



# ClearGuard™ HD

Antimicrobial Barrier Caps for Hemodialysis Catheters

Clinically proven to reduce the rate of CLABSIs in hemodialysis catheter patients

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# Reduce hemodialysis catheter infections with clinically proven technology<sup>1,2</sup>



## Catheter infections are frequent, costly, and deadly

Nearly 30,000 bloodstream infections occur in hemodialysis patients annually. Catheters cause 70% of vascular access-related BSIs and central venous catheters are used in only 19% of all dialysis procedures in the United States. Not only are central line-associated bloodstream infections (CLABSIs) a leading cause of hospitalization and the second leading cause of death in hemodialysis patients but they also increase healthcare costs by an average of \$45,814 per infection.<sup>3,4,5</sup>

## Reduce hemodialysis catheter infections by up to 63%<sup>1</sup>

Multiple large, prospective, cluster-randomized multicenter open-label trials demonstrated a significant reduction in the rate of positive blood cultures (PBCs) and CLABSIs using ClearGuard HD caps vs. control groups.



### ClearGuard HD caps named in *Newsweek's* Best Infection Prevention Products two years in a row

These infection control products were evaluated using four criteria: effectiveness, safety (to both patient and healthcare worker), successful real-world implementation, and the stability of the company (to support future implementations).



### ClearGuard HD caps recommended in NKF's KDOQI Clinical Practice Guideline for Vascular Access: 2019<sup>6</sup>

21.3 KDOQI considers it reasonable to use an antimicrobial barrier cap to help reduce CRBSI in high-risk patients or facilities; the choice of connector should be based on clinician's discretion and best clinical judgment. (Expert Opinion)



### ClearGuard HD caps selected as one of the 100 Infection Control Products to Know for three years in a row

2017 Becker's 105 Infection Control Products to Know, 2018 & 2019 Becker's 100 Infection Control Products to Know



### [Recommended in the UK's NICE National Guidance for hemodialysis catheter-related bloodstream infections: 2021\\*\\*](https://www.nice.org.uk/guidance/mtg62/)

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## A simple, intuitive design

The ClearGuard HD antimicrobial barrier cap is the first and only device for sale designed to kill infection-causing bacteria inside a hemodialysis catheter hub.\* ClearGuard HD features a rod that extends into the hemodialysis catheter hub. The rod and cap threads are coated with chlorhexidine, a well-known broad-spectrum antimicrobial agent.

\*Designed to kill microorganisms, not intended to be used for treatment of existing infections.



Contact us today to find out how ClearGuard HD can play a large role in your infection control practices. Visit [www.icumed.com](http://www.icumed.com) or call 866.488.6088

1. Brunelli, SM et al. Cluster-randomized trial of devices to prevent catheter-related bloodstream infection. *J Am Soc Nephrol.* 2018 Apr;29(4):1336-1343. 2. Hymes, JL et al. Dialysis catheter-related bloodstream infections: a cluster-randomized trial of the ClearGuard HD antimicrobial barrier cap. *Am J Kidney Dis.* 2017 Feb;69(2):220-227. 3. Nguyen OB, Shugart A, Lines C, Shah AB, Edwards J, Pollock D, Sievert D, Patel PR. National healthcare safety network (NHSN) dialysis event surveillance report for 2014. *Clin J Am Soc Nephrol* 12(7), 1139-1146, 2017. 4. United States Renal Data System. 2018 USRDS annual report: Epidemiology of kidney disease in the United States. National Institutes of Health, Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2018. 5. Zimlichman, E et al. Health care-associated infections: A meta-analysis of costs and financial impact on the US health care system. *JAMA Intern Med.* 2013;173(2):2039-2046. 6. Lok CE, Huber TS, Lee T, et al; KDOQI Vascular Access Guideline Work Group. KDOQI clinical practice guideline for vascular access: 2019 update. *Am J Kidney Dis.* 2020;75(4)(suppl 3):S1-S164.

\*\* © NICE 2021 ClearGuard HD antimicrobial barrier caps for preventing haemodialysis catheter-related bloodstream infections. Medical technologies guidance [MTG62]. Available from <https://www.nice.org.uk/guidance/mtg62/chapter/1-Recommendations>. All rights reserved. Subject to Notice of rights NICE guidance is prepared for the National Health Service in England. All NICE guidance is subject to regular review and may be updated or withdrawn. NICE accepts no responsibility for the use of its content in this product/publication.