

Mechanical Cough Assist

What it is

The cough-assist is a machine which uses lung volume recruitment to mobilise secretions followed by a negative pressure change to help stimulate and augment a cough. It is a mechanical way of using positive pressure (insufflation) and negative pressure (exsufflation) to assist in the movement of secretions from the distal airways to more proximal airways to enable them to be cleared more easily. Encouragement to cough and/or suction normally precedes, and follows a cough-assist treatment cycle.

Each patient will have a specific programme prescribed by the Physiotherapist to deliver the most effective treatment, based on their individual requirements. The settings will then be locked into the machine and must only be altered by the Physiotherapy Team.

There are 2 types of cough assist machine which are predominantly used in Salisbury NHS Foundation Trust, they are the Nippy Clearway machine and the Phillips Respironics machine.

Indications for use

- Inability to cough.
- Other secretion clearance techniques have been tried to no effect.
- Neuromuscular conditions such as MND, muscular atrophy, and **Spinal Cord Injury** with evidence of sputum retention or at high risk of developing sputum retention.
- Minimise the risks involved with repetitive manual assisted coughs, for patients and staff (for spinal cord injured patients).
- Increased independence for patients in the community with chest maintenance and secretion clearance.

Precautions for use

- Cardiac instability/arrhythmias
- Chest Pain
- Bronchospasm
- Gastric distension
- High O₂ requirements
- Agitation /confusion /non-compliance

Contraindications for use

- Un-drained pneumothorax
- Bullous emphysema
- Recent barotraumas
- Lung tumours
- Active haemoptysis
- Active TB or lung abscess
- Tracheoesophageal or bronchopulmonary fistula
- Recent oesophageal or tracheal surgery
- Recent facial or oral surgery or trauma
- Rib fractures / flail segment
- Patients dependent on PEEP to maintain adequate oxygenation
- Impaired consciousness/inability to communicate

Essential checks before use

- Check the patient's cough-assist prescription chart against the settings displayed on the screen of the machine. If there are any discrepancies do not use and refer to the Physiotherapy Team.
- On setting up the cough-assist machine with a patient these precautions/contraindications will have been assessed by the Physiotherapist, however, before **each use** these precautions/contraindications will need to be considered by the operator.

Trouble shooting

- If in any doubt about whether to start or continue use of the cough-assist, please do not until you have liaised/ referred back to the Physiotherapy Team.
- If any of the above precautions/contraindications for use are identified, please do not use and refer back to the Physiotherapy Team.
- If the patient is not tolerating the cough-assist for any reason then stop the cycle at any point by pressing the 'stop' button. If the issue ca not be resolved, e.g. cough/suction or a break from treatment does not change the ability of the patient to tolerate/continue with the cough-assist, please refer to the Physiotherapy Team.

Cough-Assist Training Check List

Name:

Trainer Name (Physiotherapist):

Date:

	Signed by Staff member	Signed by Physio
What it is		
Indications for use		
Precautions		
Contraindications		
Essential checks prior to use		
Trouble shooting		
Navigation and description of display screen and settings		
Demonstration of use off patient (Dry run)		
Demonstration of use with patient		
Observed use with patient		
Nippy Clearway machine		
Phillips Respironics machine		

Additional comments:

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