

PICOT Question

In children, does a lidocaine lubricant decrease the pain associated with urethral catheterization?

Search for the Evidence

Search Strategies

Search selection criteria included English-language publications, research-based studies, and review articles on use of the lidocaine lubricant before urethral catheterization.

Databases Used

Cochrane Collaboration, PubMed, MD Consult, BestBETs, American Academy of Pediatrics

Critically Analyze the Evidence

[Gray \(1996\)](#) published a review of strategies to minimize distress associated with urethral catheterization in children and supported intraurethral instillation of a local anesthetic that contains 2% lidocaine before catheter insertion.

One prospective, double-blind, placebo-controlled trial evaluated the use of lidocaine lubricant for discomfort in 20 children before urethral catheterization. Two doses of lidocaine lubricant instilled into the urethra five minutes apart significantly reduced pain and distress during urethral catheterization ([Gerard, Cooper, Duethman, et al, 2003](#)).

[Boots and Edmundson \(2010\)](#) conducted a randomized controlled trial in 200 children in a follow-up to the study by Gerard, Cooper, Duethman, and colleagues. Conclusions were that a topical application of 2% lidocaine gel followed by urethral instillation of lidocaine gel is effective in reducing discomfort prior to urinary catheterization and two urethral instillations offered no significant difference over a single instillation.

[Mularoni, Cohen, DeGuzman, and colleagues \(2009\)](#) found in a three-armed placebo-controlled, double-blind, randomized controlled trial of 43 children younger than 2 years old that topical and intraurethral lidocaine lubricant were superior to the placebos of topical aqueous lubricant alone and topical and intraurethral aqueous lubricant in lowering distress, but did not fully alleviate pain.