximetry. Repeat ear lobe blood gas after 20 minutes.
      - Is pCO2 stable.
        - **NO**
          - Urgent referral to Secondary Care for assessment or admission for NIV.
        - **YES**
          - Review in 3 months.
    - Refer to Secondary Care.

-is the pCO2 above 6.0kPa.

- **NO**
  - Maintain current oxygen flow rate.
  - Review pO2 on current oxygen level in 3 months.
APPENDIX 2

HOME OXYGEN THERAPY DISCLAIMER FORM

PATIENT NAME: ......................................................................................................................

ADDRESS:..............................................................................................................................

................................................................................................................................................

POST CODE:.................................................

NHS NUMBER:.................................................. DATE OF BIRTH:..............................

General Information

The oxygen company will supply me with a home oxygen service pack.

I will contact the oxygen company/specialist nurse if I require clarity of the contents of the service pack.

Risk Reduction

Smoking cessation advice has been offered and strongly encouraged.

I am aware that a risk assessment tool has been completed.

To avoid the risks of fire/explosion or injury:

- Oxygen should be switched off and all masks/nasal cannula removed before smoking.
- I will not smoke in the same room as the oxygen equipment.
- I understand that neither I nor others in the home are able to smoke when a member of Lincolnshire Community Health Service NHS Trust staff is present at the home.
- I am aware that it is dangerous to have any sparks/naked flames or use of flammable creams near the oxygen therapy.

Safe Service

I understand that any smoking or activities undertaken deemed to be of high risk and are witnessed by Lincolnshire Community Health Service NHS Trust staff when using oxygen, will result in reassessment and could lead to permanent removal of the oxygen therapy at any time.

Signed (patient) ......................................................Date..............................

I (health professional).............................................................. deem the above person to have the capacity to understand the information provided

Designation..............................................................Date..............................
East Midlands Home Oxygen Risk Tool (EMHORT)

Pathway

1. Patient assessed as needing Oxygen by Arterial / arterialised Capillary blood gas.

2. Consent form signed by patient / carer
   - Consenting to transfer of information to outside agencies including Air Liquide & Fire & rescue Services. Also giving consent to audit / checks
   - Ensure patients aware they will get visits from the Fire Service as well as Air Liquides Technicians

3. Complete EMHORT
   - If away from usual place of residence. Ask the patient the questions & ensure EMHORT is followed up and completed by the Community Respiratory Nursing Teams. If involved, if not please document unable to complete & refer to fire service

4. If totals indicate Critical or high risk Email form to local Fire & Rescue Services (addresses below) then file in patients notes
   - Use Clinical Judgement as to whether safe to prescribe Oxygen prior to fire safety check
   - Discuss & complete disclaimer (on Oxygen Leaflet), getting patient to sign they understand Oxygen MAY be removed if they become unsafe. Leave a copy of letter with the patient
   - If Medium / Low Risk File EMHORT in Patient Record
   - Ensure patient / patients representative aware they will receive training as to how to use equipment on delivery. If not patient they will be responsible for ensuring patient knows how to use the equipment

5. Assess patient condition with regard to risks at each visit.
   - If there are changes repeat EMHORT
## East Midlands Home Oxygen Risk Tool (EMHORT)

<table>
<thead>
<tr>
<th>RISKS</th>
<th>Score</th>
<th>YES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Active Smoker or Electronic cigarette user</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Evidence of unsafe discarding of cigarette ends</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. No working smoke detector</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Reduced Mobility / Disability / Dementia – including sensory (hearing / sight) &amp; falls</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Lives alone</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Confined to one room or would have difficulty escaping property unaided</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Bariatic Patient</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Known to have had previous fires, in the last 12 months.</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Evidence of hoarding – score 4 or above (see information)</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Over 65</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Gas appliances / open flames</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Other smokers in the house</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Air mattress</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Emollient creams</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. History of excessive alcohol use / illicit drugs use</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Children under the Age of 5 / children of any age with disability</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL SCORE**

