

Intrapulmonary Percussive Ventilation (IPV)

Description:

IPV therapy is a combination of aerosol therapy, IPPB, and CPT to mobilize retained endobronchial secretions and the resolution of diffuse patchy atelectasis.

Indications:

1. Bronchopulmonary hygiene for patients with impaired ability to mobilize secretions.
2. Bronchopulmonary hygiene for patients that cannot tolerate CPT with postural drainage or PEP/Flutter therapy.
3. Hyperinflation therapy for atelectasis (esp if due to secretions)
4. The need to deliver aerosol medications to the above defined patients.

Contraindications/Hazards/Complications:

Relative Contraindications:

1. Increased ICP
2. Hemodynamic instability
3. Recent facial, oral, or cranial surgery
4. TE fistula
5. Recent esophageal surgery
6. Active hemoptysis
7. Nausea
8. Active, untreated TB
9. Radiologic evidence of bleb/bullae

Hazards/Complications:

1. Barotrauma, pneumothorax
2. hyperventilation
3. gastric distention
4. hemodynamic compromise
5. air trapping/auto-PEEP/alveolar distension

Equipment:

Percussionaire[®] IPC-1C
Multi-colored tubing harness (interface)
Mouthpiece or mask (whichever applicable)
Phasitron[®] and ordered medications
Nose clip (if needed)

Personnel:

Certified Respiratory Therapist (CRT) 1 and 2; Registered Respiratory Therapist (RRT) 1 and 2

Procedure:

1. Verify physician order for procedure to include frequency and medications.
2. Identify patient by comparing hospital and billing numbers on the armband to those on the physicians' orders. Also verify by asking patient name (if applicable).
3. Explain procedure to patient.
4. Set up the IPV unit by connecting to a 50 psi source of oxygen, air, and/or blended.
5. Verify correct connection of the multicolored tubing harness (interface) as they will be color coded to the connection sites on the device.

Cardiopulmonary Services
IPV Therapy
Proc 7.23

6. Install the Phasitron^R Breathing Circuit, with prescribed medication (with diluent) in nebulizer. Connect colored tubing to matching ports on Phasitron^R.
7. Rotate the "PERCUSSION" control knob to "EASY" (counterclockwise).
8. Rotate the "MASTER SWITCH" control knob to "ON"
9. Rotate the "OPERATIONAL PRESSURE" control knob back and forth until a pressure of 30 psig is read on the gauge (while holding "MANUAL INSPIRATION" button).
10. Press the green button on Phasitron^R to verify percussive function
11. Instruct patient to:
 - a. purse lips around mouthpiece so air does not leak.
 - b. breathe through mouth only. Nose-clip may be used if necessary. Mask may be used if patient is unable to cooperate/coordinate mouthpiece.
12. The patient / clinician can use the "ON/OFF" button on the Phasitron^R for intermittent cycling of percussive oscillation OR can disconnect the GREEN remote tubing from the device for continuous percussions.
13. Instruct patient to breathe slowly and deeply.
14. As patient accommodates, increase PERCUSSION by gradually rotating the PERCUSSION control knob clockwise.
15. Adjust working pressure for adequate chest movement (wiggle) with percussions. Visually check chest for bilateral percussion.
16. IPV treatments should last 10-15 minutes.
17. When treatment is complete, discard any excess solution from nebulizer (rinse with NS). Phasitron^R portion of the IPV is to remain at the bedside (covered in a plastic bag).
18. Age appropriate considerations include assessing the patient's ability to cooperate with a mouthpiece. An appropriate fitting mask may also require age appropriate sizing.
19. Document per policy: Pressure setting, medication administered, HRX3, RRX2, BSX2, Pulse ox(if ordered)X2, and toleration.

For use with artificial airways:

Operate the device as described in procedure above. However, consider the following:

1. Disconnect patient intermittently to assess secretion motility and encourage patient cough.
2. Clinician must remain with patient for entire duration of therapy.
3. Suction patient after IPV is performed.

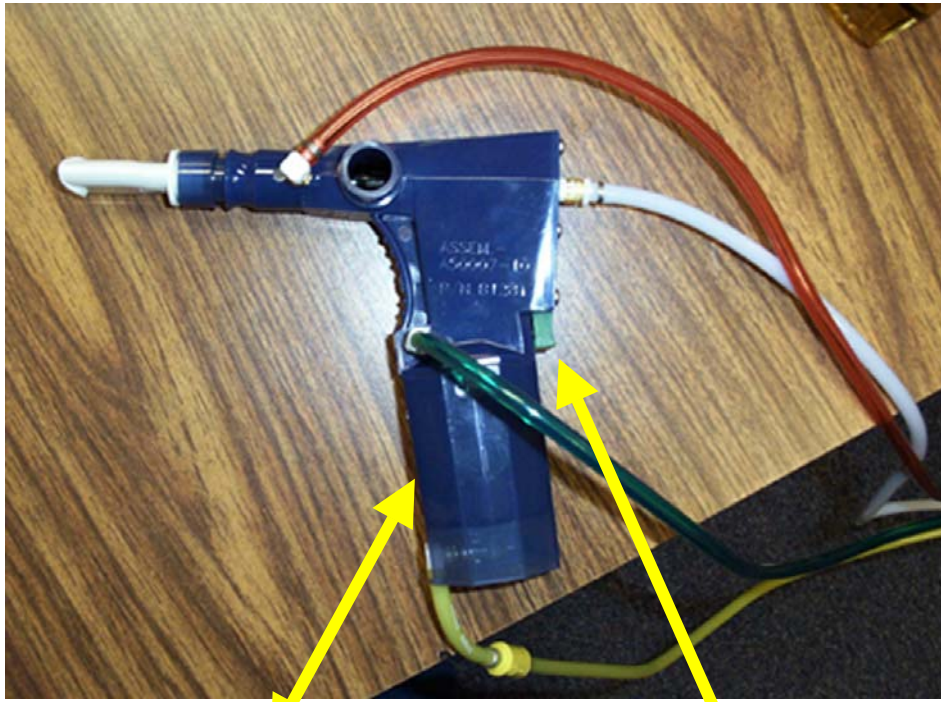
Monitor patients during therapy as percussive ventilation can decrease spontaneous respiratory rates as ventilation is increased via percussive oscillations.

Infection Control:

1. Standard precautions shall be observed at all times.
2. Phasitron is single patient use. Phasitron will be sent to CMS for processing in between patients
3. IPV machine/device will be aseptically cleaned between patient use.

As illustrated, the connections are color coded to match the color of the tubing.

PHASITRON



Nebulizer chamber

On/Off for Percussive
Oscillations

References:

1. Cardiopulmonary Services PROC 7.4
2. Percussionaire^R Corporation Clinical Manual on IPV (1997)