MONOGRAPH

Taurolidine / Sodium citrate / Heparin 100 units Monograph – Paediatric

(Taurolock™-Hep100)

Scope (Staff):	Medical, Pharmacy, Nursing
Scope (Area):	All Clinical Areas (Perth Children's Hospital)

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this DISCLAIMER

⚠ HIGH RISK MEDICINE ⚠

Taurolock™-Hep100 must not be flushed

QUICKLINKS

DRUG CLASS

- Taurolock™-Hep100 contains taurolidine 1.35%, sodium citrate 4% and heparin100 units/mL and is an antimicrobial and anticoagulant lock solution for central venous access devices (CVAD).

Taurolock™-Hep100 is a High Risk Medicine due to the heparin component.

INDICATIONS AND RESTRICTIONS

- Taurolock™-Hep100 is indicated for prophylaxis against central line related bloodstream infections (CLABSI) and prophylaxis against occlusion in children who have a central venous access device (CVAD). [1, 2]
- Taurolock™-Hep100 may be commenced upon insertion of a new CVAD (preferable) or commenced in a child with an existing CVAD.

IV: Monitored (orange) lock solution

- As per indications stipulated in Formulary One. For any other use, phone approval must be obtained from ChAMP before prescribing as per the Antimicrobial Stewardship Policy.

CONTRAINDICATIONS

- Hypersensitivity to taurolidine, sodium citrate, heparin (porcine origin), low molecular weight heparin or any component of the formulation. (3-5)
- Contraindicated in patients with heparin induced thrombocytopaenia or increased bleeding risk.(3-5)

Taurolock™-Hep100 is only indicated for locking central venous access devices. It should not be used for peripheral or mid-lines.(4)

- Taurolock™-Hep100 **must not** be flushed into circulation and **must** be aspirated from the line after the required dwell time due to the risk of anticoagulation.(3)
- In the event of line occlusion please discuss with the CVAD clinical specialist and the treating team.

PRECAUTIONS

- Check ampoules for any precipitation prior to use.(3)
- Taurolock™-Hep100 contains heparin, please see Heparin Monograph (internal link)

FORMULATIONS

Listed below are products available at PCH, other formulations may be available, check with pharmacy if required:

- Taurolidine 1.35% with sodium citrate 4% and heparin 100 units/mL ampoule (available as a 3 mL ampoule).(3)

Imprest location: Formulary One

DOSAGE & DOSAGE ADJUSTMENTS

Neonates: Not routinely used in neonates, contact Infectious Disease (ID) or Clinical Microbiology consultants for advice.

Lock therapy:

- The volume to be administered is determined by the fill volume of the CVAD (see below).
- The required volume is to be instilled into the device for a minimum of 2 hours with administration only occurring once in 24 hours. Please discuss the duration of instillation with the ID team.(2)
- In the event that line access is required, the Taurolock™-Hep100 must be aspirated from the line, flushed with sodium chloride 0.9% and may then be used for administration of medications or other IV fluids as required.(3)

CVAD Device	Volume of Taurolock™-Hep100 to prescribe per lumen
Tunnelled or implanted central venous access device e.g. Broviac, Hickmans or Infusaport	2 mL
Peripherally inserted central catheter (PICC)	1 mL

- The lock can be left in situ for up to 30 days. After this time, the line should be aspirated and flushed with sodium chloride 0.9% prior to re-locking with Taurolock™-Hep100 or using the line.[3]

Renal impairment:

- No dosage adjustment is required in renal dysfunction as it is not intended for systemic administration. However, the fill volume of the device being locked must be strictly adhered to.[3-5]

Hepatic impairment:

- No dosage adjustment is required in hepatic dysfunction as it is not intended for systemic administration. However, the fill volume of the device being locked must be strictly adhered to.[3-5]

ADMINISTRATION

Taurolock™-Hep100 is only to be used as a lock solution for CVADs. It is not to be used for locking peripheral lines or mid lines.

