

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Tetrasodium Ethylenediaminetetraacetic Acid for Locking Central Venous Access Devices in Parenteral Feeding: Clinical Effectiveness, Cost- Effectiveness, and Guidelines

Service Line: Rapid Response Service
Version: 1.0
Publication Date: March 4, 2019
Report Length: 6 Pages

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Cite As: *Tetrasodium Ethylenediaminetetraacetic Acid for Locking Central Venous Access Devices in Parenteral Feeding: Clinical Effectiveness, Cost-Effectiveness, and Guidelines*. Ottawa: CADTH; 2019 Mar. (CADTH rapid response report: summary of abstracts).

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Funding: CADTH receives funding from Canada's federal, provincial, and territorial governments, with the exception of Quebec.

Research Questions

1. What is the clinical effectiveness of 4% tetrasodium ethylenediaminetetraacetic acid (EDTA) for locking central venous access devices?
2. What is the cost-effectiveness of 4% tetrasodium EDTA for locking central venous access devices?
3. What are the evidence-based guidelines regarding the use of 4% tetrasodium EDTA for central venous access devices?

Key Findings

No relevant literature was found regarding tetrasodium ethylenediaminetetraacetic acid for locking central venous access devices in parenteral feeding.

Methods

This report makes use of a literature search strategy developed for a previous CADTH report. For the current report, a limited literature search was conducted on key resources including Ovid Medline, Embase, the Cochrane Library, CINAHL, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit retrieval by study type. Where possible, retrieval was limited to the human population. The search was limited to English-language documents published between January 1, 2007 and February 19, 2019 to capture any articles published since the previous report.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	Long term total parenteral nutrition patients with central venous access devices
Intervention	4% tetrasodium EDTA for locking central venous access devices (e.g., KiteLock, Cathasept)
Comparator	Q1-2: Heparin solutions; Saline; Antibiotic lock solutions; Combination solutions (e.g., TauroLock); Ethyl alcohol; Standard of care (other preparations) Q3: No comparator
Outcomes	Q1: Clinical effectiveness (e.g., catheter associated infection rates, catheter occlusion rates) and safety (e.g., side effects, adverse effects, hypocalcaemia rates, other divalent or trivalent metal deficiencies, all-cause infection rates) Q2: Cost-effectiveness (e.g., incremental cost per health benefit gained) Q3: Guidelines (e.g., appropriate use)
Study Designs	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized trials, economic evaluations, evidence-based guidelines

Results

This report is an update to a previous CADTH report (Tetrasodium EDTA for locking central venous access devices in parenteral feeding: clinical effectiveness, cost-effectiveness, and guidelines) published in 2018. Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, economic evaluations, and evidence-based guidelines.

No relevant literature was found regarding tetrasodium ethylenediaminetetraacetic acid for locking central venous access devices in parenteral feeding.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

No relevant literature was found regarding tetrasodium ethylenediaminetetraacetic acid for locking central venous access devices in parenteral feeding; therefore, no summary can be provided.

References Summarized

Health Technology Assessments

No literature identified

Systematic Reviews and Meta-analyses

No literature identified

Randomized Controlled Trials

No literature identified

Non-Randomized Studies

No literature identified

Economic Evaluations

No literature identified

Guidelines and Recommendations

No literature identified

Appendix — Further Information

Previous CADTH Reports

1. Tetrasodium EDTA for locking central venous access devices in parenteral feeding: clinical effectiveness, cost-effectiveness, and guidelines. (*CADTH Rapid response report: summary of abstracts*). Ottawa (ON): CADTH; 2018.
<https://cadth.ca/sites/default/files/pdf/htis/2018/RB1179%20Tetrasodium%20EDTA%20for%20CVADs%20in%20Parenteral%20Feeding%20Final.pdf>. Accessed 2019 Mar 4.
2. Tetrasodium EDTA for locking central venous catheters in hemodialysis: clinical effectiveness, cost-effectiveness, and guidelines. (*CADTH Rapid response report: summary of abstracts*). Ottawa (ON): CADTH; 2018.
<https://cadth.ca/sites/default/files/pdf/htis/2018/RB1180%20Tetrasodium%20EDTA%20for%20Locking%20CVCs%20in%20Hemodialysis%20Final.pdf>. Accessed 2019 Mar 4.

Review Articles

3. Noelting J, Jurewitsch B, Allard JP. Non-antibiotic antimicrobial catheter lock solutions in patients on home parenteral nutrition. *Nutrients*. 2018 Aug 25;10(9).
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Additional References

4. Hill J. CVAD lock solutions – the debate, the triple threat and the solution [presentation]. In: 5th World Congress on Vascular Access; 2018 Jun 20-22; Copenhagen, Denmark.
<https://www.wocova.com/wp-content/uploads/2018/06/O-22-Jocelyn-Hill.pdf>. Accessed 2019 Mar 4.
5. Hill J, Lanuza J. Novel CVAD lock solution for high-risk patient population on home parenteral nutrition [poster]. In: 5th World Congress on Vascular Access; 2018 Jun 20-22; Copenhagen, Denmark. <https://www.morressier.com/article/novel-cvad-lock-solution-highrisk-patient-population-home-parenteral-nutrition/5af985f5101067001b3aaafe>. Accessed 2019 Mar 4.
6. Liu F, Hansra S, Crockford G, et al. Tetrasodium EDTA is effective at eradicating biofilms formed by clinically relevant microorganisms from patients' central venous catheters. *mSphere*. 2018;3(6):28.
[PubMed: PM30487154](https://pubmed.ncbi.nlm.nih.gov/30487154/)