

# Uretroplastia posterior topo-a-topo



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# INTRODUÇÃO



- Maioria das estenoses da uretra posterior: fractura da bacia, queda em sela ou lesões por esmagamento.
- Países desenvolvidos: ↓ dos acidentes e trabalhos agrícolas e ↑ das medidas de protecção.
- Países em desenvolvimento: incidência mantém-se estável.
- Abordagem inicial da # da uretra nos S.U. é heterogénea e com implicações nos resultados funcionais:

Em Itália, 92,7% realizada por urologista

Na Índia, 70,1% realizada por cirurgião geral

# INTRODUÇÃO

- Estenoses da uretra posterior: 5-9% dos apertos uretrais.
- Traumatismo da uretra quase exclusivo dos homens.
- Morbilidade importante (IUE, DE).
- Traumatismo vesical em 15-20%.
- Lesão rectal: fístula recto-uretral em 8%.
- Estenoses complexas: reoperações, desvio > 3 cm, falsos trajectos, fístula recto-uretral, fístula perineal.



# INTRODUÇÃO

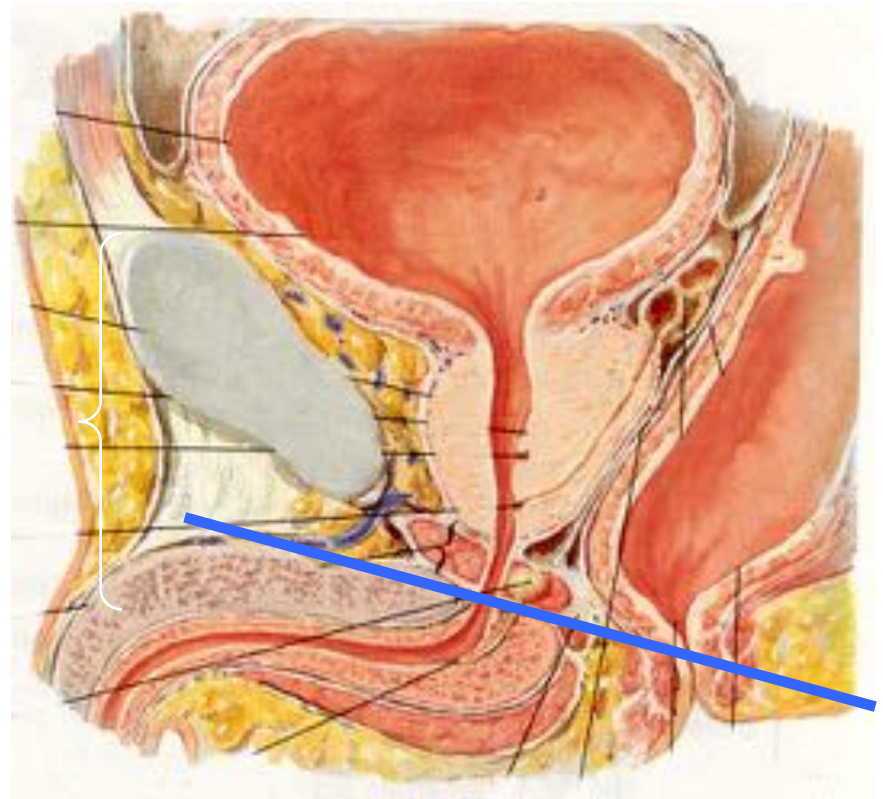
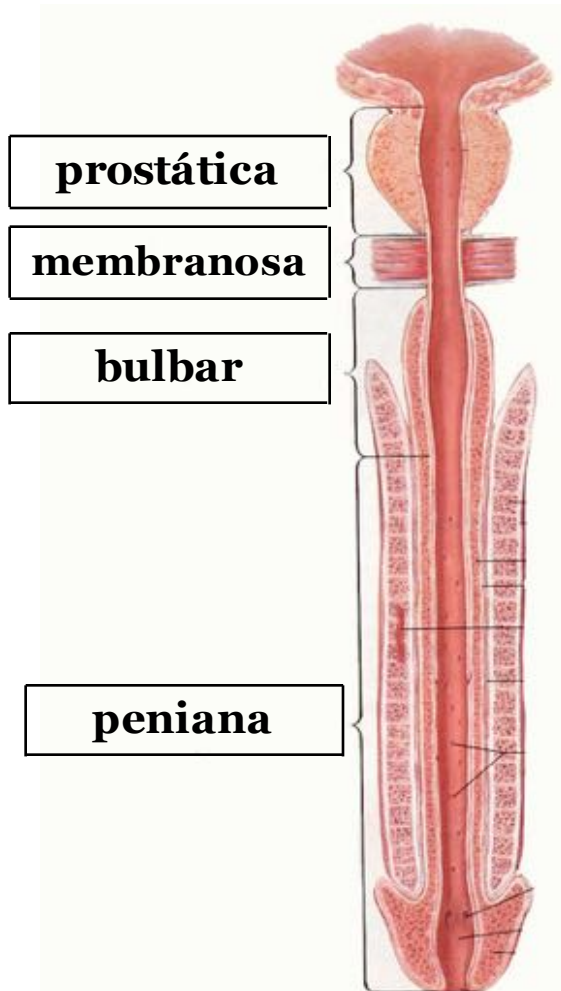
- Apenas 5-10% das # da bacia apresenta traumatismo da uretra posterior (5-10 casos / milhão habitantes / ano).
- Nem todos necessitam de cirurgia.
- Em Inglaterra, necessidade de uretroplastia posterior por # da uretra: 1 caso / milhão habitantes / ano.
- Necessidade de uretroplastia anterior por aperto: 12 casos / milhão habitante / ano.

*Andrich and Mundy, 2008*

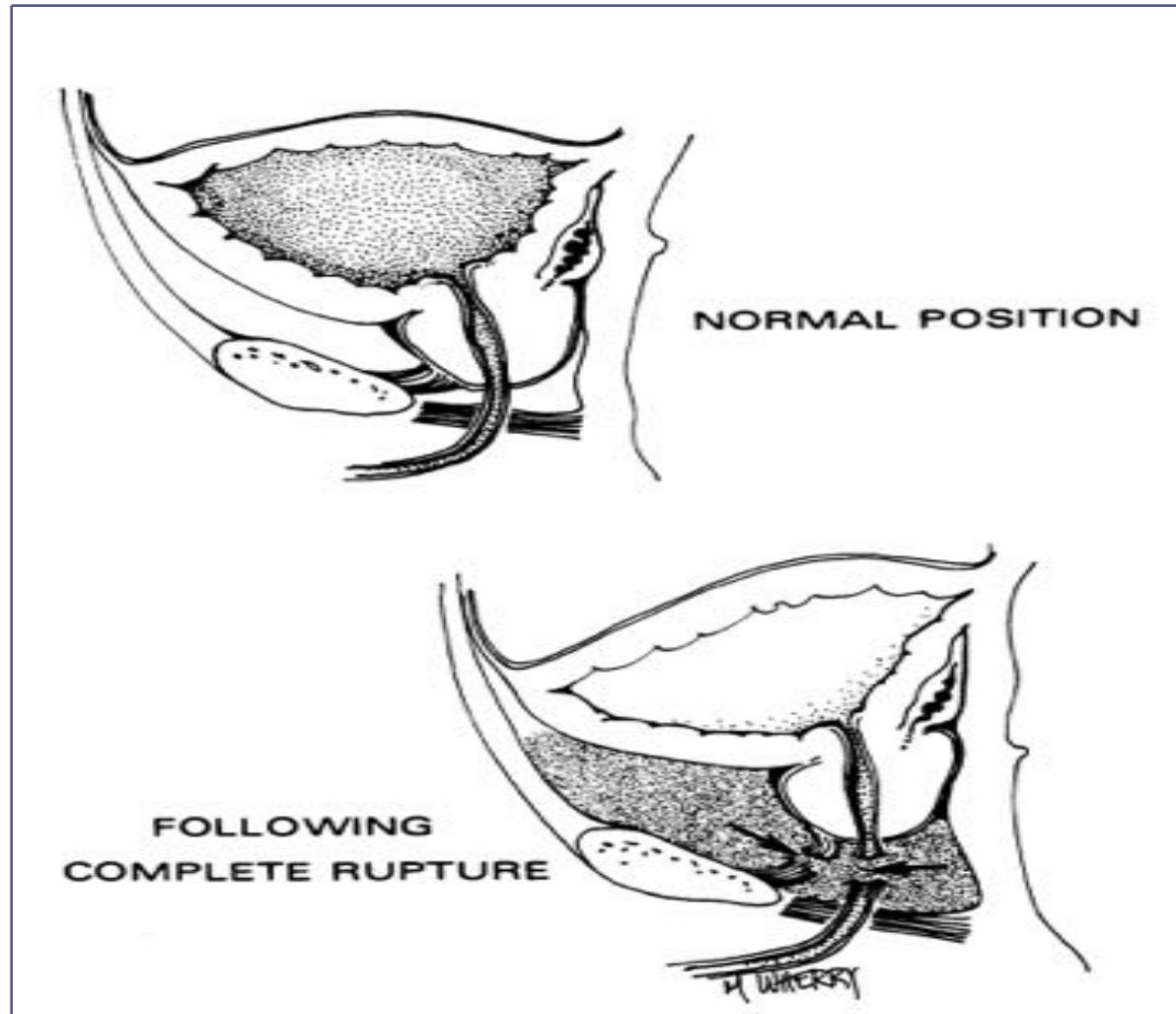
- Incidência depende da abordagem inicial do traumatismo.



