



VasoNova™ Vascular Positioning System™ (VPST™)
 Kit: A VPS STYLET preloaded into a VPS
 CATHETER (Power Injectable) and provided in a Full
 Insertion Kit

INSTRUCTIONS FOR USE

**Caution: Federal law restricts this device
 to sale by or on the order of a physician**

INDICATIONS FOR USE

The VPS Catheter is indicated for short or long-term central or peripheral access to the central venous system for hyperalimentation, chemotherapy, or other intravenous therapy; for central venous pressure (CVP) monitoring; for blood sampling; and for contrast studies. The maximum recommended injection rate is 2cc/sec for the 3F Catheter and 5cc/sec for the 4F and 5F catheters. Each VPS Catheter is indicated for use with or without the VPS System (Stylet and Console).

The VPS Stylet and Console are indicated for use as a supplemental aid for VPS Catheter tip placement. The VPS Stylet provides stiffness for use in placement of the catheter, intravascular capability for ECG detection and recording and intravascular ultrasound for catheter guiding and positioning. The VPS Stylet used with the VPS Console provides real-time catheter tip location information by using the patient's physiological (cardiac electrical activity and blood flow) information.

PRESCRIBING INFORMATION

The VPS Catheter is indicated for CVP monitoring. Follow your institution's protocol for central venous pressure monitoring. For blood sampling, blood infusions or hyperalimentation therapy, use a 4F or larger VPS Catheter. Maximum attainable flow rates when using a power injector will depend on catheter size, catheter length and viscosity of the contrast agent, with the more viscous fluids contributing to slower flow rates. Actual maximum flow rates for viscous contrast agents will be less than the flow rate setting. Table 1 details completed power injector testing by contrast agent as well as pressure limits.

Table 1: Power Injector and Burst Testing Results

	Power Injector Settings		Actual maximum flow rate @ 14.3 cps	Actual maximum flow Rate @ 8.2 cps
	Pressure (psi)	Flow rate* (ml/sec)		
3FSL 55 cm	300	2	1.2 ml/sec	1.4 ml/sec
4FSL 55 cm	300	5	3.6 ml/sec	4.1 ml/sec
5FDL 50 cm Both lumens	300	5	Not tested	4.9 ml/sec

*Labeled setting; ** Static burst pressure is the failure point of the catheter.

DESCRIPTION

The VPS Catheter and VPS Stylet are designed for use together and with the VPS Console. The VPS Catheter is preloaded with the Stylet and supplied in a tray. The VPS Catheter/Stylet is sterile, single use, non-pyrogenic and non-toxic.

VPS Catheters are single lumen (3 and 4 Fr) or dual lumen (5 Fr) central venous access catheters made from soft, radiopaque medical grade polyurethane and packaged with the VPS Stylet in a tray with the accessories necessary for a percutaneous micro-introducer placement (Modified Seldinger or Seldinger technique). VPS Catheters feature a reverse-taper open ended design with a working length of 50 or 55 cm. VPS Catheters are marked at 1 cm intervals and labeled every 5 cm for the entire length.

The VPS Stylet is a 6 foot long polymeric tube which contains a Doppler sensor at the distal tip and an intravascular electrocardiogram (ivECG) signal sensing wire. Doppler sensor and the ivECG signal sensing wire, when connected to the VPS Stylet are used to detect and transmit physiological information to the VPS Console (available separately). VPS Stylets have an outer diameter of 0.019 inches--designed to be used with the compatible VPS Catheter with an inner lumen of 0.021 inches.

POSSIBLE COMPLICATIONS

Before attempting Catheter placement, ensure that you are familiar with all possible complications and their emergency treatment should any of them occur. Most common possible complications are:

- Air embolism
- Bleeding
- Brachial plexus injury
- Cardiac arrhythmia
- Cardiac tamponade
- Catheter erosion through the skin
- Catheter embolism
- Catheter occlusion
- Catheter related sepsis
- Endocarditis
- Exit site infection
- Exit site necrosis
- Extravasation
- Fibrin sheath formation
- Hematoma
- Intolerance reaction to implanted device
- Myocardial erosion
- Perforation of vessels or viscus phlebitis
- Pneumothorax
- Spontaneous catheter tip malposition or retraction
- Thromboembolism
- Venous thrombosis
- Ventricular thrombosis
- Vessel erosion
- Risks normally associated with local or general anesthesia, surgery, and postoperative recovery

