

The Pourchez Retr0[®] catheter



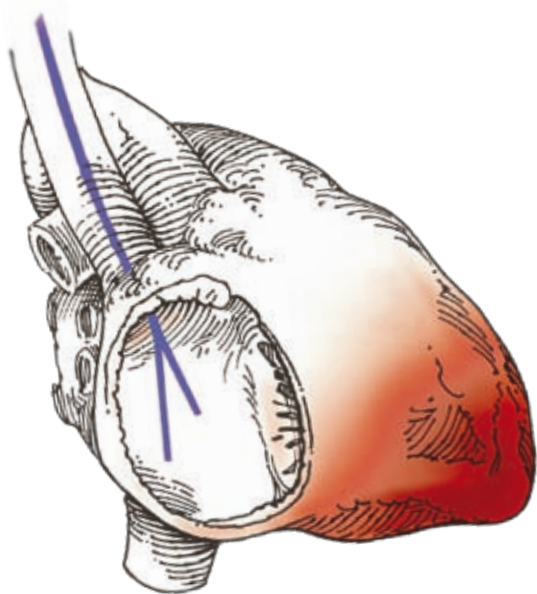
High-flow
separated tip catheter
for efficient fluid delivery

 **GAMBRO[®]**

Precise tip placement and maximum flow rate

Integrating proven catheter design principles and addressing major clinical issues, the patented Pourchez RetrO catheter was developed to improve vascular access and enhance therapy for dialysis patients. The unique design offers separated tips and retrograde tunneling for precise tip placement, maximum flow rate and minimal recirculation.

Using innovative retrograde tunneling to facilitate insertion, the catheter is placed more precisely in the right atrium for maximum flow rate¹ and minimum recirculation. The catheter's hubless design optimizes the flow path along the entire length of the catheter, maximizing flow while reducing turbulence and clotting potential.



More precise placement in the right atrium for maximum flow rate

The combination of superior features ensures superior performance. The Pourchez RetrO catheter:

- Increases the margin of functionality and reduces recirculation via separated distal tips and circumferential sideholes
- Provides faster delivery, timely dialysis completion and reduced risk of interrupted dialysis treatment through a Dual-O luminal design
- Delivers higher flow at lower pressures compared to older D-shaped designs—with the simplicity of a single insertion
- Offers superior kink resistance, permitting the catheter to follow tortuous vessel routes into the right atrium
- Reduces the risk of air embolism and vessel trauma when inserted with the SafeTrac® Sheathless Insertion Kit
- Ensures patient comfort—long pigtails offer the ability to customize catheter length after placement
- Provides a convenient, easy method to repair catheter access connections using ratchet locking, replaceable extension adapters
- Assures smooth passage of the polyester cuff through the tunnel using a cuff positioning wedge



Separated tips increase the margin of functionality

The optimally separated distal tips of the Pourchez RetrO catheter minimizes recirculation.² Furthermore, recent clinical observations indicate that separated tip catheters with circumferential sideholes maintain high flow even if the tip becomes occluded against the vessel wall.³ Thus, the tip design of the Pourchez RetrO catheter can provide a wider margin of functionality than conventional catheters, particularly important for those that become sub-optimally positioned or begin to develop fibrin sheath.