# ANATOMIA



# ANATOMY



# Traumatismo da uretra posterior

## DIAGNÓSTICO

- Uretrorragia / sangue no meato uretral: 50%.
- “High riding prostate”: 35%.
- Incapacidade de urinar / Retenção urinária aguda.
- Impossibilidade de algaliação.
- Hematoma peniano / escrotal / perineal.



# Traumatismo da uretra posterior

## DIAGNÓSTICO

| Type | Description         | Appearance   |
|------|---------------------|--|
| I    | Contusion           | Blood at the urethral meatus, normal urethrograms  |
| II   | Stretch injury      | Elongation of the urethra without extravasation on urethrograms  |
| III  | Partial disruption  | Extravasation of contrast at injury site with contrast visualized in the bladder                             |
| IV   | Complete disruption | Extravasation of contrast at injury site without visualization in the bladder; < 1 cm of urethral separation |
| V    | Complete disruption | Complete transection with > 1 cm urethral separation, or extension into the prostate or vagina               |

From Moore et al. 1990

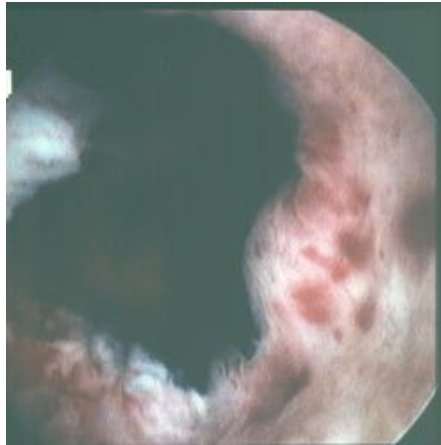




# URETROCISTOGRAFIA (RETRÓGRADA E PERMICCIONAL)

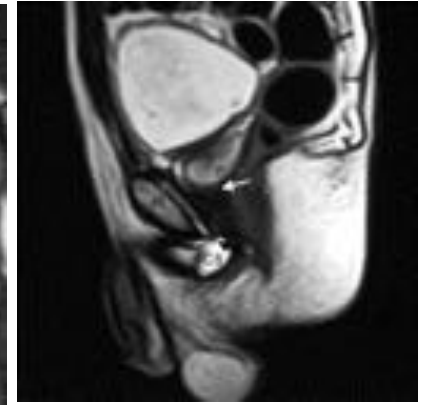


# URETROCISTOSCOPIA



# OUTROS EXAMES

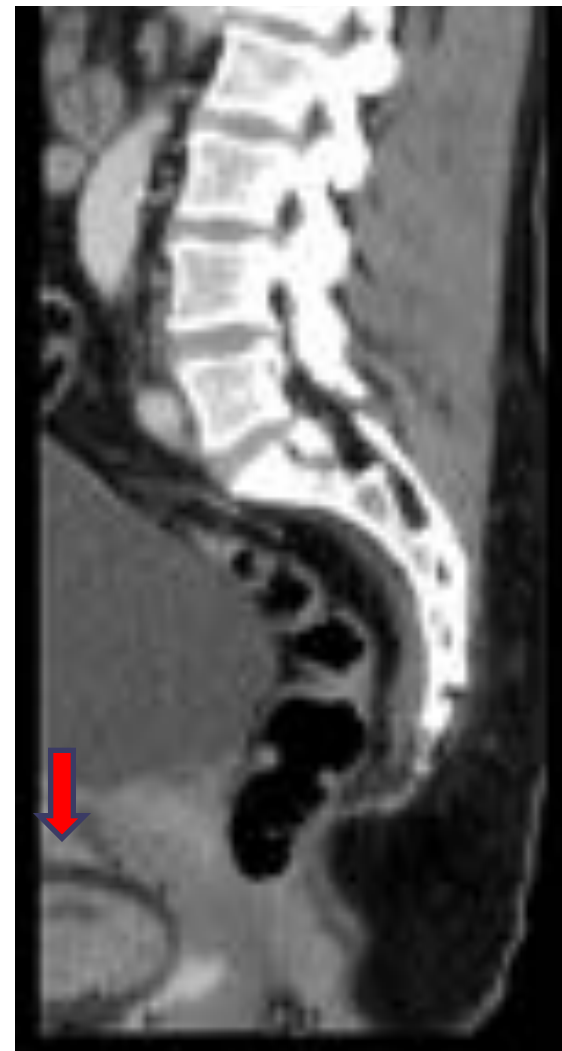
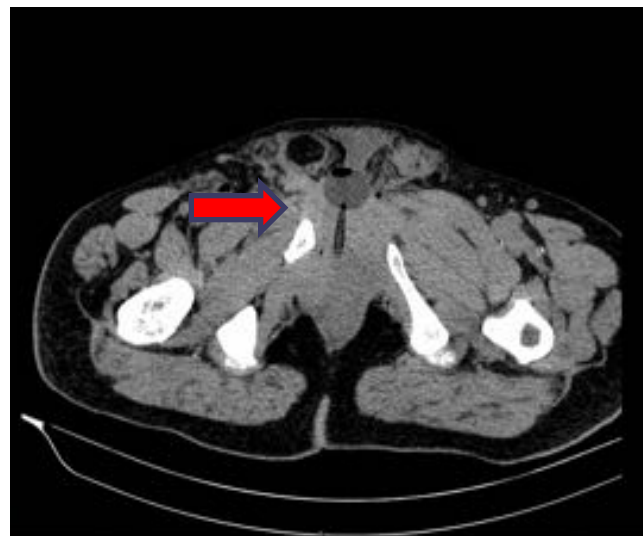
- Ecografia
- TAC
- RMN



# ABORDAGEM INICIAL

- Controversa.
- Deve ser realizada por Urologista.
- Direcionada para prevenir complicações precoces e minimizar risco de aperto, disfunção eréctil e IUE.
- Rutura incompleta VS completa.
- Realinhamento útero (endoscopia) VS cateter supra-púbico e reparação diferida.






# Guidelines on Urological Trauma

D.J. Summerton (Chair), N. Djakovic, N.D. Kitrey, F.E. Kuehhas, N. Lumen, E. Serafetinidis, D.M. Sharma

| Statements  | LOE |
|---|-----|
| Blunt trauma accounts for more than 90% of urethral injuries.   | 3   |
| In pelvic fracture, the urethra is involved in 20% of cases.  | 4   |
| The male posterior urethra is injured in 4-18% of pelvic fracture cases. In industrialized societies pelvic fracture-related injuries of the posterior urethra are the most common non-iatrogenic injuries. | 3   |
| Erectile dysfunction occurs in 20-60% of patients after traumatic urethral rupture.   | 3   |



| Recommendations  | GR |
|--|----|
| Retrograde urethrography is the gold standard for evaluating urethral injuries.                                      | B  |
| Delayed formal urethroplasty is the procedure of choice for the treatment of posterior urethral distraction defects. | B  |
| Partial posterior urethral ruptures should be treated by urethral or suprapubic catheterisation.                     | C  |
| Blunt anterior urethral injuries should be treated by suprapubic diversion.  | C  |

GRs: grade of recommendation; LOE = level of evidence.



