

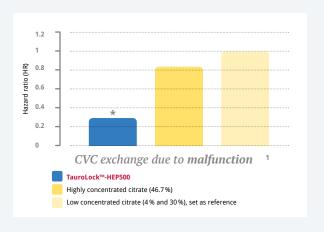


How to prevent catheter-related complications with the **TauroLock™ 2+1 protocol**

The solution for haemodialysis catheters
Significantly lower hazard for CVC malfunction and removal

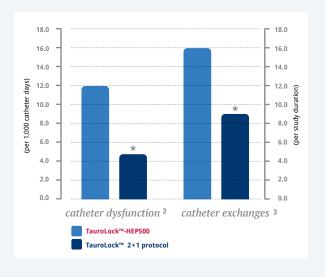
1. Protection against catheter malfunction with TauroLock™-HEP500





2. Maximum efficacy with the TauroLock™ 2+1 protocol





The formula for effective protection: TauroLock™ 2+1 protocol 2x weekly TauroLock™-HEP500, 1x weekly TauroLock™-U25.000

^{*} Significant in respective test

¹ Van Roeden et al. 2021 BMC Nephrology volume 22:308

² Bonkain et al. 2021 PLoS ONE 16(5): e0251793

³ Fontseré et al. 2021 Nefrologia. https://doi.org/10.1016/j.nefro.2021.02.004



- Position statement of the European Renal Best Practice (ERBP) 2010

 "Recommendation B.3.1: The preventive use of antimicrobial locks is advocated to reduce the rate of CRBSI."
 - "(...) no benefit regarding infectious complications was observed for citrate at 4%..." "Recommendation B.3.2: In view of the potential risks of spillover of the locking solution (...) the 4% solution seems to offer at present the best benefit/risk ratio."
- Prevention of infections related to implantable ports for venous access 2012, French Society of Hospital Hygiene (SF2H)

"...taurolidine or any other compound with proven efficacy in preventing catheterinfections should be preferentially used..."

Guideline of the German Society for Applied Hygiene in Dialysis (4th revised edition 2022)

"With regard to maintenance of patency, current research has shown a superiority of fibrinolytics (rt-PA, urokinase) over the ingredients heparin and citrate when used once a week. Malfunction rates are reduced significantly in comparison to heparin (5,000 IU/ml) and citrate (4 %)."

- Vascular access for dialysis, Dutch Federation of Medical Specialists 2022 "High concentrations of citrate (30 % or more) may spill into the systemic circulation leading to systemic complications (symptomatic hypocalcaemia, cardiac arrhythmia) and should therefore not be used (KDOQI 2019 Update, recommendation 21.5) ... Consider adding thrombolytics once a week to the catheter lock (1 mg alteplase per lumen or 5000 IU/ml urokinase; KDOQI 2019 Update, recommendation 21.6), because in randomized studies this reduced flow dysfunction and line sepsis."
- Guideline on haemodialysis catheters 2018, Australian Department of Health "Taurolidine: Very broad-spectrum antimicrobial activity. Decreases development of biofilm. Associated with a reduced CRBSI rate compared to heparin. May be equally effective in preventing catheter occlusion due to thrombosis as heparin."
- **Guideline for infection prevention and hygiene 2019, German Society for Nephrology (DGfN)**

"Taurolidine and gentamicin exert only antimicrobial effectiveness. Citrate solutions show ... – in higher concentrations – at least partially antimicrobial properties, which is, however, insufficient against Staph. aureus. An additional option is the intermittent (once weekly) use of urokinase in the lock solution (Cat IB)."

Standards of practice 2021, Infusion Nurses Society (INS)

"Monitor sodium citrate, an anticoagulant with antimicrobial effects, for systemic anticoagulation, hypocalcemia that could produce cardiac arrest, and protein precipitate formation with concentrations greater than 12%. (III)"

"Monitor trisodium citrate for protein precipitation, which could cause lumen occlusion. (V)"

Instructions for use





