



Intravenous literature: Oliveira, C., Nasr, A., Brindle, M. and Wales, P.W. (2012) Ethanol Locks to Prevent Catheter-Related Bloodstream Infections in Parenteral Nutrition: A Meta-Analysis. *Pediatrics*. 129(2), p.318-329.

Abstract:

OBJECTIVE: Patients with pediatric intestinal failure (IF) depend on parenteral nutrition for growth and survival, but are at risk for complications, such as catheter-related bloodstream infections (CRBSIs). CRBSI prevention is crucial, as sepsis is an important cause of IF-associated liver disease and mortality. We aim to estimate the pooled effectiveness and safety of ethanol locks (ELs) in comparison with heparin locks (HLs) with regard to CRBSI rate and catheter replacements for pediatric IF patients with chronic parenteral nutrition dependence.

METHODS: A systematic review without language restriction was performed on Medline (1948–2010), Embase (1980–2010), and conference programs and trial registries up to December 2010. Search terms included “Catheter-Related Infections,” “Catheter,” “Catheters, Indwelling, alcohol, ethanol, and lock.” Two authors identified 4 retrospective studies for the pediatric IF population. Double, independent data extraction using predefined data fields and risk of bias assessment (Newcastle-Ottawa scale) was performed.

RESULTS: In comparison with HLs, ELs reduced the CRBSI-rate per 1000 catheter days by



7.67 events and catheter replacements by 5.07. EL therapy decreased the CRBSI rate by 81% and replacements by 72%. One hundred eight to 150 catheter days of EL exposure were necessary to prevent 1 CRBSI and 122 to 689 days of exposure avoided 1 catheter replacement. Adverse events were rare and included thrombotic events.

CONCLUSIONS: In pediatric patients with IF, EL is a more effective alternative to HL. Adverse events include thrombotic events.