European Association of Urology

# REALINHAMENTO 1ário

22. Clinicians may perform primary realignment (PR) in hemodynamically stable patients with pelvic fracture associated urethral injury. (Option; Evidence Strength: Grade C) Clinicians should not perform prolonged attempts at endoscopic realignment in patients with pelvic fracture associated urethral injury. (Clinical Principle)

American Urological Association (AUA) Guideline

UROTRAUMA: AUA GUIDELINE

Table 15.8.5. Results of immediate realignment in complete urethral disruption

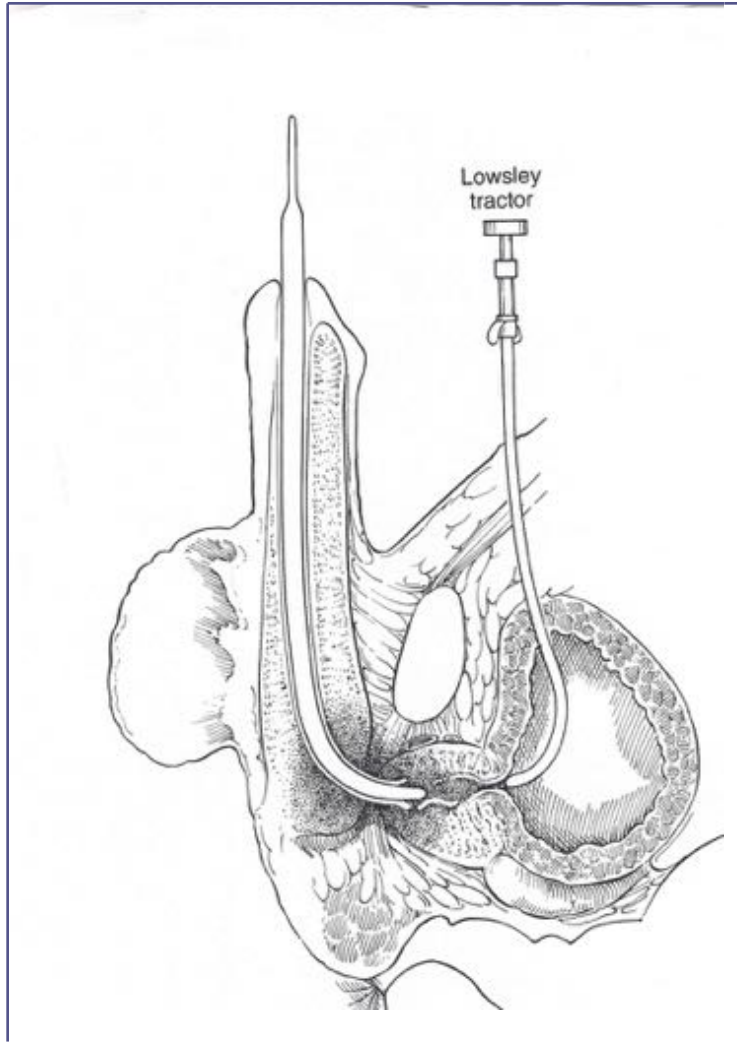
| Author                        | No. of patients | Follow-up months (range) | Success rate (%)            | Complications (%) | Reoperation rate (%) |
|-------------------------------|-----------------|--------------------------|-----------------------------|-------------------|----------------------|
| Olsson 1976                   | 10 <sup>a</sup> | NA                       | 44 (34)                     | 1 (10)            | 36 (74.3)            |
| Chapoyakis et al. 1977        | 36              | 24–288                   | 19/32 (59)                  | NA                | 52 (71.6)            |
| Malk et al. 1977 <sup>b</sup> | 7               | 648 (96–244)             | 0                           | 0                 | 0 (14.3)             |
| Orban et al. 1980             | 7               | 16.2 (3–24)              | 3/6 (50)                    | 0                 | 2 (29)               |
| Urbas et al. 1981             | 4               | 29 (17–35)               | 2 (50)                      | 0                 | 2 (50)               |
| Melkers et al. 1981           | 4               | NA                       | 0                           | 0                 | 4 (100)              |
| Fujita et al. 1981            | 20              | 42 (3–34)                | 4 (20)                      | 2 (10)            | 52 (50)              |
| El-Solh 1981                  | 64              | NA                       | 44 (74.3)                   | 0                 | 64 (100)             |
| Cherter and Frossard 1987     | 3               | 8 (3–9)                  | 0                           | 0                 | 0 (33.3)             |
| Lesberger et al. 1987         | 4               | 36.2 (33–37)             | 1 (25)                      | 0                 | 3 (75%)              |
| Ellsot and Barnes 1987        | 33              | 126 (3–126)              | 11 (24)                     | 2 (5.4)           | 56 (80)              |
| Porter et al. 1987            | 30              | 16.9 (2–18)              | 3/7 (43)                    | 0                 | 2 (30)               |
| Schuman et al. 1988           | 5               | 0 (0–24)                 | 1 (20)                      | 0                 | 2 (40)               |
| Kabat et al. 1988             | 3               | 33 (23–34)               | 1 (33)                      | 1 (33)            | 0 (0)                |
| Tillem et al. 1988            | 13              | 24                       | 1 (7)                       | 0                 | 5 (38.5)             |
| Agosti et al. 1988            | 6               | 36.4 (33–40)             | 3 (50)                      | 1 (16.7)          | 5 (83.3)             |
| Naci et al. 1989              | 20              | 39 (24–78)               | 4 (20)                      | 2 (10)            | 0 (0)                |
| Tang, Han et al. 2000         | 6               | 36 (36–40)               | 0                           | 0                 | 2 (33)               |
| Moudonzi et al. 2001          | 23              | 68 (33–130)              | 6/29 (24)                   | 0                 | 16 (69.2)            |
| Mourouane et al. 2003         | 57              | 1–24 (3–13)              | 24/57 (42)                  | 14/57 (24)        | 26/57 (45)           |
| Total                         | 362             |                          | 186/368 (51.3) <sup>a</sup> | 19/362 (5.2)      | 206/362 (56.9)       |

*Operative steps vs urethral realignment and outcome*

| Operative Steps             | Not Realigned | Primarily Realigned | No. Success/<br>Total No. (%) |
|-----------------------------|---------------|---------------------|-------------------------------|
| Urethral mobilization alone | 82            | 13                  | 91/95 (96)                    |
| Corporal splitting          | 20            | 4                   | 22/24 (92)                    |
| Inferior pubectomy          | 14            | —                   | 12/14 (86)                    |
| Urethral rerouting          | 4             | —                   | 1/4 (25)                      |
| Abdominoperineal (salvage)  | 5             | —                   | 4/5 (80)                      |
|                             | —             | —                   | —                             |
| No. success/<br>total No.   | 113/125 (90%) | 17/17 (100%)        | 130/142 (92)                  |

Kier, William S.; Armenakas, Noel A.; Brandes, Steven B.; Cavalcanti, Andre G.; Sartucci, Richard A.; Morey, Allen F. \* Simplified Reconstruction of Posterior Urethral Disruption Defects: Limited Role of Supraprostatic Rerouting. *Journal of Urology*. 177(4):1379-1382, 2007



