

# CENTER FOR RECONSTRUCTIVE URETHRAL SURGERY



**GUIDO BARBAGLI, M.D.**  
**Arezzo - Italy**

e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)



Center for Reconstructive Urethral  
Surgery - Arezzo - Italy

**SAVA PEROVIC FOUNDATION**

CENTER FOR GENITO-URETHRAL  
RECONSTRUCTIVE SURGERY

BORISAVLJEVICEVA STR. 58  
11000 BELGRADE, SERBIA



## HANDS ON TRAINING

ALL PARTICIPANTS WILL BE INCLUDED  
AS MEMBER OF THE SURGERY TEAM

**BELGRADE, FEBRUARY 23-26, 2015**

# 1<sup>ST</sup> INTERNATIONAL COURSE ON URO-GENITAL RECONSTRUCTIVE SURGERY

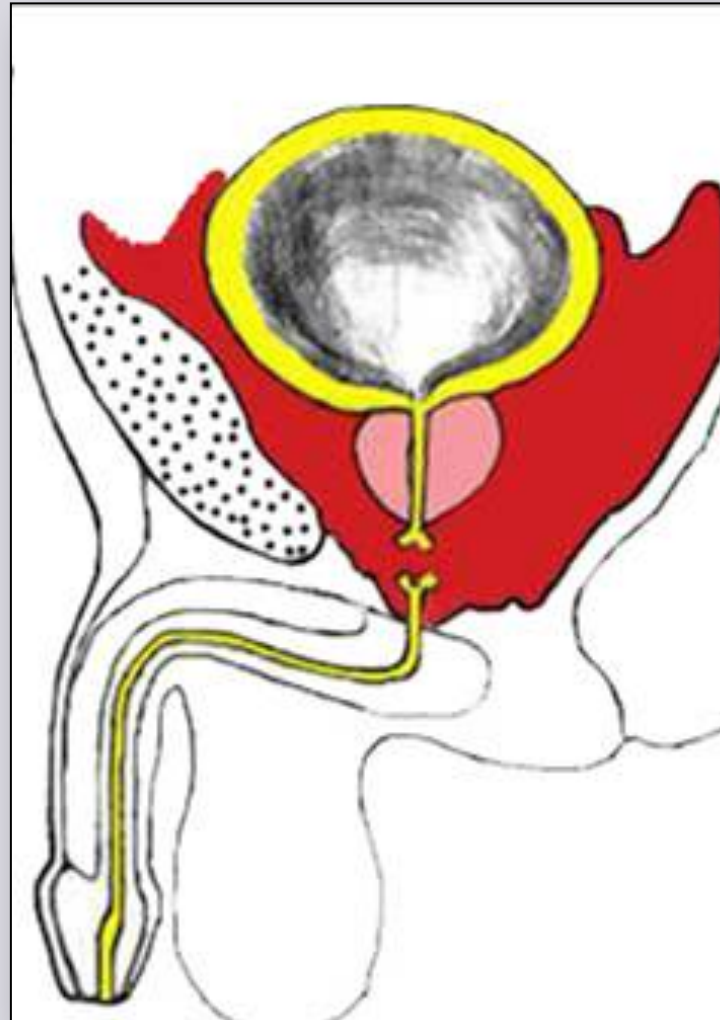
— LIVE SURGERY AND LECTURES —

e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)



# Emergency management of patients with pelvic fracture and urethral injury

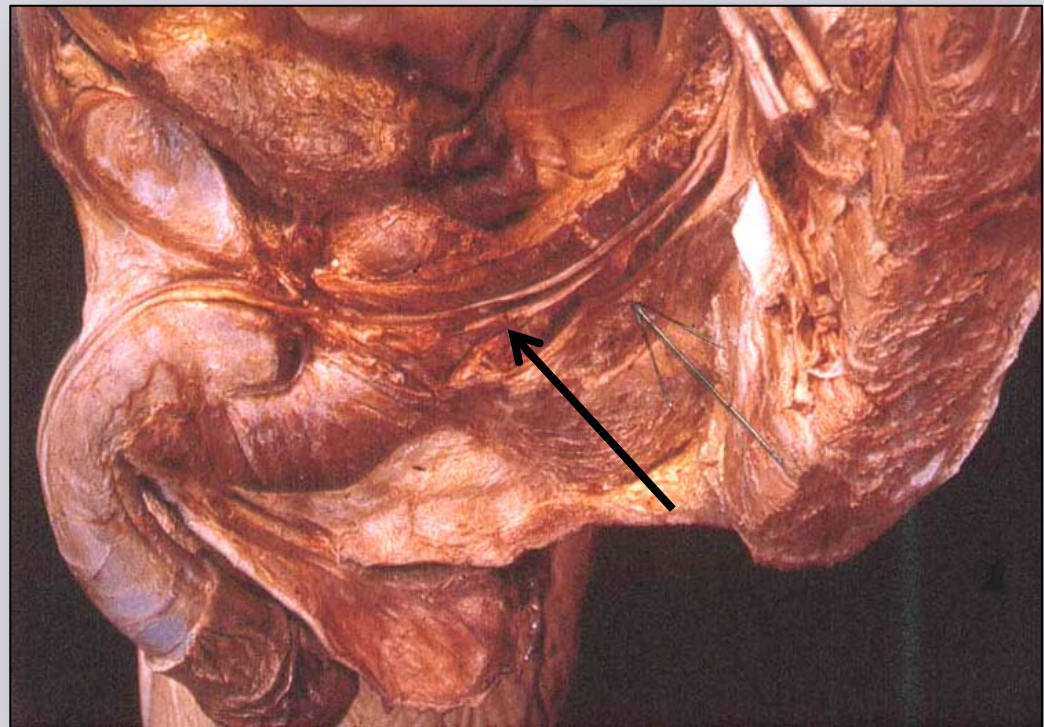
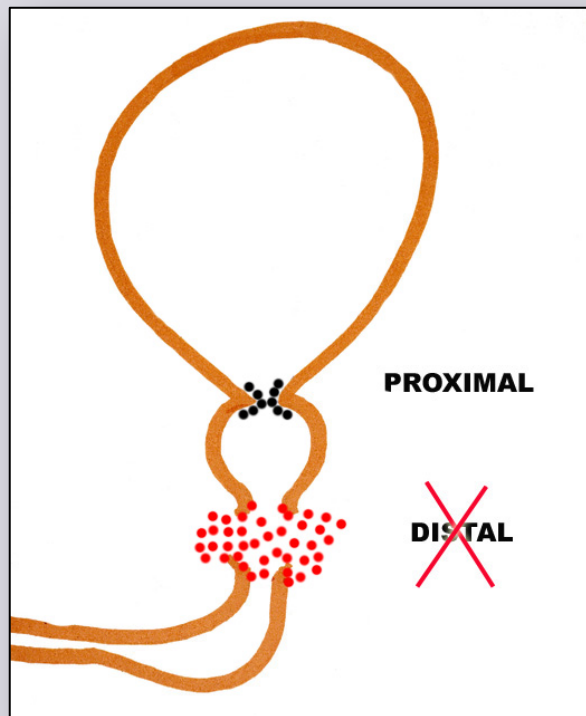


e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)

# Pelvic urethral injury

Posterior urethra is fully involved in the mechanisms of urinary continence and penile erection





# **Pelvic urethral injury require immediate surgical exploration only:**



**Bladder rupture**



**Bladder neck lesion**



**Rectal tear**

**...And other non frequent particular conditions**

# Goal of the early management in pelvic urethral injury

**Resuscitation of the patient  
to preserve life**

**Divert urine away  
from the site of  
injury**

**Preserve the residual  
sphincter mechanism  
at the bladder neck**

**Avoid jeopardizing sexual  
function residual to the  
trauma**



# Goal of the early management in pelvic urethral injury



**Preserve the residual  
sphincter mechanism  
at the bladder neck**

**1. Diagnosis of urethral injury requires a high index of suspicion  
and should be excluded **before catheter is inserted !****

# Goal of the early management in pelvic urethral injuries



**Preserve the residual sphincter mechanism at the bladder neck**



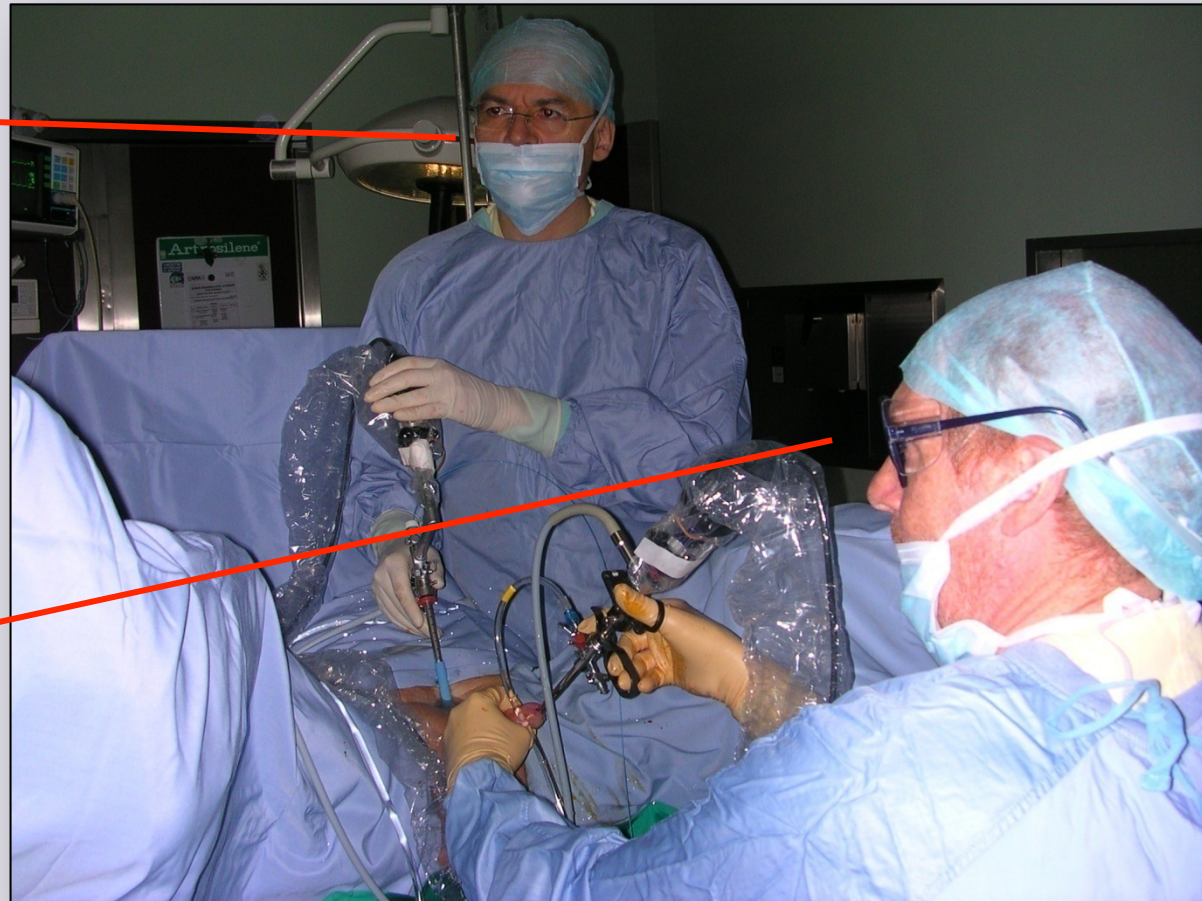
**2. Avoid the use of any metallic blind instrument !**





e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)



