ANTIMICROBIAL CATHETER LOCK SYSTEM
TO PROVIDE PATENCY AND INFECTION CONTROL
Prophylaxis against catheter related bloodstream infections:

Central venous catheters (CVC) are used as short or long term vascular access devices in hemodialysis, oncology, ICU and total parenteral nutrition. High risks for CVC malfunction are catheter related infections (CRI). These infections may be triggered by microbial colonization of the catheter from which the microorganisms can spread into the bloodstream. CRI may develop septic symptoms which require the immediate removal of the catheter.

TauroLock™ catheter lock solutions were developed for prophylactic use and reduce catheter related infections significantly (~ 90%). The antimicrobial activity of TauroLock™ is based on (cyclo)taurodine which is bactericidal, including resistant bacteria such as MRSA and VRE, as well as fungicidal. TauroLock™ does not contain any antibiotics.

CDC and ERBP demand the use of antimicrobial lock solutions such as TauroLock™ which is recommended by various national guidelines in dialysis, oncology and parenteral nutrition (see references 1.1).

Prophylaxis against biological occlusion in the catheter:

The TauroLock™ Catheter Lock System contains a threefold prophylaxis against occlusion in the catheter:

All locking solutions contain citrate as anticoagulant. At the concentration used, 4%, citrate removes calcium safely and effectively from the clotting cascade.

The optional use of low concentrated heparin supports an additional anticoagulative effect via binding to antithrombin. The prophylactic use of TauroLock™-U25.000 (which contains 25,000 IU of urokinase) achieves the most effective prophylaxis against occlusion through its thrombolytic activity.

The decision which locking solution is most adequate depends on the individual patient situation. The alternative use of TauroLock™-Hep500 and TauroLock™-U25.000 may provide an even stronger effect against infection and biofilm formation (Al-Ali et al., 2017; Winnicki et al., 2018).
TauroLock™ is bactericidal and fungicidal within 2 hours:

**Legend**

- **S. aureus (MRSA)**
- **P. aeruginosa**
- **A. niger**
- **E. coli**
- **C. albicans**
- **S. epidermidis**

*“detection limit (10 cfu/ml)”

Clearly superior in comparison to the activity of Citrate and Heparin:

- **46.7% Citrate**
- **30% Citrate**
- **Heparin**

If used prophylactically, TauroLock™ prevents the development of a biofilm on the surface of the catheter lumen:

- **Heparin Lock** – 7 months implanted — S. epidermidis biofilm covers surface completely
- **TauroLock™**
  - 5 months implanted — No colonization
Instillation of TauroLock™

Follow the manufacturer’s instructions that accompany the particular vascular access product utilized. Specific catheter lock volumes are associated with each device.

1. Flush the device with 10 mL of saline.
2. Withdraw TauroLock™ from the container using an appropriate syringe.
3. Instill TauroLock™ slowly (not more than 1 mL per second, infants and children less than two years of age not more than 1 mL per 5 seconds) into the access device in a quantity sufficient to fill the lumen completely. Consult the manufacturer’s instructions for the specific fill volume or specify fill volume during implantation. The volume has to be strictly respected. TauroLock™ will remain inside the access device until the next treatment (up to a maximum of 30 days).
4. Prior to the next treatment, TauroLock™ must be aspirated (if desired and possible) and discarded in accordance with the institution’s waste policy.
5. Flush the device with 10 mL of saline.

Product selection for application

<table>
<thead>
<tr>
<th>Product</th>
<th>TauroLock</th>
<th>TauroLock Hemodilution</th>
<th>TauroLock Micro</th>
<th>TauroLock Ultra</th>
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<tbody>
<tr>
<td>Dialysis</td>
<td>●</td>
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<tr>
<td>Oncology</td>
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<td>Parenteral Nutrition</td>
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TauroLock™ catheter lock solutions are available in different containers:

<table>
<thead>
<tr>
<th>Product</th>
<th>TauroLock</th>
<th>TauroLock</th>
<th>TauroLock</th>
<th>TauroLock</th>
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</thead>
<tbody>
<tr>
<td>Ampoule (10 x 3 mL)</td>
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<td>●</td>
<td></td>
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<tr>
<td>Ampoule (10 x 5 mL)</td>
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<tr>
<td>Vial (100 x 10 mL)</td>
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<tr>
<td>Vial (5 x 5 mL)</td>
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Manufacturer:

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ISO 13485
1. GUIDELINES AND RECOMMENDATIONS

1.1. Guidelines for the Prevention of Intraocular Catheter-related Infections. CDC. Center of Disease Control. USA. 2011


1.3. KRINKO Prevention of infections, which originate from blood vessel catheters. Koch-Institut KKuNIBR. Bundesgesundheitsblatt 2017. Volume:36

1.4. Diagnosis, prevention and treatment of haemodialysis catheter-related bloodstream infections (CRBSI), a position statement of European Renal Best Practice (ERBP)


2. PUBLICATIONS: PROPHYLAXIS OF INVASION IN DIALYSIS


2.7. Prophylaxis of infection in oncology


4. PUBLICATIONS: PROPHYLAXIS OF INFECTION IN PARENTERAL NUTRITION


5. PUBLICATIONS: MAINTENANCE OF PATENCY BY USE OF UROKINASE CONTAINING LOCK SOLUTIONS


6. PUBLICATIONS: ANTIMICROBIAL ACTIVITY OF TAUROLOCK™

