

Palindrome™ Precision HSI—heparin coated and silver ion antimicrobial dialysis catheter

Adopt a proactive approach to preserving dialysis access

Addressing impacts of catheter complications

The Palindrome™ Precision HSI—heparin coated and silver-ion antimicrobial dialysis catheter combines the dependability of the Palindrome™ Precision catheter with added protections against thrombus and microbial related complications.

Dysfunction from thrombus can result in:

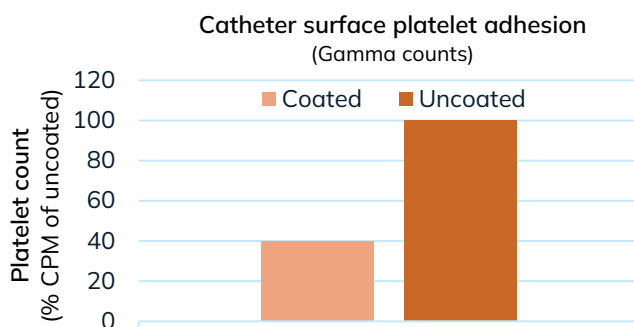
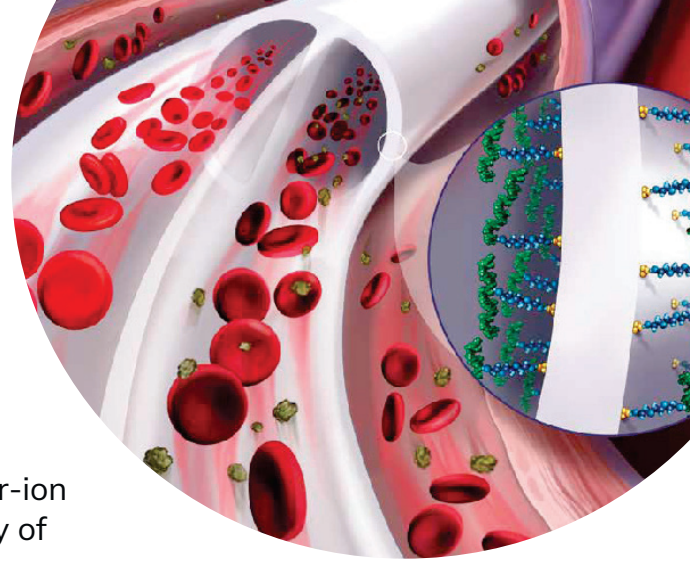
- Inadequate flow rates¹
- Increased costs¹
- Longer dialysis times¹
- Catheter removal — up to 33% removals due to thrombus²

Harness the power of Heparin — Antithrombogenic and nonthrombogenic

With a non-eluting, biocompatible coating, the catheter's integrated heparin technology provides long-lasting protection (internal and external).

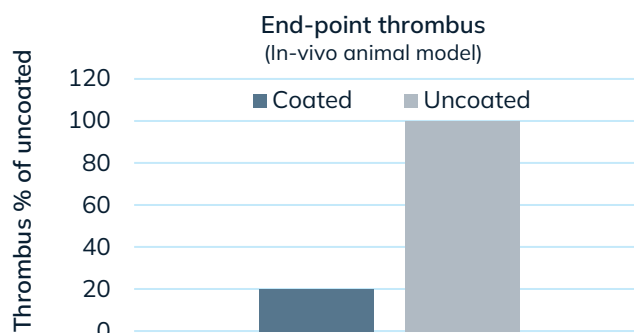
- **Reduced platelet adhesion**³
- **Inhibited thrombus accumulation** (compared to non-coated catheters)³
- **720 hours (12 months)** active therapeutic benefit with continuous flow^{3*}

