NICE National Institute for Health and Care Excellence

NICE guidance

Retrograde urethral sphincterometry

HealthTech guidance
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www.nice.org.uk/guidance/htg109

Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account, and specifically any special arrangements relating to the introduction of new interventional procedures. The guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties. Providers should ensure that governance structures are in place to review, authorise and monitor the introduction of new devices and procedures.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Contents

This guidance replaces IPG167.

1 Recommendations

1.1 Current evidence suggests that there are no major safety concerns associated with retrograde urethral sphincterometry. However, there is a lack of evidence on the diagnostic utility of this procedure (that is, the extent to which knowledge of its results improves patients' outcomes) and it should be performed only in the context of good-quality research.

2 The procedure

2.1 Indications

2.1.1 Stress urinary incontinence is the involuntary leakage of urine during exercise or certain movements such as coughing, sneezing and laughing. It is usually caused by weak or damaged muscles and connective tissues in the pelvic floor and urethral sphincter.

2.1.2 Diagnosis of stress urinary incontinence is usually based on symptoms, examination and exclusion of underlying causes or comorbidity.

2.1.3 Retrograde urethral sphincterometry measures the pressure needed to open, and just keep open, a closed urethra by the retrograde infusion of fluid. This has been proposed as an assessment of urethral function in women with symptoms of stress urinary incontinence.

2.1.4 Established tests of urethral function include urethral pressure profilometry (UPP) and valsalva leak point pressure. Radiographic assessment of urethral function can be done using videocystourethrography.

2.2 Outline of the procedure

2.2.1 Retrograde urethral sphincterometry (RUS) involves placing a cone-shaped device a short distance (about 5 mm) into the external urethral meatus. The device then infuses fluid at a controlled rate into the urethra. The pressure required to open the urethral sphincter is displayed on the device.

2.3 Efficacy

2.3.1 Preliminary data on the use of this procedure in women with stress urinary incontinence found that there was a weak relationship between the results of this

test and other standard tests. In a trial of 258 symptomatic women, the mean retrograde urethral pressure as measured by RUS was 71 cm H_2O, and the mean values were reported as decreasing with increasing symptom severity. In another study, the mean retrograde urethral pressure was found to be 112.6 cm H_2O in 61 asymptomatic women.

2.3.2 The impact of this procedure on patient outcomes is currently unclear. For more details, see the overview.

2.3.3 The Specialist Advisors noted that efficacy outcomes are yet to be established.

2.4 Safety

2.4.1 In a study of 258 women, pain (2%) and dysuria (2%) were the two most commonly reported complaints. A total of 12 adverse events were noted in a study of 61 asymptomatic women who had RUS; these included lower back pain (2%), discomfort (2%), urethral pain (3%), dysuria (3%), urinary urgency (3%), urinary frequency (3%) and transient incontinence (3%). For more details, see the overview.

2.4.2 The Specialist Advisors noted urinary tract infection and mild discomfort as potential adverse events.

3 Further information

Sources of evidence

The evidence considered by the committee is in the overview.

Information for patients

NICE has produced information for patients and carers on this procedure. It explains the nature of the procedure and the guidance issued by NICE, and has been written with patient consent in mind.

Update information

Minor changes since publication

January 2026: Interventional procedures guidance 167 has been migrated to HealthTech guidance 109. The recommendations and accompanying content remain unchanged.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.