**3.** Any diagnostic or operative procedure should be performed **ONLY** under direct vision !



# Imaging techniques

- Antero-posterior pelvic X-ray
  - Abdominal and pelvic ultrasonography
  - Retrograde urethrography
- Abdominal and pelvic CT scan
- Pelvic MRI

**Radiological investigations should be arranged according to the patient clinical status**

# Emergency treatment of pelvic urethral injuries

**suprapubic urinary diversion**  
**immediate**

**endoscopic urethral realignment**  
**7 – 15 days after trauma**

**delayed urethroplasty**  
**4 months after trauma**



## Type of urethral lesion



**stretched**

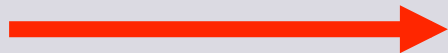
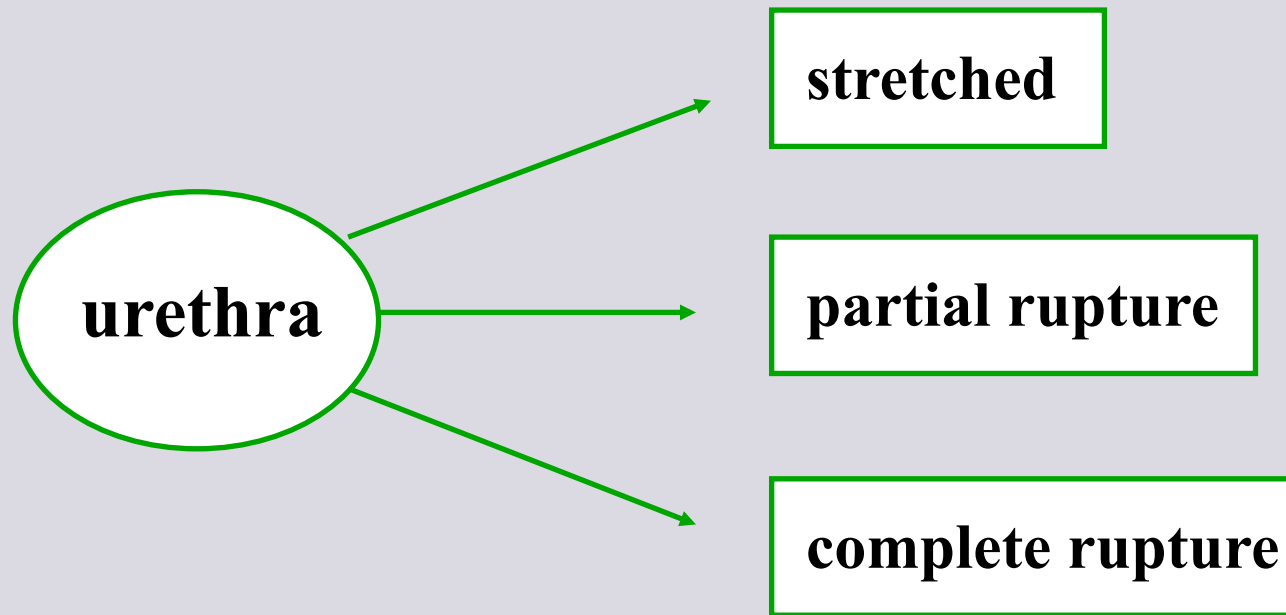


**partial rupture**



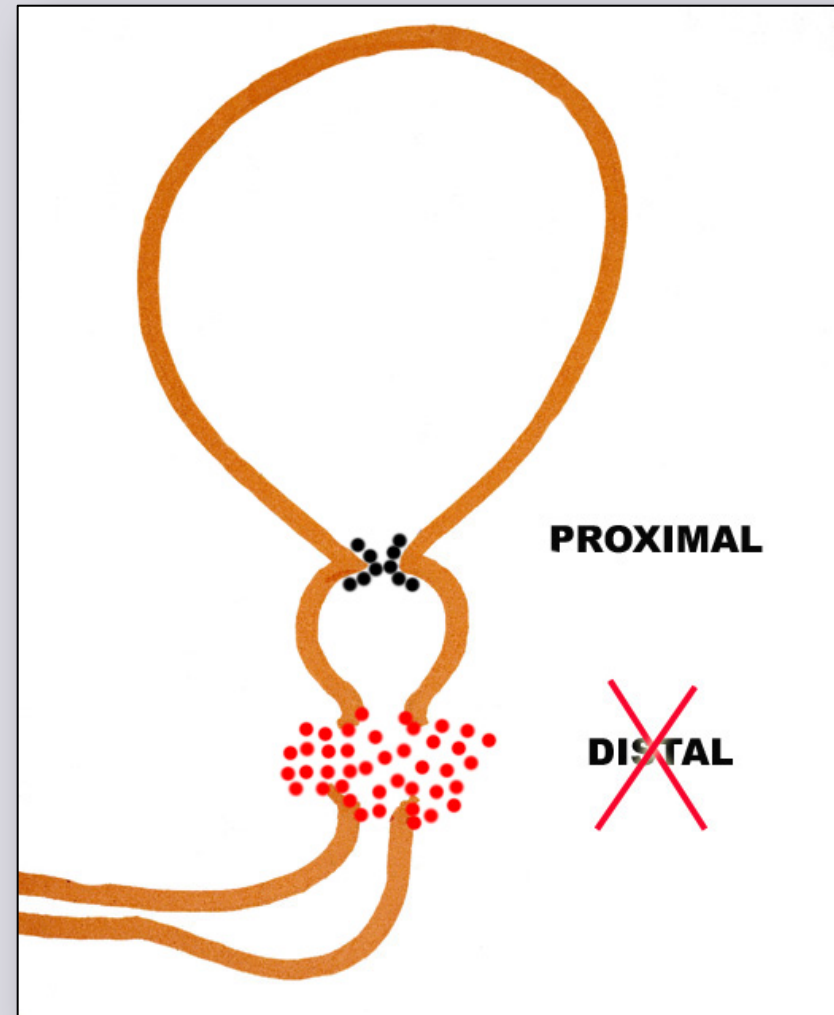
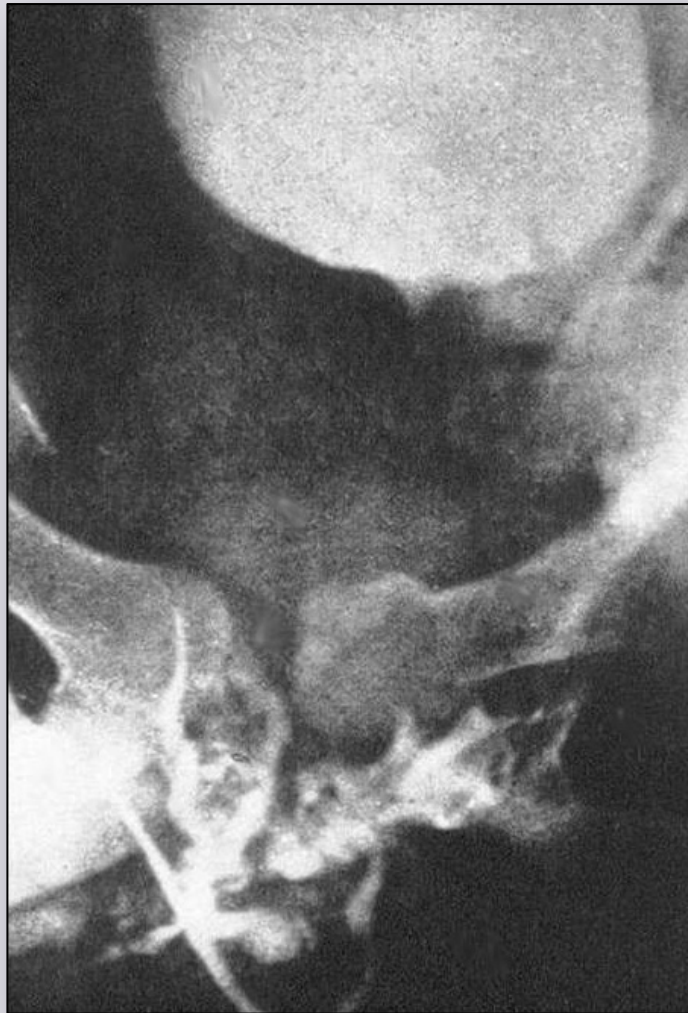
**complete rupture**

# Immediate management of pelvic urethral injury without associated lesions



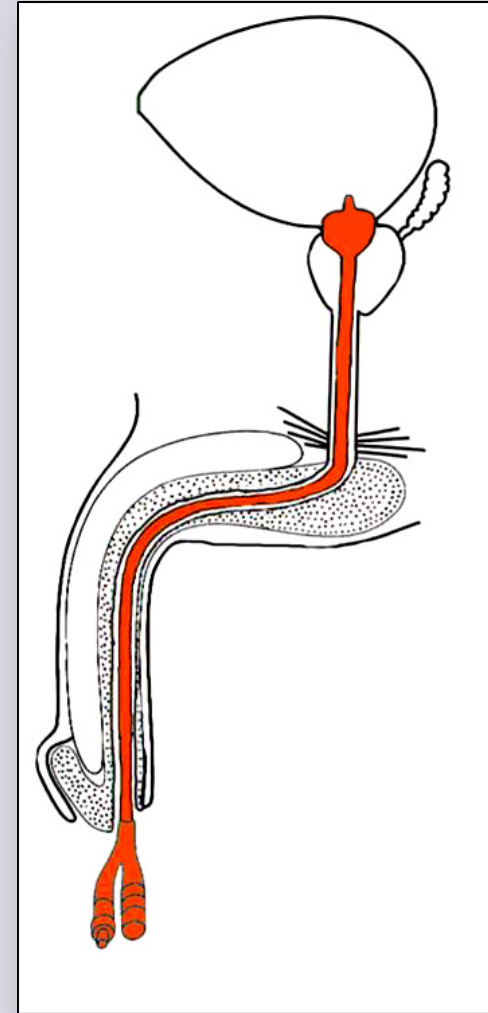
**Percutaneous suprapubic cystostomy  
under ultrasonographic guidance**