<table>
<thead>
<tr>
<th>Critical Risk 20+ / High Risk 15 – 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date actioned / notes</td>
</tr>
<tr>
<td>Use clinical judgment as to whether to prescribe Oxygen until all safety recommendations met</td>
</tr>
<tr>
<td>Consider MDT prior to Oxygen commencement</td>
</tr>
<tr>
<td>Inform FRS – ensure Home safety assessment arranged</td>
</tr>
<tr>
<td>Complete risk forms / letter / Derby patient Charter ensure patient signs &amp; keeps a copy</td>
</tr>
<tr>
<td>Consider referral to Physio / OT / Social services</td>
</tr>
<tr>
<td>Inform Oxygen company of high risk patient</td>
</tr>
<tr>
<td>Discuss with Clinical lead</td>
</tr>
<tr>
<td>Inform GP / referrer</td>
</tr>
</tbody>
</table>

**MEDIUM RISK – SCORE 10-14**

<table>
<thead>
<tr>
<th>Date actioned / notes</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advise on Oxygen safety &amp; warning</td>
<td></td>
</tr>
<tr>
<td>Consider spot check cold call in 4 – 6 weeks to ensure compliance</td>
<td></td>
</tr>
<tr>
<td>Inform Oxygen company of high risk patient</td>
<td></td>
</tr>
<tr>
<td>Consider referral to Physio / OT / Social services</td>
<td></td>
</tr>
<tr>
<td>Discuss with Clinical lead</td>
<td></td>
</tr>
<tr>
<td>Inform GP / referrer</td>
<td></td>
</tr>
</tbody>
</table>

**LOW RISK – SCORE 0-9**

<table>
<thead>
<tr>
<th>Date actioned / notes</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advice on Oxygen safety &amp; warning</td>
<td></td>
</tr>
<tr>
<td>Order Oxygen</td>
<td></td>
</tr>
<tr>
<td>Inform GP / referrer of Oxygen start</td>
<td></td>
</tr>
</tbody>
</table>
EMHORT Completed by:

Name: ____________________________  Profession: ____________________________
Department: ____________________________
Contact Email: ____________________________
Tel No: ____________________________
Date: ____________________________

Once complete if scoring:
- Critical or High Risk  - Email form to Fire & Rescue Services and File in patients record
- Medium Risk  - Take actions then File in patients record
- Low Risk  - Take actions then File in patients record

EMHORT Review Date:
- Have there been any changes in the patient’s condition?  Yes / No
- If yes, repeat EMHORT
The notes for this tool are for guidance only & are not intended to be prescriptive – it is not to replace individualized clinical judgment. The aim is to provide information to help with safe clinical decision making throughout the East Midlands, therefore improving patient and community safety, safety for fire service personnel, reducing the number of smoking related incidents by identifying at risk situations and patients.

**How to use this tool**
This tool is aimed at anyone assessing patients for Home Oxygen, i.e.: Hospitals, clinics, Community Matrons, GP’s HOS-AR teams. It is aimed at giving guidance on highlighting risk levels. It should be completed before Oxygen is initiated and as part of the ongoing follow up & reviews of the patient on Oxygen, if the risks assessed alert to further action, follow the guidance as required. If assessed in secondary setting away from home environment then ask questions to ascertain immediate risk, ensure the form is completed at next home visit.

**Definition of Bariatric Person**
A Bariatric person is defined as a person who has a body mass index (BMI) greater than 40 and who has associated medical or health problems. The weight of a Bariatric person may therefore range from approximately 17 stones to 70 stones depending on their height weight ratio. The size and shape of the person is as much an important consideration as the weight and each person will be regarded as an individual with their own specific needs.

