

Best Practice Tips for Millar Mikro-Tip® Catheters

Intended Use - These products are designed for use by professionals with appropriate education and training in life science and medical research applications including catheterizations procedures on animals, for which the device is intended.

TOP TIP: To prevent baseline drift always pre-soak the pressure sensor in sterile water or isotonic saline at 37° for 30 minutes prior to every calibration and use

Handling and care

CATHETERS (AND/OR PIGTAILS), PRESSURE SENSORS & ELECTRODES

DO

- Inspect for damage (cracking, kinks etc) prior to each use
- Grip 5-10mm away from the sensor/electrode area to avoid damage to the fragile wires inside
- If forceps or other surgical tools must be used to grip and introduce the catheter, slip soft surgical tubing over tips of the tool to cushion interface with catheter
- Disconnect during electrical defibrillation or electrosurgery
- Use an electrostatic discharge mat or grounding bracelet when handling the catheter (recommended)
- Use a sheath introducer (o-ring type sealing introducer) to insert catheter in large animal models
- Clean immediately after use

DON'T

- Bend, kink, cut, crease, knot, fold, crush etc. Especially around the sensor, electrode area.
- Tap the sensor or electrodes against a rigid surface
- Grip the catheter with fingers (preferred), forceps or tweezers anywhere near the sensor/electrode area incl. between the electrodes or between the electrodes and the pressure sensor case
- Use sharp objects in the sensor/electrode area
- Apply excessive force or pressure to the sensor or electrodes e.g do not set objects on top of catheter or tighten sutures over sensors/electrode area.
- Touch the sensor element while the catheter is disconnected from monitoring equipment as the pressure sensor element is sensitive to electrostatic charge
- Use cusp-type self-sealing introducers*
- Clean with stiff-bristled brush
- Clean with high pressure water jet

SURGICAL APPLICATION TECHNIQUES

(recommended duration of each diagnostic procedure should be under 4 hours)

- Pull back slightly if resistance is encountered while inserting catheter and then try advancing again
- Advance the sensor/electrode area completely beyond the proximal suture before tightening suture
- Loosen the proximal suture before pulling catheter out to avoid sensor or electrodes catching

- Apply excessive force when inserting or removing the catheter as the catheter may incur damage and you could traumatize the linings and associated tissue of the cardiovascular system
- Damage the catheter with the tips of any forceps or tweezers that are used to grip the artery when inserting the catheter
- Push the catheter tip directly through the left ventricular wall, instead make an entry hole in ventricular apex with a needle first, then insert the catheter through the hole (open chest, direct LV approach)

CONNECTOR AND CABLES

- Protect connectors from fluid

- Immerse connectors in liquid

CLEANING

- Keep catheters and sensors (and lumen in applicable models) wet until cleaning
- Clean thoroughly with approved enzymatic cleanser (Terg-A-Zyme) immediately after use

- Expose to alcohol, cresols, phenols, mercury compounds, hypochlorites, acetone, peroxide, silicone chlorine, xylenes, trichloroethylene, or freon
- Use ultrasonic cleaner
- Immerse electrical connector

DISINFECTION OR STERILIZATION

- Dry catheter (and lumen for volume and pv special) before sterilizing
- Remove protective cover from catheter
- Place in plastic shipping tray with protective cover once sterilized

- Autoclave, irradiate (gamma/e-beam), plasma, peroxide or formaldehyde vapor solutions
- Use Sporox™ or Cidex® PA Solutions
- Allow any body fluids to collect under protective covering on catheter connector, otherwise sterilization cannot be assured

Storage

- Store your catheter in a dark, cool, and dry place.
- Keep the catheter stored in the plastic tray provided.
- Your catheter will be shipped with a foam or plastic cover placed over the catheter tip for protection. These should be in place during handling and when not in use, the tip should be left in this protective cover within the tray.

* Such introducers may be used in conjunction with a thin-walled introducer sleeve over the sensor to protect the sensor during insertion and withdrawal for large animal applications

NOTE: For more comprehensive details relevant to your chosen Millar Mikro-Tip® Catheter model please refer to its *Instructions For Use* guide

