

Ordering Information

All standard kits contain the following: 15.5 Fr Carbothane® catheter with Ultem® Luer connectors, 18 gauge introducer needle, 12cc syringe, J/straight 0.038 inch x 100 cm marked guidewire, 12Fr dilator, 14 Fr dilator, 16 Fr valved peel-away sheath/dilator,* #11 scalpel, prebent tunneler, (4) gauze sponges, wound dressing, (2) injection sealing caps, and warning label. Latex free.

DECATHLON™ GOLD DEC Standard Kit

Heparin Coated Catheter Kit: Rounded Split-Tips

Part Number	Tip to Cuff Length	Tip to Hub Length
DEC19SH24	19 cm	24 cm
DEC23SH28	23 cm	28 cm
DEC27SH32	27 cm	32 cm
DEC31SH36	31 cm	36 cm
DEC35SH40	35 cm	40 cm
DEC50SH55	50 cm	55 cm

DECATHLON™ GOLD DFC Standard Kit

Heparin Coated Catheter Kit: Tapered Split-Tips with Stylet

Part Number	Tip to Cuff Length	Tip to Hub Length
DFC19SH24	19 cm	24 cm
DFC23SH28	23 cm	28 cm
DFC27SH32	27 cm	32 cm
DFC31SH36	31 cm	36 cm
DFC35SH40	35 cm	40 cm
DFC50SH55	50 cm	55 cm

ALTA™ GOLD ALC Standard Kit

Heparin Coated Catheter Kit: Fixed-Tips

Part Number	Tip to Cuff Length	Tip to Hub Length
ALC19SH24	19 cm	24 cm
ALC23SH28	23 cm	28 cm
ALC27SH32	27 cm	32 cm
ALC31SH36	31 cm	36 cm
ALC35SH40	35 cm	40 cm
ALC50SH55	50 cm	55 cm

C O A T E D C A T H E T E R S

DECATHLON™ DE Standard Kit

Catheter Kit: Rounded Split-Tips

Part Number	Tip to Cuff Length	Tip to Hub Length
DE19SH24	19 cm	24 cm
DE23SH28	23 cm	28 cm
DE27SH32	27 cm	32 cm
DE31SH36	31 cm	36 cm
DE35SH40	35 cm	40 cm
DE50SH55	50 cm	55 cm

DECATHLON™ DF Standard Kit

Catheter Kit: Tapered Split-Tips with Stylet

Part Number	Tip to Cuff Length	Tip to Hub Length
DF19SH24	19 cm	24 cm
DF23SH28	23 cm	28 cm
DF27SH32	27 cm	32 cm
DF31SH36	31 cm	36 cm
DF35SH40	35 cm	40 cm
DF50SH55	50 cm	55 cm

ALTA™ LR AL Standard Kit

Catheter Kit: Fixed-Tips

Part Number	Tip to Cuff Length	Tip to Hub Length
AL19SH24	19 cm	24 cm
AL23SH28	23 cm	28 cm
AL27SH32	27 cm	32 cm
AL31SH36	31 cm	36 cm
AL35SH40	35 cm	40 cm

U N C O A T E D C A T H E T E R S



Family of End-Point™ Bonded Heparin Coated Catheters

DECATHLON™ GOLD Rounded Split-Tips

- End-Point Bonded heparin coating anchored to both the internal and external surfaces
- Reduces thrombus and fibrin sheath formation¹
- Coating has extensive clinical history



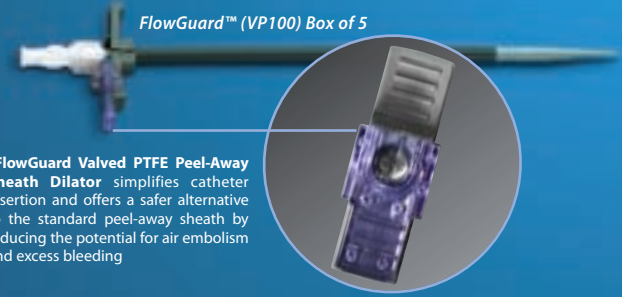
ALTA™ GOLD Fixed-Tip

- Optimally placed flow diverter reduces recirculation and occlusion potential
- Single side holes positioned to reduce locking solution loss and catheter clotting potential at the tips
- Rounded bevel tip profile facilitates over-the-wire insertion