**Disability**
Could the patient walk out of their home unaided (without a walking frame)? Does anyone in the house have sensory impairment (hearing or sight loss) Does anyone have impaired mental capacity or mental health issues – do they need referral to the mental health team? Is the person steady on their feet? Are they prone to falls do they walk with walking aids? Will they be able to walk with up to 15 metres of tubing if required? Consider referral to Physiotherapy / falls teams.

**Smokers / E Cigarettes**
It is recognised smokers underestimate the amount of cigarettes they smoke a day – as this is underreported it will be difficult for the patient to comply with the instructions of switching Oxygen off, waiting 30 minutes then moving into a separate room. Smokers who smoke more than 10 a day are often not engaged in appropriate health belief’s and are less likely to agree to smoking cessation support.
There are reported incidences of fires with E Cigarettes – Faulty / wrong chargers being used. & with the ‘glow light’ catching fire – please treat as you would active smoker.

**Over 65**
Older patients represent one of the highest fire risk groups due to physiological impairments, effects of medication, illness and vulnerabilities.

**Living alone**
Patients who live in any accommodation (shared or not) where they live alone. A shared house with locked bedrooms is still classed as living alone, the same as living alone in a house. Also consider single parents either on Oxygen themselves or caring for children on Oxygen.

**Gas applications / open flames**
Wood burning stoves / open fires / gas fires / cookers hobs mobile heating appliances, candles, joss sticks, incense burners chip pans.

**Intoxication drugs / alcohol**
Is there a known history of drug / alcohol use? These can affect judgment and capacity for appropriate decision making. Are they known to local drug / alcohol services?

**Children**
Consider children living or staying at premises

**Others smoking in the house**
Added risk that the patient may not feel empowered or authorized to deal with it.

**Smoke Alarms**
Are they present? When do they test them / when did they last test them
Hoardling
See images below. If there is evidence of hoarding at scale 4 or above score
Select the photo below that accurately reflects the amount of clutter in your room

<table>
<thead>
<tr>
<th>Kitchen</th>
<th>Living Room</th>
<th>Bedroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Kitchen Image 1]</td>
<td>![Living Room Image 1]</td>
<td>![Bedroom Image 1]</td>
</tr>
<tr>
<td>![Kitchen Image 2]</td>
<td>![Living Room Image 2]</td>
<td>![Bedroom Image 2]</td>
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<tr>
<td>![Kitchen Image 3]</td>
<td>![Living Room Image 3]</td>
<td>![Bedroom Image 3]</td>
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<tr>
<td>![Kitchen Image 5]</td>
<td>![Living Room Image 5]</td>
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<tr>
<td>![Kitchen Image 7]</td>
<td>![Living Room Image 7]</td>
<td>![Bedroom Image 7]</td>
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<tr>
<td>![Kitchen Image 8]</td>
<td>![Living Room Image 8]</td>
<td>![Bedroom Image 8]</td>
</tr>
<tr>
<td>![Kitchen Image 9]</td>
<td>![Living Room Image 9]</td>
<td>![Bedroom Image 9]</td>
</tr>
</tbody>
</table>
APPENDIX 3
STANDARD OPERATING PROCEDURE FOR MINIMISING THE RISK FROM FIRE WHEN ORDERING HOME OXYGEN FOR COPD PATIENTS

PATHWAY FOR NEW REFERRALS FOR FIRST ASSESSMENT

Current non-02 user meets LTOT criteria after initial assessment

Current smoker

Yes

No

Smoking cessation advice and referral
Optimise treatment regime
Arrange review in 4 weeks

Meets LTOT criteria on 4 week review

Yes

No

Meets ambulatory oxygen criteria on 4 week review

Current smoker

Yes

No

Refer to ULHT for 2nd assessment
Complete EMHORT risk assessment, attach to ULHT referral and send copy to LCFR

Refer to ULHT if quit smoking and complete EMHORT otherwise
Reinforce smoking cessation advice and referral
Review at 8 weeks, refer to ULHT if quit smoking otherwise