# Suprapubic cystostomy: why?

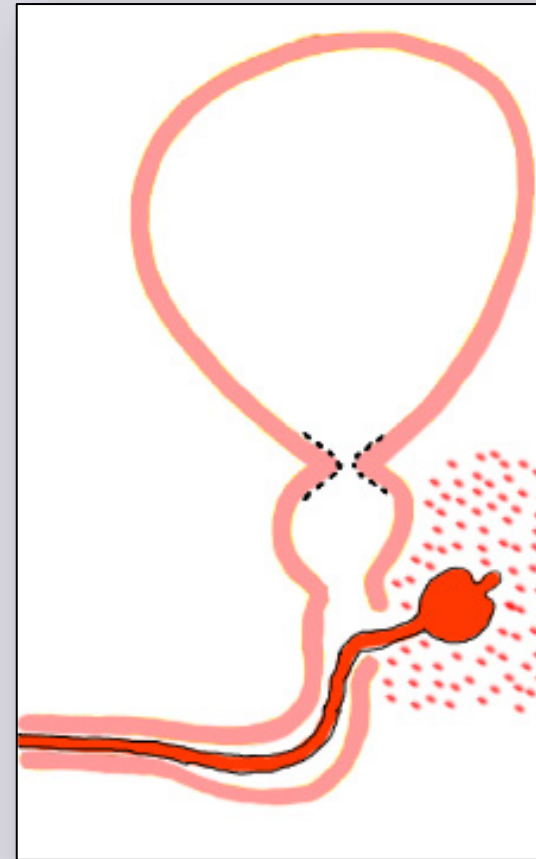




# Urethra: stretched



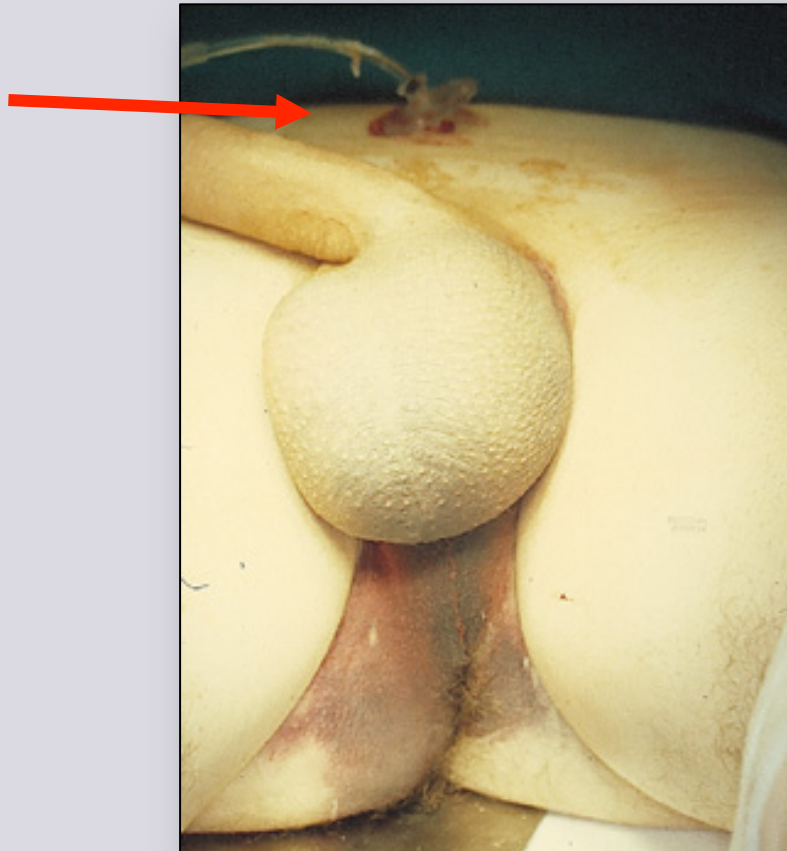
## Urethra: partial rupture



## Urethra: complete rupture







**Suprapubic cystostomy is the only method than can surely avoid damage to the bladder neck, thus fully preserving urinary continence !**

# Emergency treatment of pelvic urethral injury

## **immediate** suprapubic urinary diversion

→ empty the bladder and release pain due to the over distended bladder

→ divert urine away from the site of injury

→ perform a cystography

# Emergency treatment of pelvic urethral injuries

**suprapubic urinary diversion**  
**immediate**

**endoscopic urethral realignment**  
**7 – 15 days after trauma**

**delayed urethroplasty**  
**4 months after trauma**





**Endoscopic urethral realignment is not an emergency procedure and should be performed **ONLY** if there are the following conditions:**

# **Endoscopic urethral realignment**

**appropriate operating room**

**appropriate instruments**

**appropriate patient**

**appropriate surgeon**

# Endoscopic urethral realignment



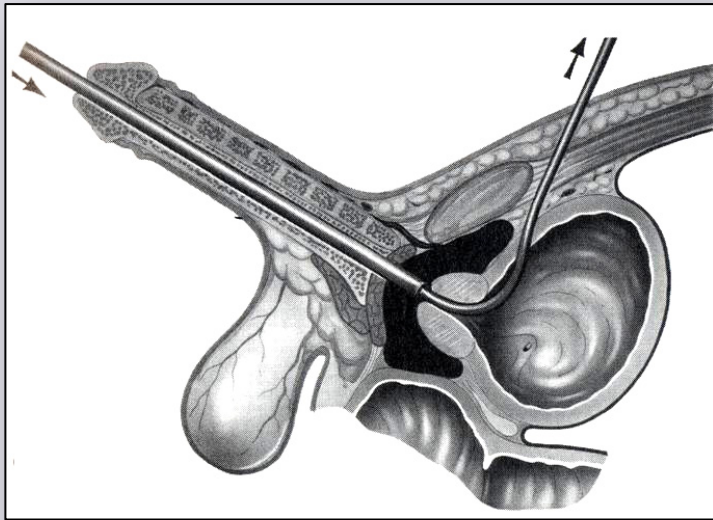
**appropriate operating room ?**

e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)



# Endoscopic urethral realignment



appropriate instruments ?

# Endoscopic urethral realignment



**appropriate patient ?**



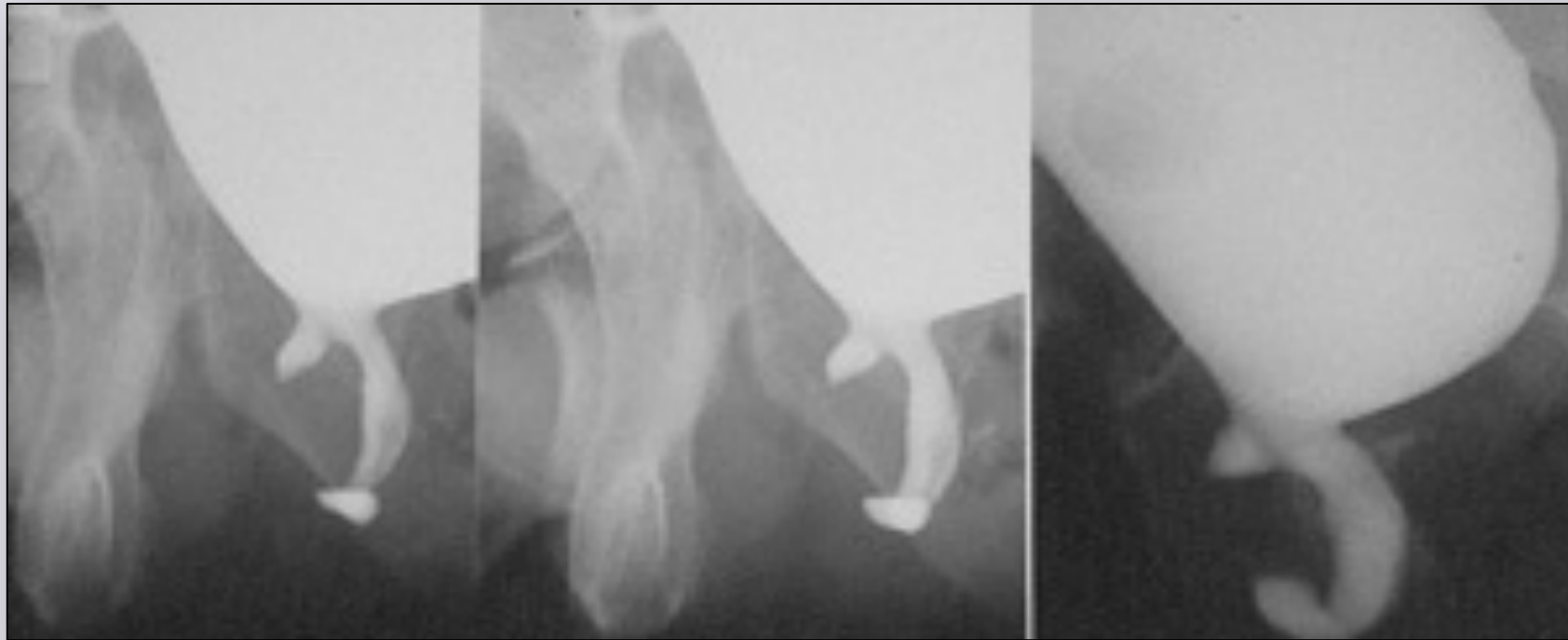
# Endoscopic urethral realignment



**appropriate surgeon ?**

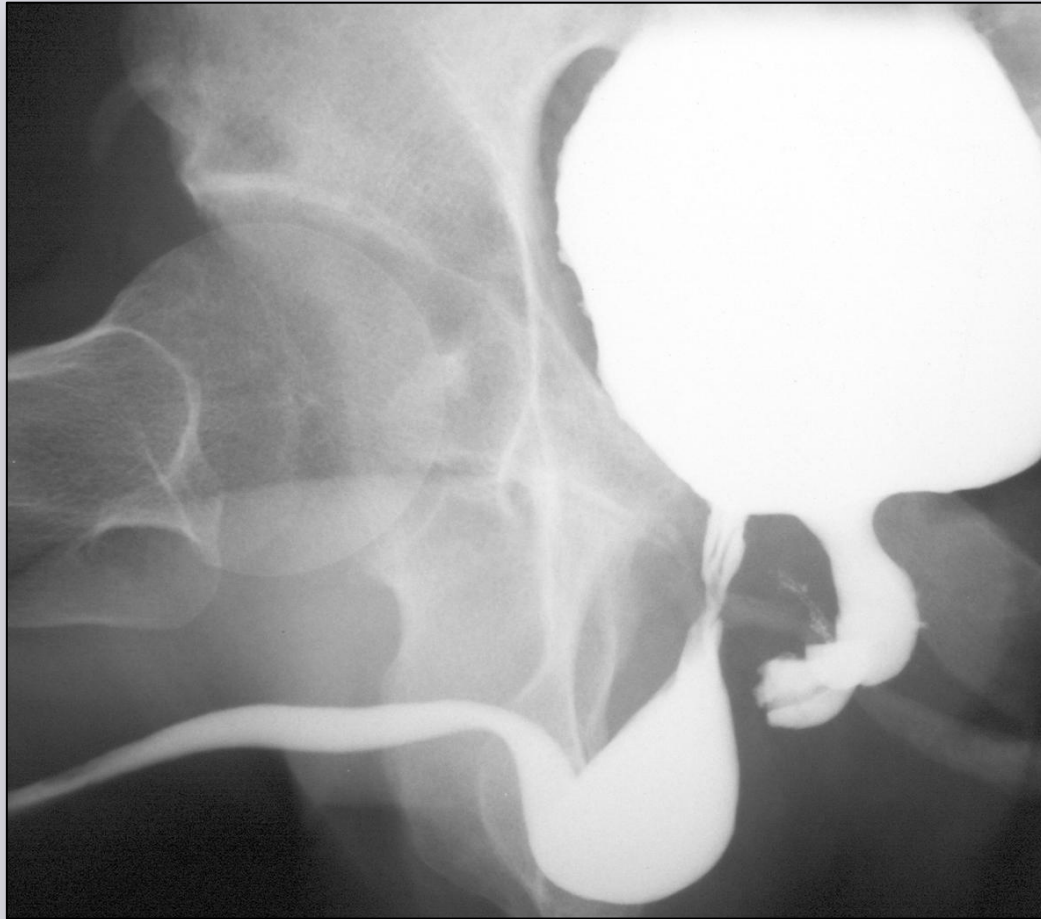
e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)