DECATHLON™ GOLD Tapered Split-Tips with Stylet

- Side hole position with tapered tips and stylet facilitate standard or over-the-wire insertion technique



*FlowGuard Valved PTFE Peel-Away Sheath Dilator simplifies catheter insertion and offers a safer alternative to the standard peel-away sheath by reducing the potential for air embolism and excess bleeding

¹ Data on file
² Results with heparin bonded polytetrafluoroethylene grafts for femorodistal bypasses; P. Peeters, J. Verbist, K. DeLoose, M. Bosier, J Cardiovasc Surg 2006;47:407-13
³ Heparin-bonded expanded polytetrafluoroethylene vascular graft for occlusive vascular disease of the lower extremity; Walluscheck K.P., J VASC ENDOVASC SURG 2006;13:137-47
⁴ A New Biological Approach to Below-Knee Revascularization: A review of the GORE PROPATEN Vascular Graft: The Combination that Lasts; Vascular Disease Management March/April 2007, Volume 4/Supplement B
 (a) Current Techniques for Improving Performance of Below-knee Prosthetic Bypasses: What Does the Past Tell Us and the Future Hold?; Richard F. Neville, MD, Pg 58
 (b) A Unique Combination Technology of ePTFE and Proprietary End-Point Covalent Bonding of Heparin for Lower Extremity Revascularization: The GORE PROPATEN Vascular Graft; Alan B. Lumsden, MD, Pg 118
 (c) A Review of the GORE PROPATEN Vascular Graft Clinical Performance: First Steps in Bridging the Below-knee Performance Gap between Synthetic Grafts and Autologous Vein; Patrick Peeters, MD, Pg 15B
⁵ Cordis BX VELOCITY® coronary stent with HEPACOAT™ Carmeda® coating. Kocsis, J., Llanos, G., Holmer, E., Heparin-Coated Stents, Journal of Long-Term Effects of Medical Implants, 2000, 10: 19-45
⁶ Berlin Heart EXCOR® VAD system. Kaufman, F., Hennig, E., Leobe, M., Hetzer, R., Improving the Antithrombogenicity of Artificial Surfaces Through Heparin Coating - Clinical Experience with the Pneumatic Extracorporeal Berlin Heart Assist Device, Cardiovascular Engineering, Dec. 1996, 1: 40-44
⁷ Medtronic Carmeda® Affinity® NT Oxygenator. Saenz, A., Larranaga, G., Alvarez, L., Greco, E., Marrero, A., Lunar, M., Elosegui, C., Ubago, J. L., Gallo, I., Heparin-Coated Circuit in Coronary Surgery. A clinical study. Eur J Cardiothorac Surg, 1996, 10: 48-53
⁸ Heparin-coated cardiopulmonary bypass. Miyaji, K., MD, Hannan, R. L., MD, Ojito, J., BS CCP, Jacobs, J. P., MD, White, J. A., MS, Burke, R. P., MD, Heparin-Coated Cardiopulmonary Bypass Circuit: Clinical Effects in Pediatric Cardiac Surgery, J Card Surg, 2000, 15: 194-198

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DECATHLON GOLD

Scanning Electron Microscope (SEM) view



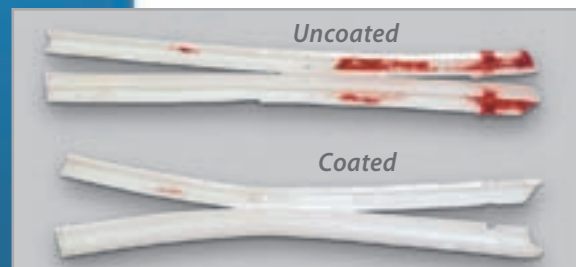
Uncoated catheter exhibits large thrombus growing through the catheter side hole, while the coated surface remains clean. Image colorized to show detail.