CONTRAINDICATIONS

Severe tricuspid regurgitation is an absolute contraindication to central catheter placement since the catheter is unlikely to stay properly positioned. Relative contraindications for use of the VPS Catheter are as follows:

- Renal failure where preservation of vasculature is needed
- Insufficient body size to accommodate the catheter
- Known or suspected allergic to device materials (polyurethane)
- Irradiation, vascular surgical procedures or other persistent damage along the prospective placement site
- History of venous thrombosis
- Local tissue factors that may prevent maintenance for proper device stabilization and/or access
- Device-related infection, bacteremia, or septicemia is known or suspected

WARNINGS, GENERAL

- Use aseptic technique during insertion and use.
- If a hub or connector separates from any component during insertion or use, take all necessary steps and precautions to prevent blood loss or air embolism and remove the Catheter.
- When using alcohol or alcohol containing antiseptics with polyurethane catheters, care should be taken to avoid prolonged or excessive contact. Solutions should be allowed to completely dry before applying an occlusive dressing. Chlorhexidine gluconate and/or povidone-iodine are the suggested antiseptics to use.
- Alcohol should not be used to lock, soak or de clot polyurethane Catheter because alcohol is known to degrade polyurethane over time with repeated and prolonged exposure.
- Do not wipe the Catheter with acetone based solutions or polyethylene glycol containing ointments. These can damage the polyurethane material if used over time.
- STERILIZED BY ETHYLENE OXIDE. Contents are sterile in an unopened, undamaged package. Verify prior to use. Do not use Catheter, Stylet or accessories if package is opened or damaged or if product damage is visible.
- Catheters and Stylets are SINGLE USE ONLY. Do not re-sterilize the Catheter, Stylet or accessories by any method.
- If extravasation is suspected, discontinue injections and provide appropriate medical intervention immediately.

WARNINGS, PLACEMENT

- Flush all lumens with normal saline prior to use. Carefully tighten touhy borst. Use care to minimize blood loss and risk of air embolism.
- Do not cut stylet.
- Do not advance the device if unusual resistance is encountered.
- Do not insert or withdraw the Stylet forcibly from the Catheter. The

device may break.

- Do not insert or withdraw a guidewire forcibly from any component. The wire may break or unravel. If the guidewire becomes damaged, the introducer needle or sheath/dilator and guidewire must be removed together.
- If the Stylet and/or Catheter are damaged, the Catheter and Stylet must be removed together.
- Confirm Catheter tip position by chest x-ray prior to Catheter use. Avoid placement in the right atrium. Monitor tip placement routinely per institutional policy.

PRECAUTIONS

- Small syringes will generate excessive pressure and may damage the Catheter. Syringes 10cc or larger are recommended.
- Do not use sharp instruments near the extension lines, Catheter or Stylet.
- Do not use scissors to remove dressing as this may damage the Catheter.
- Use only clamps provided on the Catheter or the Catheter may be damaged.
- Clamping of the tubing repeatedly in the same location will weaken the Catheter—routinely change position.
- Avoid clamping near the luer(s) and hub of the Catheter.
- Examine Catheter lumen and extension(s) before and after each infusion for damage.
- To prevent accidents, assure the security of all caps and connections prior to and between uses.
- Use only luer lock (threaded) connectors with this Catheter.
- Repeated over tightening of luer lock connections and the touhy borst cap will reduce connector life and could lead to potential failure of the Catheter and its connectors.

INFORMATION PERTAINING TO CVP MONITORING

1. Use the manufacturer's suggested instructions for use when using the Catheter for CVP monitoring
2. Use standard hospital procedures when applicable. The medical techniques and procedures described in these instructions for use do not represent all medically acceptable procedures, nor are they intended as a substitute for the clinician's experience and judgment in treating any specific patient.
3. Ensure proper positioning of the catheter tip, flush the catheter vigorously with sterile normal saline, and ensure the pressure transducer is at the level of the right atrium.
4. It is suggested that a continuous infusion of saline (3 ml/hr) is maintained through the catheter while measuring CVP to improve the accuracy of CVP results.

INFORMATION PERTAINING TO CONTRAST STUDIES

Warning: Prior to use, check for patency by checking for blood flash and ease of flushing the catheter (or per hospital protocol) as failure to ensure patency of the Catheter may result in Catheter failure.

