



IPV[®]-1C Therapy: **Competency Checklist**

This form is a self-assessment tool. The practitioner should be able to discuss the rationale for each of the actions and demonstrate competency in the practical applications of these skills as applicable.

Practitioner Name:

Date:

Department:

Medical Device: IPV[®]-1C with Phasitron

IPV Therapy

Achieved

1. Describe the three ways IPV therapy can help to restore gas exchange capacity.
2. List the patient age groups that are approved for IPV therapy.
3. List two absolute contraindications for IPV therapy.
4. List at least three expected clinical benefits of using IPV therapy.

IPV[®]-1C Device: Overview

5. Disassemble Phasitron and identify the main components and functions:
Sliding Venturi, Exhalation Port, Entrainment Port, Nebulizer Cup.
6. Locate the Master Switch and describe function.
7. Locate the Percussion knob and describe function, as well as the difference
between faster (easy) and slower (hard) frequencies.
8. Locate Operational Pressure knob and describe function.
9. Locate Digital Display and correctly identify values in Active Mode.

Preparing for Patient-Airway Connection

- 10. Describe or demonstrate how to assemble and connect Phasitron and connect to the IPV®-1C.
- 11. Identify the approved type and volume of solution/medication for nebulization.
- 12. Identify the initial knob settings prior to patient connection.
- 13. Describe important pre-treatment patient assessments performed prior to IPV therapy.

Delivering Therapy

- 14. List steps to perform effective IPV therapy.
- 15. Describe clinical assessments needed to determine if the settings are appropriate for the patient.
- 16. List possible situations or side effects to watch for during therapy.
- 17. Describe how to teach patients to effectively receive IPV therapy through a mouthpiece or mask.
- 18. Identify considerations when delivering IPV therapy through an artificial airway.

Troubleshooting

- 19. Describe workflow if the Digital Display does not provide values after turning on the device.
- 20. Explain workflow if the nebulizer is not functioning properly.
- 21. Describe workflow if the device is not delivering percussions or the frequency is too slow.

Practitioner Signature _____ **Date** _____

Trainer Signature _____ **Date** _____



IPV®-1C: Competency Checklist Key

IPV Therapy

1. Restoring gas exchange capacity

IPV therapy can help to restore gas exchange capacity by recruiting atelectatic areas of the lung, breaking up and moving out secretions, and working around obstructions or inflammation to help relieve hyperinflation.

2. Patient Population

Intended for any patient from infants to adults where IPV therapy is indicated. The IPV®-1C is not recommended for use in neonates.

3. Absolute Contraindications

Untreated tension pneumothorax or untrained or unskilled operator.

4. Benefits

IPV therapy is an airway clearance therapy that allows settings to be individualized per patient/disease process to recruit atelectatic lungs, decrease work of breathing (WOB), increase secretion mobilization, improve ability to wean respiratory support, improve gas exchange capacity, and improve overall patient outcomes.

IPV®-1C Device: Overview

5. Phasitron parts:

- a. Sliding venturi:** Enhances percussive pulses to break up secretions and mucus plugs, enables high-velocity flow to mobilize secretions away from airway walls, and dynamically responds, in real time, to resistance and compliance of the patient lung.
- b. Exhalation port:** Allows for patient exhalation.
- c. Entrainment port:** Allows room air to join flow delivered in response to the movement of the venturi, which adapts to the compliance and resistance of the lung.
- d. Nebulizer cup:** Provides aerosolized saline or medication delivery.

6. Master Switch

Turns the IPV®-1C controller ON and OFF.

7. Percussion Knob (Frequency)

Determines the rate of high-frequency percussive pulses delivered to the patient.

- a.** Turning the knob to the left increases the frequency, which is recommended for secretion mobilization and quickly improving gas exchange.
- b.** Turning the knob to the right decreases frequency, which is recommended for mobilizing thicker secretions or mucus plugs, as well as reinflating and recruiting the lungs.

8. Operational Pressure

Controls the maximum operating pressure (PSI) of the entire unit. That pressure then determines the flow delivered to the patient. Rotating it to the right increases the amplitude (increases chest wiggle) and rotating it to the left will decrease the amplitude (decreases chest wiggle) which in turn determines the MAP (Mean Airway Pressure) displayed in

cmH₂O on the Digital Display.

