Spontaneous Catheter Tip Malposition or Retraction
• Right Atrial Puncture
• Nerve Damage
• Mediastinal Injury
• Laceration of Vessels or Viscus
• Exit Site Infection
• Central Venous Thrombosis
• Catheter Related Sepsis
• Catheter Occlusion
• Cardiac Tamponade
• Bacteremia

POTENTIAL COMPLICATIONS:
- Spontaneous catheter tip malposition or retraction
- Right atrial puncture
- Nerve damage
- Mediastinal injury
- Laceration of vessels or viscus
- Exit site infection
- Central venous thrombosis
- Catheter related sepsis

INSTRUCTIONS FOR USE

INDICATIONS FOR USE
- The Medcomp® T-3 Catheter is a triple lumen catheter used for in situ placement of central venous access for hemodialysis, hemofiltration, and other medical procedures requiring central venous access.
- The catheter is intended for use in the jugular, femoral, or subclavian vein.

CONTRAINDICATIONS:
- The catheter is contraindicated in patients with thrombosis or occlusion of the access vein. Indocyanine green (ICG) dye infusion with pulsed dye laser (PDL) for varicose vein removal may be considered as a potential treatment option.

INFORMATION PERTAINING TO THE INJECTION SITE
- Insertion or use of the catheter should be avoided until all previous punctures have healed.

CATHETER PRECAUTIONS:
- Do not use sharp instruments to move the catheter.
- Do not use catheter or accessories if package is opened or damaged.
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INTERNAL JUGULAR VEIN
- The patient should be monitored closely throughout the procedure.
- If necessary, the patient should be premedicated with an antiemetic.

SUBCLAVIAN VEIN
- The patient should be monitored throughout the procedure.
- If necessary, the patient should be premedicated with an antiemetic.

FEMORAL VEIN
- The patient should be monitored throughout the procedure.
- If necessary, the patient should be premedicated with an antiemetic.

警告: Patient requiring ventilator support should be monitored closely throughout the procedure.

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DIRECTIONS FOR SELDINGER INSERTION

Caution:
- Only use the lumen marked "power injectable" for power injection of contrast media.
- Use only the lumen marked "power injectable" for power injection of contrast media.

Caution:
- Do not infuse against a closed clamp or forcibly disengage a catheter, or flush against a closed clamp.
- Do not infuse at a flow rate greater than 5 cc/sec.

Warning:
- Do not use syringes or needles to move the catheter.
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### Power Injection Procedure

1. Remove the end/needleless cap from the catheter.
2. Using a 10 cc or larger syringe aspire for adequate blood return to remove locking solution and to assure patency.
3. Attach a 15 cc or larger syringe filled with sterile normal saline and vigorously flush the catheter with the full 15 cc of sterile normal saline.
4. a) **Warning:** Failure to ensure patency of the catheter prior to power injection studies may result in catheter failure.

### Heparinization

- If the catheter is not to be used immediately for treatment, follow the suggested catheter patency guidelines.
- To maintain patency between treatments, a heparin lock must be created in each lumen of the catheter.
- Follow hospital protocol for heparin priming.
- Draw heparin into syringes, corresponding to the amount directed by the physician, and assure that the syringes are free of air.
- Remove end caps from the extensions.
- Attach a syringe containing heparin solution to the catheter tip and flush the lumen of each extension.
- Open extension clamps.

### InSufficiency flows

- The following may cause insufficient blood flows:
  - Occluded proximal holes due to clotting or fibrin occlusion
  - Occlusion of the side holes due to contact with vein wall

### Management of One-Way OBstructions

- One-way obstructions exist when a lumen can be flushed easily but blood cannot be aspirated. This is usually caused by tip malposition.

- One of the following adjustments may resolve the obstructions:
  - Reposition catheter.
  - Reposition patient.
  - Have patient cough.
  - Provide no resistance, flush the catheter vigorously with sterile normal saline to try to move the tip away from the vessel wall.
  - Never forcibly flush an obstructed lumen. If any lumen develops a thrombus, stop flushing to avoid the clot.

### CATHETER PERFORMANCE

- Always review hospital or unit protocol, potential complications and their treatment, and catheter procedures prior to undertaking any type of medical or chemical intervention in response to catheter performance problems.

### CATHETER REMOVAL

- **Warning:** Only a physician familiar with the appropriate techniques should attempt the following procedures.
- **Caution:** Always review hospital or unit protocol, potential complications and their treatment, and catheter procedures prior to attempting any type of medical or chemical intervention in response to catheter performance problems.

### INJECTOR PRESSURE

- **Warning:** Only a physician familiar with the appropriate techniques should attempt the following procedures.
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### REFERENCES: