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Hong Kong Urological Association

Urethroplasty Workshop

Division of Urology – Tuen Mun Hospital

Hong Kong

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Interpretation of urethrogram and its impact on choice of urethroplasty



Radiological study of urethral stricture

Urethrography

- Retrograde
- Voiding
- Combined

Ultrasonography

MRI



Object of the radiological study of urethral stricture

- Site
- Number
- Length
- Spongiofibrosis
- Associated conditions



Retrograde urethrography

appropriate patient position



Retrograde urethrography

appropriate instrument

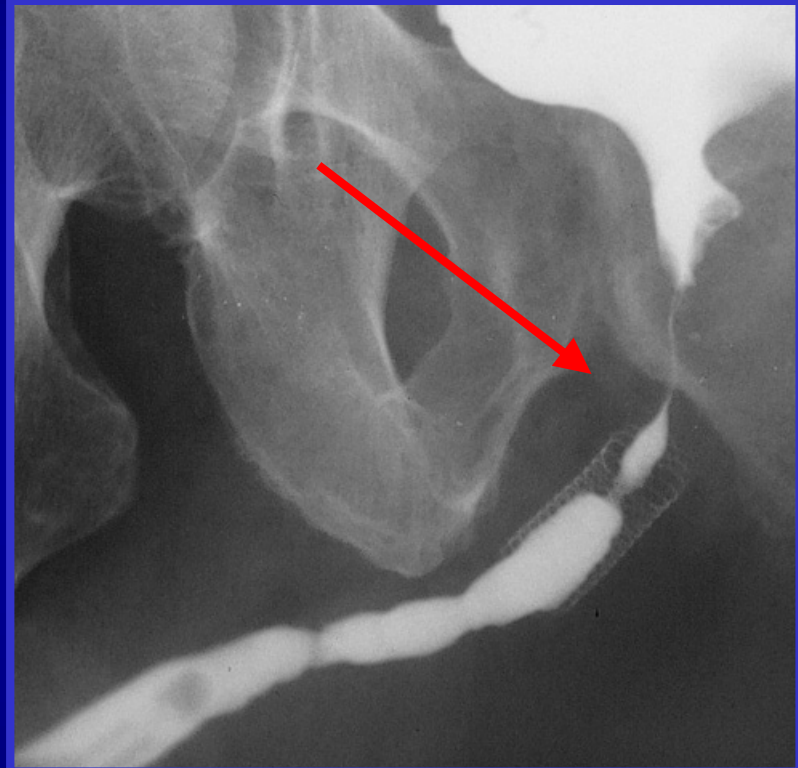


Retrograde urethrography

blind point



Meatus and navicularis tract

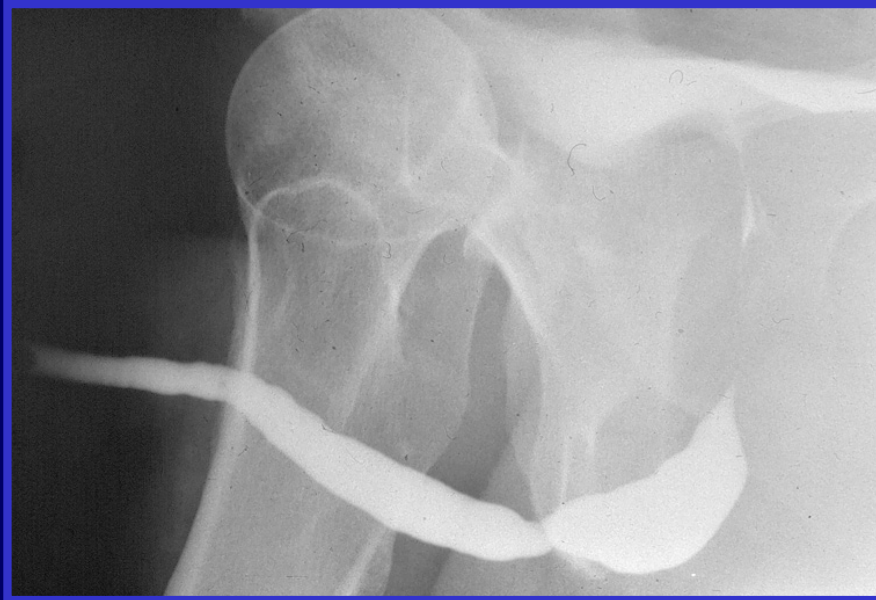


Proximal bulbar tract



Retrograde urethrography

Site



Penile or bulbar ?

Bulbar: distal or proximal ?



Retrograde urethrography

Number



Single or double ?

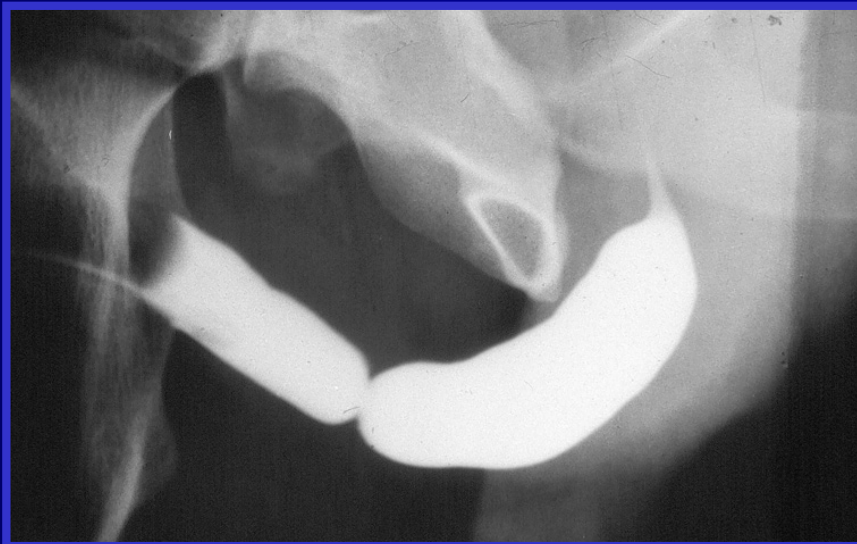


Penile and bulbar ?



Retrograde urethrography

Length



Stricture length



?



Retrograde urethrography

Spongiofibrosis



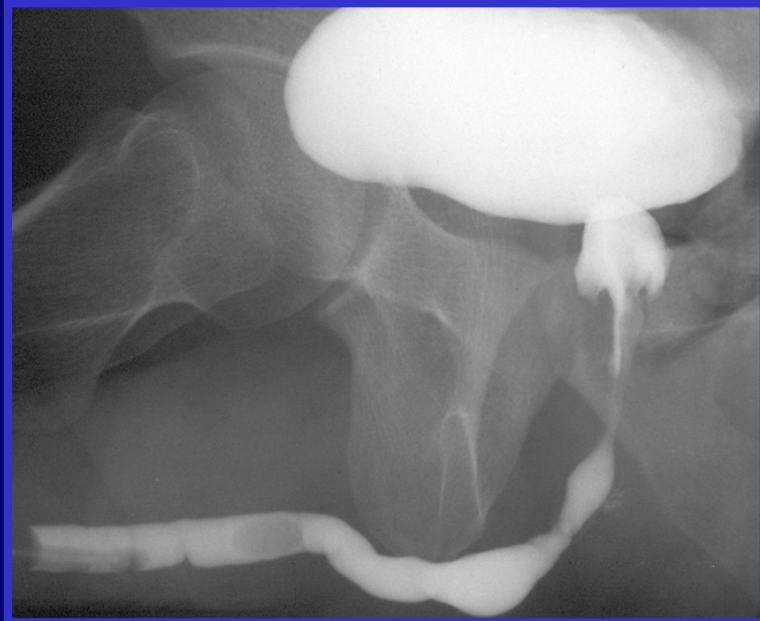
wide urethral plate



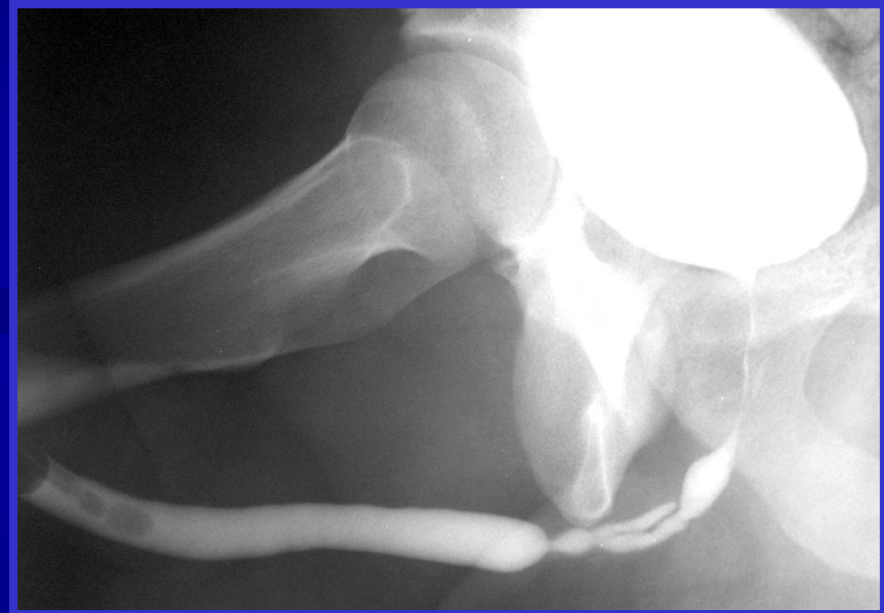
scarred urethral plate



Retrograde urethrography

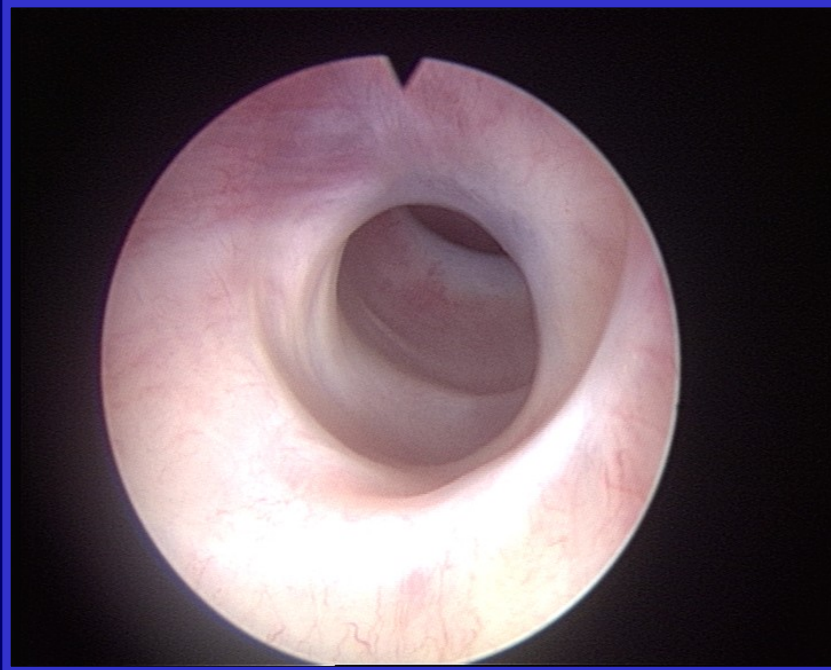


No-obliterative



obliterative





No-obliterative



obliterative

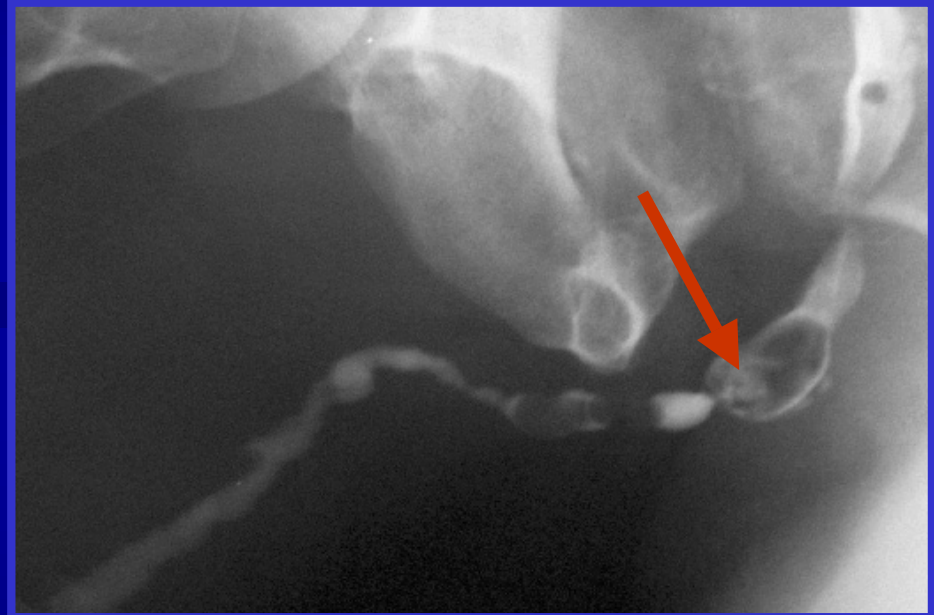


Retrograde urethrography

Associated conditions



diverticulum



stone

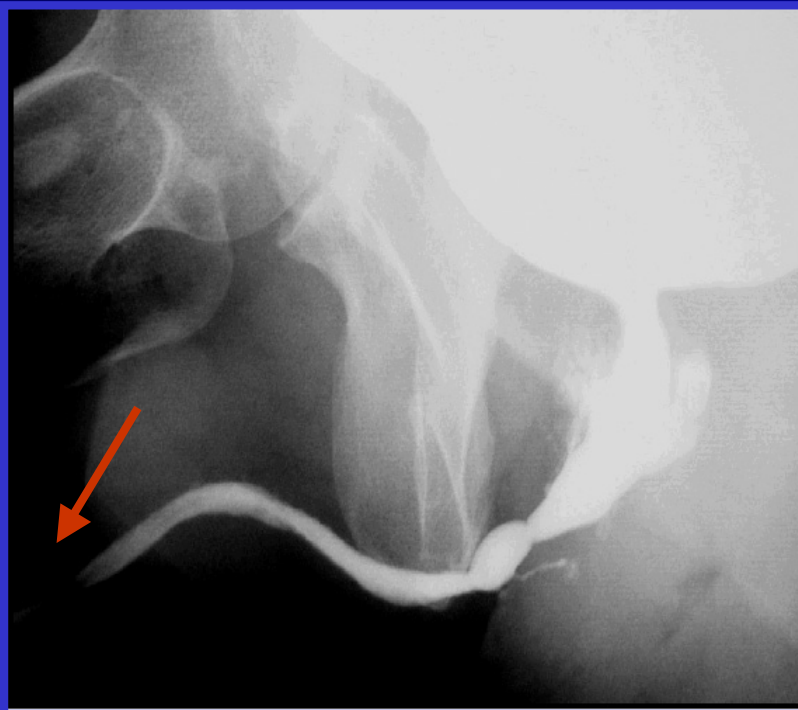
Voiding urethrography

appropriate patient position

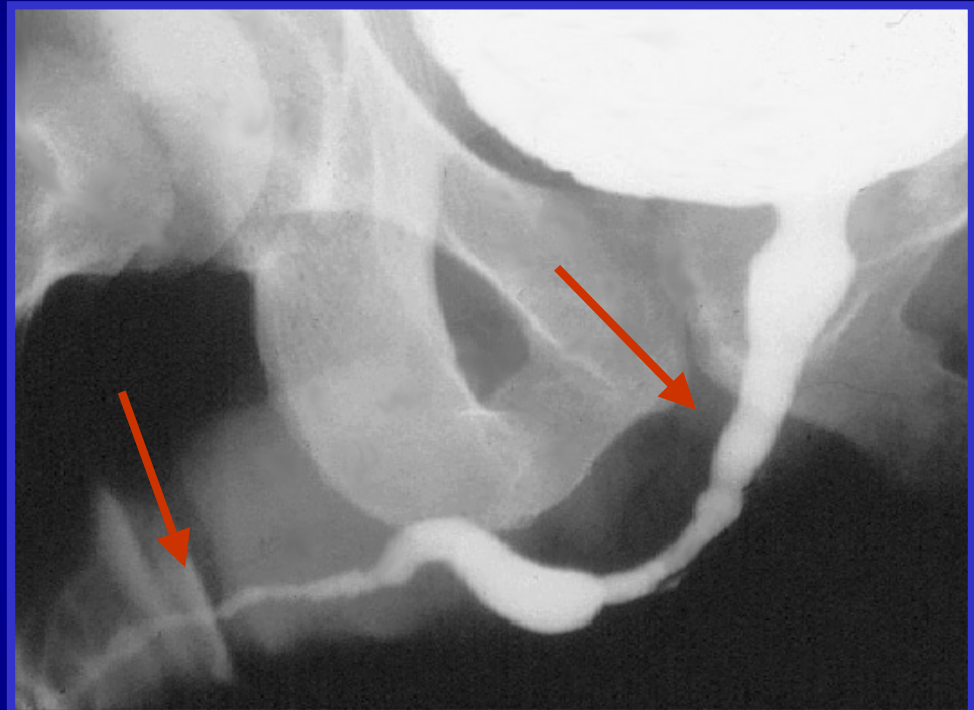


Voiding urethrography

blind point

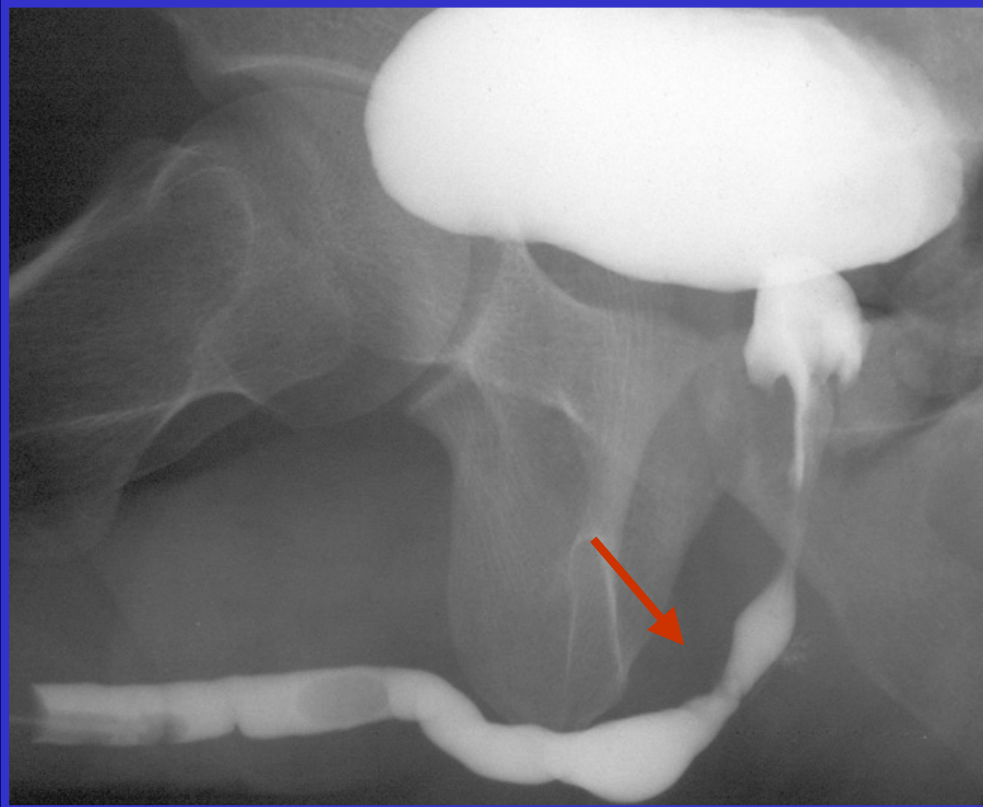


Meatus and navicularis tract

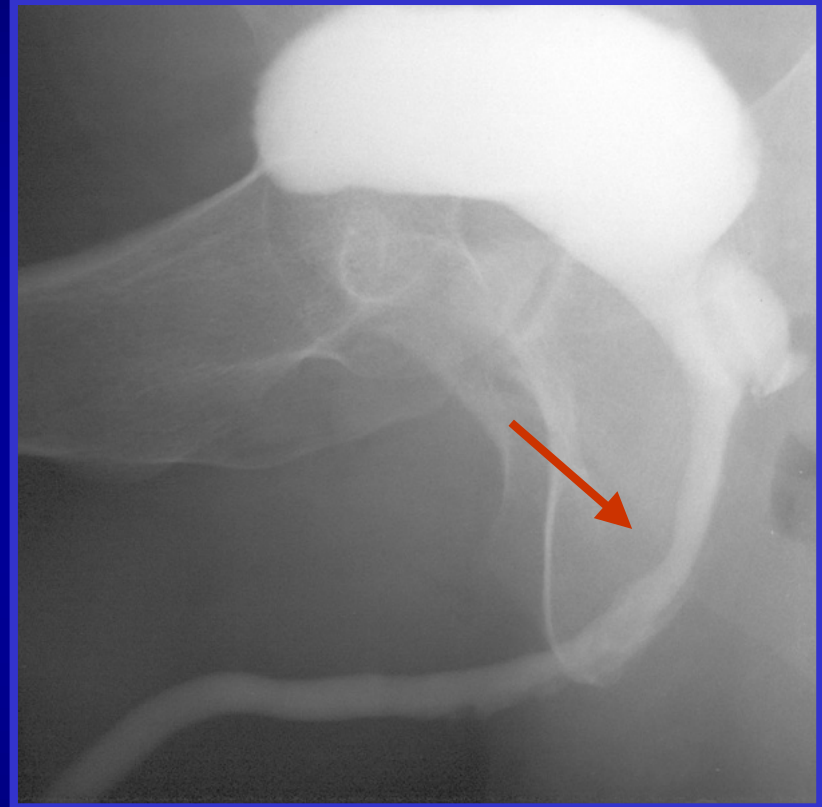


Distal penile tract
Sphincter area





Retrograde



Voiding





Retrograde

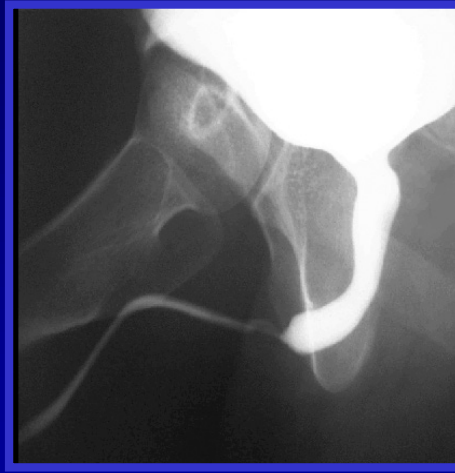


Voiding





Retrograde



Voiding

Delayed treatment



No-delayed treatment



Voiding urethrography :

evaluation of the dilation of the proximal tract



No dilation : favourable prognosis



Dilation : unfavourable prognosis





Retrograde

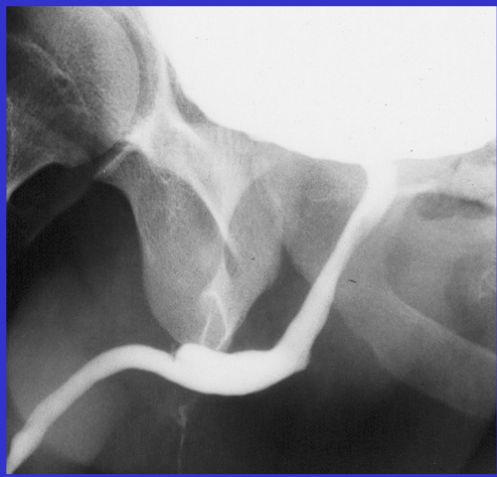


Voiding

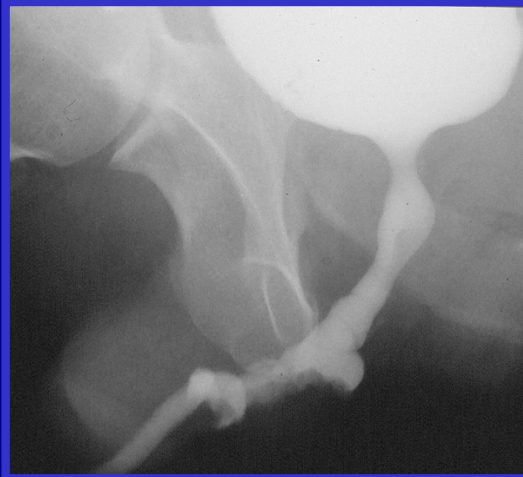


Voiding urethrography in patients who underwent bulbar urethroplasty:

