**Pro-Line® CT Central Venous Access Catheter**

**DESCRIPTION**

- **The Pro-Line® CT** family of catheters is designed to meet the needs of patients requiring short or long-term vascular access.
- Catheters are available in various diameters and lengths to accommodate a wide range of patient needs.

**INDICATIONS FOR USE**

- **Preferred catheter for**
  - Central venous pressure monitoring
  - Intravenous fluid administration
  - Blood product administration
  - Medication administration
  - Total parenteral nutrition

**INSTRUCTIONS FOR USE**

1. **Prepare Catheter**
   - Thoroughly clean the catheter and all necessary equipment with an antibiotic solution.
   - Ensure the catheter is properly chosen according to the patient’s needs.

2. **TUNNELING**
   - **Important:** Follow all local regulations and institutional guidelines for tunneling.
   - **Warning:** Do not exceed the recommended tunnel length of the catheter.

3. **STERILE EOL**
   - **Do not use catheters or accessories if package is damaged or opened.**
   - **Use sterile technique.**

4. **INSERTION**
   - **Warning:** Be aware of the patient’s vessel anatomy and avoid damage.
   - **Note:** The catheter has been designed to be inserted in a single pass through the skin.

5. **THERMAL WELDING**
   - **Note:** Use a 10cc or larger syringe and sterile technique.
   - **Warning:** Do not re-sterilize the catheter or accessories.

**POSSIBLE COMPLICATIONS**

- **Vascular**
  - Bleeding
  - Hematoma
- **Infection**
  - Exit Site Infection
  - Catheter Tip Infection
  - Catheter Related Septicaemia
- **Cardiac**
  - Cardiac Arrhythmia
  - Myocardial Infarction
- **Respiratory**
  - Spontaneous Catheter Tip Malposition or Retraction
  - Phlebitis
- **Others**
  - Vascular Thrombosis
  - Venous Thrombosis
  - Vessel Erosion
  - Catheter Migration

**CONTRAINDICATIONS**

- **Patients requiring ventilator support are at risk.**
- **Catheter Erosion through the Skin**
  - Alternates include the subclavian or femoral veins.

**WARNING:**

- **Do not use sharp instruments near the catheter insertion area.**
- **Federal Law (USA) restricts this device to sale by or on the order of a physician.**

**PRECAUTIONS**

- **Verify patient identification.**
- **Document and rehearse all steps prior to insertion.**

**INFORMATION FOR THE MEDICAL PROFESSIONAL**

- **Pro-Line® CT** Catheter is intended for short or long-term access to the central venous system. It is designed for administration of fluids, blood products, drugs, and parenteral nutrition solutions, as well as blood withdrawal, allows for central venous pressure monitoring and power injection of contrast media. The maximum recommended inflation rate is 5cc/sec. The maximum recommended inflation pressure is 3000 mm Hg. The Pro-Line® CT Catheter may not exceed 3000 psi.

**CAUTIONS AND PRECAUTIONS**

- **Catheter testing included 10 power injection cycles.**
- **It may be inserted percutaneously and is primarily placed in the internal jugular vein.**
- **Alternate insertion sites include the subclavian vein.**

**IMPORTANT INFORMATION PERTAINING TO THE INSERTION SITE**

- **Contrast media should be warmed to body temperature prior to injection.**
- **Warning:** Failure to use a mask may cause permanent or partial blindness prior to injection may result in catheter failure.

**VIGOROUS FLASH**

- The Pro-Line® CT using a 10cc or larger syringe and sterile technique, follow the recommended procedure for each catheter insertion study may result in catheter failure.

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Warning: 1.06cc 19 Ga 26.65 cc/min 6.4 cc/min 0.57cc Gravity Flow 1.39cc

To achieve this, remove the dilator from the catheter lumen inside tunnel. Contact from sharp objects may cause damage. Care must be taken when using sharp needles in close proximity to the catheter lumen. From contact with sharp objects may cause catheter failure and/or catheter migration. Failure to verify catheter placement may result in catheter failure and/or catheter migration. Do not suture the catheter tubing. Damage may result.

Note: Infection due to risk of exposure to HIV or other blood borne pathogens, health care professionals and it has been determined that the catheter is not the proximal end of wire into distal tip of catheter lumen. Feed catheter lumen into the vein. The distal tip should be positioned at the level of the caval atrial junction. A skin nick may be required to lead the catheter smoothly into the vessel.

Catheter Size

<table>
<thead>
<tr>
<th>Pro-Line®</th>
<th>Gravity Flow</th>
<th>Full Length Priming Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>5F X 6CM SINGLE w/Cuff @ 2cm</td>
<td>28.4 cc/min</td>
<td>0.7cc</td>
</tr>
<tr>
<td>5F X 8CM DUAL w/Cuff @ 2cm</td>
<td>10.6 cc/min</td>
<td>1.0cc</td>
</tr>
<tr>
<td>5F X 8CM DUAL w/Cuff @ 5cm</td>
<td>54.3 cc/min</td>
<td>1.0cc</td>
</tr>
<tr>
<td>6F X 8CM DUAL w/Cuff @ 5cm</td>
<td>117.5 cc/min</td>
<td>0.67cc</td>
</tr>
<tr>
<td>6F X 10CM DUAL w/Cuff @ 5cm</td>
<td>26.6 cc/min</td>
<td>0.83cc</td>
</tr>
</tbody>
</table>

Warning: Only a physician familiar with the appropriate techniques should attempt the following procedures.

Cautions:
- Careful examination of the patient’s catheter lumen should cover approximately 10-15 minutes or until bleeding stops.
- Suture incision and apply dressing in a manner to promote optimal healing.
- If the lumen will neither aspirate nor flush, and it has been determined that the catheter is occluded with blood, follow institutional declotting procedure.
- If resistance is encountered to aspirating or flushing, the lumen may be partially or completely occluded.
- Sterile technique should always be strictly adhered to.
- Clinically recognized infection should be treated promptly per institutional policy.