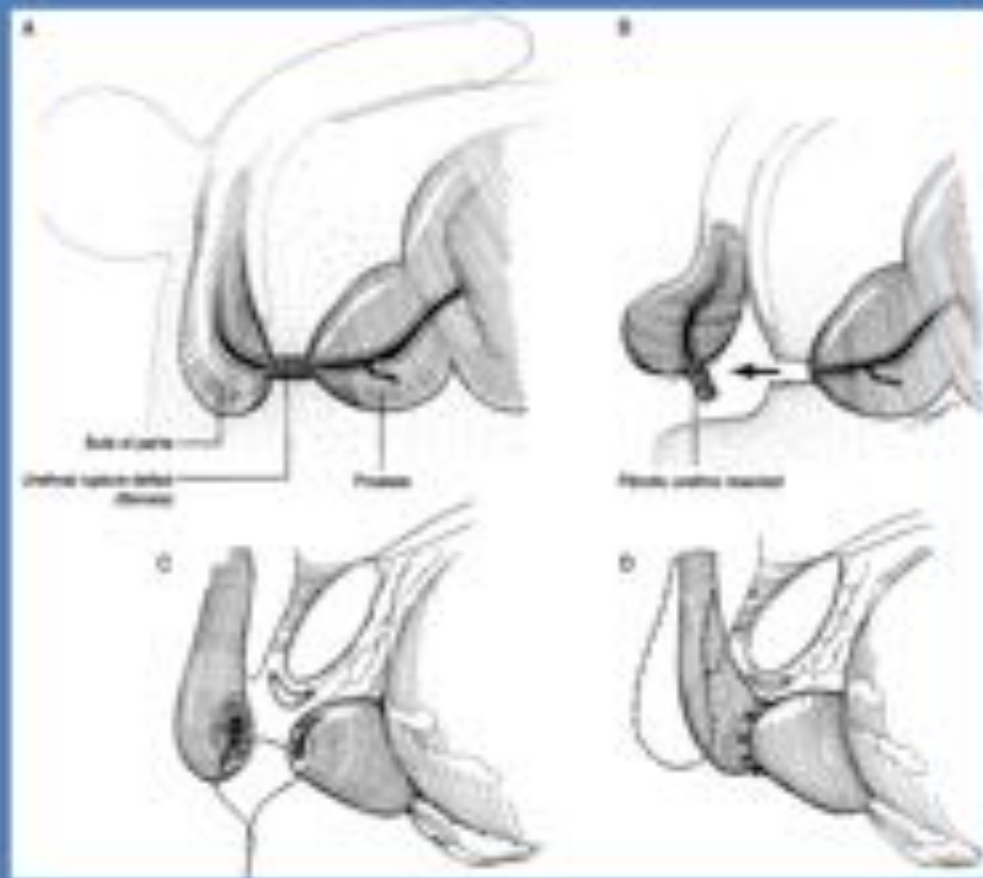




Realinhamento 1ário



# Uretroplastia Posterior Pós-Traumática?

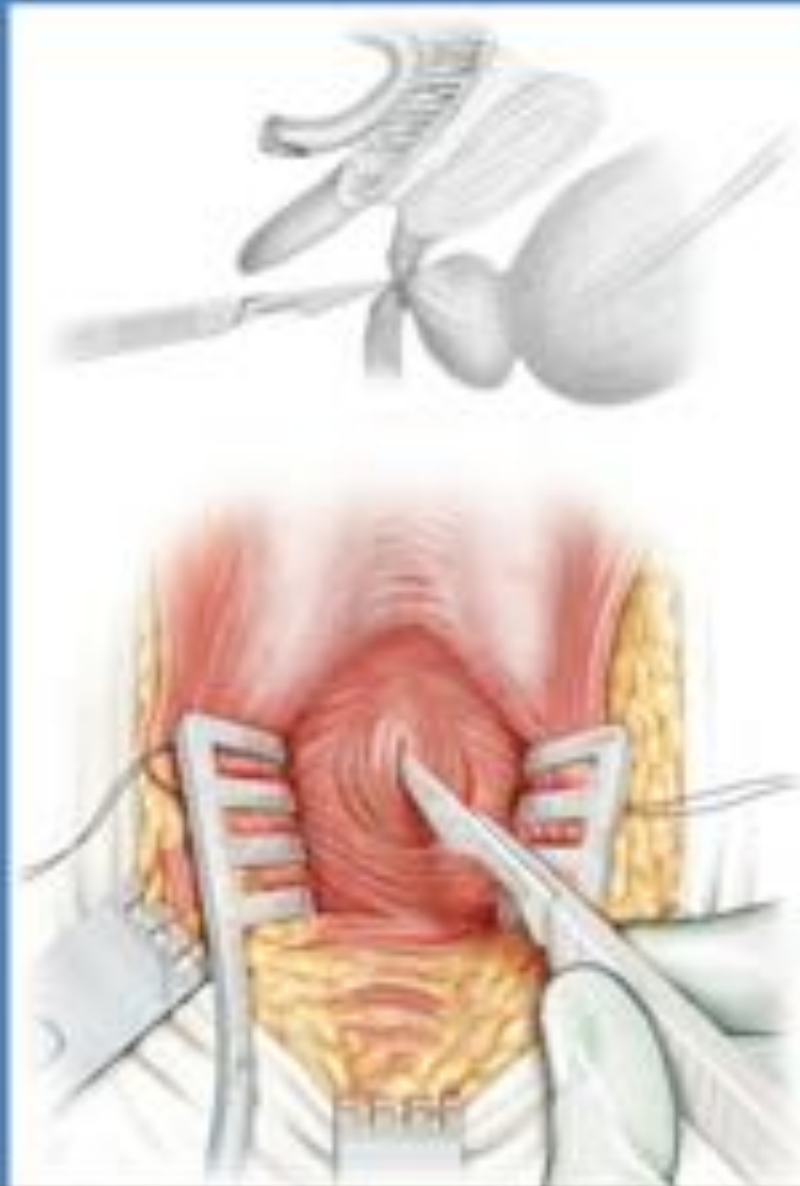


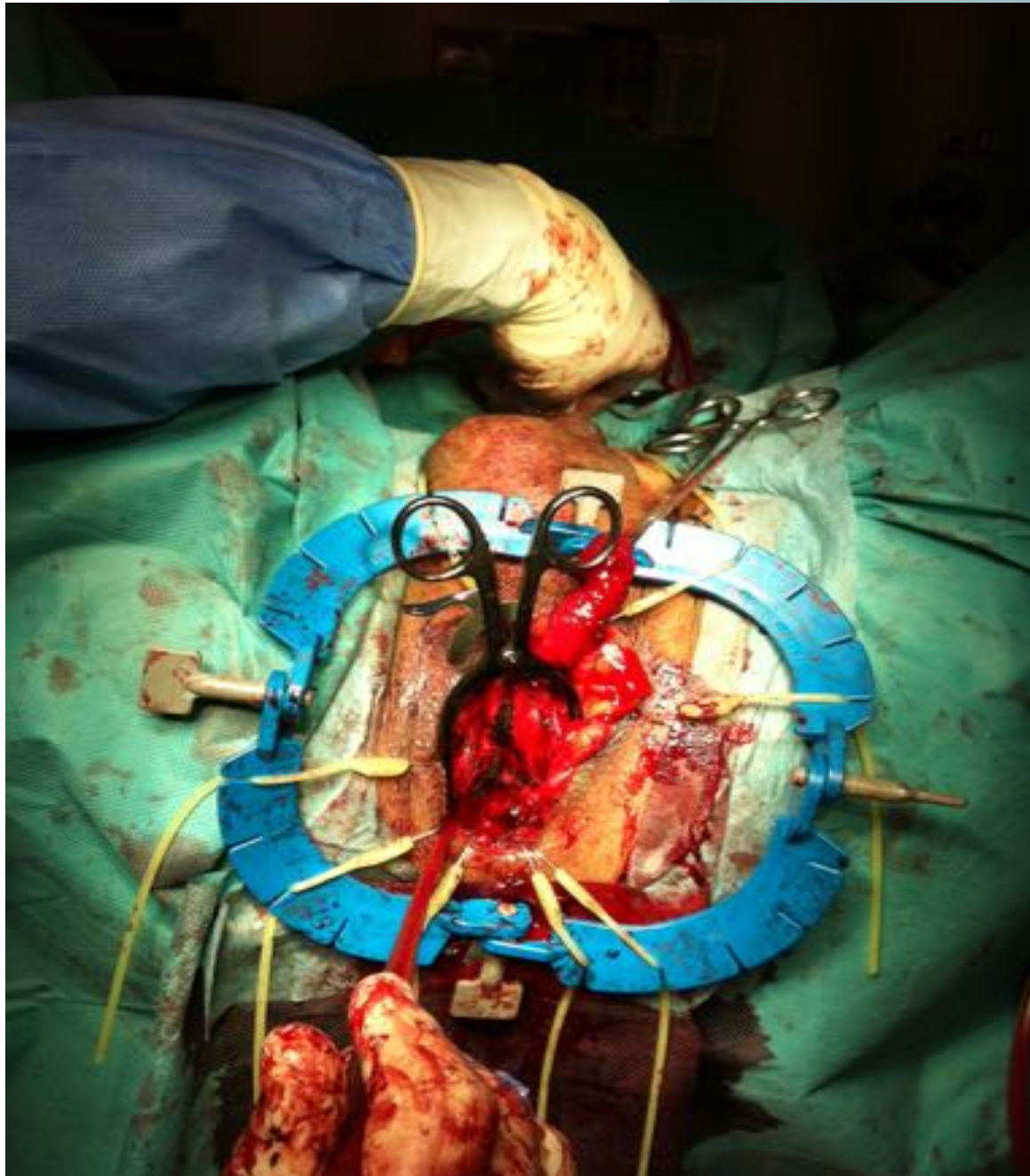
- Posição de litotomia (moderadamente forçada)
- Adequado posicionamento de membro inferiores
- Profilaxia anti-trombótica
- Anestesia





