**Umbilical Catheters**

The safest choice for short-term vascular access in neonates

A range of single and double lumen umbilical catheters for both venous and arterial use. Patient safety has been improved by the use of polyurethane, which, unlike traditional PVC catheters, remains inert for the life of the catheter.

The use of double lumen venous umbilical catheters in critically ill neonates is well tolerated and decreases the need for additional venous catheters.\(^1\)

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**Features and Benefits**

- **Polyurethane catheter**
  remains stiff during insertion but softens at body temperature, minimising vessel trauma and enhancing stay time.

- **X-ray opaque**
  for accurate tip location without additional contrast medium.

- **Numerical graduations**
  aid accurate tip placement.

- **Atraumatic tip**
  reduces risk of vessel damage during insertion.

- **Double lumen venous catheter**
  decreases the need for additional IV access.

- **Slide clamps (on double lumen only)**
  for line management and safety.

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**Ordering Information**

<table>
<thead>
<tr>
<th>Product Codes</th>
<th>Description</th>
<th>Size (Fr)</th>
<th>Length (cm)</th>
<th>Priming Volume (ml)</th>
<th>Flow Rate (ml/min)*</th>
<th>Unit of Sale</th>
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<tbody>
<tr>
<td>1270.02</td>
<td>Single lumen PUR catheter with 1 x 3-way tap</td>
<td>2.5</td>
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<td>0.21</td>
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<td>Single lumen PUR catheter with 1 x 3-way tap</td>
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<td>0.34</td>
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*Tested to ISO 10555

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**Reference**

Insertion Technique

General
1. Use strict aseptic technique, cleanse the anterior abdominal wall and cord stump.
2. Loosely tie a piece of ribbon gauze around the cord stump to control bleeding. Cut the umbilical cord at its base, tangentially to the abdomen, remove any clots which may obstruct the vessel lumen.
3. Arteries are small, thick-walled spiralling vessels, whilst the vein is larger and thin-walled (see diagram 1).
4. Prime the catheter and if required dilate the vessel using iris forceps (see diagram 1).
5. Advance the catheter using short, smooth strokes.

Arterial Catheterisation
1. For babies less than 1.5kg in weight place the catheter tip at the upper aorta, above the diaphragm, X-ray T6-T10 (see table 1 and diagram 2).
2. For babies over 1.5kg in weight place the catheter tip at the lower aorta, below the renal arteries, X-ray L4-L5 (see table 1 and diagram 2).
3. Check the legs and buttocks for pallor or blueness and palpate the femoral pulses.
4. Confirm catheter location by X-ray.
5. Fixate the catheter.

Venous Catheterisation
1. Use strict aseptic technique, cleanse the anterior abdominal wall and cord stump.
2. Loosely tie a piece of ribbon gauze around the cord stump to control bleeding. Cut the umbilical cord at its base, tangentially to the abdomen, remove any clots which may obstruct the vessel lumen.
3. Arteries are small, thick-walled spiralling vessels, whilst the vein is larger and thin-walled.
4. Prime the catheter and if required dilate the vessel using iris forceps.
5. Advance the catheter using short, smooth strokes.
6. Locate the catheter tip into the inferior vena cava via the ductus venosus. If the catheter will not pass through the ductus venosus locate the tip in the portal sinus (see diagram 2).

Please note: Any resistance to the catheter’s advancement must lead to immediate withdrawal of the catheter by 2-3cm before any new attempt is made. Do not cover the umbilicus with any dressing as the cord air dries in the incubator.

Catheter removal: Withdraw the catheter slowly and gently. If resistance is felt, stop and identify the cause before continuing.

Warnings: Avoid the use of alcohol or acetone to clean the catheter as this may result in catheter damage and premature removal. Avoid the use of small syringes less than 10ml for bolus injections as they generate high pressures which may result in catheter damage.

Table 1

<table>
<thead>
<tr>
<th>Shoulder umbilicus length (cm)</th>
<th>Umbilicus lower aorta length (cm)</th>
<th>Umbilicus upper aorta length (cm)</th>
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<tbody>
<tr>
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<tr>
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