

Respiratory Care Services
John Dempsey Hospital
Respiratory Care Practitioner – Driven Protocols

Protocol #2: Hyperinflation Therapy with either EzPap or Acapella Devices

1. Policy:
 - a. To All initial orders for IPPB or CPT will be reviewed to determine if patient's needs would benefit from the initiation of the Hyperinflation Protocol.
2. Objective:
 - a. To provide effective and proactive adjunct Hyperinflation Therapy Treatments for the purpose of:
 - i. The prevention or treatment of post-operative atelectasis
 - ii. Encouragement and aid in patient's performance of deep breathing exercises
 - iii. The facilitation of pulmonary secretion mobilization and promotion of airway clearance
3. Benefits:
 - a. Able to address the needs of all post operative patients and/or clinically unstable patients
 - b. Devices well tolerated by patients
 - c. Devices can be utilized with a bronchodilator if indicated
 - d. Designed to be utilized for those patients unable to tolerate IPPB or CPT due to pain and/or respiratory insufficiency
 - e. A means to assist in improving patient outcomes and reduce average length of stay from post-operative pulmonary complications
 - f. Cost-effective measure
 - g. Good medical practice
4. Personnel and Equipment:
 - a. Respiratory Care Practitioner
 - b. Stethoscope
 - c. Incentive Spirometry
 - d. EzPap or Acapella Device
5. Procedure:
 - a. Verify patient's order sheet for specific instructions. Verify the patient's name, DOB, and bed location. Proceed to patient's bed, introduce yourself, explain what you are about to do. Check the patient's name and DOB verbally and by the patient's wrist band. Offer reassurance.
 - b. Perform Clinical Assessment
 - i. Assess patient's level of dyspnea and respiratory rate (proceed if dyspnea is mild and respiratory rate \leq 25 breaths / minute)

- ii. Assess patient’s mental status (proceed if patient is awake, alert, and demonstrates an ability to follow and perform simple commands when instruction is provided)
 - iii. Chest auscultation: assess breath sounds and air movement
 - iv. Assess for effectiveness of cough effort in promoting airway clearance
 - v. Assess secretions (frequency, amount, color, and texture)
- c. Attempt to provide instruction to patient in Incentive Spirometry
- i. If inhaled volume is > than 10 ml/kg, have patient self administer Incentive Spirometry after initial instruction and proper technique demonstrated. Inform and instruct nursing to call RT if patient needs reevaluation.
 - ii. If inhaled volume is ≤ 10 ml/kg, initiate Hyperinflation Protocol and appropriate device (EzPap or Acapella). *Refer to chart below.*

EzPaP
Indications for Use
<ul style="list-style-type: none"> • Presence of Atelectasis • Restrictive Lung Defect • Impending or worsening Hypercapnia secondary to decreased lung tissue (severe atelectasis) • Patient at risk for developing pulmonary atelectasis • Optimize delivery of bronchodilator

OR

Acapella
Indications for Use
<ul style="list-style-type: none"> • Aid in Mobilizing retained secretions • Prevent or reverse atelectasis • Optimize delivery of bronchodilator

- d. Assess patient’s need for a Bronchodilator.
- Does patient have a history of obstructive pulmonary disease?
 - Does the patient have a chronic lung disease characterized by airflow obstruction?
 - Does patient receive bronchodilators as treatment for other pulmonary conditions?
 - Does patient have poor expiratory air flow?
 - Is there wheezing or a prolonged expiratory phase?
 - Does patient experience respiratory distress with poor air flow?

- e. Document your evaluation and clinical assessment of the patient as a **SOAP Note** within the progress note section of the patient's chart.
- ✓ Include the results of the clinical assessment
 - ✓ Include outcome / results of the initial Incentive Spirometry 1 instruction provided to patient.
 - ✓ Indicate whether or not the Hyperinflation Protocol was Initiated
 - If yes* – indicate the device utilized and its indications for use.
 - ✓ Comment as to whether the patient was placed on a bronchodilator. Was it indicated by history or pulmonary assessment?
7. A recommended frequency for Hyperinflation Therapy will be determined from the evaluation and clinical assessment conducted by the respiratory care practitioner (therapist).
- Critical Care is q 2^o - q 6^o
 - Acute care is 2-4 times per day or as needed.

Patients on Hyperinflation Protocol will be assessed every 48-72 hours.

Patients will be followed by the Respiratory Therapy Department and have their treatment adjusted according as indicated by assessment of their pulmonary status.

The RT will be responsible for reordering or discontinuing Hyperinflation Therapeutic Treatments if the following outcomes are met or not met. (*Refer to chart below*)

OUTCOMES

- Change in sputum production; able to mobilize secretions or decrease in sputum production
- Breath Sounds: Increased aeration in areas that were previously decreased
- X-Ray: resolution or improvement in atelectasis and localized infiltrates
- Change in Arterial Blood Gas Values (ABG) or oxygen saturation
- Subjective response: Is patient feeling better?
- Ambulatory?