Discharge

Meets criteria to continue with 02

Yes

No

Complete EMHORT and send urgently to LCFR, complete disclaimer, notify Air Liquide, smoking cessation advice and referral
Remove ambulatory cylinders if safe to do so
Arrange MDT for high risk patients, devise care plan
Ongoing communication with key stakeholders as per care plan

Existing oxygen user referred from OOA – initial assessment completed as per guidance (BTS 2015)

Does not meet criteria for 02 therapy therefore withdraw 02 therapy and provide appropriate support and education as per NICE 2010

Complete EMHORT and refer to LCFR, complete disclaimer
PATHWAY FOR FOLLOW UP ASSESSMENT AND REVIEW

Patients discharged to community team on oxygen therapy following oxygen initiation and stabilisation in secondary care

Referral letter to CCRS and GP to include:
- Copy of LCFR/EMHORT risk assessment
- Copy of LCFR visit/assessment outcome/report

Follow up arrangements if outside BTS guidelines 2015

INTERVENTION
Reviews carried out as specified in CCRS service specification and BTS 2015

PATIENTS IDENTIFIED AS HIGH RISK
Reassess EMHORT every 6 months and/or change in social, behavioural or clinical circumstances
Refer back to LCFR at earliest concerns
Notify Air Liquide of any new concerns

PATIENTS IDENTIFIED AS LOW/MEDIUM RISK
Review EMHORT if any change in social, behavioural or clinical circumstances
Refer back to LCFR at earliest concerns
Notify Air Liquide of any new concerns
PATHWAY FOR PRESCRIBING OF PALLIATIVE OXYGEN

Evidence of hypoxaemia

Yes

Current smoker

Yes

Complete EMHORT risk assessment
Urgent referral to LCFR
Complete HOCF and disclaimer
Reinforce smoking cessation
Use MDT approach involving GP, Case Manager, hospice, Air Liquide, LCFR and any other relevant stakeholders
Consider admission to hospice/palliative bed if place of safety required

No

Refer to BTS 2015 for management options:
Optimise pharmacological management
Consider opiates
Consider fan therapy and other non-pharmacological options

Complete EMHORT risk assessment
Notify Air Liquide and LCFR of outcome of assessment
Complete HOCF and disclaimer
FOR CURRENT SMOKERS REFERRED TO EAD/ARAS PATHWAY SERVICE

Following assessment patient has evidence of hypoxaemia

UNACCEPTABLE HIGH RISK

Complete EMHORT risk assessment

ACCEPTABLE HIGH RISK/MEDIUM OR

Consider existing supervision, mobility and cognitive function
Prescribe oxygen if deemed safe to do so
Complete HOOF and HOCF
Complete disclaimer
Refer to LCFR, notify Air Liquide

Agrees to admission

Patient declines admission

Consider admission to place of safety: acute/non acute bed

Provide support as required and clinically indicated

Urgent referral to LCFR and liaise re outcome
Withhold oxygen until LCFR assessment complete:
Notify GP, escalate to manager, notify OOH
Consider other agency support: ILT, wellbeing service
Following LCFR assessment reassess 02 requirements if safe to do so-complete HOCF and disclaimer if 02 prescribed
Reinforce smoking cessation and refer
Prescribe NRT if patient willing to quit smoking

Abbreviations:
CCRS Countywide Community Respiratory Service
EMHORT East Midlands Home Oxygen Risk Tool
HOCF Home Oxygen Consent Form
HOOF Home Oxygen Order Form
LCFR Lincolnshire Countywide Fire & Rescue
LTOT Long Term Oxygen Therapy
NRT Nicotine Replacement Therapy
02 Oxygen
OOA Out of area
ULHT United Lincolnshire Hospitals Trust
## Competencies for Oxygen Assessment