Warning: Ensure that the catheter's distal tip is properly located before contrast injection by taking a chest x-ray.

Warning: A suitably trained clinician is responsible for evaluating the health status of a patient prior to undertaking any injection study.

Warning: Power injector machine pressure limiting (safety cut-off) settings may not prevent over-pressurization of an occluded catheter.

Warning: During power injection testing, catheter pressures did not exceed 300 psi; do not exceed maximum labeled flow rates.

Warning: During static burst pressure testing, catheter failure was recorded at 366 psi or greater.

1. Use contrast media according to the manufacturer's instructions for use. Contrast should be warmed to body temperature prior to injection.

Warning: Failure to warm contrast to body temperature prior to injection may result in Catheter failure.

2. Vigorously flush the Catheter using a 10cc or larger syringe and sterile normal saline prior to and immediately following the completion of

injection studies. This will ensure the patency of the Catheter and prevent damage. Resistance to flushing may indicate partial or complete Catheter occlusion. **Do not** proceed with injection study until occlusion has been cleared.

PREPARATION AND USE

Read all instructions carefully before using this device. The Catheter should be inserted, manipulated, and removed by a qualified, licensed physician or other qualified health care professional.

1. IDENTIFY THE VEIN AND INSERTION SITE

Consider patient diagnosis, age and size of patient, unusual anatomical variables, type and purpose of IV therapy, anticipated dwell time of Catheter, and ability to use strict aseptic technique during insertion, maintenance, and Catheter removal procedures

- a. When inserting the catheter peripherally, apply tourniquet to arm above anticipated insertion site to distend the vein.
- b. Select vein based on assessment.
- c. Release tourniquet, when used.

2. POSITION PATIENT AND MEASURE CATHETER

- a. When inserting the catheter peripherally, position the arm at a 90 degree angle.
- b. The recommended target tip location is in the lower 1/3 of the Superior Vena Cava (SVC). Measure from the planned tip placement at the third intercostal space up to the sternal notch (approximately 7-8cm), then down to the planned insertion site. Note measurement for verification later.

3. POSITION VPS CONSOLE

Place within about 4 feet (1.22 meters) of the insertion site without compromising the intended sterile field.

4. PLACE ECG PATCHES

Prepare a section of skin at the shoulder and on the upper thigh of the planned insertion side according to hospital procedure for proper placement of an ECG patch. This typically includes removal of hair to ensure secure attachment, alcohol swabbing to remove any skin oil at the site and careful drying. Select a new electrode patch (used for ECG measurement) and place it on the dry, prepared site. Using the "ECG Leads" labeled cable supplied with the Console, connect the distal end of the cable to each electrode patch and the proximal end of the cable to the Console.

5. SKIN PREPARATION

NOTE: The following steps are suggested. Please follow your institution's policies for sterile preparation of skin.

- a. Put on sterile skin preparation gloves.
- b. Apply under drape.
- c. Prepare the site with the ChloroPrep* Solution One-Step Applicator or according to institutional policy using sterile technique.
- d. Pinch the wings of the ChloroPrep* Solution One-Step Applicator to break the ampoule and release the antiseptic. **Do not touch the sponge.**
- e. Wet the sponge by repeatedly pressing and releasing the sponge against the treatment area until fluid is visible on the skin.
- f. Use repeated back-and-forth strokes of the sponge for approximately 30 seconds. Completely wet the treatment area with antiseptic.
- g. Allow the area to dry completely. This typically requires 30 seconds. **Do not blot or wipe away.**
- h. Maximum treatment area for one applicator is approximately 130 cm² (approximately 4 x 5 in.). Discard the applicator after a single use.
- i. When alcohol is used for skin preparation, it must be allowed to completely air dry before proceeding with insertion.
- j. Remove and discard skin preparation gloves.

6. STERILE FIELD PREPARATION

- a. When inserting the catheter peripherally, apply the tourniquet above the intended insertion site to distend the vessel.
- b. Put on sterile gloves.
- c. Apply fenestrated and body drapes. Complete sterile field preparation.

7. PREPARE CATHETER

- a. Pre-flush Catheter, including all fluid lumens.
- Attach saline filled syringe to luer of side port adapter and flush adapter and Catheter.
 - Clamp side port extension and remove syringe.
 - If using a double lumen Catheter, attach positive pressure access port

to remaining extension.

- Attach saline filled syringe to the positive pressure access port and completely flush Catheter lumen.
- Remove syringe from access port prior to clamping extension.