**Four-hour emergency (?) urethral realignment in the plaster-cast room (?)**





**Five-hour *emergency (?)* urethral realignment**

e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)



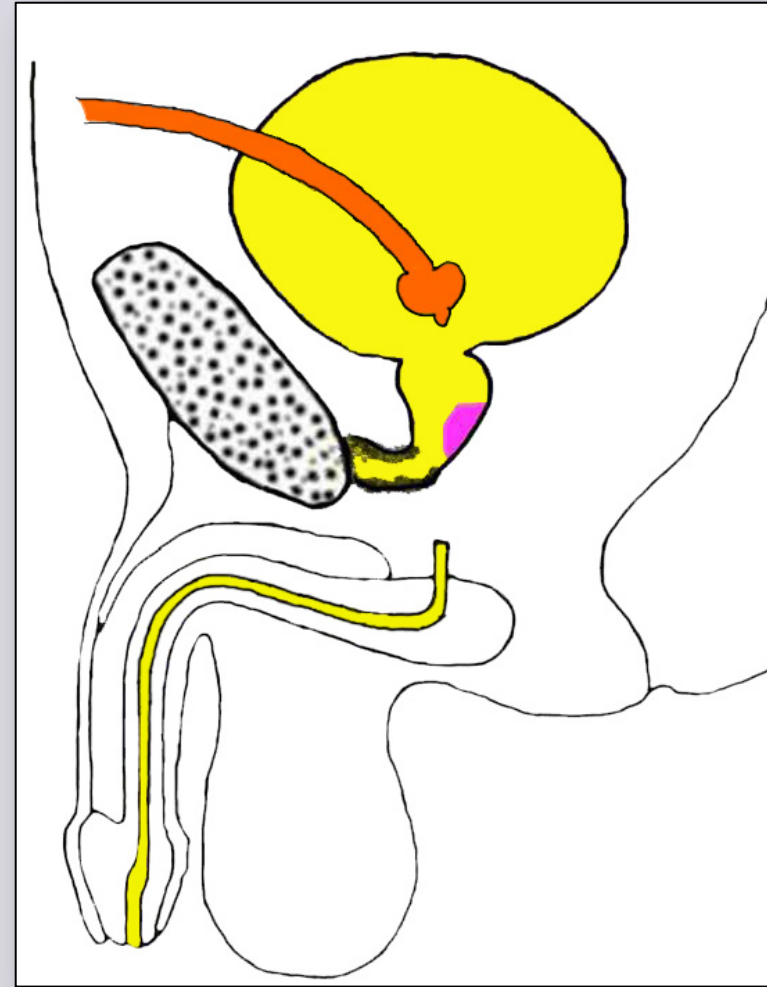
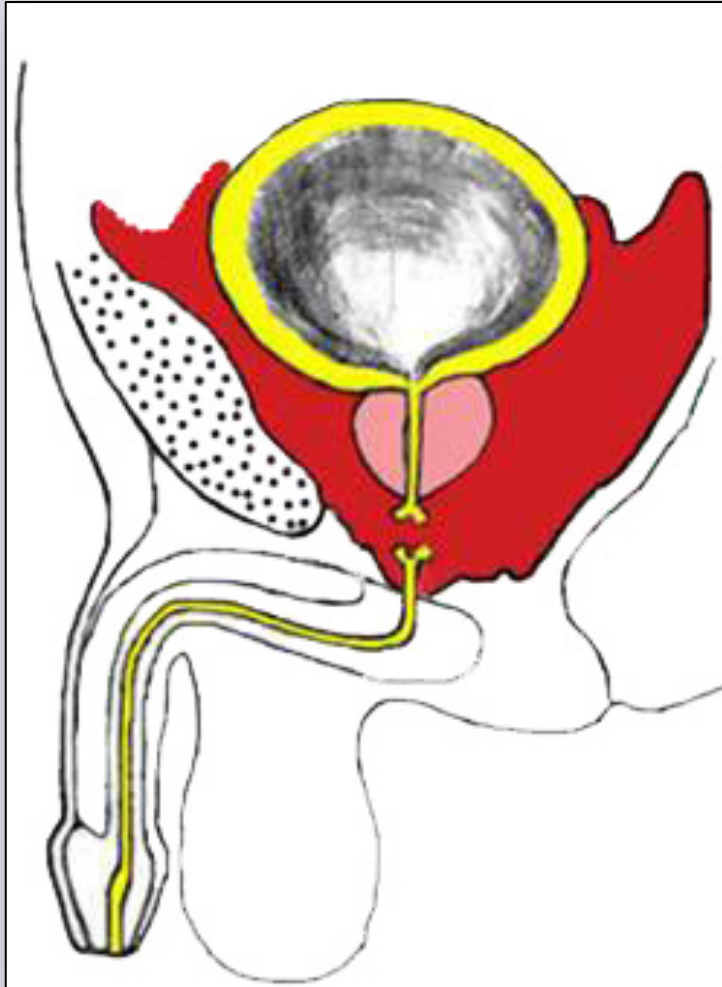
In one week, this patient underwent **five attempts (?)** to perform  
urethral realignment

# **Endoscopic urethral realignment**

**7 – 15 days following trauma**

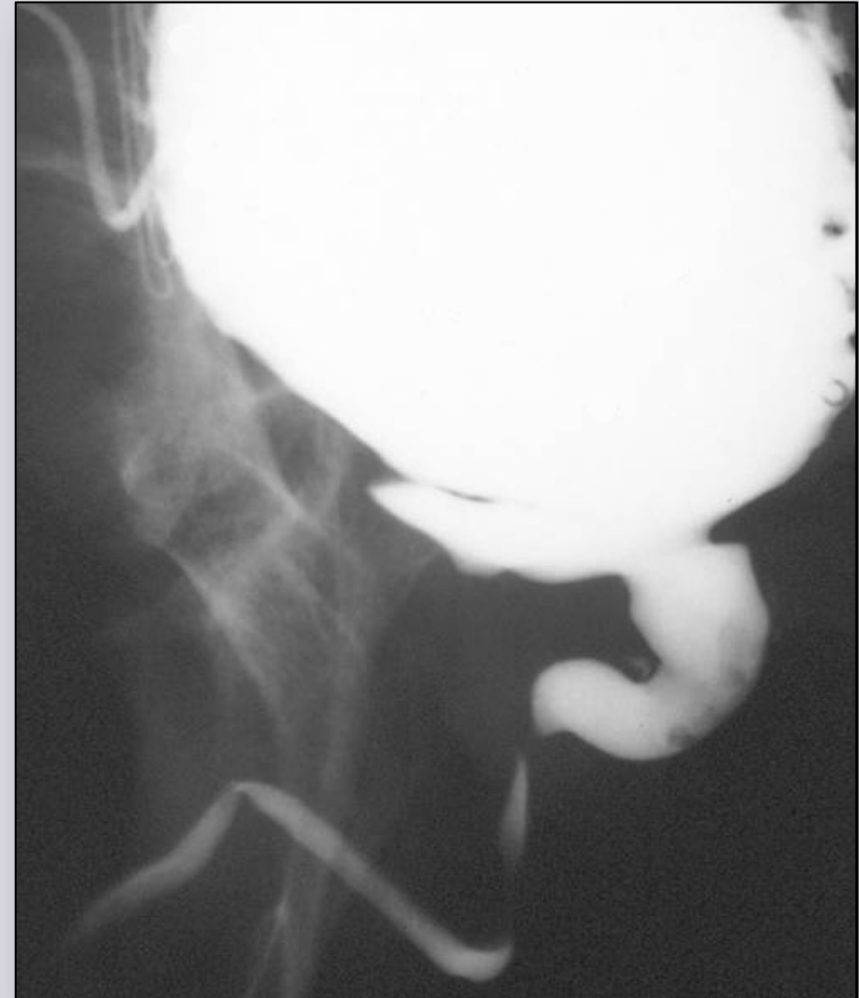
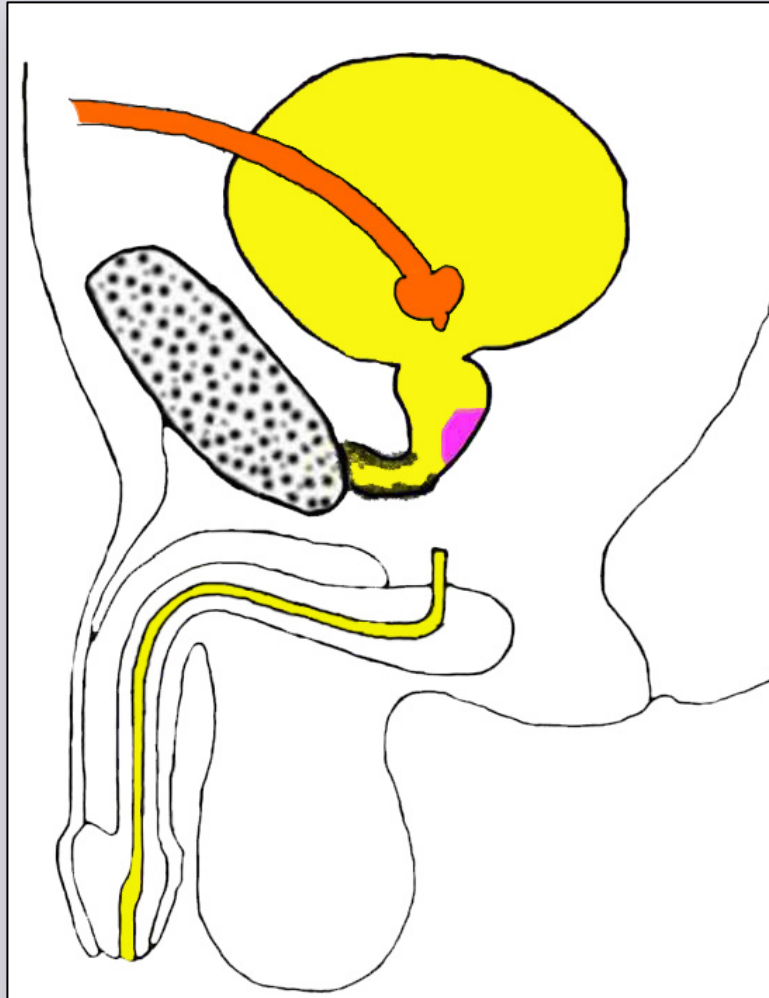