*With simulated testing using a shear flow model



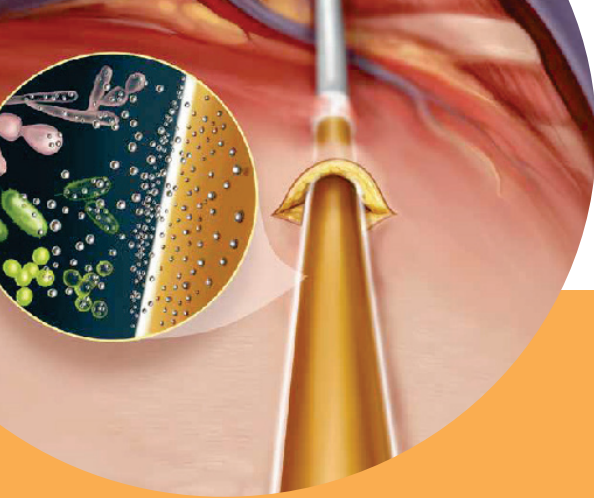
60% reduction

in platelet adhesion³
(In vitro; compared to non-coated catheters)



82% reduction

in thrombus accumulation³
(In vivo; compared to non-coated catheters)



Combat catheter microbial colonization using silver-ion applications

Dedicated protection at the exit site and tunnel track

The catheter insertion site is a common source of microbes for central venous catheters — which can lead to infection.⁴

Over 50% of patients with exit site infection require catheter removal⁵

70% of patients with tunnel tract infection require catheter removal⁵

Employ silver-ion technology directly targeting disruptive microbial growth:^{6†}

- Fungi
- Yeast
- Gram-positive and negative bacteria (In vitro testing results including *Staphylococcus aureus*, coagulase-negative, *Staphylococcus*, *Candida albicans*, and *Escherichia coli*)

Reducing broad spectrum bacterial colonization⁶

Antimicrobial silver-ion coating provides

Up to **99.999%**

Reduced broad-spectrum microbial colonization

(In vitro testing compared to non-coated catheters)

Reducing infection and catheter reintervention

6x fewer instances

of surgical reintervention due to thrombosis⁷

(Palindrome™ catheter = 5, HemoSplit™* TCC with BioBloc™* = 32, n = 200, p < 0.001)⁷

The silver ion sleeve reduced infection and thrombus related catheter reinterventions (compared to similarly coated catheters)^{7†}

Split tip catheters were HemoSplit™ TCC with BioBloc™*

1. Twardowski Z. The clotted central vein catheter for haemodialysis. *Nephrol Dial Transplant*. 1998;13(9):2203-2206.
2. Dinwiddie LC. Managing catheter dysfunction for better patient outcomes: a team approach. *Nephrol Nurs J*. 2004;31(6):653-660.
3. Internal Test Report 136-041-MAN-05.2005.
4. Raad I, Costerton W, Sabharwal U, Sacilowski M, Anaissie E, Bodey GP. Ultrastructural analysis of indwelling vascular catheters: a quantitative relationship between luminal colonization and duration of placement. *J Infect Dis*. 1993;168(2):400-407.
5. Develter W, De Cubber A, Van Biesen W, Vanholder R, Lameire N. Survival and complications of indwelling venous catheters for permanent use in hemodialysis patients. *Artif Organs*. 2005;29(5):399-405.
6. Internal Test Report 136-053-MAN-05. 2005.
7. Kakkos SK, Haddad GK, Haddad RK, Scully MM. Effectiveness of a new tunneled catheter in preventing catheter malfunction: a comparative study. *J Vasc Interv Radiol*. 2008;19(7):1018-1026.

Palindrome™ HSI Chronic Catheter: The Palindrome™ HSI chronic catheter with heparin coating and silver ion subcutaneous sleeve is intended for acute and chronic hemodialysis, apheresis, and infusion. It may be inserted either percutaneously or by cutdown. The device is contraindicated in thrombosed vessels or for subclavian puncture when ventilator is in use. This product should not be used in patients with documented hypersensitivity to silver, heparin or porcine based products. Heparin coated catheters should not be used in patients with severe thrombocytopenia, uncontrollable active bleeding disorders, or with skin necrosis from previous heparin use. In case of infection, the silver in the catheter does not replace the need for using systemic anti-infective agents. Clinicians/ Healthcare Professionals should be aware that there are very limited data on prolonged and repeated use of silver containing products and particularly in children and neonates. See the device manual for detailed information regarding the implant procedure, indications, contraindications, warnings, precautions, and potential complications/adverse events.

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800.962.9888
508.261.8000

710 Medtronic Parkway
Minneapolis, MN 55432

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