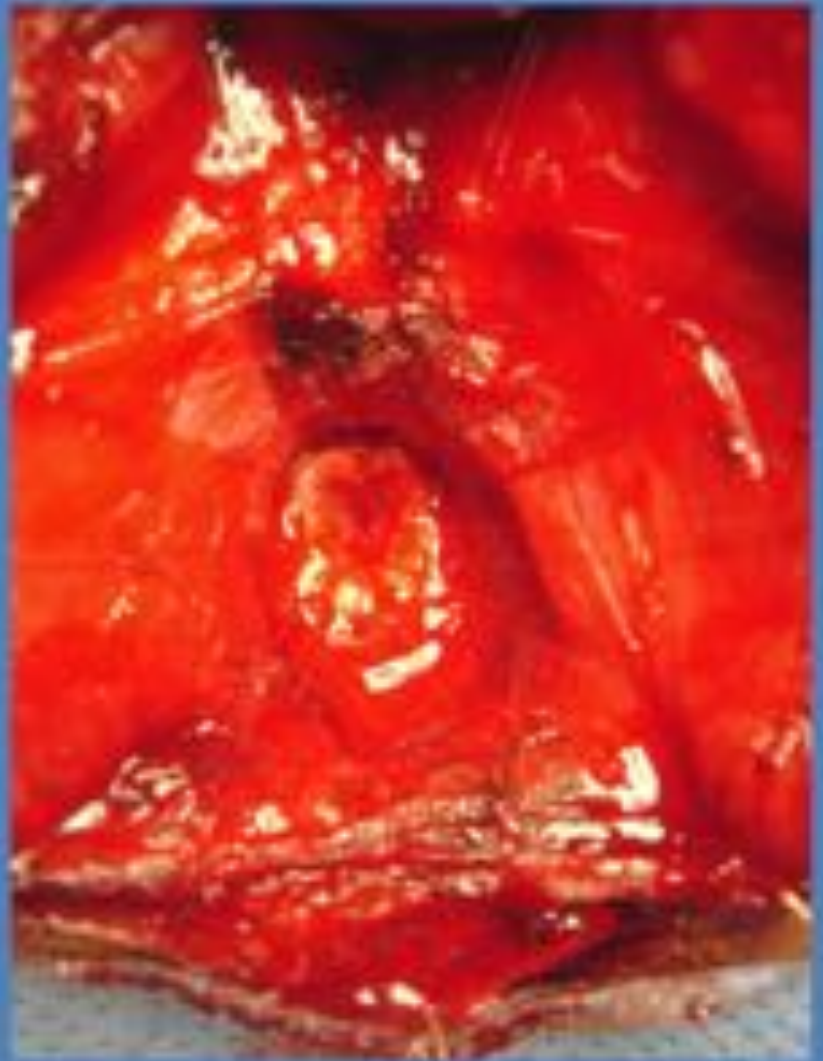
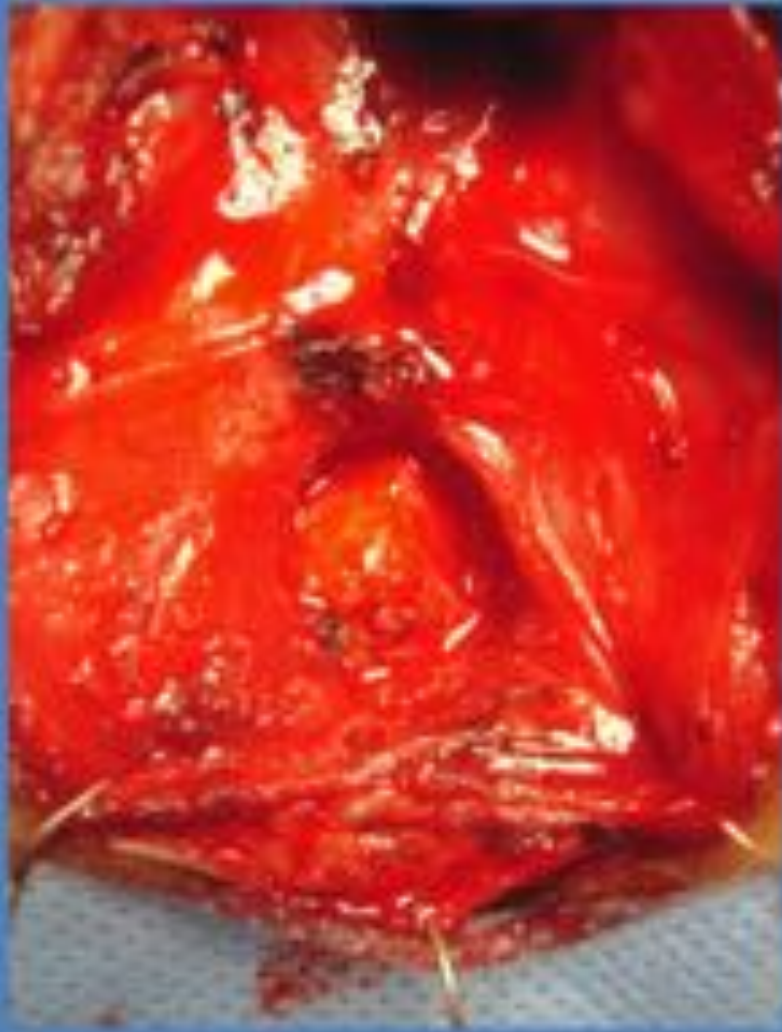
## Simple perineal approach

