DEFENCATH® Taurolidine and Heparin Catheter Lock Solution | Limited Population

FORMULARY FACT SHEET

This Fact Sheet provides an overview of DefenCath® to help guide clinicians submitting formulary request forms to Pharmacy and Therapeutics committees.

CATEGORY	INFORMATION
Brand (Generic)	DefenCath (taurolidine and heparin)[1]
Indication and Usage	**LIMITED POPULATION:** DefenCath is a combination of taurolidine, a thiadiazinane antimicrobial, and heparin, an anti-coagulant, indicated to reduce the incidence of catheter-related bloodstream infections (CRBSI) in adult patients with kidney failure receiving chronic hemodialysis (HD) through a central venous catheter (CVC). This drug is indicated for use in a limited and specific population of patients[1] **Limitations of Use:** The safety and effectiveness of DefenCath have not been established for use in populations other than adult patients with kidney failure receiving chronic HD through a CVC[1]
Dosage and Administration	• DefenCath is for instillation into CVCs only. DefenCath is **not** intended for systemic administration. Do **not** use DefenCath as a catheter lock flush product[1] • Withdraw a sufficient volume of DefenCath catheter lock solution (CLS) from the vial using a sterile needle and syringe to fill the catheter lumens at the conclusion of each HD session[1] • Prior to initiation of the next HD session, DefenCath should be aspirated from the catheter and discarded. If DefenCath cannot be aspirated, continue with standard of care CVC preparation and flush with normal saline. If a catheter malfunction is suspected, appropriate standard of care measures should be instituted.[1] • Each DefenCath single-dose vial is designed for use with a single patient as a single instillation in the CVC. Discard any unused portion of DefenCath remaining in the vial[1]
Dosage Forms and Strengths	DefenCath CLS is available as a sterile, preservative-free, clear, aqueous-based solution in the following strength[1]: • 3 mL of CLS in a single-dose vial containing taurolidine 40.5 mg/3 mL (13.5 mg/mL), and heparin 3,000 USP Units/3 mL (1,000 USP Units/mL) (NDC 72990-103-03)

INDICATIONS AND USAGE

LIMITED POPULATION: DEFENCATH® is indicated to reduce the incidence of catheter-related bloodstream infections (CRBSI) in adult patients with kidney failure receiving chronic hemodialysis (HD) through a central venous catheter (CVC). This drug is indicated for use in a limited and specific population of patients.

Limitations of Use

The safety and effectiveness of DEFENCATH have not been established for use in populations other than adult patients with kidney failure receiving chronic HD through a CVC.

IMPORTANT SAFETY INFORMATION

CONTRAINDICATIONS

DEFENCATH is contraindicated in patients with:

- Known heparin-induced thrombocytopenia (HIT).
- Known hypersensitivity to taurolidine, heparin or the citrate excipient (components of DEFENCATH), or pork products.

Please see additional Important Safety Information throughout and the full Prescribing Information.

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CATEGORY	INFORMATION
Safety	**CONTRAINDICATIONS[1]:** • Known heparin-induced thrombocytopenia • Known hypersensitivity to taurolidine, heparin or the citrate excipient, or pork products **WARNINGS AND PRECAUTIONS[1]:** **Heparin-Induced Thrombocytopenia:** Heparin-induced thrombocytopenia (HIT) was reported at an incidence rate of 0.3% in Trial 1 in patients using heparin, a component of DefenCath, as a catheter lock solution. If HIT occurs, discontinue DefenCath and institute appropriate supportive measures **Drug Hypersensitivity:** Drug hypersensitivity reactions were reported at an incidence rate of 0.5% in Trial 1 in patients using heparin, a component of DefenCath, as a catheter lock solution. If a hypersensitivity reaction occurs, discontinue DefenCath and institute appropriate supportive measures **ADVERSE REACTIONS:** **The below lists selected adverse reactions reported in ≥2% of patients using DefenCath or heparin as a CLS[1]:** **DefenCath:** HD catheter malfunction (17%), hemorrhage/bleeding (7%), nausea (7%), vomiting (6%), dizziness (6%), musculoskeletal chest pain (3%), and thrombocytopenia (2%) **Heparin:** HD catheter malfunction (12%), hemorrhage/bleeding (9%), nausea (11%), vomiting (8%), dizziness (4%), musculoskeletal chest pain (2%), and thrombocytopenia (1%)
Mechanism of Action	• The mechanism of action of taurolidine and its metabolites is non-specific, causing damage to microbial cell walls and inhibiting adherence of microorganisms to biological surfaces[1] • Heparin interacts with the naturally occurring plasma protein, Antithrombin III, to induce a conformational change, which markedly enhances the serine protease activity of Antithrombin III, thereby inhibiting the activated coagulation factors involved in the clotting sequence, particularly Xa and IIa. Small amounts of heparin inhibit Factor Xa, and larger amounts inhibit thrombin (Factor IIa). Heparin also prevents the formation of a stable fibrin clot by inhibiting the activation of the fibrin stabilizing factor. Heparin does not have fibrinolytic activity; therefore, it will not lyse existing clots[1]