Kink-resistant design—increases placement flexibility, minimizes complications

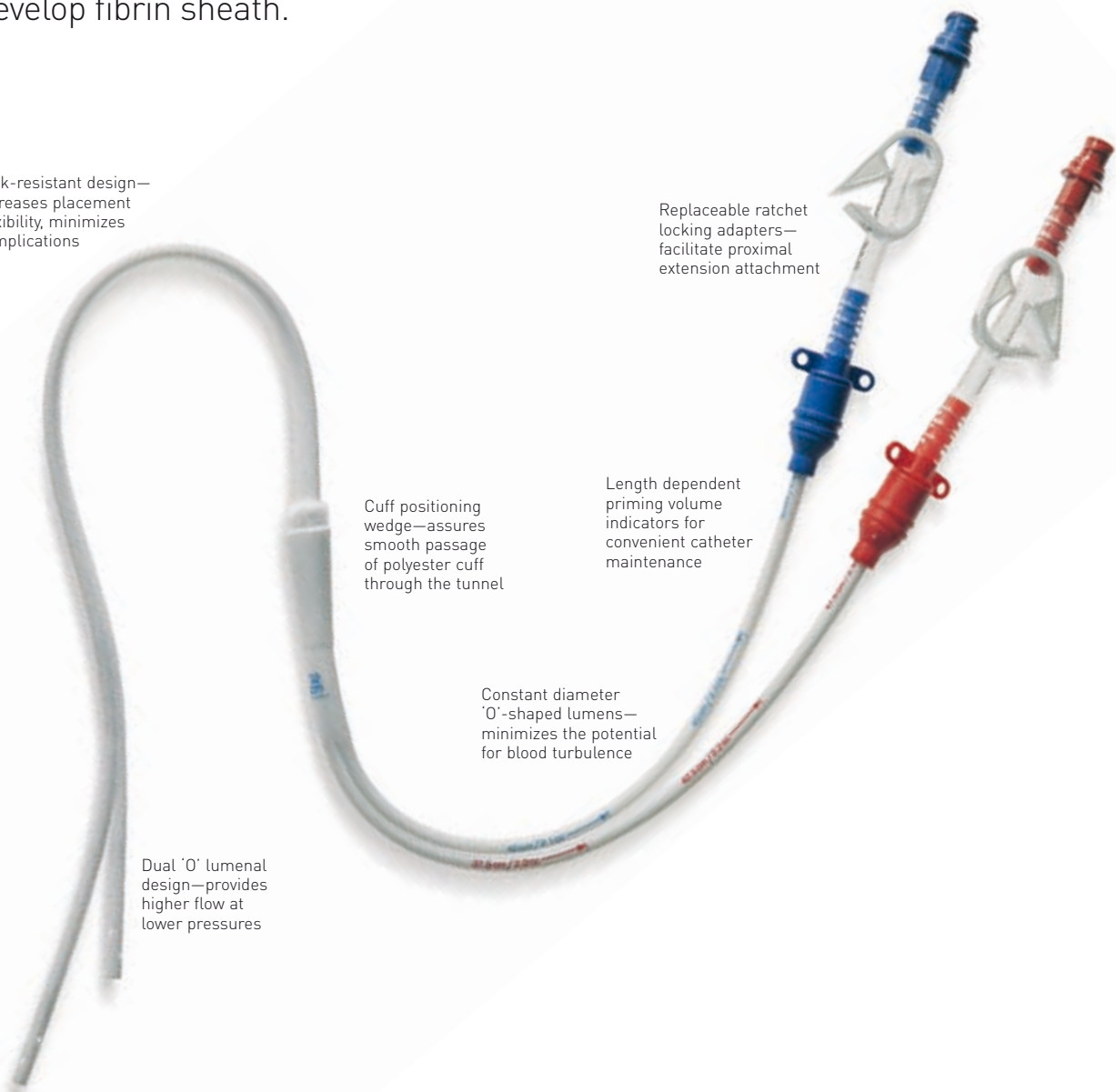
Replaceable ratchet locking adapters—facilitate proximal extension attachment

