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The impact of early postoperative indwelling urinary catheter removal: A systematic review

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Problem statement: indwelling urinary catheters (IDUCs) are associated with complications and early removal is essential. Currently, it is unknown what the effect of a specific removal time is. The purpose of this study is to present an overview of the evidence to determine the effects of three postoperative IDUC removal times (after a number of hours, at a specific time and flexible removal time) on re-catheterization, urinary tract infections (UTIs), ambulation time, time of first voiding and length of hospital stay (LOHS). Methodology & Theoretical Orientation: PubMed, Medline, Embase, Emcare, Cochrane Central Register of Controlled Trials were searched till June 6th 2021. The quality was assessed with the Newcastle-Ottawa Scale and the Cochrane Effective Practice and Organization of Care. A narrative descriptive analysis was performed. PRISMA guidelines were followed. Results: 20 studies were included from which 18 compared removal after a number of hours, one reported on a specific removal time, and one on both topics. The results were contradicting regarding the hypothesis that later removal increases the incidence of UTIs. 5 studies found a significant relation between re-catheterization and earlier removal (16.4 – 36%), compared to later removal (0 – 6.6%). 6 studies found that patients walked 1.6 – 3.6 times earlier (in hours) in earlier IDUC removal. LOHS (0.5 - 2.4 days earlier) and early IDUC removal were significant in 7 studies. No differences were found in specific removal time. No study addressed flexible removal. Conclusion & Significance: there is inconclusive evidence that earlier removal results in less UTIs, despite the incidence of UTIs increasing if IDUC is removed ≥ 24 hours. Immediate- or after 1-2 day(s) removal does not lead to higher re-catheterization rates while immediate removal results in earlier ambulation and shorter LOHS. Nurses should focus on early IDUC removal while being aware of the risk of urinary retention.

Biography

Jeanne-Marie Nollen is a registered nurse working in the department of neurology and neurosurgery in an Academic hospital in Leiden, the Netherlands. After she obtained her masters degree in Health Sciences, she continued exploring the field of science by becoming a PhD-student focused on valued based healthcare in the neurosurgical department. She has focused her work on the reduction of indwelling urinary catheters during and after surgery. This systematic review is developed as a guideline for nurses when dealing with indwelling urinary catheters, since practice can vary even within wards.

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