Commissioning Policy for Cough Assist Requests
## DOCUMENT CONTROL

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<th>Reference Number</th>
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<th>Status</th>
<th>Sponsor(s)/Author(s)</th>
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<td>(lead in specific policy area to provide once policy ratified)</td>
<td>Draft Version 0.3 071015</td>
<td></td>
<td>Wendy Godwin</td>
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<td>Lead Commissioner Planned Care/Head of Elective Care Pathways</td>
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<th>Amendments</th>
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<th>By whom</th>
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<tr>
<td>Approved by IFR panel</td>
<td>07/09/15</td>
<td>IFR Panel Members</td>
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<tr>
<td>Approved Planned Care Programme Board</td>
<td>14/09/15</td>
<td>Programme Board Members</td>
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<th>Intended Recipients:</th>
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<tr>
<td>Head of Patient Safety and Quality Improvement</td>
<td>Sally Roberts</td>
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<tr>
<td>IFR team</td>
<td>Robert Saunders and Dr Uma Viswanathan</td>
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<td>Planned Care Programme Board</td>
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<tr>
<td>CCG Value:</td>
<td>Ensure equity in access for all patients</td>
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<tr>
<td>Approving Body:</td>
<td>Date Approved:</td>
</tr>
<tr>
<td>Improving Outcomes Committee</td>
<td>18th February 2016</td>
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<tr>
<td>Date of Issue</td>
<td>1st April 2016</td>
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<td>Review Date</td>
<td>1st April 2018</td>
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<td>Contact for Review</td>
<td>Lead Commissioner Planned Care/Head of Elective Care Pathways</td>
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### Summary

 Evidence

New evidence includes a systematic review, several RCTs, crossover trials, case series and retrospective cohort study, and overall the studies suggest that MI-E to assist cough is at least as effective as manual assisted cough. 2 RCTs found MI-E to be superior to other methods. N.B. Much of the evidence is for neuromuscular disease, but the clinical challenge is much the same in Spinal Cord Injury.

 Explicit definition of patient group to which it applies (e.g. inclusion and exclusion criteria, diagnosis)

Patients who have an ineffective/weak cough due to neuromuscular disease and cervical spinal cord injury.

Specifically patients with conditions such as muscular dystrophy, spinal muscular atrophy, motor neurone disease and spinal cord injury.

Use of cough-assist machine is vital to enable expectoration of phlegm or mucus from throat or lungs, thus preventing A&E admission and emergency intubation.

Respiratory function should be assessed in people with more complex care needs and consideration should be made of support from speech and language therapists and physiotherapist who as part of an MDT assessment can recommend appropriate interventions such as cough assist devices.

The MDT may include palliative care and respiratory nurses to support people, for patients who require intensive interventions and cough assistance, and a rehabilitation consultation to advise on the best course of action when a significant worsening of symptoms occurs.

### Abstract

This commissioning policy describes the use of the cough assist machine to augment/assist an ineffective cough (determined by a reduced cough peak flow) in patients with neuro-muscular disease and spinal cord injury.

### Contents

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<td>Introduction and Evidence</td>
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Commissioning Policy for Cough Assist Requests

1.0 Introduction and Evidence
The mechanical insufflator/exsufflator (MI-E) assists the clearance of bronchopulmonary secretions in those patients with an ineffective cough by the use of both positive and negative pressure.
Cough Assist is a non-invasive therapy that safely and consistently removes secretions in patients with an ineffective ability to cough (peak cough flow <270 l/m). The Cough Assist device clears secretions by gradually applying a positive pressure to the airway, then rapidly shifting to negative pressure. The rapid shift in pressure produces a high expiratory flow, simulating a natural cough.

1.1 Benefits of Cough Assist
- Removes secretions from the lungs
- Reduces the occurrence of respiratory infections
- Safe, non-invasive alternative to suctioning
- Easy for patients and caregivers to operate

1.2 Cough Assist Flexibility
- Can be used with a face mask, mouthpiece or with an adapter to a patient's endotracheal or tracheostomy tube
- Approved for home use in adults and children
- Available in automatic and manual models

1.3 Indications for Use
1.3.1 Typical Cough Assist patients include those with the following conditions:
- Amyotrophic lateral sclerosis
- Spinal muscular atrophy
- Muscular dystrophy
- Myasthenia gravis
- Spinal cord injuries
- Reduced Peak Cough Flow (PCF) of 160l/pm or 270 l/pm or < 270 l/pm and have clinical symptoms or a weak cough and therefore require intervention necessary to clear bronchial secretions or infection
- PCF can be measured by coughing into a peak flow meter attached to a mask MI-E Guidelines 2013

