Avalon Elite
Bi-Caval Dual Lumen Catheter

This document is intended to provide information to an international audience outside of the US.
Take the advantage
Single-site venous vessel access during ECMO

Minimizing patient trauma
For critically ill patients requiring extracorporeal membrane oxygenation (ECMO), cannulation can be traumatic to the vasculature. With the Avalon Elite Bi-Caval Dual-Lumen Catheter, only one cannula is inserted into the patient’s internal jugular vein.

The Avalon Elite Bi-Caval Dual-Lumen Catheter
Is the world’s first single site, kink resistant, veno-venous device designed to enable optimal extracorporeal life support. It matches the body’s natural flow ratios by simultaneously removing deoxygenated blood from both the superior vena cava (SVC) and inferior vena cava (IVC), and returning oxygenated blood to the right atrium (RA).
Advantages of single-site venous vessel access include freeing the femoral vein, which facilitates patient participation in physical therapy or preserves it as another access point. If extubated on ECMO, the patient can be more easily mobilized. In addition, by not cannulating the femoral vein and using just one site for vessel access, there is one less site for infection and a reduction in nursing care. It also decreases chances for accidental dislodgement.1
A special advantage of the bi-caval catheter design is the decreased risk of recirculation.1

Avalon Elite advantages
- A broad range of sizes for all patient types: neonatal, pediatric or adult
- Radiopaque to assist in catheter insertion and placement for excellent positioning control
- Constructed with an exclusive material that combines the durability of polyurethane with the flexibility and biostability of silicone
- Ultra-thin membrane dividing reinfusion from drainage lumen enables large inner lumen diameters for excellent flow characteristics
- Wire reinforcement for increased kink resistance
- Smooth transition between introducer and catheter tip
- Tapered introducer tip for percutaneous insertion
- Physicians can customize the introducer tip extension based on personal preference
Seven sizes to accommodate all patients

Flow characteristics

Pressure drop vs. flow
13, 16, 19 Fr.

Pressure drop vs. flow
20, 23, 27, 31 Fr.

Above flows with water at ambient temperature. Patient flow may vary depending on blood viscosity, patient anatomy, and circuit configuration.
Avalon Elite Vascular Access Kits*

Benefits

- Support vascular cannulation procedures to ensure safe vascular access.
- Enables vascular access by Seldinger Technique
- Extended dilator tip designed for smooth vessel insertion and guide wire tracking
- Large range of dilator sizes accept standard 0.038” guide wires
- Non-coated stainless steel guide wire displays 10 cm incremental depth markings

Vascular access kit specifications

<table>
<thead>
<tr>
<th>Article No.</th>
<th>Guide wire length</th>
<th>Dilators size</th>
<th>J-tip</th>
<th>Order unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>12100*</td>
<td>100 cm</td>
<td>0.97 mm x 100 cm (0.038” x 39.4”)</td>
<td>10 Fr, 12 Fr, 16 Fr, 20 Fr, 24 Fr</td>
<td>radius 3 mm</td>
</tr>
<tr>
<td>12210*</td>
<td>210 cm</td>
<td>0.97 mm x 210 cm (0.038” x 82.7”)</td>
<td>10 Fr, 12 Fr, 16 Fr, 20 Fr, 24 Fr, 26 Fr, 30 Fr</td>
<td>radius 3 mm</td>
</tr>
</tbody>
</table>

Kits include dilators; guide wire with 10 cm depth mark increments; 18 Gauge (1.3 mm) puncture needle; mini scalpel; 10 ml syringe

* These products are currently pending CE certification.

References

1 "Use of Bicaval Dual-Lumen Catheter for Adult Venovenous Extracorporeal Membrane Oxygenation", Jeffrey Javidfar, MD, Daniel Brodie, MD, Dongfang Wang, MD, PhD, Ali N. Ibrahim, MD, Jonathan Yang, MD, Joseph B. Zwischenberger, MD, Joshua Sonett, MD, and Matthew Bacchetta, MD; Ann Thorac Surg 2011;91:1763–9