evaluation of the outcome



good



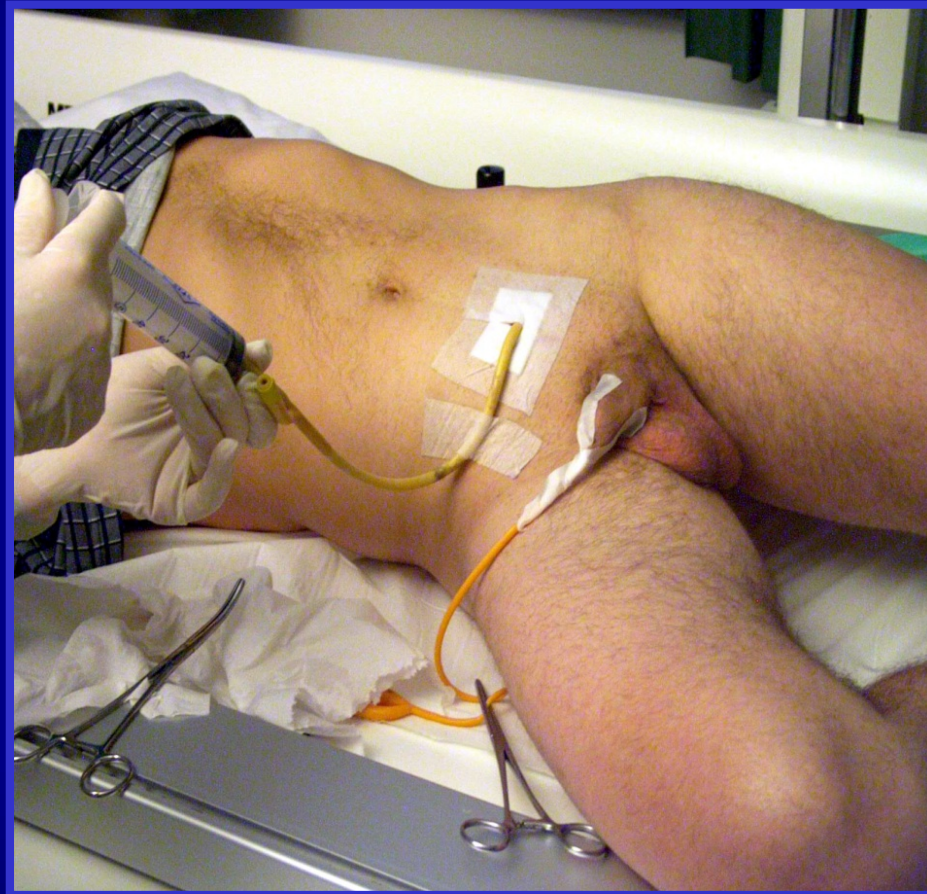
satisfactory



poor



Combined cystourethrography



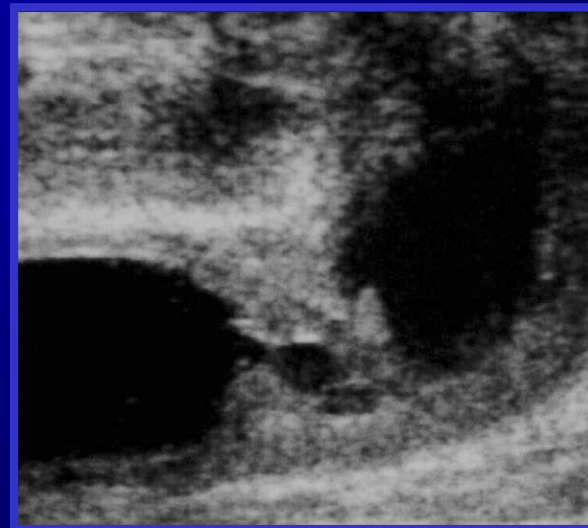
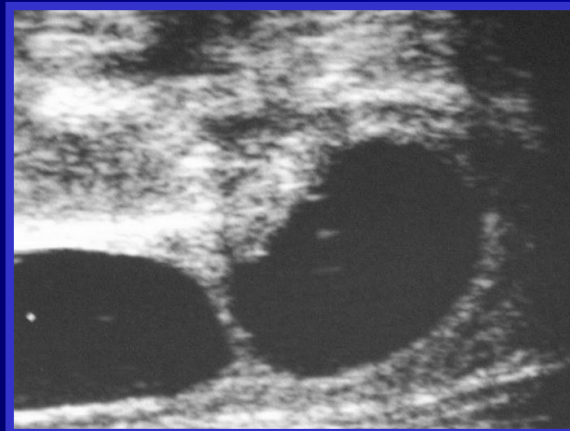
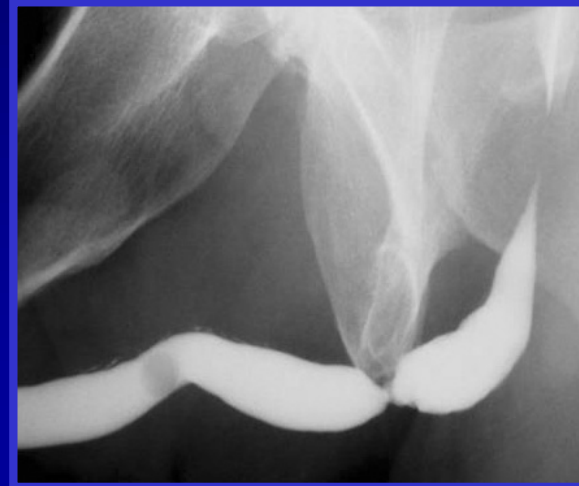
Combined cystourethrography in patient with traumatic posterior urethral stricture



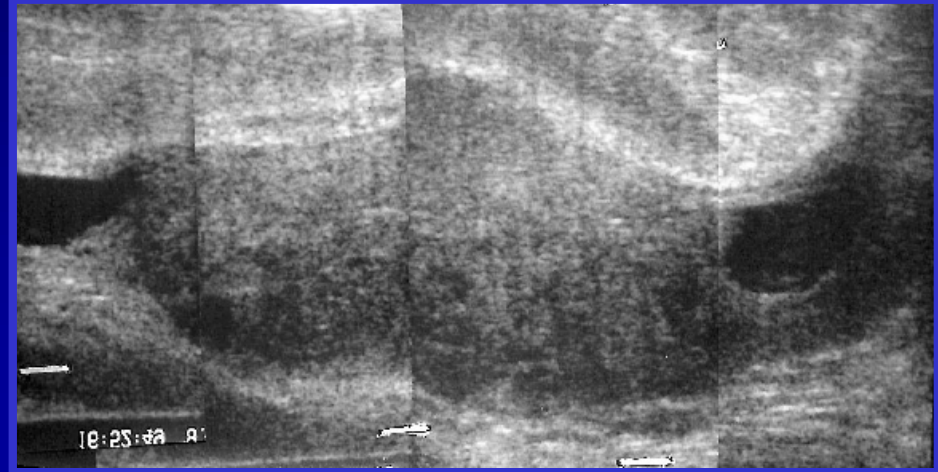
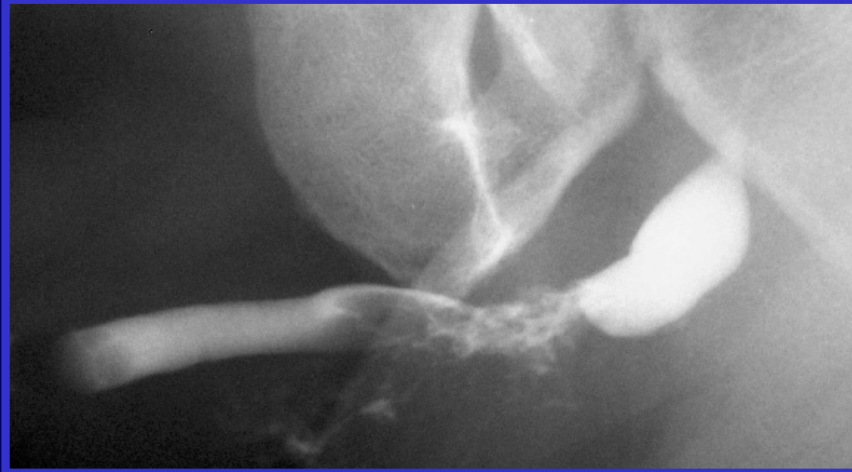
Urethral sonography



Stricture length and spongiofibrosis



MRI



The choice of the procedure for treatment of anterior urethral stricture is based on:

main features of the patient

- age
- obesity
- concomitant diseases
- psychological status



Poor candidate for open surgery



The choice of the procedure for treatment of anterior urethral stricture is based on:

main features of the stricture

- stricture etiology
- urethrography: site - length
- associated conditions



Poor candidate for endoscopic procedure



Anterior urethral stricture

Urethrotomy or urethroplasty ?

Easy and quick procedure or complex and long
procedure ?



Anterior urethral stricture

When ?