<table>
<thead>
<tr>
<th>Objective</th>
<th>Knowledge level 1 (basic)</th>
<th>Knowledge level 2 (intermediate)</th>
<th>Knowledge level 3 (advanced)</th>
<th>Skills level 1 (Pulse oximetry)</th>
<th>Skills level 2 (Can complete HOOF form)</th>
<th>Skills level 3 (Can do capillary sampling for blood gas analysis and interpretation)</th>
<th>Attitudes (Is competent in the procedure of taking earlobe blood gases and interpretation of the results. Is up to date with BTS, local and national guidelines and referral pathways in order to support other staff of all disciplines through the patient’s journey.)</th>
<th>Method of assessment (Advanced communications skills in order to support staff and patients through the Oxygen assessment pathway.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Level 1) To understand the rationale for clinical assessment and prescription of domiciliary oxygen assessment</td>
<td>Understands the definition of Long Term Oxygen Therapy, Ambulatory Oxygen Therapy and Short Burst Oxygen Therapy. Awareness of Anatomy and Physiology of respiratory tract. Safe use of oxygen concentrator and portable cylinder including storage.</td>
<td>Support all those at level one. Be competent in knowing the pathway for referral. Assessment skill for ensuring patients using O2 and their carers are safe in the community when using their O2. (full risk assessment)</td>
<td>Knows what the indications for home oxygen are as per BTS guidelines. Has knowledge of strategies for supporting patients with management of breathlessness other than oxygen therapy. Is able to identify patients whose oxygen therapy is sub-optimal based on SpO2 and respiratory assessment.</td>
<td>Pulse oximetry. Able to recognise: Pallor Cyanosis Difficulty in breathing Irritability Panic. Can explain to patients about correct use of oxygen therapy. Can ensure oxygen tubing/nasal prongs are free from obstruction at all times. Can use a portable oxygen cylinder and oxygen concentrator. Can teach patients and carers how to take care of nasal prongs/masks and oxygen tubing. Can teach skin care and care of sore and broken skin. Recognise the red flags and referral criteria. Identifies when humidification may be indicated for a patient’s oxygen therapy and is able to complete an order.</td>
<td>Can complete HOOF form. Is able to do capillary sampling for blood gas analysis and interpretation. Can recognise when patient is reaching prognostic indicators for palliative care. Is able to identify patients whose oxygen therapy is sub-optimal based on SpO2 and respiratory assessment. Is able to clinically recognise the patient whose hypoxia is attributable to acute exacerbation of COPD and seeks advice and support appropriately.</td>
<td>Non-judgemental Supportive Encouraging</td>
<td>Direct Observation Case studies Q&amp;A Portfolio</td>
<td></td>
</tr>
<tr>
<td>(Level 2) To support clinical assessment for home oxygen therapy and provide follow up care</td>
<td>Understands Capillary blood gas analysis and referring through the relevant pathways of treatment i.e. for adjusting flow rates LTOT, EMERGENCY O2 Act as advisor and resource for other health care professions decision making. Facilitating and helping facilitate staff through the patient’s O2 journey and flagging up the prognostic indicators for considering end of life. Has comprehensive knowledge of acid-base balance including compensation mechanisms and is able to fully interpret capillary blood gas analysis .</td>
<td>Is able to make clinical decisions about initiation, titration or withdrawal of oxygen therapy based upon accurate interpretation of blood gases (as per BTS Guidance)</td>
<td>Is able to recognise: Pallor Cyanosis Difficulty in breathing Irritability Panic. Can explain to patients about correct use of oxygen therapy. Can ensure oxygen tubing/nasal prongs are free from obstruction at all times. Can use a portable oxygen cylinder and oxygen concentrator. Can teach patients and carers how to take care of nasal prongs/masks and oxygen tubing. Can teach skin care and care of sore and broken skin. Recognise the red flags and referral criteria. Identifies when humidification may be indicated for a patient’s oxygen therapy and is able to complete an order.</td>
<td></td>
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<tr>
<td>(Level 3) To clinically assess a patient’s requirement for home oxygen therapy, initiate and titrate oxygen therapy within the patient’s home according to clinical need in line with national and local guidance and protocol, and provide patient centred holistic follow up care.</td>
<td>Is able to identify patients whose oxygen therapy is sub-optimal based on SpO2 and respiratory assessment.</td>
<td></td>
<td></td>
<td>Is able to clinically recognise the patient whose hypoxia is attributable to acute exacerbation of COPD and seeks advice and support appropriately.</td>
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</tbody>
</table>
APPENDIX 5