- **Minimizes Thrombus & Fibrin Sheath Accumulation** Decathlon Gold's coating reduced total thrombus accumulation by 96% in in-vitro studies and by 94% in animal studies compared to uncoated catheters¹
- **Long-Term Bioactivity** – Continuous saline flow studies prove that Decathlon Gold catheters maintain 100% of heparin's bioactive properties on internal and external surfaces (simulating more than 26 months of dialysis treatment)¹
- **Extensive Clinical History** – This unique, biocompatible heparin coating and bonding process has been proven effective in a wide range of medical devices, including vascular grafts^{2,3,4}, coronary stents⁵, ventricular assist devices⁶ and blood oxygenators^{7,8}



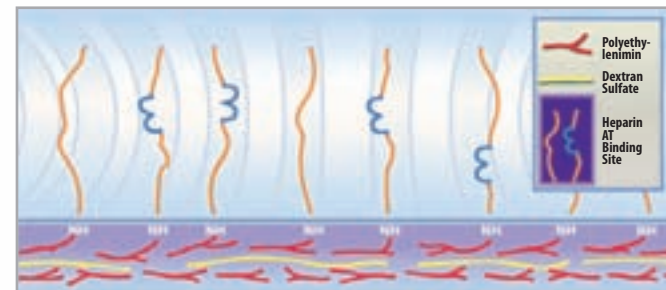
In-vitro blood loop thromboresistance test shows a 96% reduction in thrombus accumulation on the Decathlon Gold catheter.

Evaluation of Arterial Lumen



End-Point Bonded heparin coating reduces thrombus accumulation on both internal and external catheter surfaces.

Superior End-Point Bonded Heparin Coating



Superior End-Point Bonding maximizes exposure of heparin's active antithrombin binding sites to the blood and firmly bonds heparin to the catheter surface.

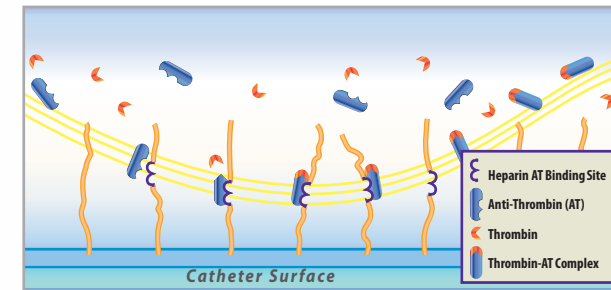
End-Point™ Bonded Heparin Catheters

The new standard of care for your patients

The marriage of Spire Biomedical's innovative surface modification expertise with a proven bioactive heparin technology has resulted in a next-generation End-Point Bonded heparin coating, which has been shown to improve thromboresistance and reduce fibrin sheath formation in both in-vitro and animal models.

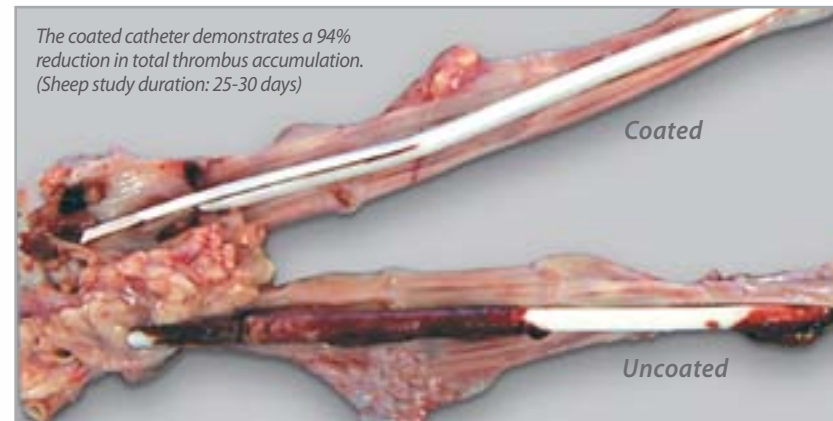
In-vitro and animal clotting studies have demonstrated that the coating reduces total thrombus accumulation by 96% and 94% respectively compared to uncoated catheters. The coating was effective in mitigating both disturbed flow-mediated thrombosis (at the catheter tip) and fibrin sheath propagation (on the catheter shaft).¹