8. MODIFY CATHETER LENGTH, if desired

Caution: Do not cut Stylet. Do not use if Stylet is cut.

Note: Catheters can be cut to length if a different length is desired due to patient size and desired point of insertion according to hospital protocol. Catheter depth markings are in centimeters.

- Measure the distance from the zero mark to the desired tip location on the catheter.
- Disconnect the touhy borst connector from the luer of the Catheter.
- Withdraw the entire touhy borst connector/Stylet assembly, as one unit.
- Retract the VPS Stylet to well behind the point the Catheter is to be cut.
- Using a sterile scalpel or scissors, carefully cut the Catheter according to institutional policy using the measurement recorded earlier.
- Inspect cut surface to ensure there is no loose material.
- Re-advance the touhy borst connector/Stylet assembly until the Stylet is just beyond the tip of the Catheter about 1mm. Tighten and lock the touhy borst connector to the Catheter.
- Visually inspect and ensure that the Stylet tip is intact.
- Loosen the touhy borst cap. Gently retract the Stylet through the touhy borst connector until the Stylet tip is about 1mm distal from the tip of the Catheter. Tighten the touhy borst cap to lock the Stylet in place. Bend the preloaded Catheter. Recheck the position of the Stylet and adjust until it is about 1mm distal to the end of the catheter. Place the preloaded Catheter onto the sterile field. Clip the Catheter/Stylet to the sterile drape to ensure it stays in the sterile field.

9. CONNECT THE STYLET CONNECTOR TO THE VPS CONSOLE

CAUTION: Ensure that sterile technique is maintained. Discard gloves and change to a new pair of sterile gloves after connecting the Stylet to the Console and completing the setup of the Console per the VPS Console Operator's Manual.

CAUTION: Be careful that a tripping hazard is not created when the Stylet is connected to the Console. Tripping over the Stylet might cause malfunction of the Stylet, detachment of the Stylet connectors from the console or injuries for the user.

10. PERFORM VENIPUNCTURE

- Anesthetize with local anesthesia as desired.
- Insert the safety introducer needle into the desired vein.
Alternate Technique: A safety IV catheter may be used as an alternate to the safety introducer needle.
- Remove the needle from the Catheter after the vein is accessed.
- Warning:** If an artery is entered, withdraw the needle or safety IV Catheter and apply manual pressure for several minutes.
- Release tourniquet, when applicable.
- Remove the guidewire tip protector from the guidewire hoop and insert the flexible end of the guidewire into the introducer needle or Catheter and into the vein. Advance the guidewire to the desired depth.

Caution: When inserting the catheter peripherally, do not advance the guidewire past the axilla without fluoroscopic guidance or other tip locating methods.

- Gently withdraw and remove the safety introducer needle or Catheter, while holding the guidewire in position.
- Caution:** If the guidewire must be withdrawn while the needle is inserted, remove both the needle and wire as a unit to prevent the needle from damaging or shearing the guidewire.
- When inserting centrally, complete a cut down according to physician training or per hospital procedure.
- Advance the small sheath and dilator together as a unit over the guidewire, using a slight rotational motion. When inserting peripherally and if necessary, a small incision or nick may be made adjacent to the guidewire to facilitate insertion of the sheath and dilator. Verify institutional guidelines concerning the use of a safety scalpel prior to making incision.
- Withdraw the dilator and guidewire, leaving the small sheath in place.

Warning: Place a finger over the orifice of the sheath to minimize blood loss and risk of air aspiration. The risk of air embolism is reduced by

performing this part of the procedure with the patient performing the Valsalva maneuver until the Catheter is inserted into the sheath.

11. INSERT AND ADVANCE THE CATHETER

- When inserting the catheter peripherally, position the arm at a 90° angle, maintaining sterility.
- Insert the Catheter into the introducer sheath.
- Advance the Catheter slowly.

12. COMPLETE CATHETER INSERTION

- Continue to advance the Catheter. If inserting the catheter peripherally when the tip has advanced to the shoulder have the patient turn head (chin on shoulder) toward the insertion side to prevent possible insertion into the jugular vein.
- Follow the instructions of the VPS Console Operator's Manual for tip location guidance and placement.

Note: Resistance may be felt approximately 11 cm distal to the Catheter hub when introducing the Catheter into the sheath due to an increase in outer diameter. The introducer may be partially split, but not removed to facilitate insertion of the Catheter past this point if necessary.