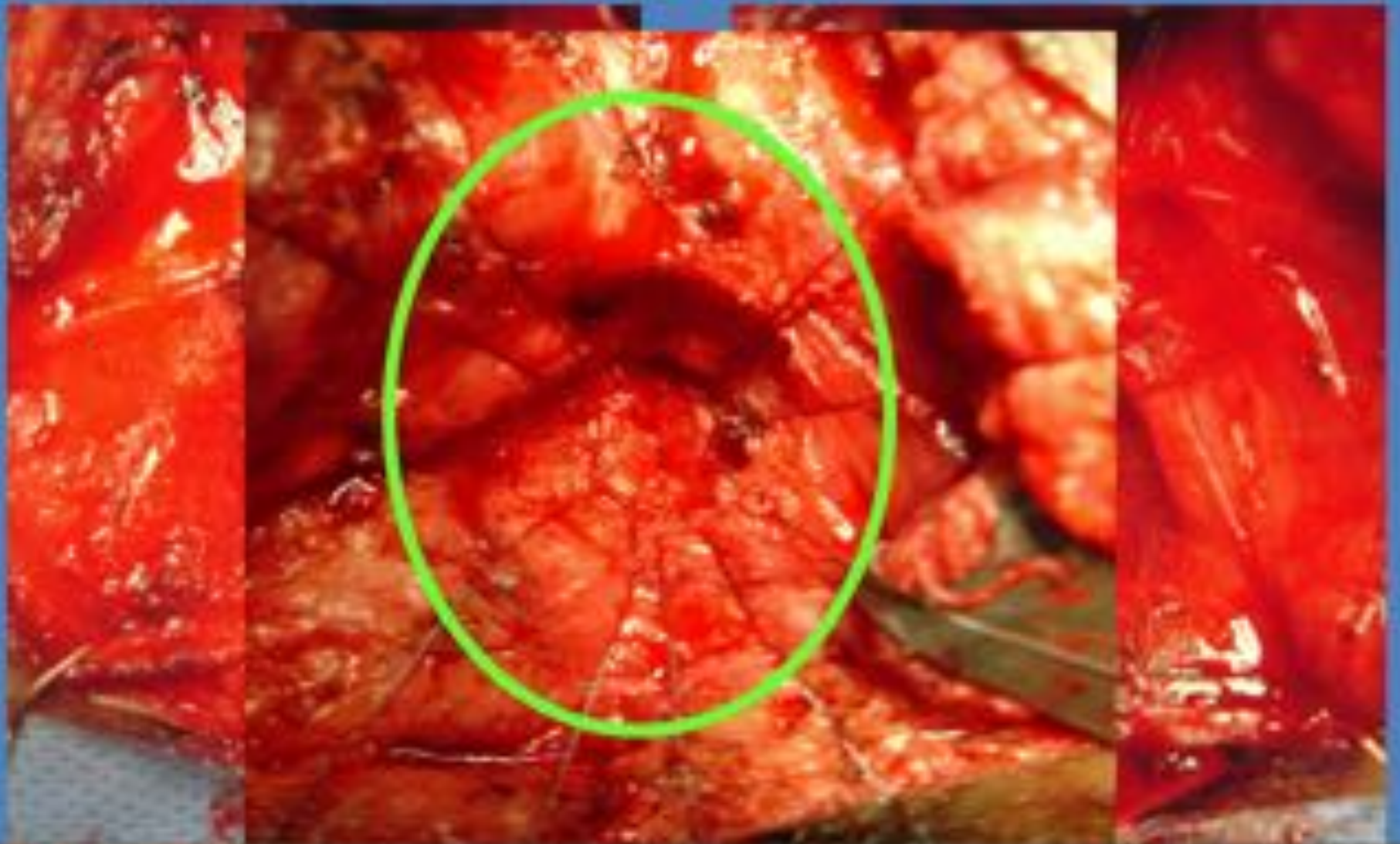




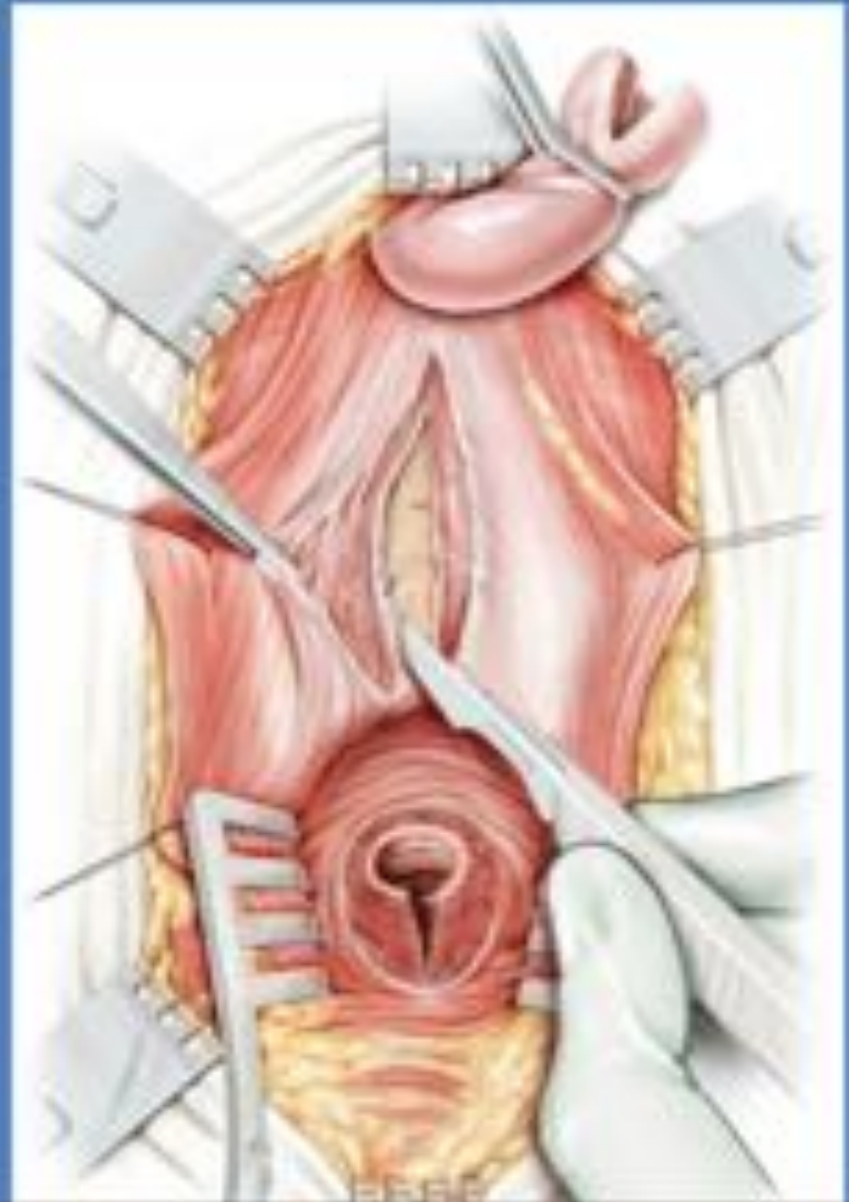