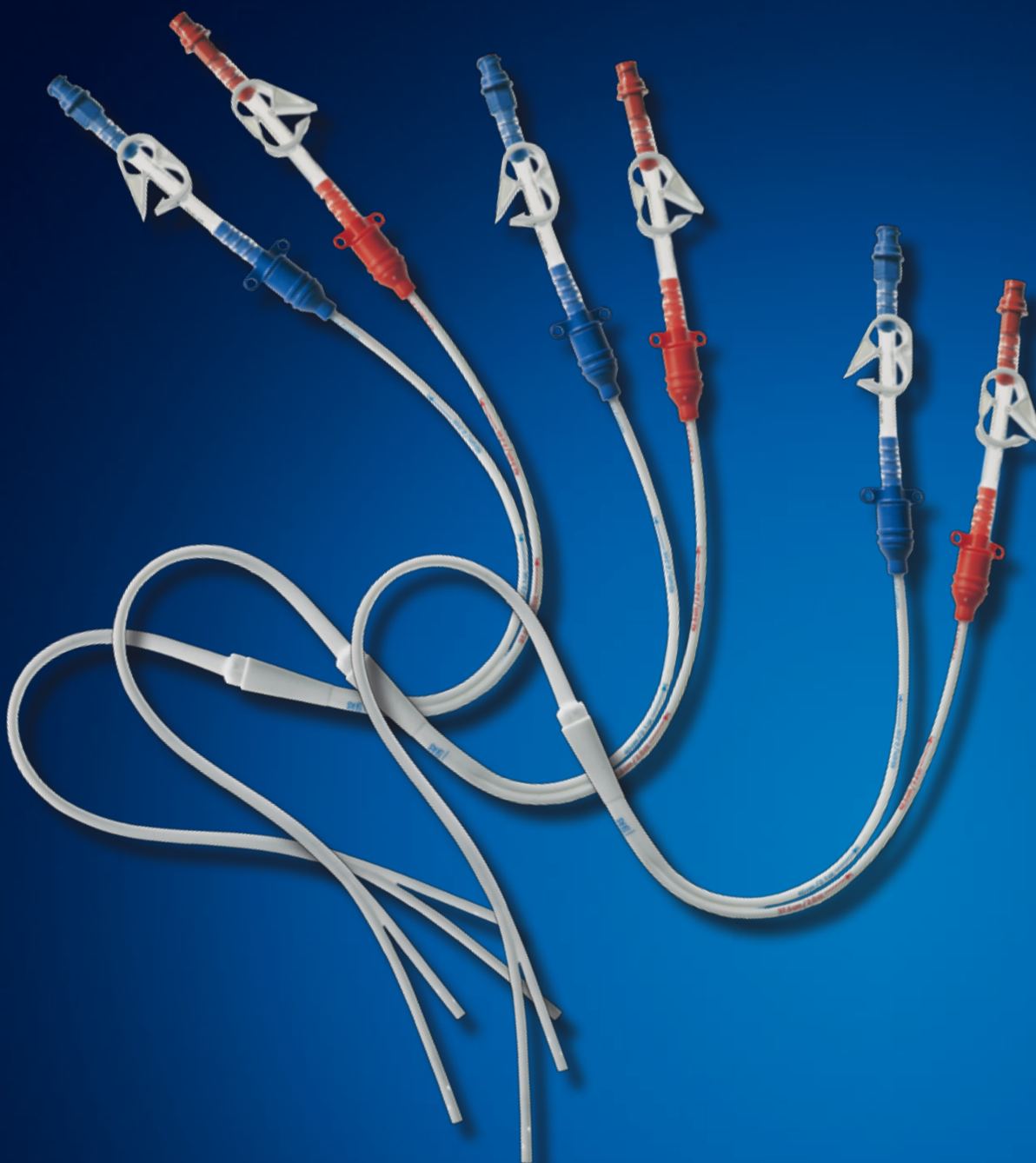
Cuff positioning wedge—assures smooth passage of polyester cuff through the tunnel

Length dependent priming volume indicators for convenient catheter maintenance

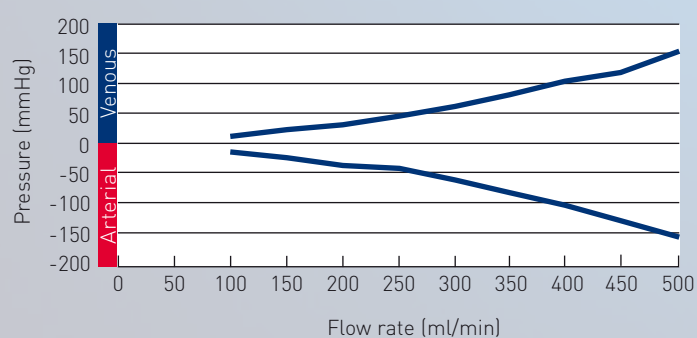
Constant diameter 'O'-shaped lumens—minimizes the potential for blood turbulence