## NO - Endoscopic urethral realignment

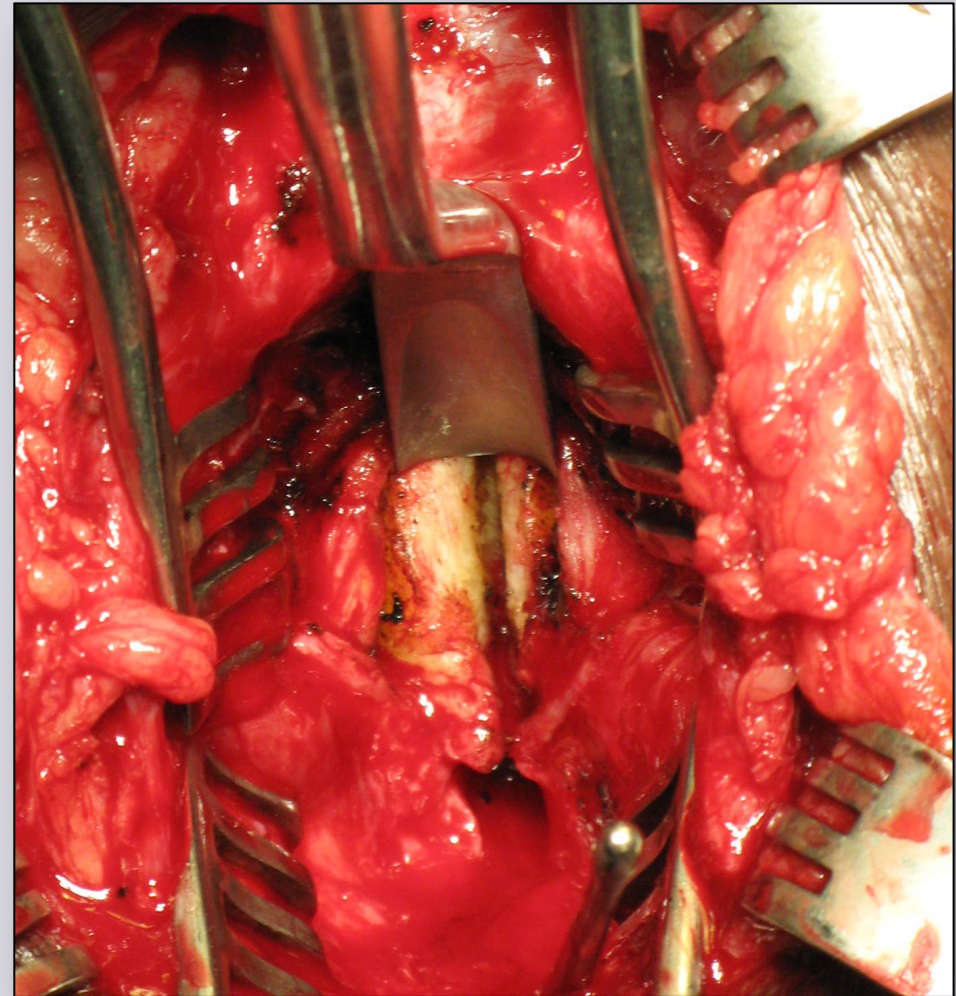
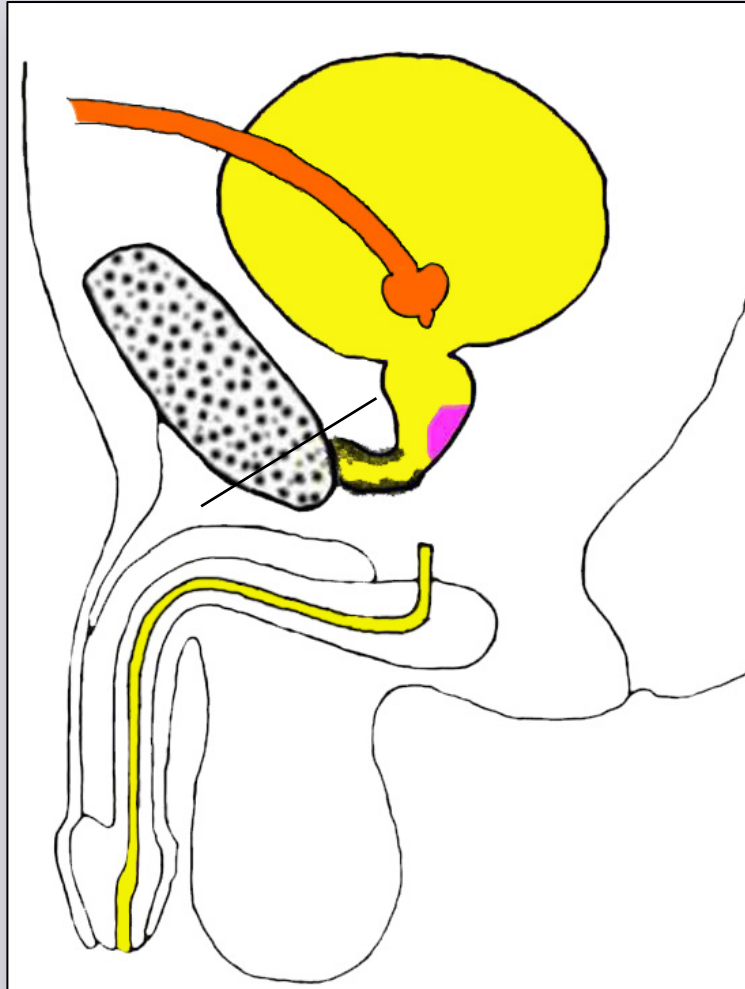




# Complex posterior urethral stricture

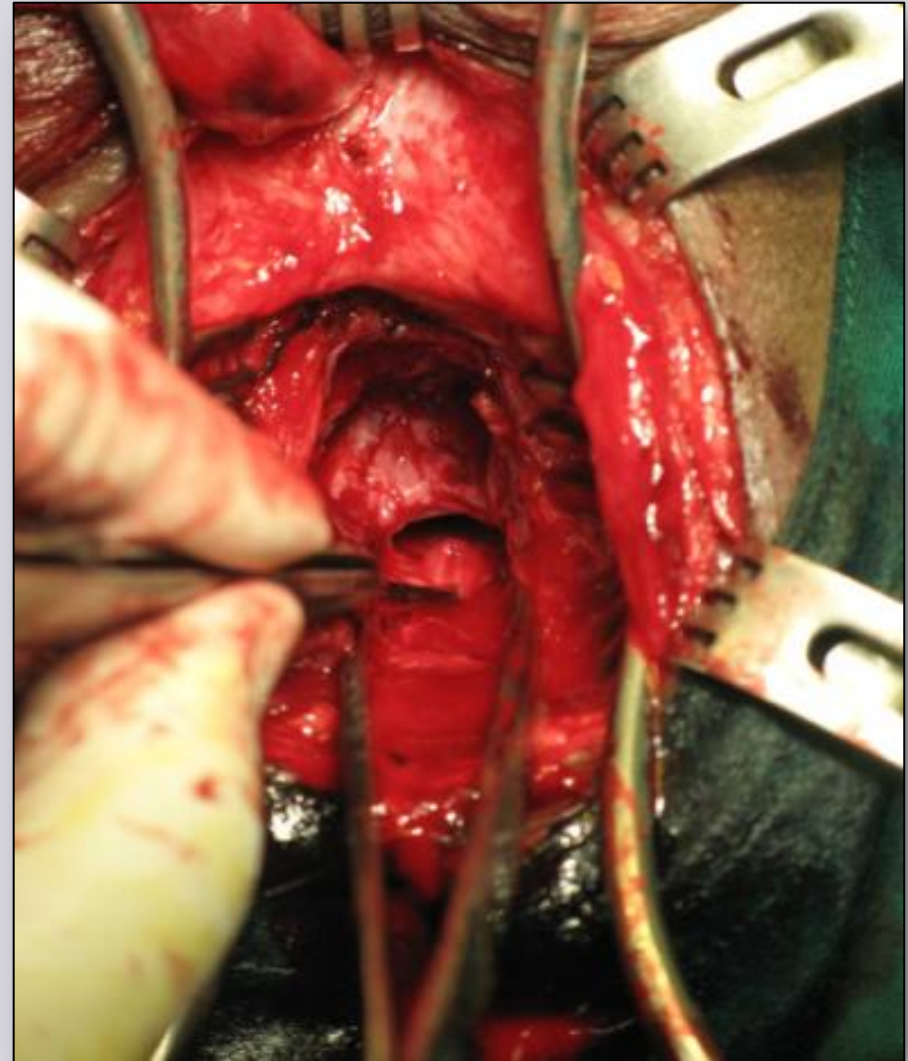
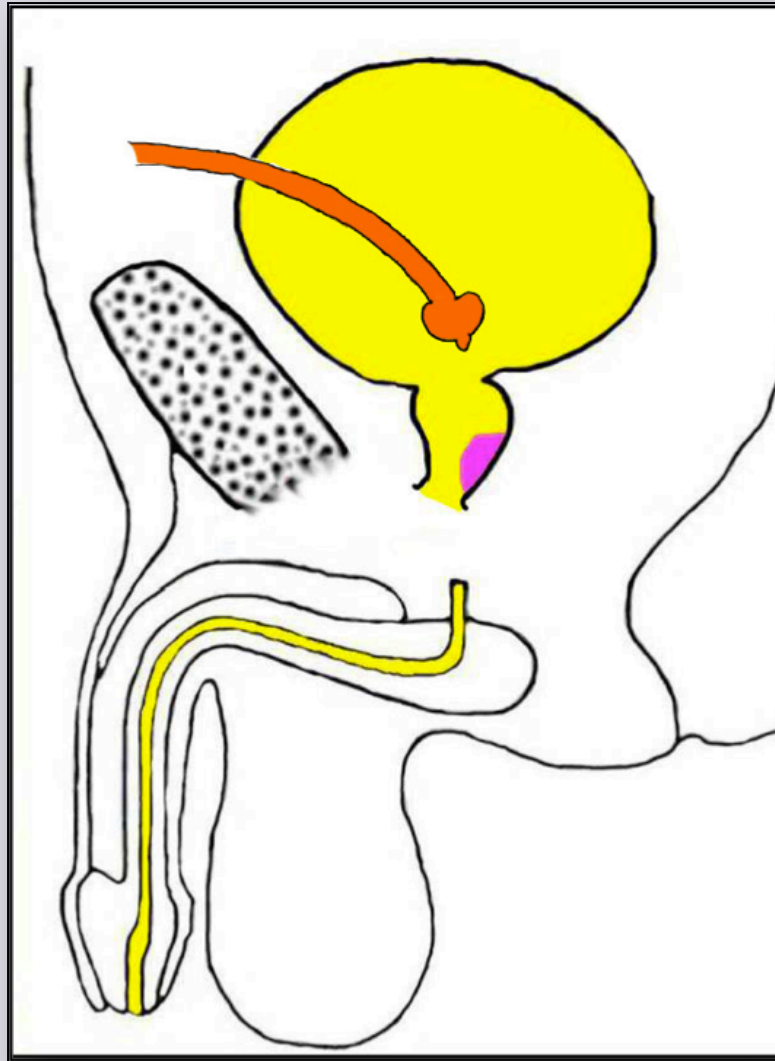