PROCEDURE
Obtaining an arterialised capillary blood gas sample and analysis using i-STAT blood gas analyser.

Capillary blood gas analysis is required in order to:
- Confirm the presence of hypoxaemia (low levels of oxygen in the blood) in patients with COPD who may require home oxygen therapy, as part of the oxygen assessment process
- Assess for hypercapnia (high levels of Carbon dioxide in the blood) and it’s response to oxygen prior to the initiation of oxygen therapy.

Clinicians must be competent in the following procedure and in the interpretation of arterialised blood gases prior to carrying out oxygen assessments on patients.

Equipment
- Examination gloves
- Transvacin cream/Hot water
- Alcohol swab
- Tissues
- Butyl rubber wad
- Auto lancet
- 200 microlitre Capillary tube
- Gauze
- G3+ i-STAT cartridge (which has been at room temperature for a minimum of 5 minutes)
- i-STAT analyzer.

Consent
The patient must be fully informed about the procedure and explanation must be given about the risks and benefits of capillary blood gas sampling and analysis in order to obtain patient’s verbal consent to the procedure. Consent should be documented in the patient's clinical notes.

Technique

1. Wash hands.
2. Physically prepare the patient by seating them comfortably, removing earrings, ask the patient to hold back long hair, and place a tissue to protect clothing around the neckline and shoulder.
3. Wearing gloves, liberally apply Transvacin cream to earlobe to dilate the blood vessels. Leave for a minimum of 10 minutes. (If the patient is sensitive to the cream apply warm water to the earlobe by soaking gauze and holding to the earlobe)
4. Take a single G3+ cartridge by tearing the top of the sleeve and handling carefully at the slide edges (NOT at the front and back as touching the contact pads can potentially effect the accuracy of the results, and NOT by holding it at it’s centre as this may release the calibration fluid and render the cartridge unusable).
5. Prepare the blood gas analyzer:
   - Press bottom right button to switch machine on.
   - Scan or enter operator ID’ appears on the screen. Input own ID – date of birth or other agreed ID. Press enter.
   - ‘Scan or enter patient ID’ appears on screen. Input patient’s NHS number. Press enter.
   - ‘Scan cartridge LOT number a picture appears on the screen with ‘Insert cartridge’.
6. Wipe off Transvacin cream with a tissue and clean all residue of cream from the earlobe with an alcohol swab
7. Wearing gloves, support the back of the earlobe with a disc, press auto-lancet firmly against the earlobe as near to the lower tip of the pinna as possible and press to activate the lancet.
8. Ask the patient to tip their head slightly to the side of the ear used for the procedure, hold the capillary tube horizontal and against the forming blood droplets which should run into the tube immediately as they are formed.

9. Fill the capillary tube to just over the midway mark (> 100 mcl). The blood flow should be adequate to fill the capillary tube without squeezing the earlobe (as this can result in plasma in the sample which can affect the accuracy of the results). The blood flow should not be in contact with atmospheric air for more than a few seconds as this will affect the partial pressure of oxygen and carbon dioxide and lead to erroneous results. Do not allow bubbles of air within the capillary tube for this same reason.

10. Once sampling is complete the site should be covered by gauze and light pressure applied to prevent further bleeding.

11. Place the G3+ cartridge on a flat, clean surface. The tip of the capillary tube should be placed over the well on the right corner of the cartridge and the reservoir should be completely filled with blood up to the tip. The sample will not be analysed if the reservoir is under or overfilled.

