

Evidence Table: Clean Intermittent Catheterisation Nursing Clinical Guideline

Reference	Evidence Level (I-VII)	Key findings, outcomes or recommendations
<p>Chan, J.Cooney, T. & Schober, J.(2009). Adequacy of sanitisation and storage of catheters for intermittent use after washing and microwave sterilisation. <i>Journal of Urology</i>, 182(4), 2085-2089.</p>	<p>Control trial III</p>	<p>-Polyvinylchloride catheters inoculated with E.Coli were either washed with antibacterial wash or washed and then microwaved and stored in paper towel, plastic sealable bags or containers and tested for E coli at 1, 3 and 7 days to compare cleaning methods.</p> <p>-Overall 44% of catheters washed with antibacterial soap failed to clear E coli compared with 26% cleaned with soap and microwave treatment</p>
<p>Donlau, M., Imms, C., Mattsson, G. et al. (2010). Children and youth with myelomeningocele's independence in managing clean intermittent catheterisation in familiar settings. <i>Acta Paediatrica</i>, 100, 429-438.</p>	<p>Mixed methods study VI</p>	<p>-Study assessing toileting independence of 50 participants with myelomeningocele, aged 5-18 yrs) who perform regular CIC</p> <p>-More than half who reported they were independent with CICs were observed to be dependent suggesting self report of independence is not an accurate assessment of ability</p> <p>-Cognitive rather than physical ability predicts independence with CICs – particularly time processing ability</p> <p>-80% of participants reported they did not want to be independent with CICs</p>
<p>Edwards, M., Borzyskowski, M., Cox, A. & Badcock, J. (2004). Neuropathic bladder and intermittent</p>	<p>Qualitative Study VI</p>	<p>-28 children and young people (age range 5 to 20 years) with neuropathic bladder participated in semi-structured interviews to explore experience of catheterisation</p>

<p>catheterization: social and psychological impact on children and adolescents. <i>Developmental Medicine & Child Neurology</i>,46: 168-177.</p>		<ul style="list-style-type: none"> -Challenges highlighted included practical aspects of learning catheterisation -anxieties expressed were leakage, peers finding out about catheterisation, pain and “doing it wrong” -There was a clear preference for education on catheterisation to be done at home rather than in the hospital -Some children found the use of mirrors while catheterising very confronting. Diagrams and anatomical models were useful. -many had only a basic understanding of the reasons for catheterisation
<p>Hakansson, M. (2014). Reuse versus single-use catheters for intermittent catheterisation: what is safe and preferred? Review of current status. <i>Spinal Cord</i>, 52: 511-516.</p>	<p>Narrative review of all research and other publications</p> <p>VII</p>	<ul style="list-style-type: none"> -review of literature summarising evidence for single use or reuse of catheters. No consensus on whether catheters should be reused, or how many times or cleaning technique. Concerns that poor cleaning technique increases the risk of infection -data supports single use hydrophilic catheters to reduce urethral trauma and UTI -Literature supports patient choice
<p>John Hunter Children’s Hospital, . (2013). <i>Teaching a parent/child urinary intermittent catheterisation for home and the community: Clinical Guideline.</i></p>	<p>Clinical Guideline</p> <p>VII</p>	<ul style="list-style-type: none"> -Outline of indications, process and potential problems of intermittent catheterisation -Includes step by step guide for female and male catheterisation -Includes consideration of factors for teaching self-catheterisation to children

<p>Kiddoo, D., Sawatzky, B., Bascu, C. et al. (2014). Randomized cross-over trial of single use hydrophilic coated vs multiple use polyvinylchloride catheters to determine incidence of urinary infection in users of intermittent catheterisation. <i>The Journal of Urology</i> [in press].</p>	<p>Randomised cross-over trial II</p>	<p>-randomised cross over trial in children with neurogenic bladders – 4 centres, 2 treatment periods of 24 weeks with single use hydrophilic catheters vs multiple use (washed with soap and air dried) polyvinyl chloride catheters</p> <p>-No statistical difference in UTI symptoms or need for antibiotics</p> <p>-no statistical difference in comfort or convenience but statistical difference in ease of handling with 40% children disliking hydrophilic product</p> <p>-parents liked the single use product for the portability</p>
<p>Lindhall, B., Abrahamsson, K., Jodal, U., Olssen, I., & Sillen, U. (2007). Complications of Clean Intermittent Catheterisation in Young Females with Myelomeningocele : 10 to 19 years of follow up. <i>Journal of Urology</i>,178:3,</p>	<p>Retrospective case series/audit VII</p>	<p>-examined the medical records of 31 girls with myelomeningocele who performed CICs for between 10-19 years of follow up</p> <p>-All cases used polyvinylchloride catheters</p> <p>-13 patients had complications at some point haematuria, urethral polyps and difficulty inserting catheters</p> <p>-in the majority of cases the difficulty inserting the catheter was resolved with use of lubricant gel</p> <p>-no complications recorded after puberty</p> <p>-larger catheter and self rather than carer catheterisation reduced the risk of complications</p> <p>-median age for being independent with catheterisation was 9 years (training commenced at 4 years according to hospital protocol)</p>