# Perineal pubectomy





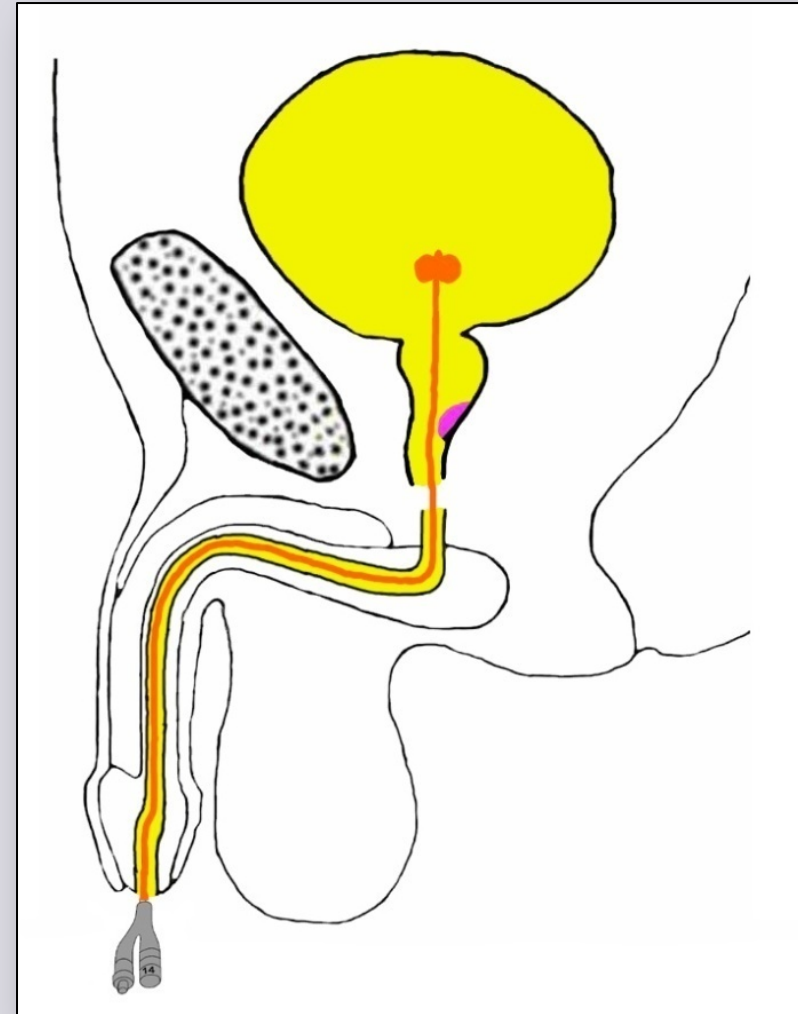
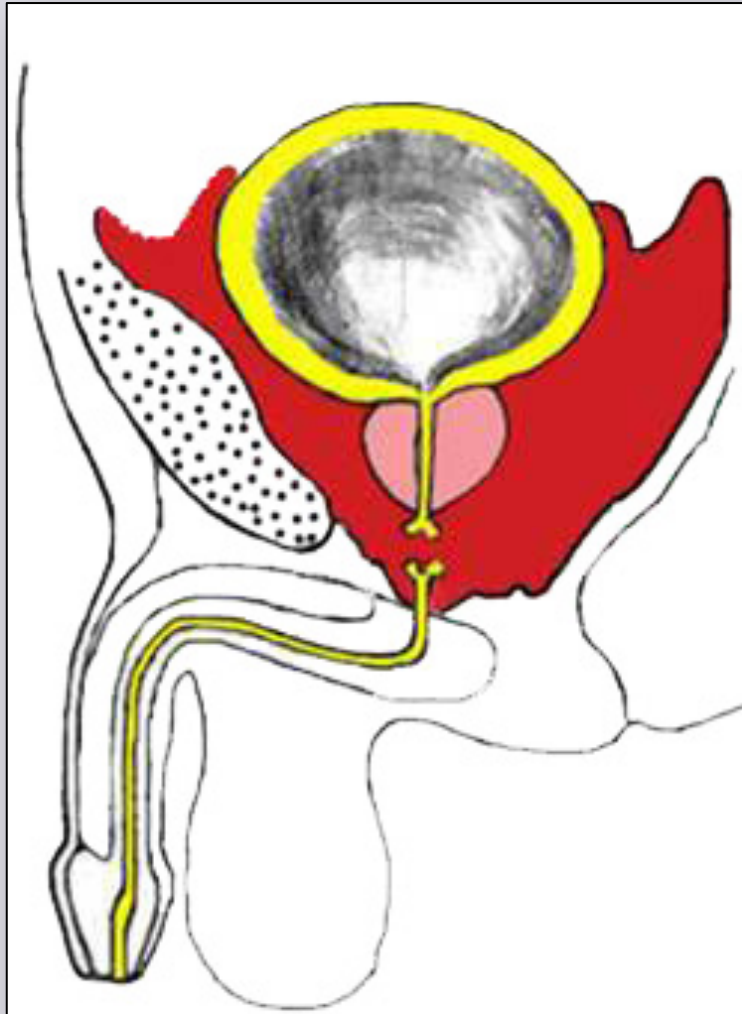
# Perineal pubectomy



e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)

# YES - Endoscopic urethral realignment

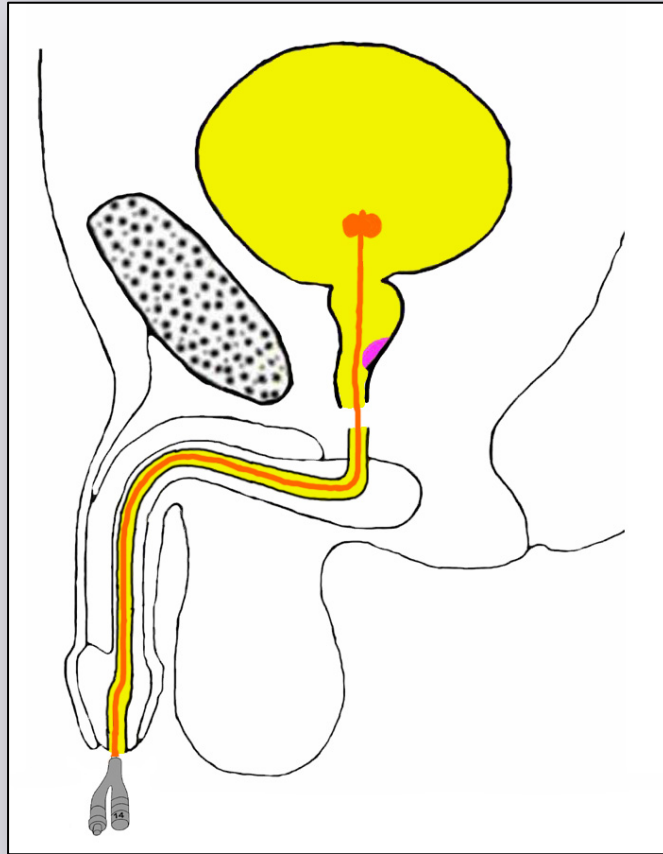


e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

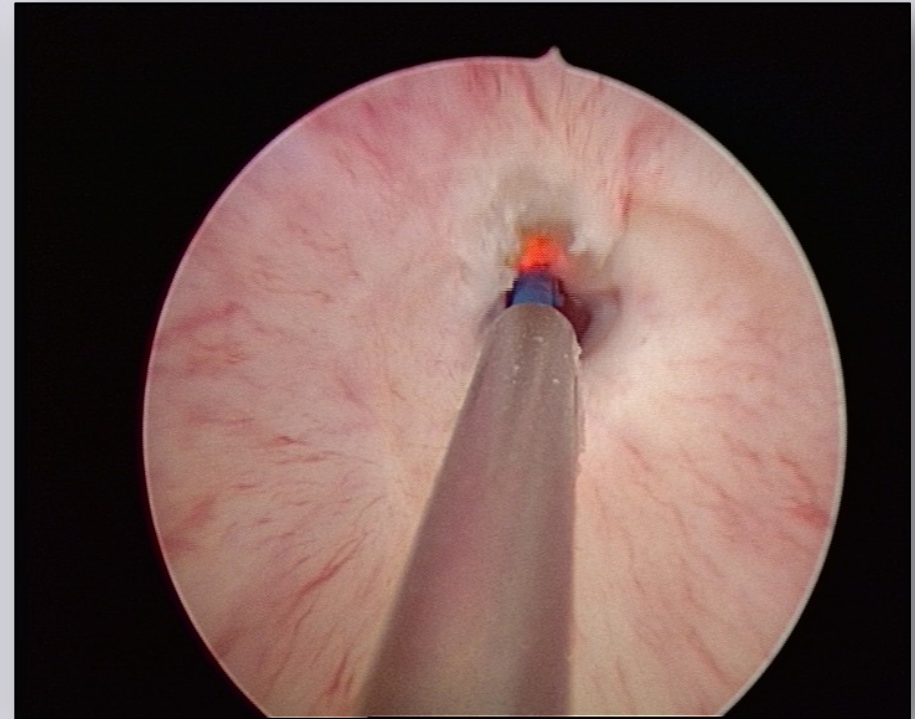
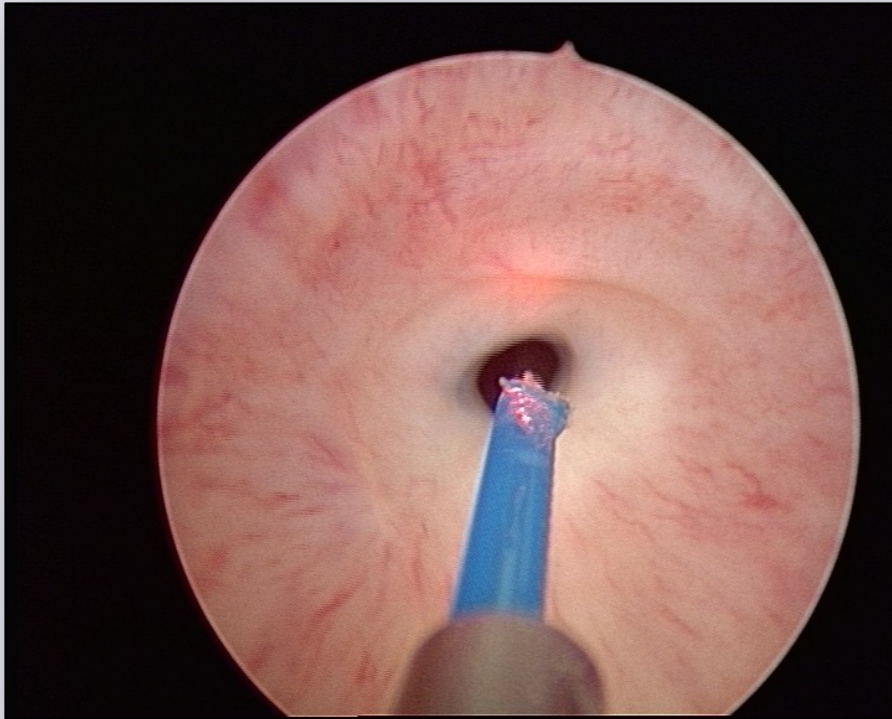
Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)



