Providence HEALTH CARE	Department: **Respiratory Services**	Date Originated: March 2005 Reviewed/Revised: **November 2010**
PROCEDURE	Topic: Critical Care – FROVA Intubating Introducer for Airway Management (Respiratory Therapy) Number: B-00-12-12054	Related Links:

APPLICABLE SITES:

St. Paul's Hospital
Mount Saint Joseph Hospital

GENERAL INFORMATION:

The Frova Intubating Introducer is a radiopaque catheter introducer with centimeter markings and a blunt, curved tip that can be passed blindly into the trachea. The catheter may be supplied with a stiffening cannula or with a Rapi-Fit adapter (with either a 15 mm connector or a luer lock connector), permitting use of ventilatory devices during exchange procedure.

The Frova Intubating Introducer is intended to facilitate endotracheal intubation in patients where visualization of the glottis is inadequate.

Frova catheters should only be used in difficult intubation situations by physicians trained in its use and who are capable of intubating the patient using direct laryngoscopy should the Frova placement not be possible.

The 14.0 Fr Intubating Introducer is designed for placement of an endotracheal tube with an inner diameter of 6 mm or larger while the 8.0 Fr is for an inner diameter of 3 mm or larger.

CAUTIONS:

Attention should be paid to insertion depth of catheter into the patient's airway and correct tracheal position of endotracheal tube. Markers on the Frova Intubating Introducer refer to distance from tip of catheter. Catheter and endotracheal tube should not be advanced beyond the carina.

Ensure that the Rapi-Fit Adapter is securely connected to the Frova Intubating Introducer prior to oxygen delivery. Failure to properly secure the adapter to the introducer may result in hypoxia, hypoxemia, and serious adverse events.

POTENTIAL ADVERSE EVENTS:

- Injury to the epiglottis
- Perforation of the piriform fossa, trachea, or bronchus
- Barotrauma resulting in pneumothorax or pneumomediastinum

EQUIPMENT:

- 14.0 Fr Frova intubating introducer (with or without stiffening cannula) (with or without Rapi-Fit adapter)
- Endotracheal tube (size 6 or larger)
- Intubation supplies and equipment

PROCEDURE:

USE OF RAPI-FIT ADAPTER:

A ventilatory or oxygen delivery device may be used at any time during the endotracheal tube exchange procedure by utilizing the optional Rapi-Fit adapter.

1. To attach Rapi-Fit adapter, position the adapter on the catheter, then push the white collar forward and lock into position.

2. Attach small-bore oxygen tubing to the luer connection of the Rapi-Fit adaptor.

3. Adjust the oxygen flow to 2 L/min.

4. To remove the adapter, pull the white collar back to release, and then remove from the catheter.

CAUTION: This method of oxygen delivery may result in lung hyperinflation and barotrauma with subsequent pneumothorax or pneumomediastinum. Rising chest wall, pulse oximetry and oral air flow should be carefully monitored. Ensure that gas trapping is minimized by decreasing the oxygen flow as necessary.

Supplemental oxygen may also be administered during the procedure by a free-flow method using small-bore tubing directed towards the oral pharynx with a flow rate of 10 L/min.

INSERTION OF FROVA INTUBATING INTRODUCER:

1. Preload an appropriately sized and lubricated endotracheal tube onto the proximal part of the introducer.

2. Using laryngoscopy, the physician will introduce the tip of the introducer beyond the epiglottis and advance it in a straight line toward the glottis.

3. Advance the introducer into the trachea. If resistance is encountered, do not force the

introducer; gently rotate and advance. After 2 – 3 cm of introduction remove the stiffening cannula (if used) and gently advance the introducer into the tracheal.

NOTE: During introduction you may feel tracheal rings.

NOTE: Attention must be paid both to the insertion depth of the Frova catheter into the patient airway and the correct position of the endotracheal tube in the trachea.

CAUTION: To avoid barotrauma, ensure that the tip of the Frova Intubating Introducer catheter is always above the carina approximately 2 – 3 cm.

4. Confirm introducer position in the trachea using standard methods (i.e. capnography, CXR, breath sounds, direct visualization).

5. While maintaining position of the introducer, advance the preloaded endotracheal tube into the trachea to the appropriate distance.

6. While maintaining position of the endotracheal tube, remove the introducer and laryngoscope.

7. Confirm proper endotracheal tube position via capnography and CXR.

REFERENCES:

1. *Cook Frova Intubating Introducers, Instructions for Use*. Cook Medical Incorporated. 2007. www.cookmedical.com

2. *Coroner's Report Log # OCC 10 00346 – Recommendations.* Office of the Chief Coroner of Ontario. September 2010.

3. Baraka, A. *Tension Pneumothorax Complicating Jet Ventilation via a Cook Airway exchange Catheter.* Anesthesiology 1999; 91: 557-558.

4. Cooper, RM. *The use of an endotracheal ventilation catheter in the management of difficult extubations.* Can J Anaesth. 1996/43:1/90-93.