

# BLOM™ TRACHEOSTOMY TUBE SYSTEM

## FAQ'S

### **1 What sizes of the Blom Tracheostomy Tubes are available?**

Sizes #4, 6, 8, and 10 fenestrated cuffed tracheostomy tubes

### **2 For what time period can the Standard, Subglottic Suctioning and Speech Cannulas be used?**

- The Standard and Subglottic Suctioning Cannulas should be exchanged every shift or per facility protocol
- The Speech Cannula should be exchanged every 60 days

### **3 How does the fenestration on the Blom Tracheostomy tubes differ from fenestrations found on other brands of tracheostomy tubes?**

- The fenestration on the outer cannula of the Blom Tracheostomy Tube has rounded smooth edges and is strategically located 1mm above the cuff, unlike fenestrations found on traditional tracheostomy tubes. This design places the fenestration closer to the distal portion of the tube, in a safe location, where it prevents contact with the tracheal mucosa while the cuff is inflated.
- The Blom fenestration is larger than most traditional fenestrations, which reduces expiratory resistance to airflow through the fenestration.
- The Blom fenestration is separated by a bar to prevent a suction catheter from entering the fenestration during deep tracheal suctioning. This protective bar helps guide the suction catheter along the lumen of the outer cannula so that the catheter can safely be passed into the lower airway when pulmonary suctioning is completed.

### **4 How does the Subglottic Suctioning Cannula work?**

- The Blom Subglottic Suctioning Cannula contains a separate lumen **attached to the outside of the inner cannula** which ends at the level of the fenestration just above the cuff. Secretions that accumulate above the cuff can be removed by suctioning on high flow applied intermittently, 100-150 mmHG using a suction regulator capable of intermittent, timed on/off cycles or can use continuous suction at 20 mmHG. The secretions will be suctioned through the fenestration, into the suction line and deposited in the suction canister at the bedside.
- Each Blom Tracheostomy Tubes #4, 6, 8 and 10 respectively use suction catheters in sizes French 5, 6, 8 and 10. There is sufficient space within all four Subglottic Suctioning Cannula sizes for adequate airflow to pass for

respiration. Additionally, there is also sufficient space for a suction catheter to also be passed through the inner cannula for deep tracheal suctioning. Deep tracheal suctioning may still be performed as needed using an inline or disposable single use suction catheter when the Subglottic Suctioning Cannula is in place.

- The Subglottic Suctioning Cannula can also be used to help verify upper airway patency prior to a Blom Speech Cannula. With the Subglottic Suctioning Cannula in place, hook the suctioning port to an air source, and provide 8-12 lpm through the line. The patient should be able to elicit phonation or demonstrate airflow from their nose and mouth while this air is provided through the line and the suction port is occluded. If no upper airway airflow is appreciated, an ENT consult may be warranted to rule out upper airway obstruction.

**5 How do you distinguish between the Speech Cannula and the LPV™?**

- The Speech Cannula is a full length Cannula with a pink 15mm hub connector to hook up to a ventilator circuit. It contains the flap and bubble valves.
- The LPV is a “short” Cannula with a flap valve. It has a lower profile pink colored tip, therefore, it cannot be connected to a ventilator circuit.

**6 Can the Blom Cannulas and LPV be used with other tracheostomy tubes?**

The Blom Standard, Speech, and Subglottic Suctioning Cannulas and LPV are **not** compatible with other brands of tracheostomy tubes due to the unique “telephone jack” style clips used to safely and securely fasten these components to the outer cannula.

**7 How does the Blom Speech Cannula work?**

- The Blom Speech Cannula has two unique valves that re-direct air allowing speech for ventilator dependent patients with a fully inflated cuff.
  - ◆ During *Inhalation* the **Flap Valve** opens and the **Bubble Valve** expands into the fenestration sealing it, preventing air escaping to the upper airway.
  - ◆ During *Exhalation* the **Flap Valve** closes, the **Bubble Valve** collapses to unblock the fenestration and air is directed up through the fenestration to the vocal cords allowing speech.

**8 What patients ARE candidates for use of the Speech Cannula?**

- Patient must be ventilator dependent on a standard or portable ventilator
- Patient must have a Blom Fenestrated Tracheostomy Tube
- Adult patient weighing >30kg (66 lbs)

- Patient must be arousable and have the potential to communicate
- Patient may be in volume or pressure ventilation in any ventilator mode
- Patient does not need to be breathing spontaneously
- Patient does not need to be able to tolerate cuff deflation
- Patients should have a patent, unobstructed upper airway

**9 Which patients are NOT candidates for use of the Speech Cannula?**

- Patients that have specific anatomical or airway concerns which necessitate the use of an extra long, custom, or foam cuffed tracheostomy tube which cannot be replaced with a standard tracheostomy tube
- Patients with known lower or upper airway obstruction including stenosis, tracheomalacia, granulation tissue, or vocal cords paralyzed in the adducted position
- Patients with an excessively dilated tracheostomy stoma that results in air escape around the tracheostomy tube at the stoma site
- Patients should not have copious, thick secretions requiring suctioning more than five times per hour
- Patients requiring PEEP >10 or a FiO<sub>2</sub> greater than 60%