<p>Lindehall, B., Moller, A., Hjalmas, K., Jodal, U. & Abrahamsson, K. (2008). Psychosocial factors in teenagers and young adults with myelomeningocele and clean intermittent catheterisation. <i>Scandinavian Journal of Urology and Nephrology</i>, 42, 539-544.</p>	<p>Qualitative study-interviews</p> <p>VI</p>	<p>-interview of 22 young people who had performed self-CICs for at least 5 years of their experience and associated psychosocial factors</p> <p>-Participants wanted to inform friends about CIC themselves and not have others do this. They wanted others to be informed and to avoid gossip</p> <p>-Participants had a variety of reactions from friends and teachers</p> <p>-Participants found it most difficult when medical staff were not knowledgeable about CICs</p> <p>-Participants did not want others performing CIC for them</p> <p>-Participants did not find the practical aspect of CIC a problem</p>
<p>Neel, K. (2010). Feasibility and outcome of clean intermittent catheterisation for children with sensory urethra. <i>CUAJ</i>, 4(6): 403-405.</p>	<p>Retrospective audit</p> <p>VII</p>	<p>-Reviewed 52 patients who were started on CIC for non neuropathic bladder sphincter dysfunction (so with sensation) who had at least two years of follow up.</p> <p>-65% were compliant with regime for at least two years. The only significant factor in success of compliance was aged 4 years or less at time of commencement of CICs</p>
<p>Pohl, H., Bauer, S., Borer, J et al. (2002). The outcome of voiding dysfunction managed with clean intermittent catheterisation in neurologically and anatomically normal children. <i>BJU</i></p>	<p>Retrospective audit</p> <p>VII</p>	<p>-Case records of 23 children and young people who required CIC for dysfunctional voiding in the context of no neurological or anatomical abnormalities. All these young people had normal genital sensation</p> <p>-CICs were well tolerated, requiring between 2 days and 2 weeks to master. 16 patients remained on CICs for two years with no febrile UTIs recorded. 3 adolescent girls discontinued CICs and 4 other adolescents refused to learn</p>

<p><i>International</i>, 89: 923-927.</p>		
<p>Prieta, J., Murphy, C., Moore, K. & Fader, M. (2014). Intermittent catheterisation for long-term bladder management (Review). <i>The Cochrane Database of Systematic Reviews</i>, 9.</p>	<p>Systematic Review I</p>	<p>-A review of 31 randomised control trials or randomised cross-over trials comparing catheter designs, catheterisation techniques or strategies used for clean intermittent catheterisation</p> <p>-Conclusions: no evidence that incidence of UTI affected by: clean or aseptic technique, type of catheter, single or multiple use catheter, self-catheterisation or carer catheterisation</p> <p>-No studies looked at cost-effectiveness</p>
<p>Seth, J., Haslam, C. & Panicker, J. (2014). Ensuring patient adherence to clean intermittent self-catheterization. <i>Patient Preference and Adherence</i>, 8, 191-198.</p>	<p>Literature review VII</p>	<p>-CIC gold standard for management of urinary retention.</p> <p>--Most individuals can self catheterise, and most find it quick and easy, yet there are poor adherence rates in long term</p> <p>-The majority of individuals have at least one practical barrier to CIC – including access to a public toilet, difficult positioning and difficulty with dexterity</p> <p>-There are psychological factors to poor adherence including embarrassment and lack of confidence and issues of stigma</p> <p>-Catheter comfort and ease is important</p> <p>-Supportive education and follow up is important, including information on troubleshooting</p>