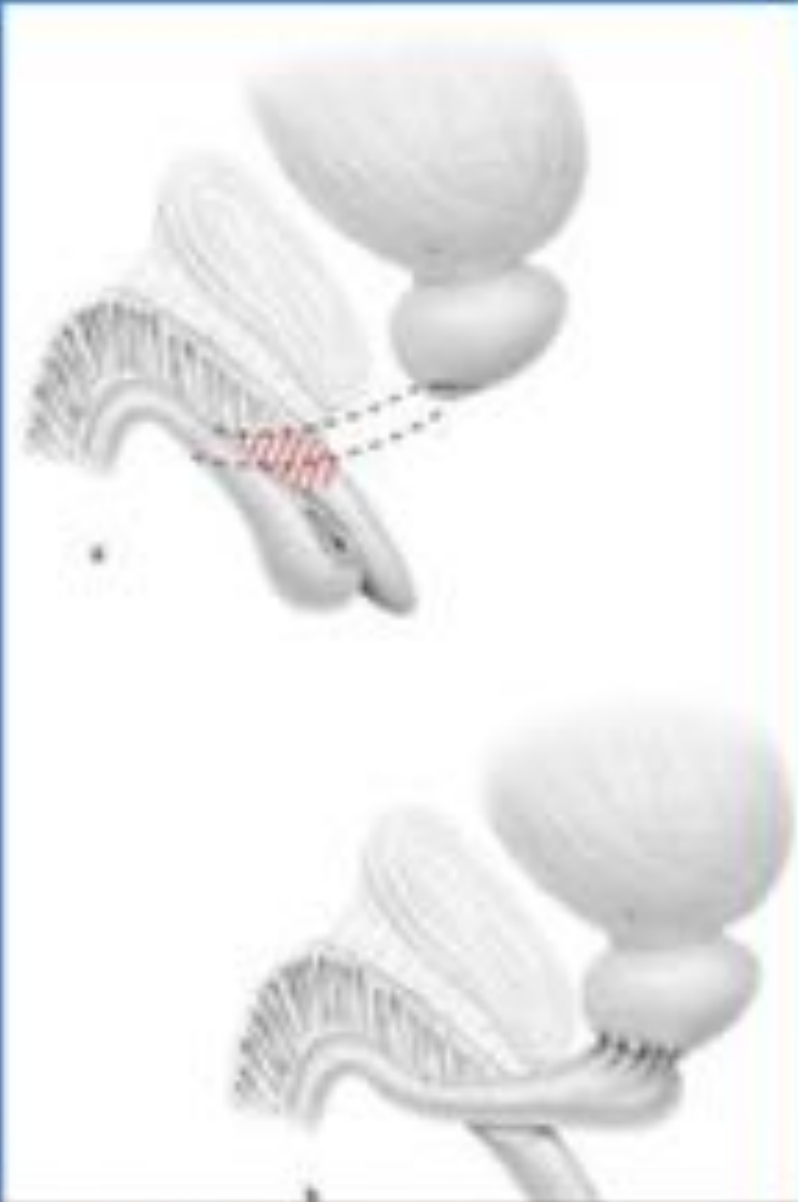


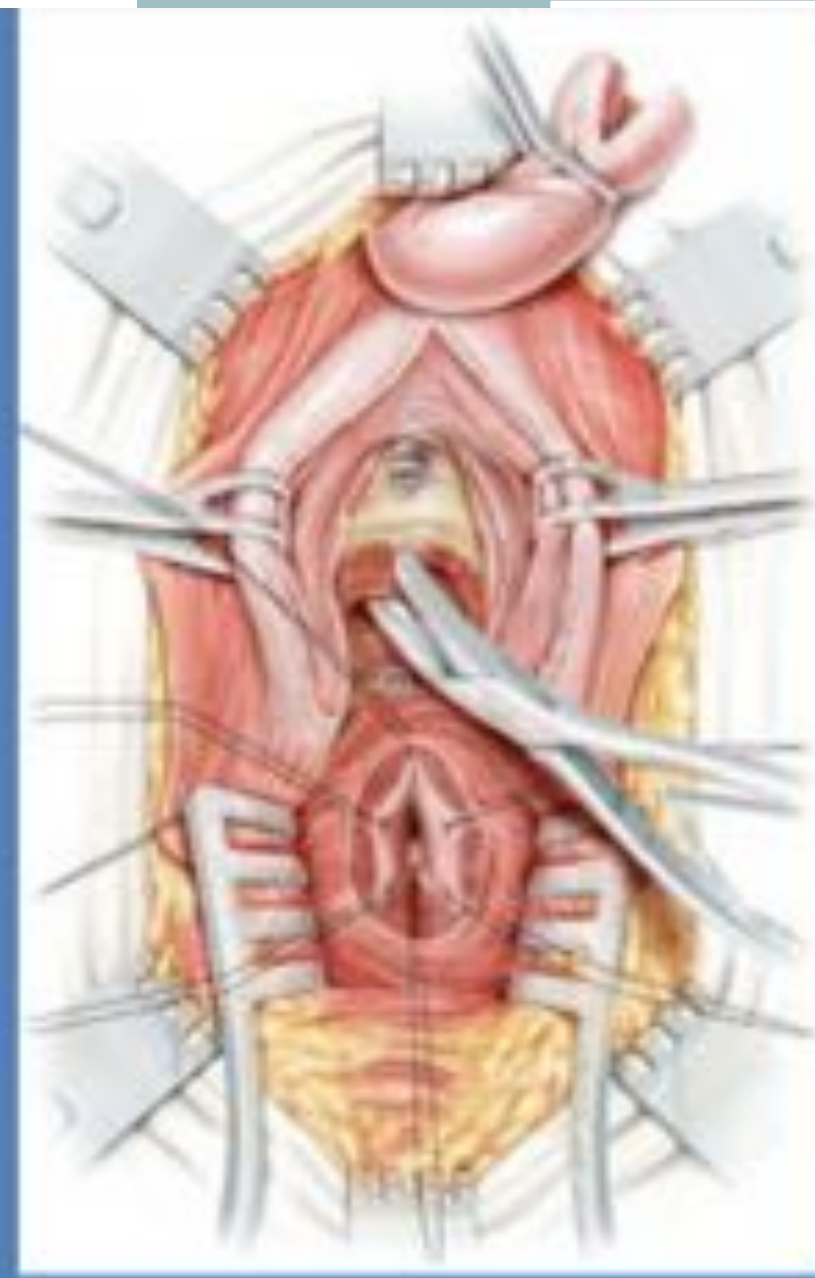
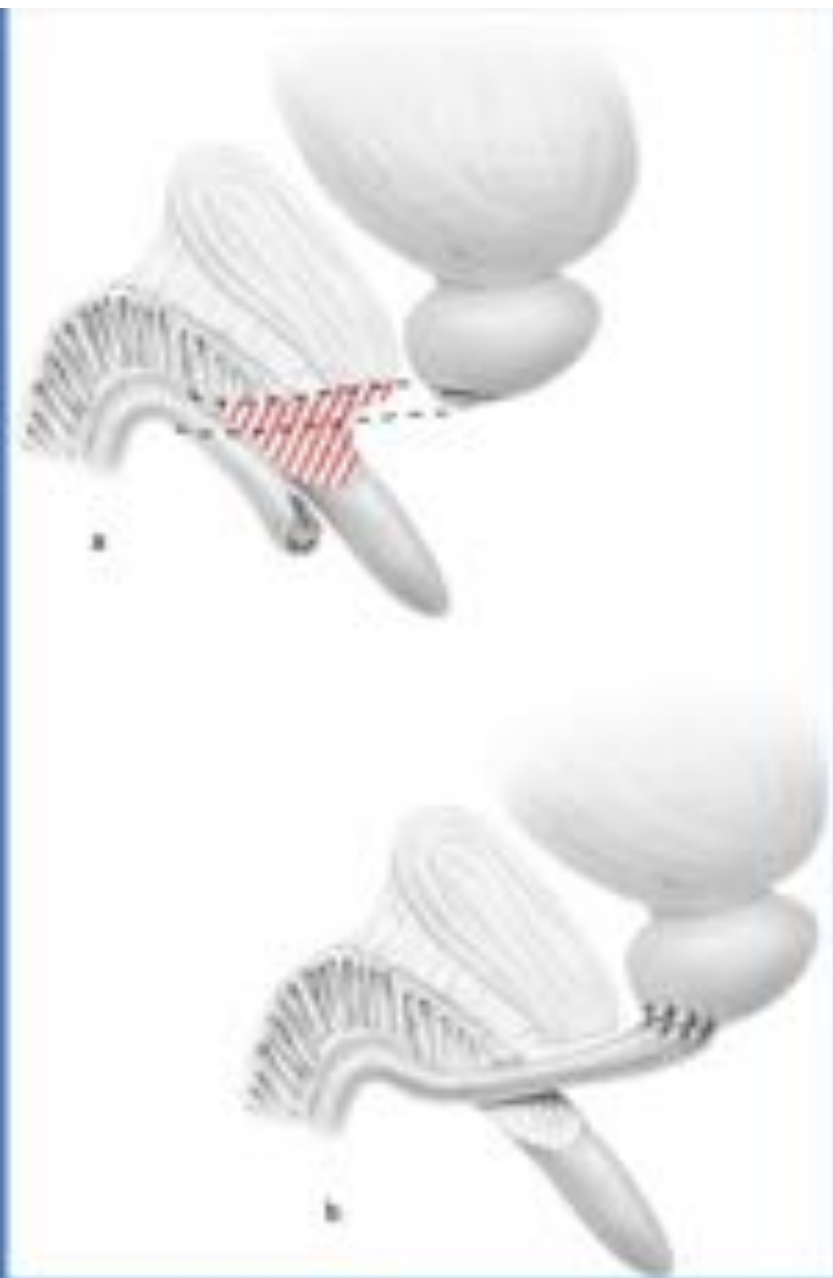