Urethrotomy

Urethroplasty



Stricture etiology

Urethrotomy ?

NO

- failed hypospadias repair
- lichen sclerosis
- traumatic stricture

YES

- congenital
- instrumentation
- infection
- unknown



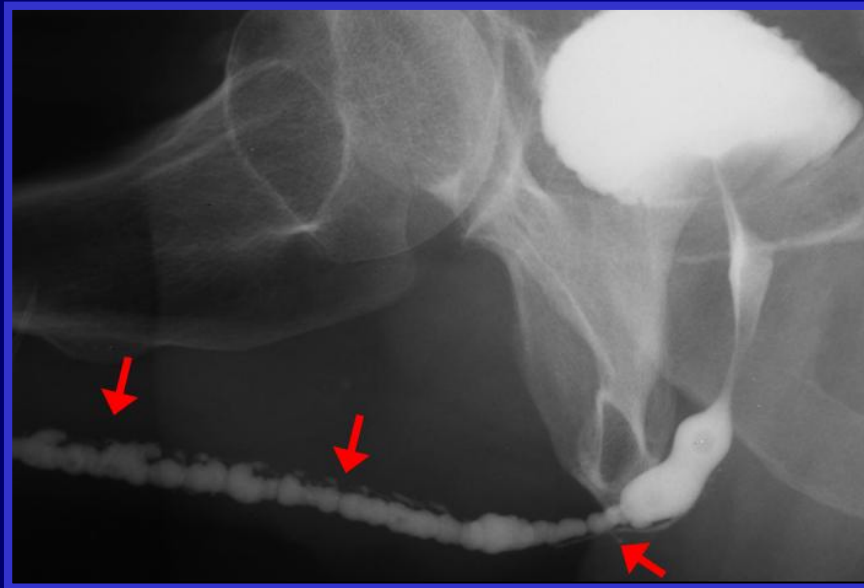
Urethral stricture following failed hypospadias repair



~~Urethrotomy~~



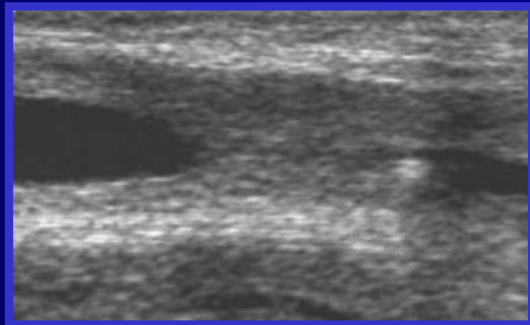
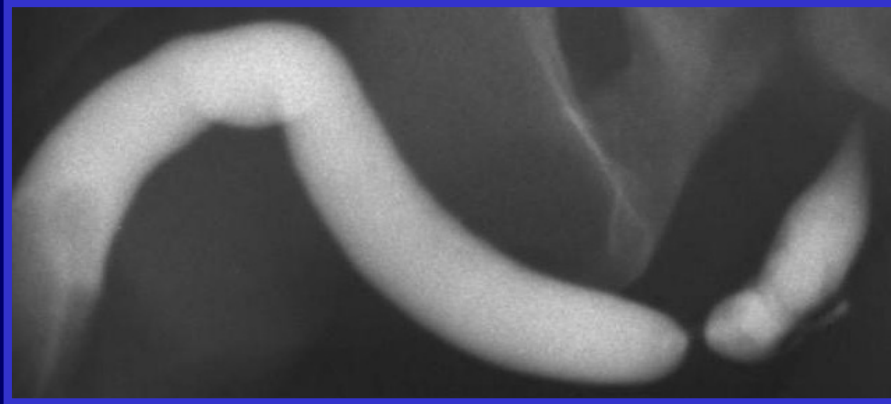
Urethral stricture in patient with lichen sclerosus



~~Urethrotomy~~



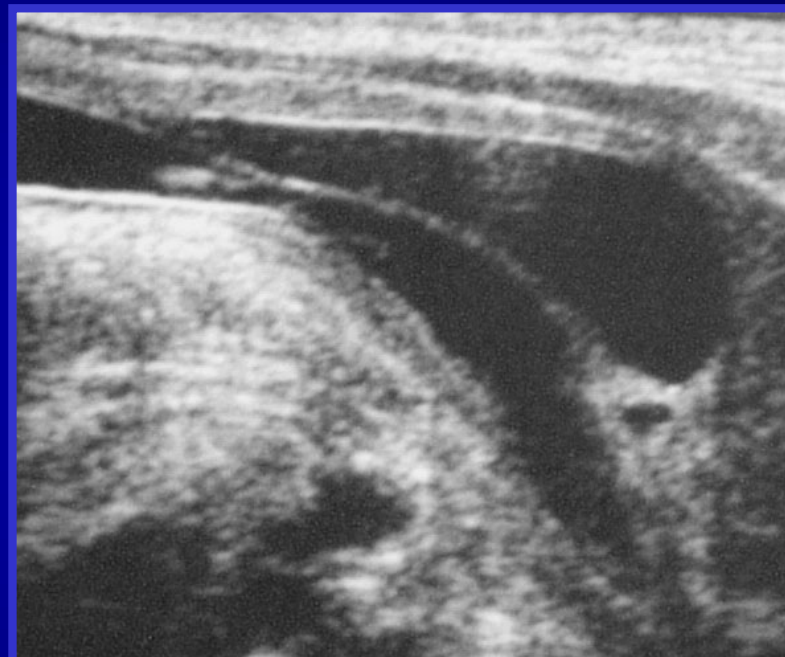
Traumatic urethral stricture following perineal trauma



~~Urethrotomy~~



Congenital mucosal urethral stricture or valve



Urethrotomy



Success rate of urethrotomy based on stricture etiology

➤ congenital	66%
➤ trauma	16%

Pansadoro V. and Emiliozzi P., J Urol 1996, 156: 73-75



Stricture site



penile urethra

~~Urethrotomy~~

Urethroplasty



Success rate of urethrotomy based on stricture site

penile urethra

16 %

bulbar urethra

42 %

Pansadoro V. and Emiliozzi P., J Urol 1996, 156: 73-75



Stricture site



bulbar urethra

Urethrotomy



Urethroplasty



Stricture length

< 1 cm	urethrotomy
~ 1 cm	urethrotomy
from 1 to 2 cm	?
~ 2 cm	?
> 3 cm	urethroplasty



Success rate of urethrotomy based on stricture length

stricture < 1 cm

71%

stricture > 1 cm

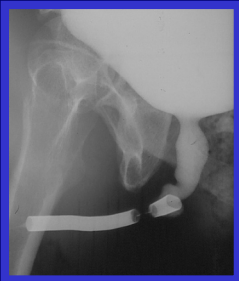
18%

Pansadoro V. and Emiliozzi P., J Urol 1996, 156: 73-75



Associated adverse conditions

stent



tumor

stone



diverticulum

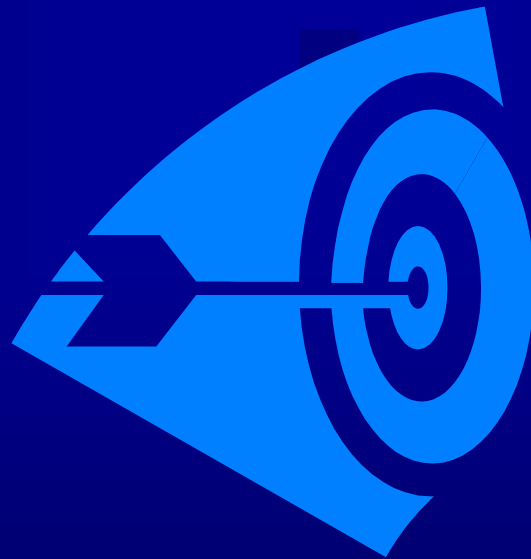


abscess

fistula

~~Urethrotomy~~

How many times can I repeat urethrotomy ?



