



## URINARY TRACT INFECTION (UTI) AND HYDROPHILIC CATHETERS

Bladder management with intermittent catheterization is associated with complications. The most severe and common one is UTI. Single-use, hydrophilic-coated catheters lower the risk of UTIs and have been reported as both convenient and the preferred choice for people who rely on intermittent catheterization as their bladder management.<sup>1</sup> As a result, hydrophilic-coated catheters are identified as a cost-effective contributor in UTI prevention.<sup>2</sup>

Single-use hydrophilic-coated catheters were developed in the early 1980s to address the long-term complications of intermittent catheterization seen from reusing non-coated plastic catheters. As reported by Wyndaele and Maes<sup>3</sup> and Perrouin-Verbé et al.<sup>4</sup>, the majority of complications related to intermittent catheterization occurs after long-term use and as a result of repeated damage to the urethral wall. These long-term complications can, however, be prevented by use of hydrophilic-coated catheters.<sup>5-7</sup>

There is today extensive high-level evidence supporting hydrophilic catheters' ability to prevent urethral trauma<sup>1,8-11</sup> and to reduce the risk of UTIs.<sup>1,10,12-17</sup> For example, a risk reduction of hematuria between 43-48% has been reported.<sup>10,18</sup> The UTI risk reduction associated with hydrophilic catheter varies between reports, and figures between 16-64%<sup>10,12-15</sup> have been presented in recent meta-analyses. Also, observational data suggest a UTI incidence of 40%-60% for users of single-use hydrophilic catheters as compared to 70%-80% for users of non-hydrophilic catheters.<sup>6,19</sup> This translates to an expected UTI risk reduction between 21-37% after real life long-term use.<sup>6</sup>

It should be noted that studies investigating UTI incidence are compromised by the facts that different UTI definitions are used, different populations are studied (e.g. neurogenic and non-neurogenic bladder), and different research perspectives are utilized (e.g. observational surveys, randomized controlled trials). To facilitate comparisons, standardized definitions of UTI are proposed.<sup>20,21</sup> Also, there is still a need for more

research evidence about impact of different types of hydrophilic-coated catheters and less common complications associated with intermittent catheterization (e.g. epididymitis and urethral strictures).<sup>1</sup>

It is recognized that the UTI risk is not the only important criterion to consider when choosing a catheter for intermittent catheterization.<sup>2,22</sup> Patient experienced comfort, satisfaction, and ease of use, are all essential to ensure long-term adherence to intermittent catheterization.<sup>1,2</sup> Poor adherence can be the cause of urinary and renal complications<sup>11,23</sup> and that is why an individualized catheter choice is recommended standard practice.<sup>2,11,12,16,24</sup> Hydrophilic catheters are known to be easy to use and comfortable.<sup>8,25</sup> As a result, many users prefer hydrophilic catheters when they have the choice.<sup>1,8,26,27</sup> Catheters that fit the needs and preferences of users also seem to improve the quality of life for people who rely on intermittent catheterization.<sup>28</sup>

The total evidence in favor of hydrophilic catheters, as compared to non-hydrophilic, is the basis of conclusions on cost-effectiveness. So far, cost effectiveness for hydrophilic-coated catheters has been established in five different healthcare settings, proposing fewer UTIs and better quality of life during a life-time use with the catheter.<sup>14,29-32</sup> This makes hydrophilic coated catheters a cost-effective contributor in catheter-related UTI prevention.<sup>2</sup>

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