1.4 Contraindications
- Any patient with a history of bullous emphysema
- Susceptibility to pneumothorax or pneuemo-mediastinum
- Recent barotrauma, should be carefully considered before use
- The above contraindications should be carefully considered before use.
2.0 Implications

<table>
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<tr>
<th>Legal and/or Risk</th>
<th>The risks of not providing this equipment outweighs the financial risks of making it available</th>
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<tbody>
<tr>
<td>CQC</td>
<td>N/A</td>
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<tr>
<td>Patient Safety</td>
<td>The Cough Assist Device piece can be required and may even be essential for the safe and timely discharge of spinal injury patient’s from an acute spinal bed into their own homes in the community.</td>
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<tr>
<td>Patient Engagement</td>
<td>BCNA representatives as Lay members are involved in the development of the policy as members of the Neurological Task and Finish Group</td>
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<tr>
<td>Financial</td>
<td>Reduction in spend on low priority treatments. The estimated cost for the Cough Assist equipment is £4,500 per patient with an additional £500 per year, on-going costs. Based on the current levels of demand the CCG would expect to have one patient every two years requiring the equipment. NHS England has commissioning responsibility for the acute treatment of spinal cord injuries. Their policy does however make it clear that responsibility passes back to CCGs once the patient is discharged from Acute care. The Cough Assist Device has been specifically mentioned as an item that CCGs may be required to provide for patients with suppressed cough reflex to support their discharge. NHS England policy also indicates that CCGs will be charged the cost of excess bed days resulting from delayed discharge if this equipment is not available.</td>
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<tr>
<td>Sustainability</td>
<td>Protection of finance for essential (high priority) services</td>
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<tr>
<td>Workforce/Training</td>
<td>The service provider will also arrange training on an ad-hoc basis.</td>
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3.0 Prior Approval

This commissioning proforma covers the use Mechanical Insufflation-Exsufflation (MI-E) therapy for patients with neuromuscular disorders and cervical spinal cord injury patients

3.1 Clinical Indications for Funding

3.1.1. An established diagnosis as paralytic/restrictive disorder including but not exclusively:
- spinal cord injuries (SCI)
- neuromuscular diseases such as ALS
- Guillain-Barré Syndrome
- myasthenia gravis
- muscular dystrophy
- multiple sclerosis
- post polio
- kypho-scoliosis
- syringomyelia
3.2. Patient is unable to cough or clear secretions effectively with a
- PCF (Peak Cough Flow) less than 160 L/min
- VC (vital capacity) below 1.1L in general respiratory muscle weakness, or voluntary
- Reduced Peak Cough Flow (PCF) of 270 l/pm or < 270 l/pm and have clinical symptoms
  of a weak cough and therefore require intervention necessary to clear bronchial
  secretions or infection

Requests for MI-E or 'cough assist therapy' for patients who do not meet the above criteria
are considered low priority and will not be routinely funded.

3.2 Absolute Contra-Indications
- Presence of haemoptysis, untreated or recent pneumothorax, bullous emphysema,
  nausea and emesis, severe COPD, severe asthma and recent lobectomy
- Increased intra cranial pressure (ICP) including ventricular drains
- Impaired consciousness / inability to communicate in instances where the patient
does NOT have an artificial airway

3.2.1 Relative Contraindications
- therapy immediately following meals
- tachypnea
- history of COPD and pneumothorax
- large pleural effusion
- cervical spinal injury unclear
- hemodynamic instability
- impaired consciousness / inability to communicate where the patient has an
  artificial airway

_Supplemental oxygen should not be bled into the MI-E circuit. Oxygen passing through the
fan system during the exsufflation phase results in a potential fire hazard_

Appendix 1 References

1. Motor Neurone Disease a Problem Solving Approach for General Practitioners and Allied
2. National Institute for Health and Care Excellence Multiple Sclerosis Stakeholder
Comments – Draft Guideline June 2014
4. Nottingham University Hospital NHS Trust Cough Assist Guideline August 2013
5. Muscular Dystrophy UK 2015 #Right To Breath Campaign

Appendix 2 Evidence Base

4. LeBlanc C Asthma / COPD Educator Professional Practice Leader, Respiratory Therapy The Ottawa Hospital Rehabilitation Centre McKim Douglas A MD, FRCP, FCCP, D,ABSM Medical Director, Respiratory Rehabilitation Services Associate Professor, Department of Medicine University of Ottawa
8. Tzeng AC & Bach JR. Prevention of Pulmonary Morbidity or Patients with Neuromuscular Disease. Chest 2000;118: 1390-1396