**It depends on how long the patient has been
disease-free**

< 1 year

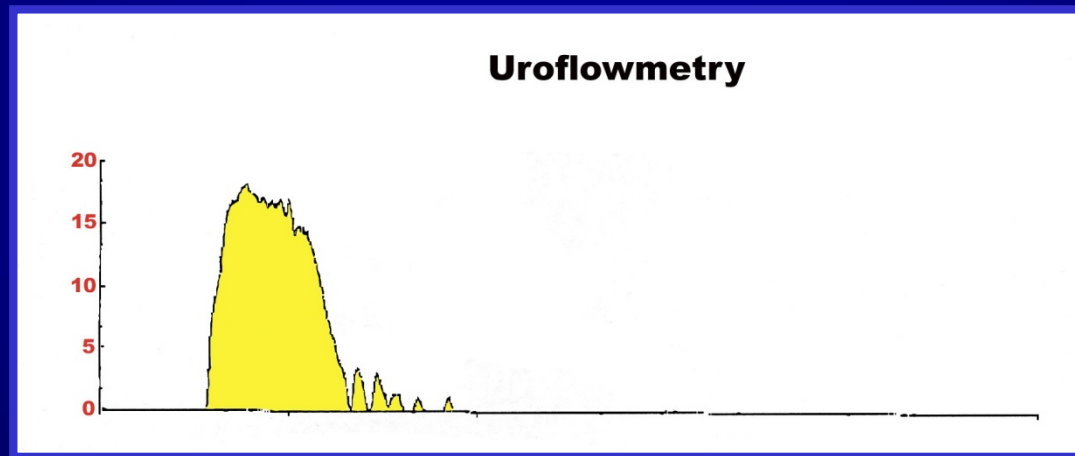


I can't

> 1 year



I can

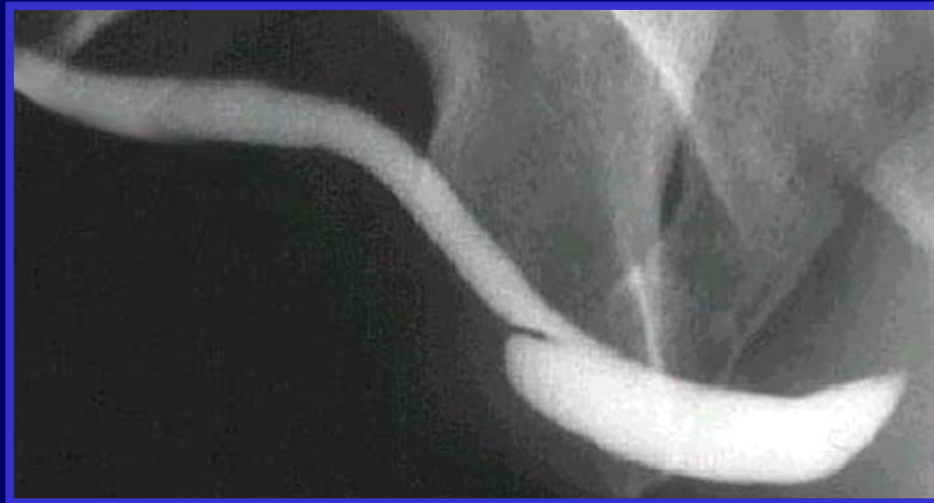


Interpretation of urethrogram and its impact on choice of urethroplasty

Clinical cases



Congenital urethral valve ?



