Review: No proof that indwelling catheters cause more UTIs than intermittent catheterization

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The evidence does not support the common belief that indwelling catheters cause more urinary tract infections (UTIs) than intermittent

catheterization, according to a systematic review of bladder management and infection risk from UTHealth Houston.

The review—written by Matthew Davis, MD, associate professor in the Department of Physical Medicine and Rehabilitation with McGovern Medical School at UTHealth Houston—was published today in *Topics in Spinal Cord Injury Rehabilitation*.

"A lot of people who are severely disabled aren't able to catheterize themselves. It's a pretty significant burden on caregivers, and a barrier to the independence of patients, to put somebody in that box," said Davis, lead author of the paper. "For these patients, the evidence of benefit is weak, but the propensity for harm is high."

The belief that intermittent catheterization results in fewer infections than indwelling catheters is commonly expressed in spinal cord injury literature, with many practice guidelines strongly recommending intermittent over indwelling catheterization due to concerns about infections and other implications.

However, studies on this topic are of low quality, Davis said. Guidelines from the Consortium for Spinal Cord Medicine suggest the data regarding infection risk are mixed, and they do not recommend one bladder management method over the other.

Davis sought to compare risk of bias in studies reporting higher rates of UTI with indwelling catheters to studies that found equal rates of UTI between indwelling and intermittent catheterization, and to determine the implications of that bias in clinical decision-making. He conducted a systematic search of PubMed, CINAHL, Embase, and SCOPUS databases from Jan. 1, 1980, to Sept. 15, 2020, using a risk of bias assessment tool to evaluate each study.

Of the 24 studies identified, only three reported significantly higher UTI risk with indwelling catheters, and all three demonstrated a critical risk of bias.

More than half the studies reported differences in UTI risk of less than 20% between the two methods. Furthermore, studies with larger, nonsignificant differences favoring intermittent catheterization were more susceptible to bias from confounding—an unmeasured third variable that influenced, or confounded, the relationship between catheterization and UTI risk.

In light of these findings, Davis said a patient's perceived risk of infection should not influence their choice of catheter type.

"I would like to see fewer places pushing patients into this form of bladder management," Davis said. "It's great for a lot of patients with spinal cord injuries, but there's another huge category of patients who it creates more problems for. Hopefully, this article encourages providers to stop browbeating people into a form of bladder management that doesn't fit their lifestyle."

More information: Matthew Davis et al, Is It Really the Foley? A Systematic Review of Bladder Management and Infection Risk, *Topics in Spinal Cord Injury Rehabilitation* (2023). DOI: 10.46292/sci22-00009

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