

# A simple instrument for ascending urethrography in males

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## Introduction

THE URETHRA IN the male can be examined either by a micturating cysto-urethrogram or an ascending urethrogram.

A micturating cysto-urethrogram can only be done when the patient is able to micturate adequately during the examination. This method often fails in cases of impassable stricture of the urethra.

An ascending urethrogram is a retrograde examination and can be done by two known methods:—

- (1) By the use of a Foley Catheter  
The disadvantages of this method are:
  - (a) Trauma to urethra.
  - (b) Inability to examine the anterior urethra.
  - (c) Slipping of the catheter out of the urethra during examination, especially in cases of impassable urethral stricture.

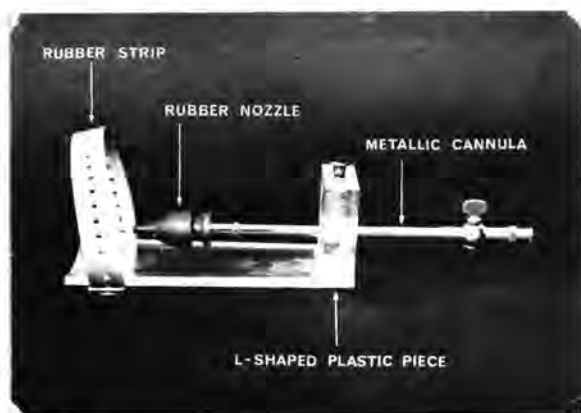
- and (2) By the use of a Knutsson cannula and clamp  
The disadvantages of this method are:—

- (a) This instrument is not easy to use except in skilled hands.
- (b) It can be traumatic to the urethra when not properly applied to the penis.
- (c) The instrument itself often obscures fully or partially the visualisation of the anterior urethra during the examination.

Because of the disadvantages encountered in the above methods, we have devised a simple instrument which has been used for the last six months in the X-ray Department, University Hospital, Kuala Lumpur.

## Description of the instrument

It comprises a plastic piece, a hollow metal cannula, a rubber nozzle and a rubber/plastic strap. The plastic piece is shaped like a letter "L". The horizontal part is longer than the vertical part. The horizontal part is that part of the instrument against which the penis is strapped firmly by the plastic/rubber strap. The vertical part has a hole in its centre through which passes the hollow metal



cannula. At one end of the metal cannula is fixed the rubber nozzle which is applied to the urethral meatus and to the other end is attached a syringe with contrast media.

### Technique

Strict asepsis is essential. The patient is asked to empty his bladder before the start of examination. A plain film of the pelvis is done. This may show the presence of:—

- (a) Prostatic calculi.
- (b) Calcification in the bladder wall as seen in TB cystitis and schistosomiasis.
- (c) Urethral calculus.
- (d) Sometimes even radio-opaque foreign bodies.

The patient is examined in the supine position on the X-ray table. The cannula is properly applied to the penis meatus and the instrument is strapped firmly on to the penis by a rubber or plastic strap. The penis is discreetly stretched and kept steady. Injection of about 20 cc of Conray 280 is done under fluoroscopic control. Spot films are then taken with the patient in the antero-posterior, right oblique and left oblique positions. Sometimes spot films are taken with the patient in the true lateral position, either right or left. During the injection, the patient is told to attempt to micturate and hold his breath. This manoeuvre reduces the tonus

of the anatomical unit formed by external sphincter, prostatic urethra and bladder neck, thus facilitating the inflow of contrast medium. Otherwise the contrast may be arrested at the level of the external sphincter even in the absence of true spasm of the latter. Air bubbles can sometimes be present in the urethra and may prejudice the diagnosis. It is important therefore to exclude air from the instrument. This can be easily done by flushing the cannula of the instrument with saline, thereafter filling it with saline solution before applying it to the penis.

### Complications

(1) Extravasation of contrast into cavernous tissue (urethro-cavernous reflux) and blood vessels (intravasation). Hence water soluble contrast is used to avoid the danger of pulmonary embolisation.

(2) The danger of irradiation to the testes must be evaluated against the advantage of information obtainable. Lindholm and Romanus (1962) state that in the average examination, the dose to the gonads amount to 0.5 r per exposure.

### Conclusion

In our six months of experience with the use of this new instrument in ascending urethrography, we, in the X-ray Department, University Hospital, found the following advantages, viz.

- (1) The entire urethra is visualised.
- (2) It is less likely to traumatise the urethra, and
- (3) It can be used with ease even by a trainee radiologist.

### Acknowledgement

I wish to record my thanks to Mrs. Pearly Thoo for typing the manuscript and Mr. Muthu of Medical Illustrations for the labelled diagram.

### References

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