12. Fold the snap closure over the sample well and press firmly but carefully in place.

13. Pick up the cartridge (holding the sides), align the top edge and contact pads of the cartridge with the cartridge port at the bottom of the analyzer and insert it into place by pushing slowly until it clicks into place.

14. Do not attempt to remove the cartridge while the message ‘cartridge locked’ remains on the screen. This will result in damage to the analyzer.

15. When the results are displayed on the screen the cartridge is safe to remove.


17. Dispose of sharps in a sharps bin (including auto-lancet, capillary tube and cartridge). The butyl rubber wad is single patient use and should be disposed of in clinical waste along with all tissues, gauze and swab waste.

18. Remove gloves and wash hands.

19. Explain capillary blood gas analysis to the patient and develop management plan in partnership with the patient.

Author: Sarah Baldam (Respiratory Nurse Specialist)
Adult Oxygen Assessment service
NHS Lincolnshire

Review date: November 2016
**Policy Monitoring Template**

<table>
<thead>
<tr>
<th>Minimum requirement to be monitored</th>
<th>Process for monitoring e.g. audit</th>
<th>Responsible individuals/group/committee</th>
<th>Frequency of monitoring/audit</th>
<th>Responsible individuals/group/committee (multidisciplinary) for review of results</th>
<th>Responsible individuals/group/committee for development of action plan</th>
<th>Responsible individuals/group/committee for monitoring of action plan</th>
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<tbody>
<tr>
<td>All</td>
<td>Audit</td>
<td>Community Respiratory team</td>
<td>Biannual</td>
<td>Community Respiratory team</td>
<td>Community Respiratory team</td>
<td>Community Respiratory team</td>
</tr>
</tbody>
</table>
Equality Analysis

Name of Policy/Procedure/Function: Policy for assessment and review of patients on home oxygen

Equality Analysis Carried out by: Karen Cox
Date: 13 Jan 16
Equality & Human rights Lead: Rachel Higgins
Director/General Manager: Lisa Green

*In this template the term policy/service is used as shorthand for what needs to be analysed. Policy/service needs to be understood broadly to embrace the full range of policies, practices, activities and decisions: essentially everything we do, whether it is formally written down or whether it is informal custom and practice. This includes existing policies and any new policies under development.
**Section 1 – to be completed for all policies**

<table>
<thead>
<tr>
<th>A.</th>
<th>Briefly give an outline of the key objectives of the policy; what it’s intended outcome is and who the intended beneficiaries are expected to be</th>
<th>To ensure that oxygen assessments are carried out for COPD patients in accordance with national guidance and in a timely manner. To ensure that the prescribing and ongoing provision of oxygen is appropriate and safe at all times.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.</td>
<td>Does the policy have an impact on patients, carers or staff, or the wider community that we have links with? <strong>Please give details</strong></td>
<td>Impacts on COPD patients and staff</td>
</tr>
<tr>
<td>C.</td>
<td>Is there is any evidence that the policy/service relates to an area with known inequalities? <strong>Please give details</strong></td>
<td>n/a</td>
</tr>
<tr>
<td>D.</td>
<td>Will/Does the implementation of the policy/service result in different impacts for protected characteristics?</td>
<td>Yes</td>
</tr>
<tr>
<td>Disability</td>
<td>x</td>
<td></td>
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<tr>
<td>Sexual Orientation</td>
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<td>Sex</td>
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<td>Gender Reassignment</td>
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<td>Race</td>
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<td>Religion or Belief</td>
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<tr>
<td>Carers</td>
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</tbody>
</table>

*If you have answered ‘Yes’ to any of the questions then you are required to carry out a full Equality Analysis which should be approved by the Equality and Human Rights Lead – please go to section 2*

The above named policy has been considered and does not require a full equality analysis

**Equality Analysis Carried out by:** Karen Cox

**Date:** 15/1/16