Dual 'O' luminal design—provides higher flow at lower pressures





Flow rates of the Pourchez RetrO[®] catheter



— Pourchez RetrO[®] RS23SH28

Pump system: Peristaltic pump
Fluid: Water
Temperature: Room temperature

Optimum clinical outcomes

With high flow and kink-resistance, the Pourchez RetrO catheter is designed for reliable, efficient fluid delivery and ease of use

Dual 'O' lumens provide higher flow at lower pressure

Offering the simplicity of a single insertion, the Pourchez RetrO catheter incorporates two O-shaped lumens into one catheter. Compared to conventional D-shaped designs, O-shaped lumens of the same cross-sectional area provide higher flows^{5,6} at lower pressures, potentially leading to more effective fluid delivery, timely dialysis completion and reduced risk of interrupted dialysis treatment.

Each lumen has a constant diameter 'O' cross-sectional shape from the proximal to distal end, eliminating the abrupt transitions that occur in other catheters. This smooth optimal flow path minimizes pressure fluctuations between arterial and venous lumens and reduces the potential for blood turbulence.

Kink-resistant design increases placement flexibility, minimizes complications

Unlike other catheters, the Pourchez RetrO catheter has a kink-resistant body, the result of a carefully selected combination of design and materials. Even severe bends in the catheter do not reduce flow.² This increases catheter placement flexibility and minimizes the need for subsequent intervention due to kinking. It also eliminates the need for pre-curved catheter designs (Figure 2).

Durable construction for increased reliability and reduced maintenance

Other catheters have experienced breakage of critical components such as luers and extensions, compromising clinical outcomes. The Pourchez RetrO catheter has been designed for reliability and ease of use. Their high quality components resist distortion and cracking and are compatible with a wide range of cleaning and disinfectant solutions.⁷

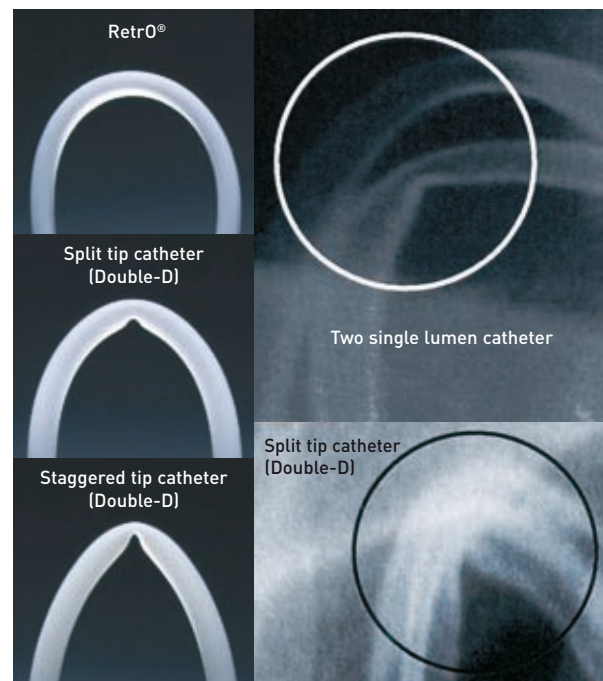
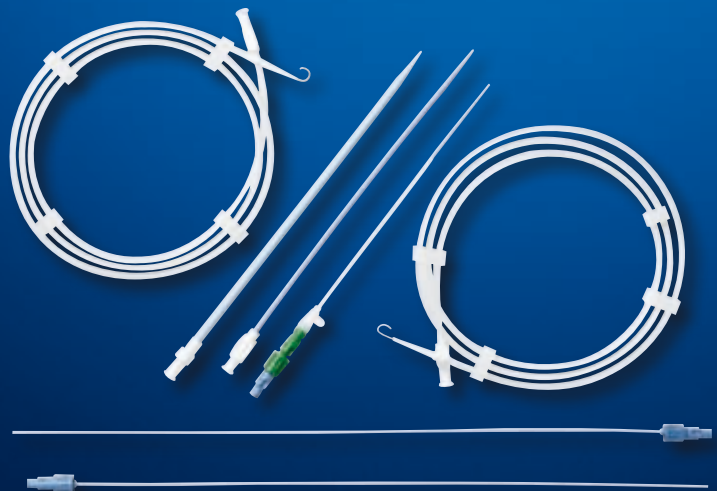


Figure 2: Conventional catheters can kink during or after insertion, resulting in decreased or occluded flow and the need for additional intervention.