Note: Central catheters should be positioned with the Catheter tip in the lower 1/3 of the SVC, ideally at the caval-atrial junction.

Warning: Avoid positioning the Catheter tip in the right atrium. Placement or migration of the Catheter tip into the right atrium may cause cardiac arrhythmia, myocardial erosion or cardiac tamponade. The risk of these complications may be more likely in neonatal patients.

Note: Confirm and document proper tip placement with radiography or other appropriate technology prior to use of the Catheter. Doppler and ECG patterns may be considered in assessing placement in addition to fluoroscopy and x-ray.

Warning: Failure to verify Catheter tip placement may result in serious trauma or fatal complications.

13. RETRACT AND REMOVE THE INTRODUCER SHEATH

- Stabilize the Catheter position by applying pressure to the vein distal to the introducer sheath.
- Withdraw the introducer sheath from the vein and away from the site.
- Split the introducer sheath and peel it away from the Catheter.

14. REMOVE THE STYLET AND TOUHY BORST ASSEMBLY

- Disconnect the touhy borst and Stylet from the Catheter luer connector.
- Stabilize the Catheter position by applying light pressure to the vein distal to the insertion site.
- Slowly remove the touhy borst and Stylet, as a unit. Do not remove the Stylet through the touhy borst.

Caution: Never use force to remove the Stylet. Resistance can damage the Catheter.

Caution: If resistance or bunching of the Catheter is observed, discontinue Stylet withdrawal and allow the Catheter to return to its normal shape. Repeat this procedure until the Stylet is easily removed. If great resistance is experienced, withdraw both the Catheter and Stylet together.

15. ASPIRATE AND FLUSH

- Attach a primed extension set and/or saline-filled 10cc or 20cc syringe.
- Aspirate for adequate blood return and flush Catheter with 10ml normal saline to ensure patency.

Caution: The VPS Catheter is designed for use with needleless injection caps or a "direct-to-hub" connection technique. Apply a sterile end cap on the Catheter hub to prevent contamination when not in use. Use of a needle longer than 1.6 cm may cause damage to the valve.

Caution: Always remove needles or syringes slowly while injecting the last 0.5 ml of saline.

- Cap Catheter.

Warning: The fluid level in the Catheter will drop if the Catheter connector is held above the level of the patient's heart and opened to air. To help prevent a drop in the fluid level (allowing air entry) while changing injection caps, hold the connector below the level of the patient's heart before removing the injection cap.

16. SECURING THE CATHETER

The StatLock* Catheter stabilization device is included in the VPS full kits and can be used if desired. Follow the manufacturer's instructions on proper use and removal. Monitor and replace the StatLock* Catheter stabilization device as instructed.

Caution: To minimize the risk of breakage and movement, the Catheter must be secured in place.

17. VERIFY PLACEMENT

Central catheters should be positioned with the Catheter tip in the lower 1/3 of the SVC. Verify correct Catheter tip position using radiography or other appropriate visualization technology.

18. RECORD PERTINENT DATA

Record Catheter length, Catheter lot number, Stylet lot number and tip position on patient's chart.

19. POWER INJECTION PROCEDURE

Warning: A suitably trained clinician is responsible for evaluating the health status of a patient as it pertains to a power injection procedure.

- Remove the injection/needleless cap from the Catheter.
- Attach a 10 ml or larger syringe filled with sterile normal saline.
- Aspirate for adequate blood return and vigorously flush the Catheter with the full 10 ml of sterile normal saline.

Warning: Failure to ensure patency of the Catheter prior to power injection studies may result in Catheter failure.

- Detach syringe.
- Attach the power injection device to the VPS Catheter per manufacturer's recommendations.
- Contrast media should be warmed to body temperature prior to power injection.

Warning: Failure to warm contrast media to body temperature prior to power injection may result in Catheter failure.

- Use only lumens marked "Power Injectable" for power injection of contrast media.

Warning: Use of lumens not marked "Power Injectable" for power injection of contrast media may cause failure of the Catheter.

- Complete power injection study taking care not to exceed the flow rate limits. Do not exceed the maximum flow rate.

Warning: Exceeding the maximum flow rate or the maximum pressure of power injectors, may result in Catheter failure and/or Catheter tip displacement.

Warning: Power injector pressure limiting feature may not prevent over-pressurization of an occluded Catheter, which may cause Catheter failure.