# Simple posterior urethral stricture



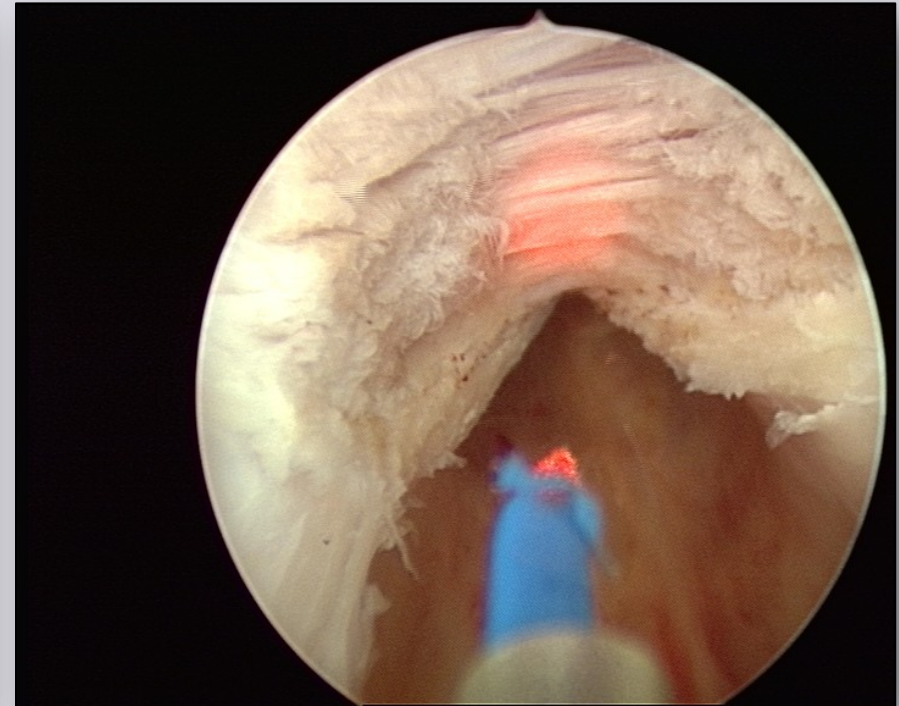
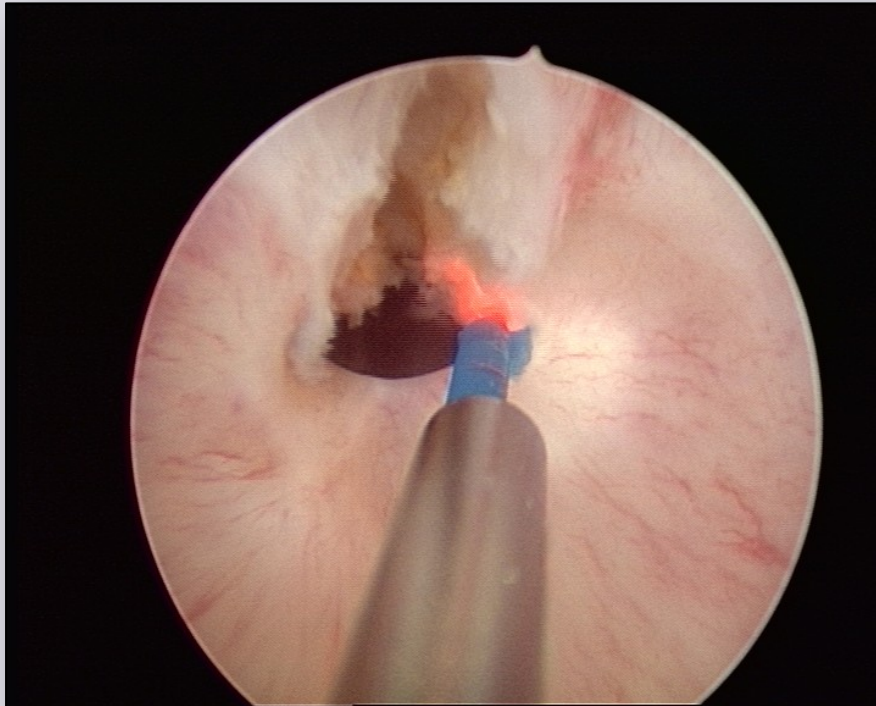
# Holmium laser urethrotomy



e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)

# Holmium laser urethrotomy



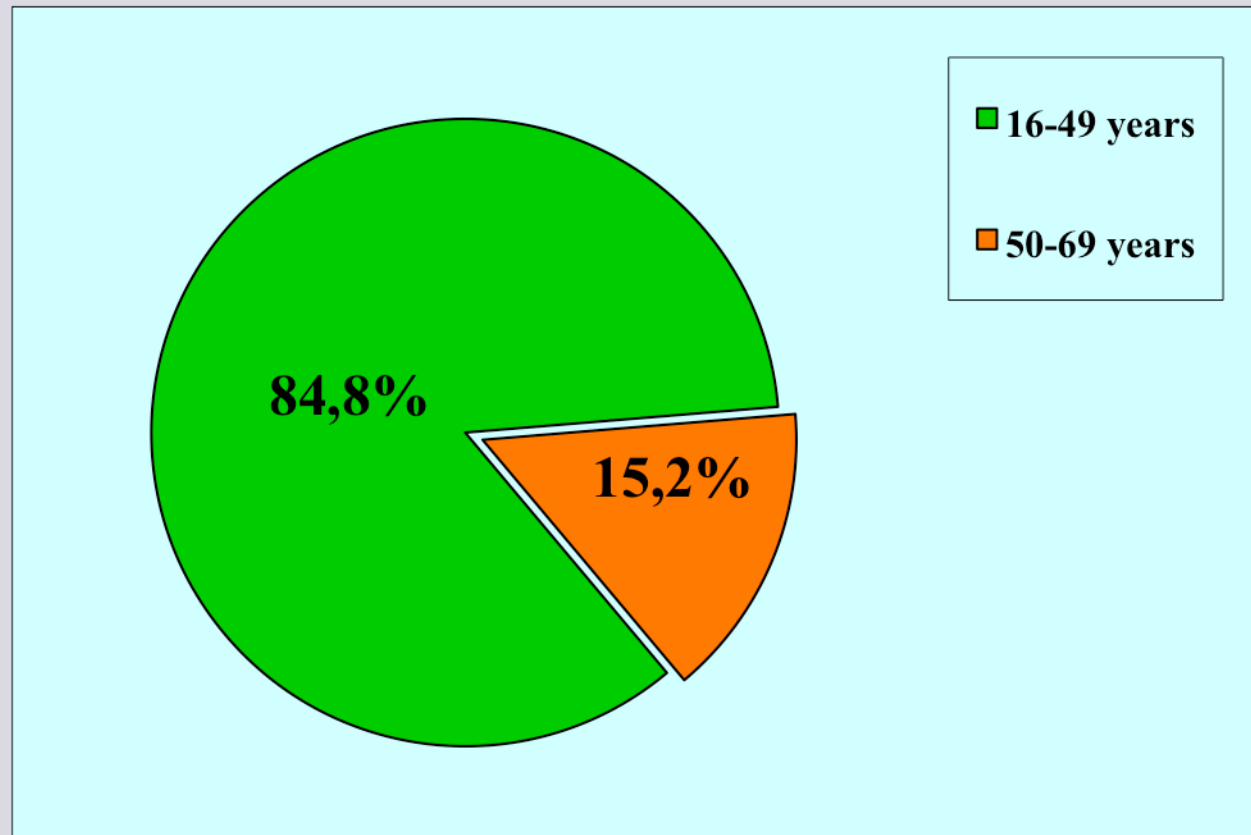
e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)