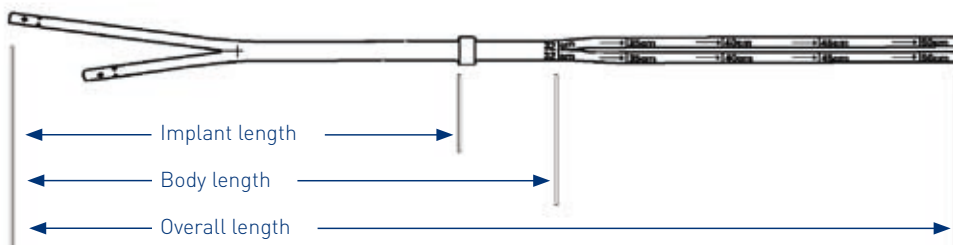
Designed to facilitate insertion of the Pourchez RetrO® catheter, the SafeTrac® dual wire sheathless insertion kit:

- Reduces the potential for air embolism, vessel trauma and excess bleeding
- Creates a tight insertion site and tunnel
- Allows superior control of the catheter through tortuous vessel pathways
- Facilitates insertion in difficult cases where extensive scarring exists
- Protects catheter interior luminal walls with intracatheter dilators

The SafeTrac® dual wire insertion technique eliminates a sheath dilator and reduces the potential risk of air embolism,⁴ excess bleeding and vessel trauma due to sheath dilator insertion.



Ordering information



Pourchez RetrO® combo kit

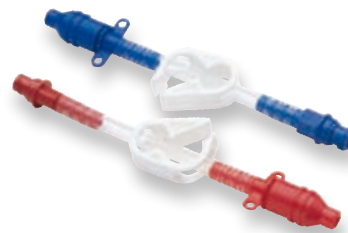
Product name	Product code	OD (F)	Implant length (mm)	Body length (mm)	Material	Units per box
RS19SH24	109735	10 x 20	190	240	Silicone	5
RS23SH28	109744	10 x 20	230	280	Silicone	5
RS27SH32	109743	10 x 20	270	320	Silicone	5
RS31SH36	109742	10 x 20	310	360	Silicone	5
RS35SH40	109741	10 x 20	350	400	Silicone	5

Kit contains: The Pourchez RetrO® catheter, 18G introducer needle, 12 ml syringe, 2 x J/straight 0,038" guidewire, 12F dilator, 14F dilator, 16F dilator, 6F sheath/dilator, 2 x 5F SafeTrac® intracatheter dilator, scalpel #11, tunneling rod, tunneling sheath, 2 x injection adapter/tunneler, suture ring, 4 x gauze sponge, wound dressing, 2 x injection sealing cap, 2 x color-coded extension adapter, 4 x wing clamp and warning label. Latex free.

Pourchez RetrO® repair kit

Product name	Product code	Units per box
PRRK5	107038	5

Kit contains: 2 x color-coded extension adapter, 2 x flat clamp, 2 x injection sealing cap. Latex free.



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CE 0086



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1 K/DOQI Clinical Practice Guidelines for Vascular Access.

2 Data on File.

3 Treratola, S., Shah, H., Johnson, M., Namyslowski, J., Moresco, K., Patel, N., Kraus, M., Gassensmith, C., Ambrosius, W. Randomized Comparison of High-Flow versus Conventional Hemodialysis Catheters. Journal of Vascular and Interventional Radiology; 1999; Sept; 10 (8); 1032-1038.

4 Vesely, T. "Air embolism during insertion of central venous catheters", J Vasc Interv Radiol 2001; 12:1291-1295.

5 Mahurkar, S. The Fluid Mechanics of Hemodialysis Catheters. Trans Am Soc Artif Intern Organs; 1985; 31; 124-130.

6 Atherikul, K, Schwab, S., Conlon, P. Adequacy of haemodialysis with cuffed central-vein catheters. Nephrol Dial Transplant; 1998; 13; 745-749.

7 See IFU/Label for cleaning instructions.

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