- Disconnect the power injection device.
- Replace the injection/needleless cap on the VPS Catheter.
- Flush the VPS Catheter with 10 ml of sterile normal saline, using a 10 ml or larger syringe. Use of heparinized saline to lock each lumen of the Catheter is optional.

20. DRESSING CHANGES

Periodically confirm Catheter placement, tip location, patency and security of dressing.

- Assess the dressing in the first 24 hours for accumulation of blood, fluid or moisture beneath the dressing. During all dressing changes, assess the external length of the Catheter to determine if migration of the Catheter has occurred.
- Maintain the central Catheter according to hospital protocol. Avoid using acetone based solutions, or ointment. These substances are known to degrade polyurethane.
- Chlorhexidine gluconate is the suggested antiseptic to use. Two percent Chlorhexidine gluconate/seventy percent isopropyl alcohol swab sticks may be used for dressing changes. Povidone-iodine may also be used as an antiseptic.
- Allow all cleaning agents/antiseptics to dry completely before applying dressing.

Caution: Acetone and tincture of iodine should not be used.

Warning: When using alcohol or alcohol containing antiseptics with polyurethane central catheters, care should be taken to avoid prolonged or excessive contact. Solutions should be allowed to completely dry before applying an occlusive dressing. Chlorhexidine gluconate and/or Povidone-iodine are the suggested antiseptics to use.

21. FLUSHING

- Flush the Catheter after every use or at least weekly when not in use. Use a 10 ml or larger syringe.
- Flush the Catheter with a minimum of 10 ml of 0.9% sodium chloride, using a "pulse" or "stop/start" technique. Use of heparinized saline to lock each lumen of the Catheter is optional.
- Disconnect the syringe and attach a sterile end cap to the Catheter hub and tighten securely.
- Prior to blood sampling or when infusing hyperalimentation, follow routine maintenance procedure except use 20 ml saline and flush to clear blood or solution from the Catheter.

- If resistance is met when flushing, no further attempts should be made. Further flushing could result in Catheter rupture with possible embolization. Refer to institution protocol for clearing occluded Catheters.

NOTE: When injecting or infusing medications which are or could be incompatible, you should always flush the Catheter with a minimum of 10 ml saline before and after each medication.

NOTE: When maintained in accordance with these instructions, the VPS Catheter does not require the use of heparinized saline to lock the Catheter lumens. However, use of heparinized saline will not adversely affect the Catheter and may be necessary based on patient status or use of alternate flushing and locking techniques.

Caution: Always remove needles or needleless caps slowly while injecting the last 0.5 ml of saline.

Caution: Use aseptic techniques whenever the Catheter lumen is opened or connected to other devices.

Warning: Alcohol should not be used to lock, soak or de clot the polyurethane central catheter because alcohol is known to degrade polyurethane over time with repeated and prolonged exposure.

22. OCCLUDED OR PARTIALLY OCCLUDED CATHETER

Catheters that present resistance to flushing and aspiration may be partially or completely occluded. Do not flush against resistance. If the lumen will neither flush nor aspirate and it has been determined that the Catheter is occluded with blood, a de clotting procedure per institution protocol may be appropriate.

23. CLEANSING THE EXIT SITE








Warning: Do not wipe the Catheter with alcohol, acetone based solutions or polyethylene glycol containing ointments. These can damage the polyurethane material if used over time.

- Maintain according to hospital protocol. Avoid using acetone based solutions, or ointment. These substances are known to degrade polyurethane.
- Use Chlorhexidine gluconate or Povidone-iodine to clean the exit site around the Catheter.
- Allow all cleaning agents/antiseptics to dry completely before applying dressing.

24. CATHETER REMOVAL

The VPS Catheter should be removed according to hospital policy. The following is provided for guidance only.

- Remove dressing and StatLock* Catheter stabilization device or tape securement strips.
- Grasp Catheter near insertion site.
- Remove slowly. Do not use excessive force.
- If resistance is felt, stop removal. Apply warm compress and wait 20-30 minutes.
- Resume removal procedure.
- Examine tip to ensure that the entire catheter has been removed.

REF	Catalog number		Do not use if package is damaged		Date of manufacture
LOT	Batch code		Keep dry		Manufacturer
STERILE EO	Sterilized using ethylene oxide		Do not re-use		Use by
			Caution, consult accompanying instructions		

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