- Determine the fill volume of the device to be locked (see above).
- Flush the CVAD with 10 – 20 mL of sodium chloride 0.9% using the pulsatile 'push-pause' technique as per Central Venous Access Device (CVAD) and Midline Management Guideline.[3]
- Instil the required volume of Taurolock™-Hep100 into the CVAD. This should be done slowly at a rate of no more than 1 mL per second in children and no more than 0.2 mL per second in infants and children <2 years.[3]
- Discard any excess solution remaining in the ampoule.
- Leave the solution in situ for a minimum of 2 hours (with administration only occurring once in 24 hours) and for a maximum of 30 days.[2, 3]
- Ensure that the line is not flushed accidentally during this time. Label each lumen containing Taurolock™-Hep100 by writing Taurolock™-Hep100 on the line label and attaching this as per the PCH Labelling of Injectable Medicines and Fluids Policy.
- Before utilising the line for administration of medication, aspirate the Taurolock™-Hep100 volume added to each lumen. If in the event of line occlusion, discussion of the need to flush the line with the treating team should occur prior to flushing.
- Flush the line with 10 – 20 mL of sodium chloride 0.9% before instilling next Taurolock™-Hep100 (or next treatment) using the pulsatile 'push-pause' technique as per Central Venous Access Device (CVAD) and Midline Management Guideline.

- Document any reported taste disturbance or line occlusions or any other potential adverse events on the CVAD Nursing Management Record.

COMPATIBILITY *(LIST IS NOT EXHAUSTIVE)*

Compatible fluids:

- Sodium chloride 0.9%.[3]

Compatible at Y-site:

- Taurolock™-Hep100® is used as a lock solution, it must not be mixed with any other fluids prior to use as a lock and all lumens should be flushed well with sodium chloride 0.9% prior to instillation.[3]

MONITORING

- Monitor for line patency.

ADVERSE EFFECTS

Common: nausea, vomiting, bleeding, mild reversible thrombocytopenia, dizziness, musculoskeletal chest pain.[3-5]

Infrequent: metallic or unusual taste (particularly if instilled at a rate faster than recommended), line occlusion, hypocalcaemia symptoms (if instilled at a rate faster than recommended), paresthesia.[3-5]

Rare: Heparin induced thrombocytopenia.[3, 4]

STORAGE

- Store between 15°C and 30°C[3]

INTERACTIONS

This medication may interact with other medications; consult PCH approved references (e.g. Clinical Pharmacology), a clinical pharmacist or PCH Medicines Information Service on extension 63546 for more information.

Please note: The information contained in this guideline is to assist with the preparation and administration of **taurolidine 1.35% with sodium citrate 4% and heparin 100 units/mL**. Any variations to the doses recommended should be clarified with the prescriber prior to administration

Related CAHS internal policies, procedures and guidelines
Antimicrobial Stewardship Policy
ChAMP Empiric Guidelines and Monographs
KEMH Neonatal Medication Protocols
Labelling of Injectable Medications and Fluids

Taurolock Patient information leaflet
CVAD policy

References

1. Australian Medicines Handbook. Adelaide, S. Aust.: Australian Medicines Handbook; 2023 [cited 2024 7th March]. Available from: https://amhonline-amh-net-au.pklibresources.health.wa.gov.au/.
2. Łyszkowska M, Kowalewski G, Szymczak M, Polnik D, Mikołajczyk A, Kaliciński P. Effects of prophylactic use of taurolidine-citrate lock on the number of catheter-related infections in children under 2 years of age undergoing surgery. J Hosp Infect. 2019;103(2):223
3. TauroPharmGmbH. TauroLock Hep 100 - product information. Germany: TauroPharmGmbH; 2024.
4. IBM Micromedex [Internet]. Truven Health Analytics. 2023 [cited 2024 March 7th]. Available from: http://www-micromedexsolutions-com.pklibresources.health.wa.gov.au/micromedex2/librarian.
5. Up To Date - Paediatric Drug information [Internet]. Lexicomp. 2023 [cited 2024 March 7th]. Available from: https://www-uptodate-com.pklibresources.health.wa.gov.au/contents/table-of-contents/drug-information/pediatric-drug-information.

This document can be made available in alternative formats on request.

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