# Holmium laser urethrotomy

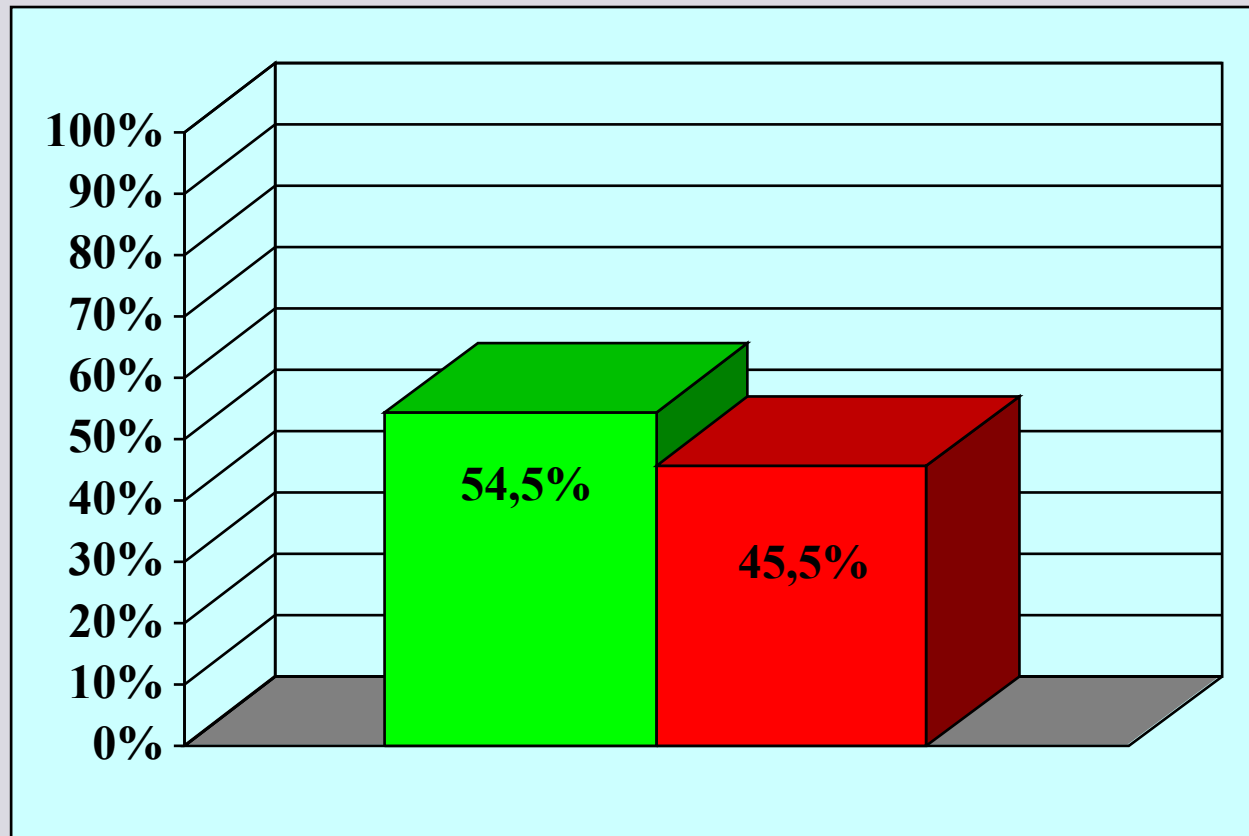
## Results on 33 patients



Age



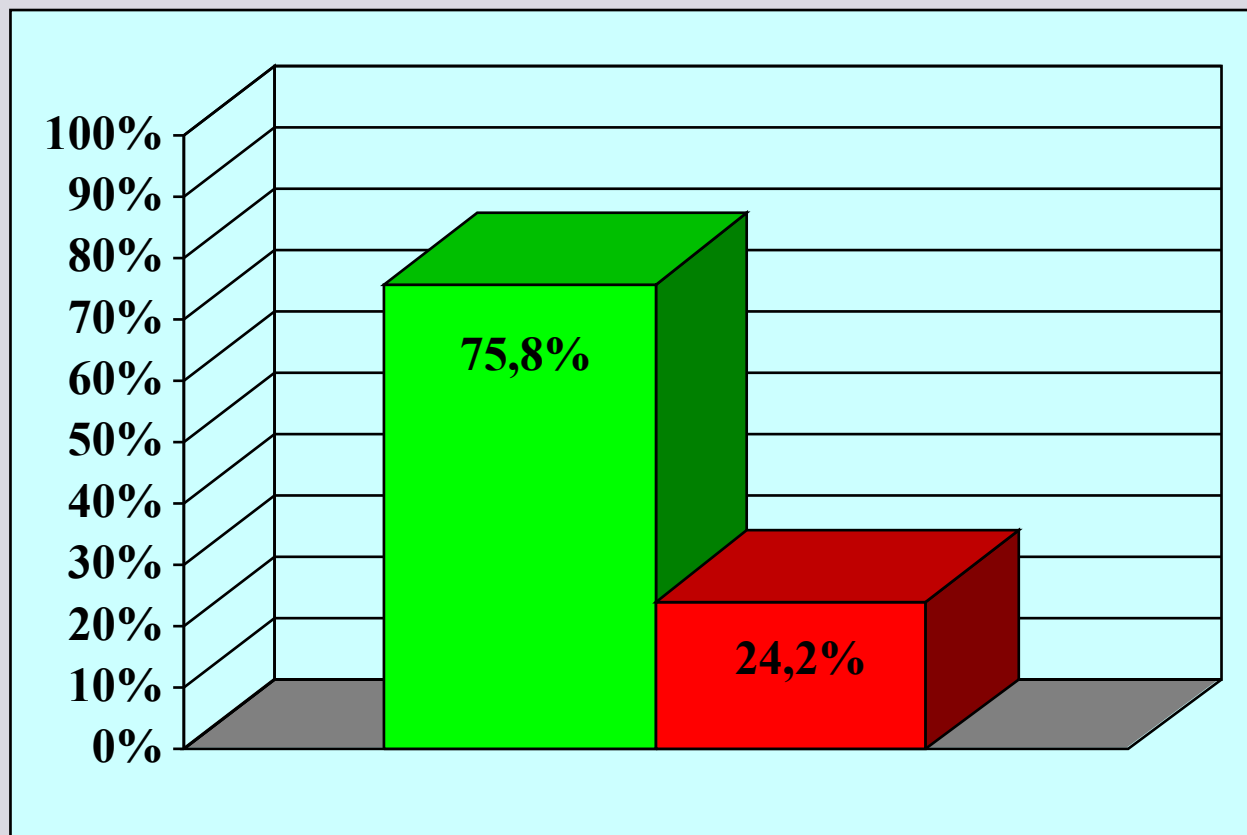
**Results on 33 patients after 1 urethrotomy**  
**Median followup 86 months (range 24 – 137)**



■ success	18 (54.5%)
■ failure	15 (45.5%)

## Results on 33 patients after 2 urethrotomies

Median followup 86 months ( range 24-137)



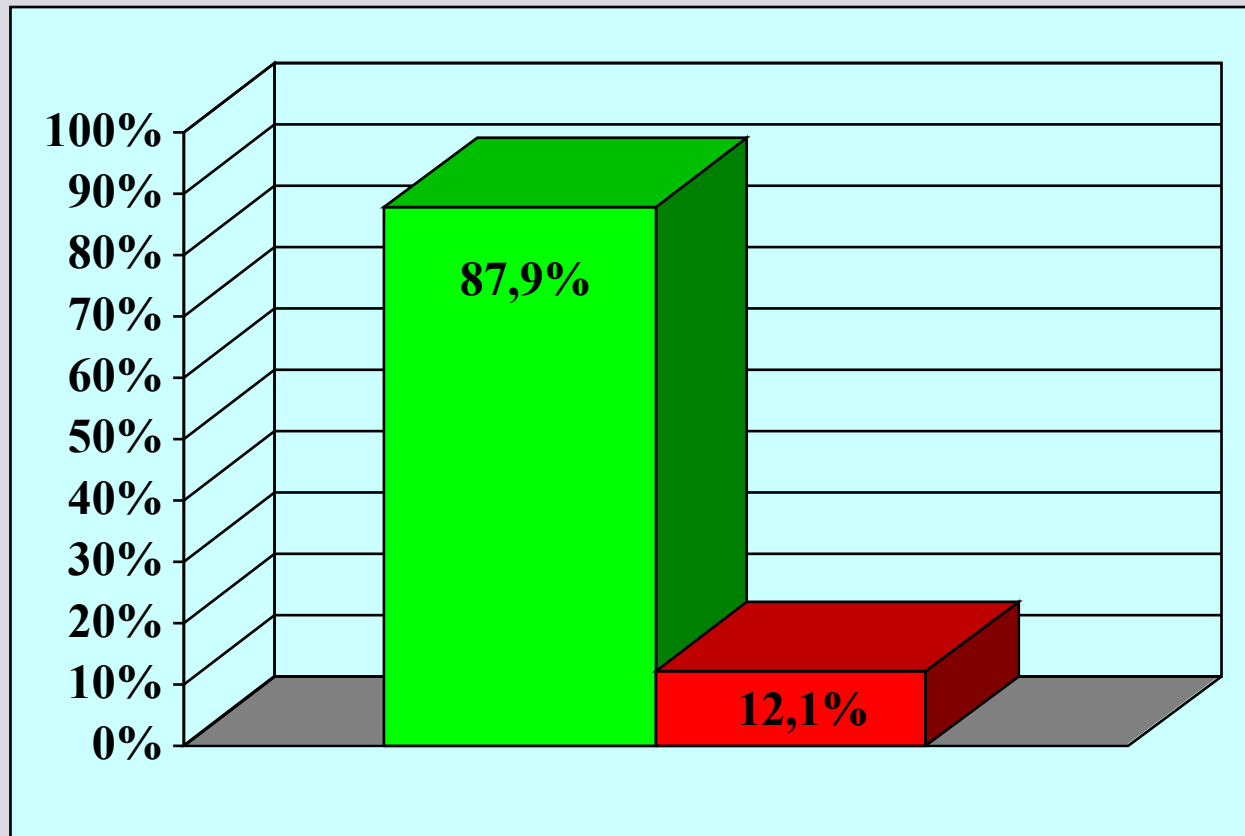
■ success

25 (75.8%)

■ failure

8 (24.2%)

**Results on 33 patients after 3 urethrotomies**  
**Median followup 86 mesi (range 24-137)**



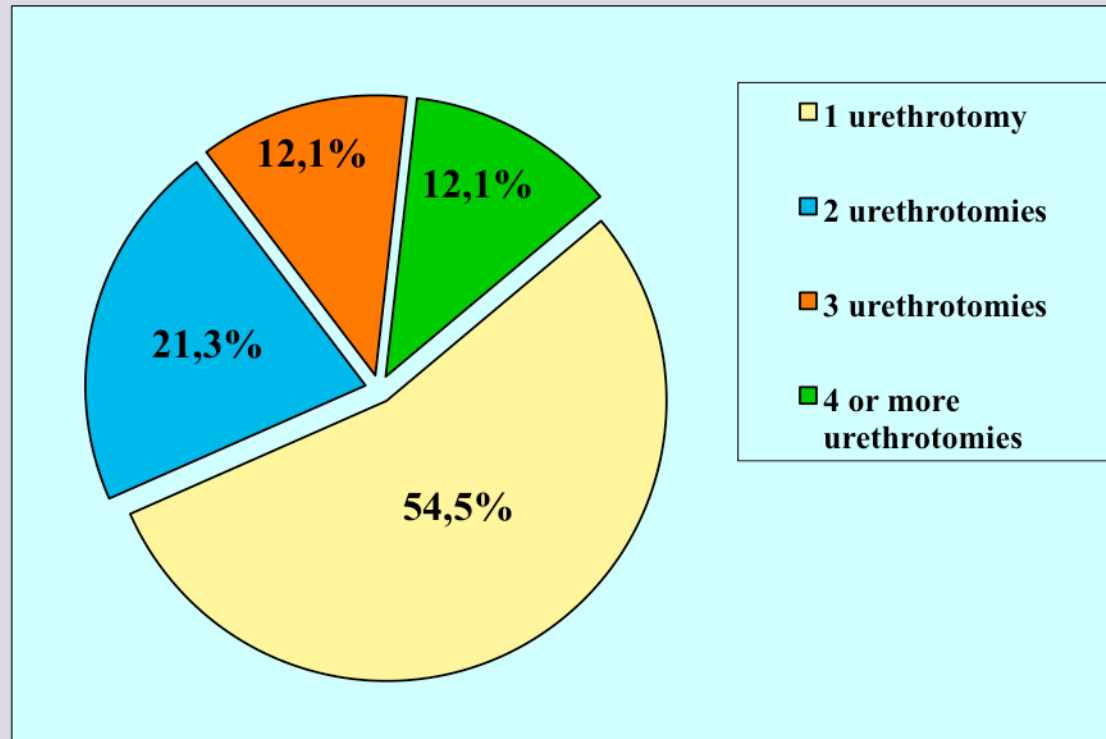
■ **success**

**29 (87.9%)**

■ **failure**

**4 (12.1%)**

# Holmium laser urethrotomy



**18 patients (54.5%): 1 urethrotomy**

**7 patients (21.3%): 2 urethrotomies**

**4 patients (12.1%): 3 urethrotomies**

**4 patients (12.1%): 4 or more urethtomes**



# Goal of the early management in pelvic urethral injuries



1. Preserve the residual sphincter mechanism at the bladder neck

# Goal of the early management in pelvic urethral injuries



## 2. Realignment of the injured urethra and restore the urethral lumen

## Goal of the early management in pelvic urethral injuries



**3. Avoid jeopardizing sexual function residual to the trauma**

e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)



**Register now !**

**[www.webon.uretra.it](http://www.webon.uretra.it)**

e-mail: [info@urethralcenter.it](mailto:info@urethralcenter.it)

Websites: [www.uretra.it](http://www.uretra.it)  
[www.urethralcenter.it](http://www.urethralcenter.it)