IMPORTANT SAFETY INFORMATION (CONT'D)

WARNINGS AND PRECAUTIONS

- **Heparin-Induced Thrombocytopenia (HIT):** HIT was reported in patients using heparin, a component of DEFENCATH, as a catheter lock solution. If HIT occurs, discontinue DEFENCATH and institute appropriate supportive measures.
- **Drug Hypersensitivity:** Drug hypersensitivity reactions have been reported in patients using heparin, a component of DEFENCATH, as a catheter lock solution. If a hypersensitivity reaction occurs, discontinue DEFENCATH and institute appropriate supportive measures.

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Antimicrobial Activity	Taurolidine has been shown to be active against most isolates of the following microorganisms[1†]: • Gram-positive – *Staphylococcus aureus* (including methicillin-sensitive *S aureus* [MSSA] and methicillin-resistant *S aureus* [MRSA]), *Staphylococcus epidermidis*, and *Enterococcus faecalis* • Gram-negative – *Escherichia coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, and *Serratia marcescens* • Fungi – *Candida albicans* and *Candida glabrata*
Efficacy	• The efficacy and safety of DefenCath for reducing the incidence of CRBSI in patients with kidney failure receiving chronic HD was evaluated in LOCK-IT-100, a randomized, double-blind, active-controlled, multicenter trial[1] • A total of 806 patients were randomized in a 1:1 ratio to receive either DefenCath or heparin (1,000 USP units/mL) as a catheter lock solution[1] • CRBSI rate per 1000 catheter days in the DefenCath group (n=397) was 0.13 vs 0.46 in the heparin group (n=398) (*P*=0.0006)[1], corresponding with a **71% reduction in the incidence of CRBSIs** with DefenCath vs heparin[1] • Based on a prespecified interim analysis, the Data and Safety Monitoring Board recommended terminating the trial early[2] *Please see references for additional study information.*

† per *in vitro* studies with unknown clinical significance

IMPORTANT SAFETY INFORMATION (CONT'D)

ADVERSE REACTIONS

The most frequently reported adverse reactions occurring in ≥2% of patients using DEFENCATH as a CLS or hemodialysis were hemodialysis catheter malfunction, hemorrhage/bleeding, nausea, vomiting, dizziness, musculoskeletal chest pain, and thrombocytopenia.

To report SUSPECTED ADVERSE REACTIONS, contact CorMedix Inc at 1-844-424-6345 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

Please see the full Prescribing Information.

Please scan the QR code or ask your representative for Full Prescribing Information.

FDA = US Food and Drug Administration.

References: 1. DefenCath (taurolidine and heparin) [prescribing information]. Berkeley Heights, NJ: CorMedix Inc; 2024. **2.** Agarwal AK, Roy-Chaudhury P, Mounts P, Hurlburt E, Pfaffle A, Poggio EC. Taurolidine/heparin lock solution and catheter-related bloodstream infection in hemodialysis: a randomized, double-blind, active-control, phase 3 study. *Clin J Am Soc Nephrol.* 2023;18(11):1446-1455.

Agarwal AK, Roy-Chaudhury P, Mounts P, Hurlburt E, Pfaffle A, Poggio EC. Taurolidine/heparin lock solution and catheter-related bloodstream infection in hemodialysis: a randomized, double-blind, active-control, phase 3 study. *Clin J Am Soc Nephrol.* 2023;18(11):1446-1455.

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