

Hydrophilic-Coated Catheters for Intermittent Catheterisation Reduce Urethral Micro Trauma: A Prospective, Randomised, Participant-Blinded, Crossover Study of Three Different Types of Catheters

By: J. Stensballe [a](#) , D. Looms [b](#) , P.N. Nielsen [b](#) and M. Tvede [c](#)

European Urology, [Volume 54 Issue 2](#), August 2008, Pages 978-983

Published online: 01 August 2008

Keywords: [Intermittent catheterisation](#), [Hydrophilic-coated catheter](#), [Friction force](#), [Haematuria](#), [Urethral trauma](#)

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Abstract

Objective

To compare two hydrophilic-coated (SpeediCath® and LoFric®) and one uncoated gel-lubricated catheter (InCare® Advance Plus) concerning withdrawal friction force and urethral micro trauma.

Methods

49 healthy male volunteers participated in this prospective, randomised, blinded, crossover study of three different bladder catheters. The withdrawal friction force was measured, and urine analysis of blood, nitrite and leucocytes, microbiological analysis of urine cultures and subjective evaluation of the catheters were performed.

Results

40 participants completed the study and were included in the analysis. SpeediCath® exerted a significantly lower mean withdrawal friction force and work than the gel-lubricated uncoated catheter, whereas LoFric® exerted a significantly higher mean friction force than both of the other catheters. The hydrophilic catheters caused less microscopic haematuria and less pain than the gel-lubricated uncoated catheter. Furthermore, 93% of the participants preferred the hydrophilic catheters.

Conclusion

Hydrophilic-coated catheters perform better than uncoated catheters with regard to haematuria and preference. SpeediCath®, but not LoFric®, exerts

less withdrawal friction force than InCare®Advance Plus.