9. Digital Display (US):

- a.** Mean Airway Pressure (US display) is the largest value and is the average pressure (amplitude + CPAP) in the lung over 5 seconds.
- b.** Pulse Frequency Rate is the three-digit value located to the right of the MAP. Represents the number of pulses per minute.
- c.** Pulsating Bar Graph displays pulse amplitude (0-50 cmH₂O), displaying the minimum and peak pressure of each pulse.
- d.** Treatment Timer is located beneath the MAP. Displays the total usage time of the current session

Preparing for Patient-Airway Connection

NOTE: It is recommended to perform a pre-use check of device operation before attaching the Phasitron to the patient interface.

10. Assembly

Start with the end of the circuit where tubing is equal in length and connect the tubing to the corresponding-colored connectors on the IPV®-1C device. The opposite end of the circuit will connect to the Phasitron. Connect yellow tubing to the nebulizer cup. At the back of the Phasitron, connect the red tubing to the pressure port and the clear tubing to the cap.

11. Nebulizing solution

The nebulizer cup should be filled with 15–20 mL (maximum) of saline, sterile water, or medication ordered by the provider. Never run IPV therapy with a dry nebulizer cup.

12. Initial knob position:

- a.** Turn Master Switch to the off position.
- b.** Turn the Operational Pressure knob completely to the left to the off position.
- c.** Turn the Percussion knob completely to the left to the fastest/highest frequency.

13. Pre-Therapy Assessments

Before therapy, auscultate for breath sounds, heart and respiratory rate, and any other pre-treatment guidelines recommended by your institution.

Delivering Therapy

14. Delivering IPV Therapy

- a. Ensure the patient is in an upright, comfortable position, or is lying with head and shoulders elevated by pillows.
- b. Turn the IPV®-1C on by rotating the Master Switch knob to the ON position.
- c. Connect the Phasitron to the patient using mouthpiece, mask, or direct connection to patient airway/airway adaptor.
NOTE: For patients coming off respiratory support, consider starting with operational pressure on and quickly titrate to target MAP delivered from previous support.
- d. Slowly rotate the Operational Pressure knob to the right until a visible chest wiggle is observed and pulses can be heard throughout the lung fields during auscultation.
- e. As the patient becomes acclimated to the treatment, rotate the Percussion knob to the right (slower frequency), being sure to assess for patient comfort. The Percussion knob may be rotated between the faster and slower frequencies every 3-5 minutes, or as indicated by the patient's response to therapy.
- f. Continue IPV therapy for 15 to 20 minutes, or per hospital policy. The total treatment time can be visualized on the digital display.
- g. When treatment is complete, turn the Master Switch knob to the off position. Disconnect the patient from the Phasitron and circuit. If applicable, place patient back on previous respiratory support.
- h. Clean Phasitron per hospital infection control policy.
NOTE: the Phasitron can be used for multiple treatments but is single patient use only.

15. Patient Assessment

During therapy, visually assess the patient for adequate chest wiggle and auscultate the lungs to confirm the presence of percussion in all lung fields. Observe for spontaneous breathing during therapy and consider monitoring CO₂ continuously to avoid hyperventilation. Assess oxygen saturation to avoid hyperoxygenation.

16. Possible Side Effects

Patient should be constantly assessed for hyperventilation, hyperoxygenation, increased air trapping, gastric distension, decreased cardiac output, pneumothorax, pulmonary hemorrhage, increased intracranial pressure, and/or pulmonary air leak.

17. Therapy via Mouthpiece or Mask

When using a mouthpiece, instruct the patient to keep their lips and cheeks tight to avoid nasal air venting; if using a mask, cheeks should be splinted. Advise the patient to relax and take normal breaths through the pulses whenever they desire. Observe the patient for signs of distress and consider pauses or breaks if necessary.

18. Therapy via Artificial Airway

IPV therapy can be performed with either an inflated or deflated cuff at the discretion of the institution and care team. The Phasitron can be attached directly to an artificial airway or airway adaptor. Be sure to suction the airway to avoid obstruction as secretions are mobilized

Troubleshooting

19. Digital display is off

The display will wake when it senses at least 2.5 cmH₂O at the Phasitron. Consider occluding the end of the Phasitron, allowing the display to read 2.5 cmH₂O. Check connections and/or the digital display battery.

20. Nebulizer not aerosolizing

Ensure there is liquid present in the nebulizer cup and check for flow out of the nebulizer baffle. Disconnect the yellow tubing and verify flow. If flow is present, turn the Master Switch knob to the OFF position and reconnect the yellow tubing to the nebulizer bowl. If the issue persists, contact product support.

21. Slow or no percussions

Check that the inlet gas source is properly connected. Check the device to ensure the Master Switch is in the ON position and the Operational Pressure is in the ON position, and adjust the Percussion knob for higher rate. Finally, check the REMOTE connector for blockage. If the issue persists, contact the Sentec service team.

