TransCutan

1. What is NutriLock™ and TauroLock™?

NutriLock™ and TauroLock™ are catheter lock solutions for tunneled and non-tunneled vascular access and port systems for the prevention of catheter-associated infections and catheter flow problems.

2. What are the active ingredients of NutriLock™ and TauroLock™?

NutriLock™ contains taurolidine as an antimicrobial ingredient. In addition to taurolidine, TauroLock™ lock solutions also contain 4% citrate for the maintenance of catheter patency.

3. Are there further special formulations for persistent patency issues?

In addition to taurolidine and 4% citrate, TauroLock™-Hep100 contains additional 100 IU/mL heparin to improve patency. TauroLock™-Hep500 contains additional 500 IU/mL heparin.

The most effective prophylaxis against catheter occlusion is maintained with the regular use of TauroLock™-U25.000, containing 25.000 IU urokinase (5.000 IU/mL), taurolidine and 4% citrate. This reduces flow problems in the catheter substantially, see recommendation on this homepage.

The decision which catheter lock solution is most advantageous depends on the situation of the individual patient. Alternating use (e.g. TauroLock™-Hep500, TauroLock™-U25.000) is feasible.

4. Why should I use NutriLock™ and TauroLock™ lock solutions?

Heparin and 4% citrate only have anticoagulant effects, but no bactericidal properties. Consequently, contamination of the catheter can lead to bacteraemia. TauroLock™ lock solutions are used to prevent both, infections and occlusions in catheter and port systems. NutriLock™ acts prophylactically against catheter infections. Prophylactic use of TauroLock™ lock solutions prevents the formation of biofilm and thus maintains the flow rate in the catheter and/or port. The thrombolytic activity of TauroLock™-U25.000 further improves patency by dissolving already formed clots.

5. When do I use NutriLock™ instead of TauroLock™?

All TauroLock™ lock solutions can cause mild hypocalcaemia (e.g. metallic taste). These mild adverse effects can be avoided by use of the citrate-free lock solution NutriLock™.

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6. Is NutriLock™ or TauroLock™ known to have undesired effects?

All TauroLock™ lock solutions can cause mild hypocalcaemia (e.g. metallic taste). These mild adverse effects can be avoided by slow instillation respecting the volume of the device or by use of the citrate-free lock solution (NutriLock™).
In addition, TauroLock™, TauroLock™-Hep100, TauroLock™-Hep500 and TauroLock™-U25.000 may cause an anaphylactic reaction (very rare), TauroLock™-U25.000 may also lead to bleeding events (very rare).

7. What happens if TauroLock™ lock solutions enter the body of the patient?

The antimicrobial ingredient of the lock solution is degraded extremely quickly in the body. The degradation produces taurine, an amino acid that is naturally present in the body.

8. What should I do if NutriLock™ or TauroLock™ cannot be aspirated before the next treatment?

Prior to the next treatment, NutriLock™ and all TauroLock™ lock solutions must be aspirated and discarded. If aspiration of NutriLock™ is not possible, slow flushing of NutriLock™ (not more than 1 mL per 3 seconds) with saline does not cause any systemic effect. In case TauroLock™ cannot be aspirated slow flushing (not more than 1 mL per 3 seconds) is possible. If in exceptional cases the healthcare professional decides that aspiration of TauroLock™ is not appropriate (blood in the catheter, e. g. in parenteral nutrition) slow flushing of TauroLock™ is clinically tolerable. Do not flush TauroLock™ in infants and children less than two years of age, even in exceptional cases. Flushing of TauroLock™-HEP100, -HEP500 or TauroLock™-U25.000 is not allowed. Please read the instructions for use.

9. Does TauroLock™ affect the catheter?

The effect of TauroLock™ on various catheter materials (polyurethane, silicone) has been investigated. All types of catheters remain undamaged even in long-term tests.

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10. Why is the citrate content in TauroLock™ lock solutions only 4%? Would a higher citrate content be better for anticoagulation?

A citrate content of 4% is recommended by the US regulatory authorities and others. In the context of one case of fatality, the FDA issued an advisory not to use a product with a higher citrate content (Tricitrasol, 46.7 %). Lock solutions of this type had to be recalled from the US market. Their use is no longer approved. Likewise, over-instillation of less than 1 mL per lumen of a 30% citrate solution induced transient cardiac arrest in two cases in the Netherlands (Punt CD, Boer WE, Cardiac arrest following injection of concentrated trisodium citrate, Clinical Nephrology **2008**, 69 (4), 317-318). A high citrate content (46.7%) can also lead to embolic events which might be triggered by protein precipitation (Davenport A , Willicombe MK, Vernon K, Embolic complications from central venous hemodialysis catheters used with hypertonic citrate solution, American Journal of Kidney Diseases, **2010**, 55, 348-351 / Schilcher G, Scharnagl H, Horina JH, Ribitsch W, Rosenkranz AR, Stojakovic T and Polaschegg H-D, Trisodium citrate induced protein precipitation in haemodialysis catheters might cause pulmonary embolism, Nephrol Dial Transplant (2012) 0: 1–5).

11. I have been using heparin for a lock solution - can I switch to TauroLock™ without any problems?

The experience accumulated until now with the heparin-containing TauroLock™ products shows that, for example in dialysis, a heparin 5,000 IU/mL solution can be replaced by TauroLock™-Hep500 solution without any problems, i.e. the use of heparin can be reduced drastically. Accordingly, TauroLock™-Hep500 is the product of first choice in dialysis, whereas TauroLock™-Hep100 is used primarily in vascular access systems in haematology/oncology or in paediatric patients. TauroLock™-Hep100 or TauroLock™-Hep500 must be aspirated before the next treatment.

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