urethroscopy



urethrotomy



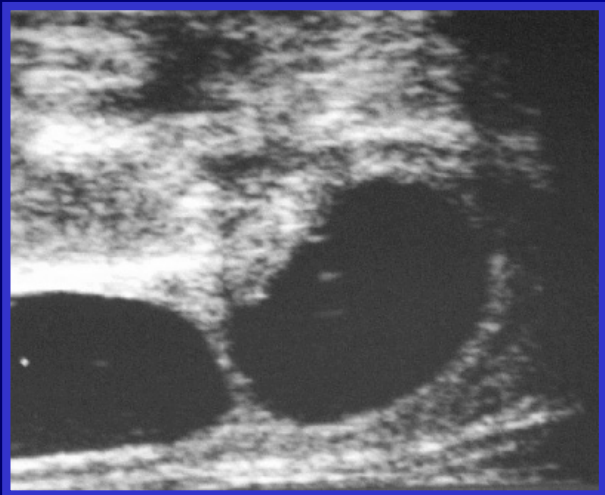
Urethral stricture

Urethrotomy



etiology : no perineal trauma

site : bulbar



length : 1 cm

spongiofibrosis : absent



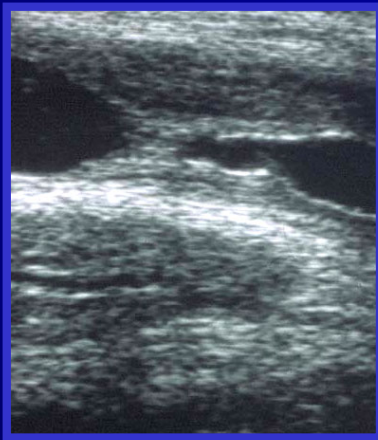
Urethral stricture

End-to end anastomosis



etiology : perineal trauma

site : bulbar



length : 1.5 cm

spongiofibrosis : present



Urethral stricture

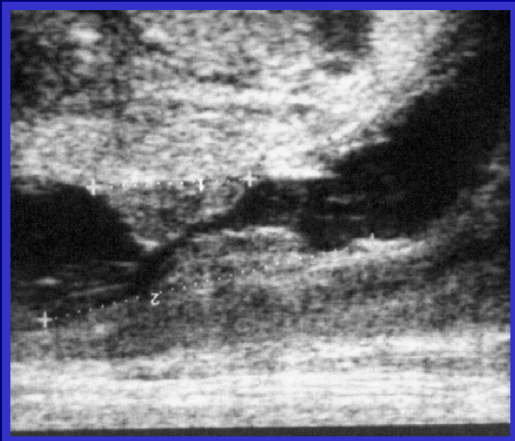
Augmented anastomotic repair



etiology : catheter

site : bulbar

obliterative stricture



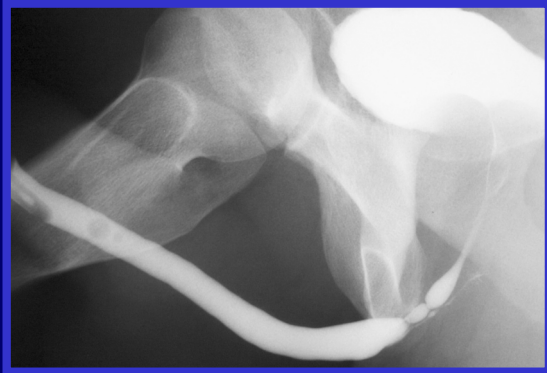
length : 3 cm

spongiositis : remarkable



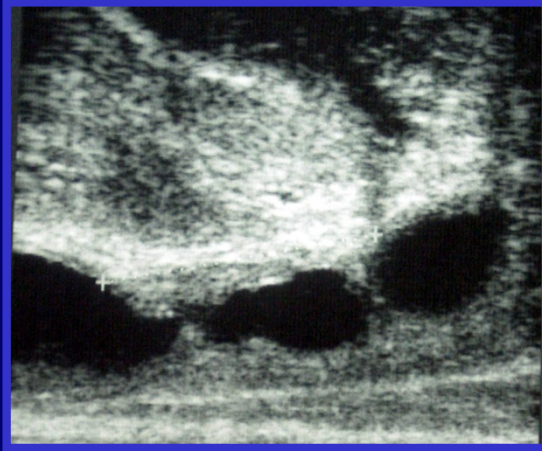
Urethral stricture

Ventral onlay graft procedure



etiology : instrumentation

site : proximal bulbar



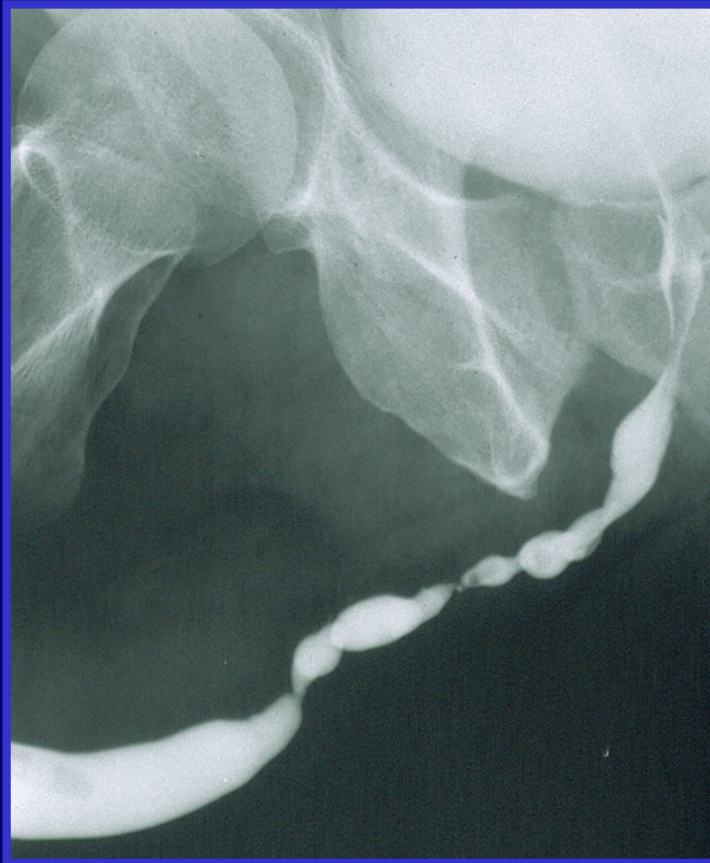
length : > 3 cm

spongiofibrosis : limited



Urethral stricture

Dorsal onlay graft procedure



etiology : instrumentation

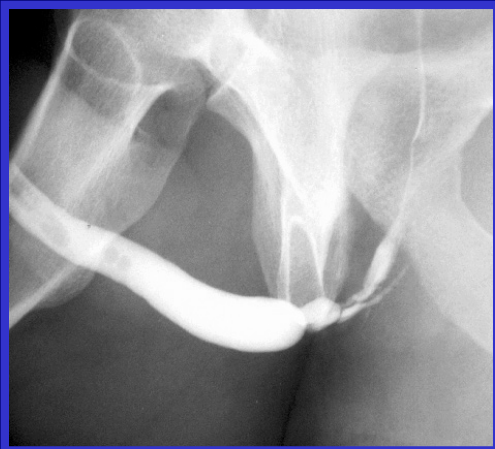
site : distal bulbar

length : > 5 cm



Urethral stricture

Two-stage procedure ?



etiology : instrumentation

site : proximal bulbar



length : 4 cm

spongiofibrosis : remarkable



Evaluation of patient with anterior urethra stricture

Stricture etiology:

- perineal trauma
- failed hypospadias repair
- lichen sclerosis

Retrograde urethrography:

- site – number – length?
- spongiofibrosis?
- obliterative – no-obliterative

Voiding urethrography:

- delayed or no-delayed surgery
- dilation of the proximal tract

Ultrasonography:

- length
- spongiofibrosis

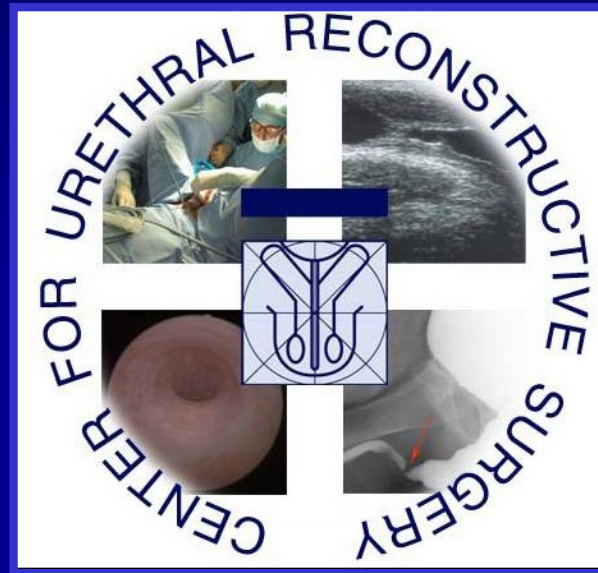


**What approach to take will be decided by you,
your experience, your surgical background and
your patient's expectation**

There is nothing more I can tell you !



www.urethralcenter.it



Next month, this lecture will be fully available on our website

Thank you !