**10 How long after placing a Blom Tracheostomy Tube should practitioners wait to attempt the Speech Cannula?**

- When the Blom Tracheostomy Tube is initially placed during the surgical tracheotomy, use of the Blom Speech Cannula should be delayed approximately 3-5 days until the physician believes that the fresh surgical tracheostomy site is sufficiently healed.
- Patients who have an established tracheostomy site and convert to a Blom Tracheostomy Tube should wait at least 15 to 30 minutes post tracheostomy tube change before using the Blom Speech Cannula. If resistance was encountered during the tracheostomy change, or bleeding occurs, practitioners may elect to wait up to 24 hours for potential swelling and airway irritation to subside.

**11 How do you assess for upper airway patency when using the Speech Cannula?**

- Once the Speech Cannula has been placed, immediately verify airflow in the upper airway using these methods:
  - Listen for exhaled airflow at the patient's mouth
  - Ask the patient to forcibly exhale and feel for airflow from the nose and mouth
  - Ask the patient to phonate. The patient's vocal quality should NOT be strained, as this may indicate insufficient airflow through the vocal cords.

- Listen for airflow using a stethoscope at the upper airway
- Ensure that the high pressure alarm is not sounding

**12 What is the recommended duration for a Speech Cannula?**

The Speech Cannula should initially be used for short periods of time or per patient tolerance. The Speech Cannula must always be “Used Under Qualified Supervision Only” of a healthcare practitioner or caregiver who has been trained in the utilization and safety precautions regarding the Speech Cannula.

**13 Does the Speech Cannula increase the patient’s work of breathing?**

There is a small increase in resistance at the flap valve due to its tapered shape during inhalation, however, by the time the inhaled air reaches the patient’s lungs, this resistance has been eliminated and is not realized.

**14 For what time period can the LPV be used?**

The LPV, like the Speech Cannula, may be used for up to 60 days.

**15 How does the LPV work?**

The LPV is a one-way speaking device which contains a **Flap Valve** at the distal end. The **Flap Valve** opens during *Inhalation* and remains biased-closed during *Exhalation* re-directing air through the fenestration to the vocal cords.

**16 Does the cuff have to be fully deflated when using the LPV?**

Unlike traditional speaking valves, the Blom LPV may also be utilized with a patient who has a partially or fully inflated cuff. Because all Blom Tracheostomy Tubes are fenestrated, patients with a partially or fully inflated cuff may be able to exhale sufficiently through the fenestration of the tracheostomy tube without having the cuff deflated. Patients should be assessed carefully by the clinician, who should confirm upper airway patency/airflow using the same methods described in Question # 11 above detailing the methods clinicians should use to verify sufficient upper airway airflow.

**17 How does the LPV differ from other brands/traditional speaking valves?**

- The LPV is lower profile than traditional speaking valves; therefore it protrudes less distance from the patient’s neck, and is less conspicuous.
- Deep tracheal suctioning can be done with the LPV in place. Suctioning through the flap valve does not damage it.

- The LPV is easier to place than traditional speaking valves when a patient is wearing a cervical collar because of the easy-to-fasten “phone jack” style clips.
- Patients who need to do a “chin tuck” maneuver to swallow more safely can more completely tuck their chin to their chest since the LPV does not protrude as far from the tracheostomy tube as traditional one way speaking valves.

**18 How does the Exhaled Volume Reservoir™ (EVR™) work?**

During the *inspiratory* phase of the ventilator, a small portion of gas fills and expands the bellows of the EVR (approximately 30-50ml). When the ventilator cycles to the *expiratory* phase, the bellows contracts and the volume of gas is then returned to the ventilator for measurement. This will diminish the amount of “nuisance alarms that may occur during the use of the Speech Cannula thus allowing the practitioner to reduce the low exhaled tidal/minute volume alarm threshold instead of completely disabling it and the ability of the ventilator to warn of disconnects.

**19 Where in the ventilator circuit should the EVR be placed?**

- *For Ventilators which measure exhaled volumes at the machine:* Install the EVR at the end of the expiratory limb of the circuit just prior to the exhalation inlet port.
- *For volumes which are measured via a proximal flow sensor:* Install the EVR between the flow sensor and the patient.

**20 For what time period can the EVR be used?**

The EVR should be replaced when the entire ventilator circuit is changed or according to local established protocols.

**21 What ventilator setting changes should be made to facilitate tolerance of the Speech Cannula or alarm management?**

- *Changes may include:*
  - ◆ Increasing the high pressure threshold during volume ventilation to compensate for the negligible restriction to gas flow when air is delivered during inspiration through the flap valve.
  - ◆ Reducing inspiratory time or increasing peak flow to extend the expiratory phase and decrease the likelihood of air trapping when large tidal volumes, high breath rates, or high pressure control levels are used.
- Patients who require PEEP should be placed on ventilators with flow triggering or supplemental bleed in oxygen.