Anticoagulation Mechanism



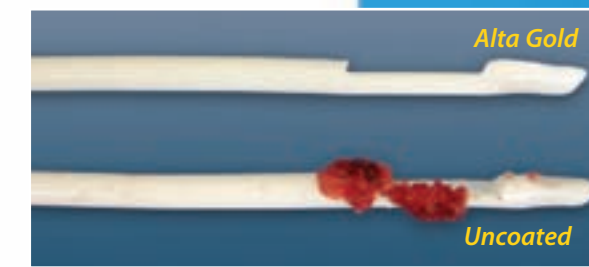
Antithrombin binds to the many exposed heparin AT binding sites on the End-Point Bonded surface coating, inactivates thrombin and then releases, re-exposing these active sites for sustained anticoagulant activity.

Sheep Study



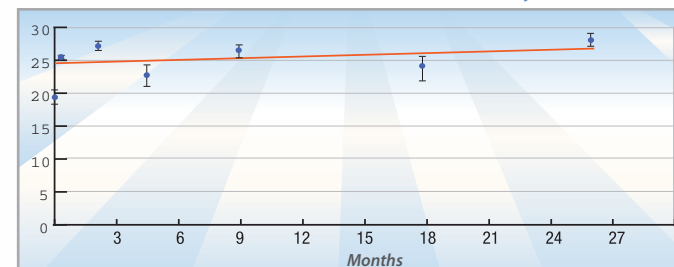
The coated catheter demonstrates a 94% reduction in total thrombus accumulation. (Sheep study duration: 25-30 days)

91% Reduction



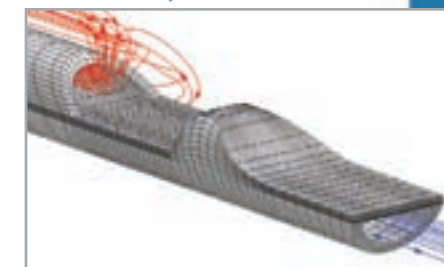
In-vitro blood loop thromboresistance test shows a 91% reduction in thrombus accumulation on the Alta Gold catheter.

Continuous Saline Flow Study



Continuous saline flow studies prove the Decathlon Gold catheters maintain 100% of heparin's bioactive properties on internal and external surfaces (Simulating more than 26 months of dialysis treatment).¹

Alta Fluid Dynamic Model



Utilizing advanced computational fluid dynamic modeling, the position and profile of the Alta tip and flow diverter has been optimized to maximize flow, minimize recirculation and improve fixed-tip catheter performance.

ALTA GOLD



Fixed-Tip Profile

Reduce thrombus and fibrin sheath formation with the only fixed-tip End-Point Bonded heparin coated catheter.

- **Minimizes Thrombus & Fibrin Sheath Accumulation** – Reduced thrombus (91%) and fibrin sheath formation, compared to uncoated catheters¹
- **Long-Term Bioactivity** – End-Point Bonded heparin coating maintains long term bioactivity, has extensive clinical history
- **Tip Profile** – Combines ease of insertion and high flow with very low recirculation delivering the ultimate high-efficiency fixed-tip catheter

End-Point Bonded heparin catheters available only from Spire Biomedical