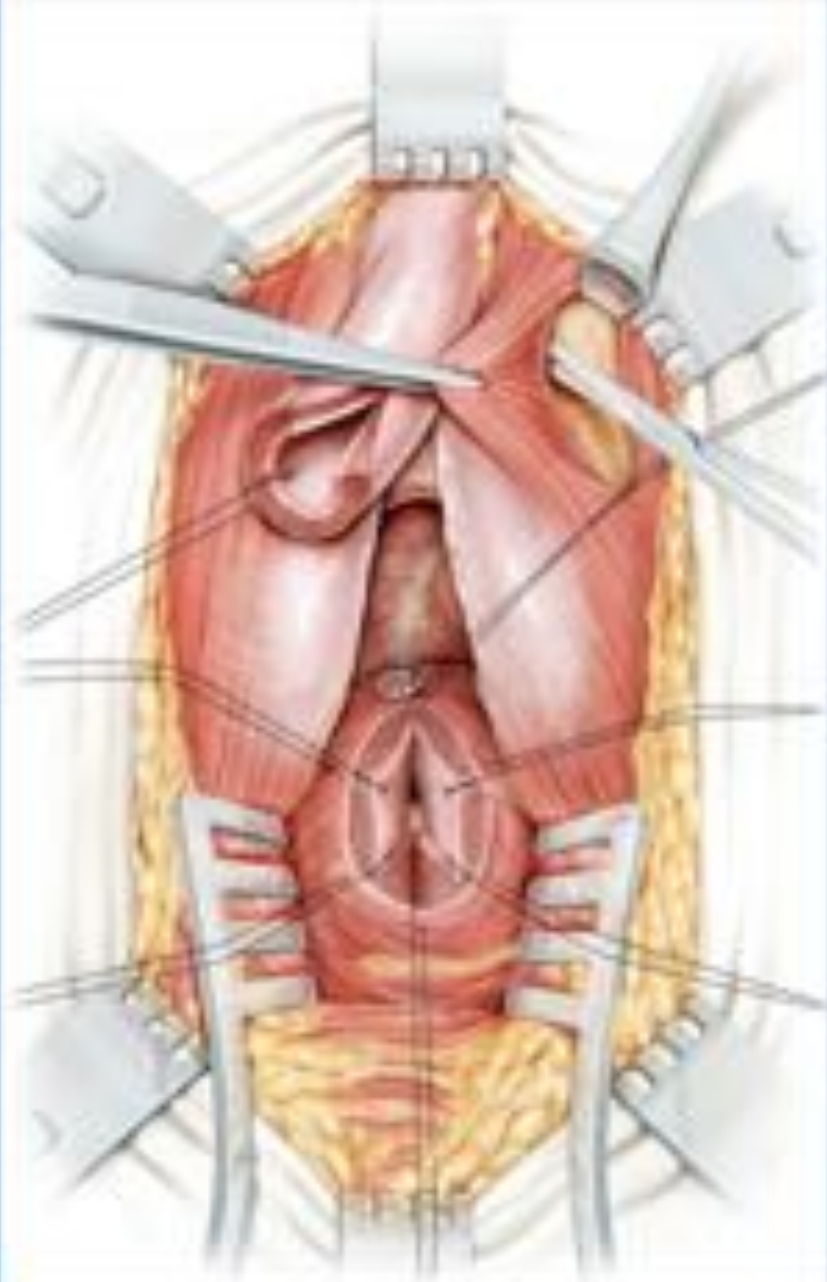


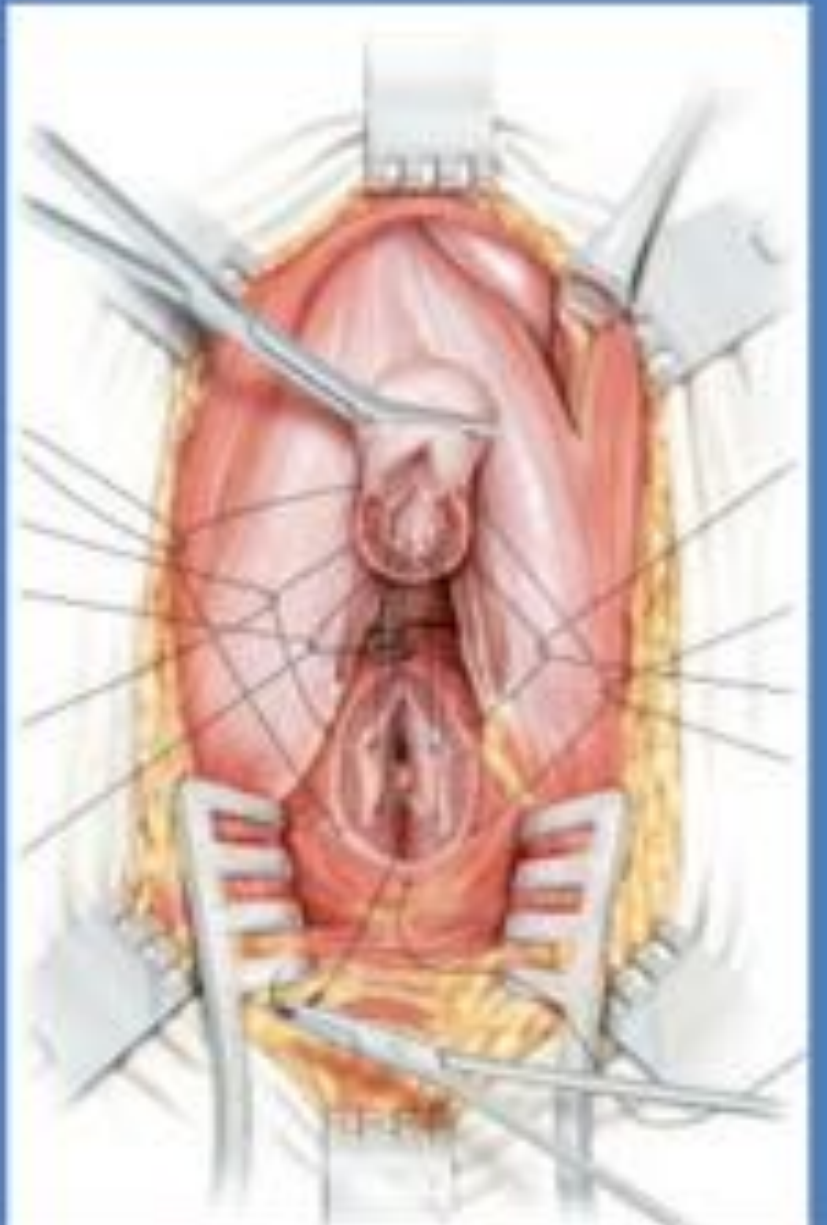
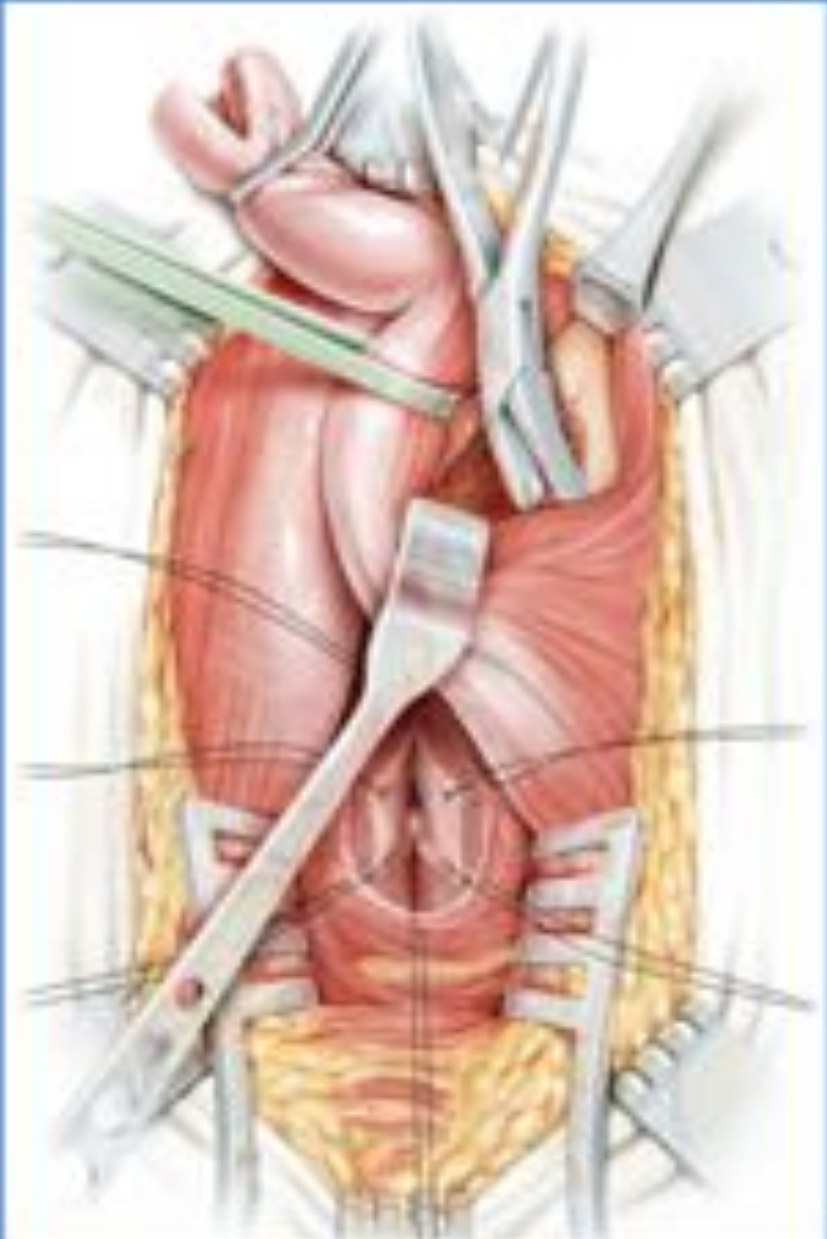


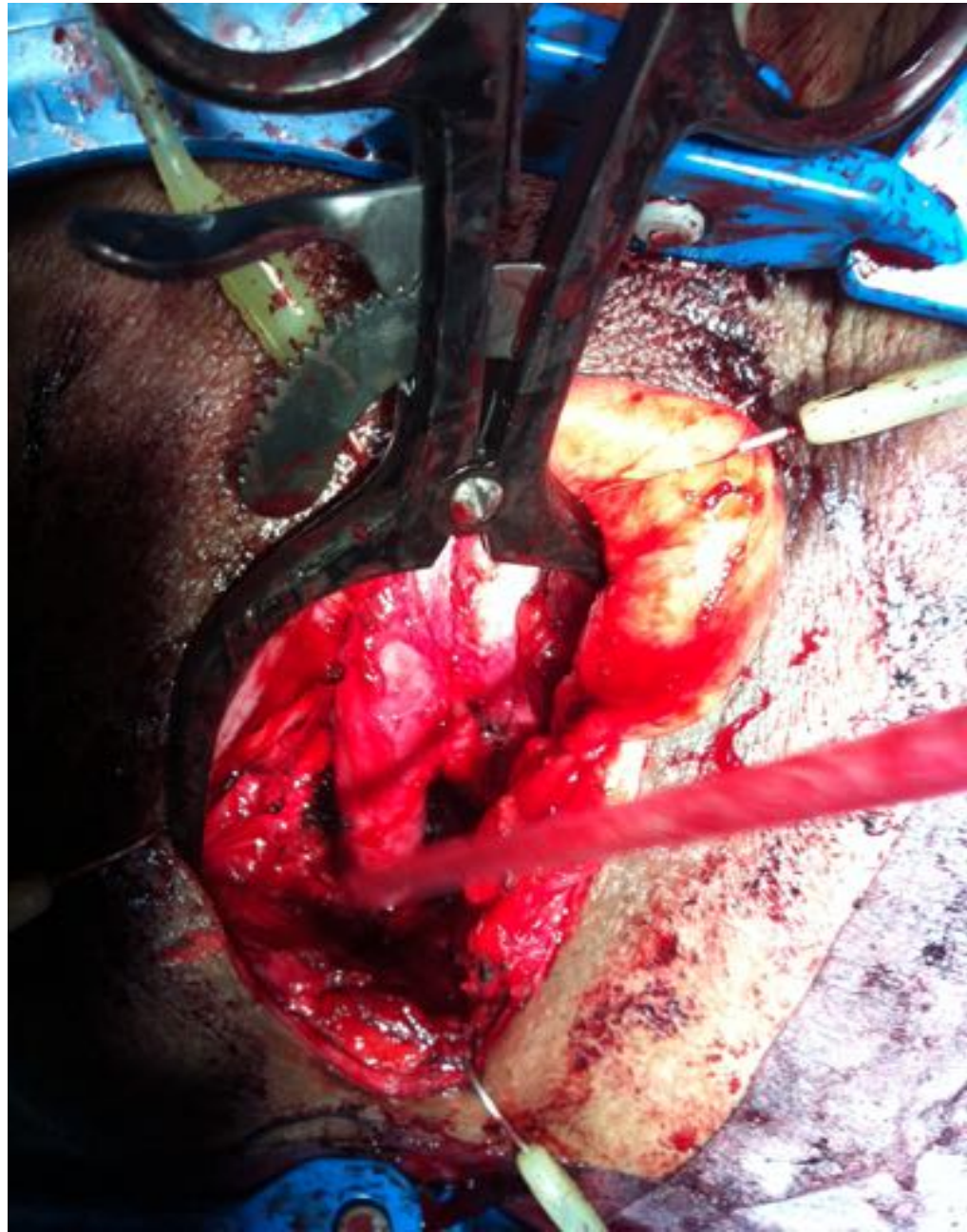
## Progressive perineal approach





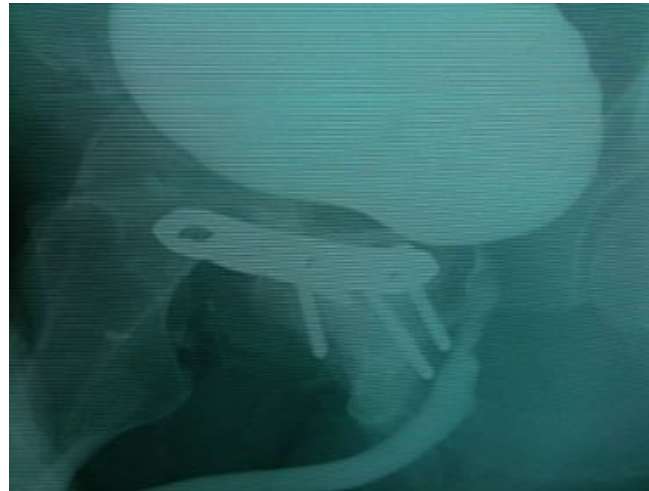






# SEGUIMENTO

- História clínica
- Fluxometria
- Uretroscopia
- Uretrocistografia





# COMPLICAÇÕES



+++ consequência do traumatismo inicial

**Conclusions:** After pelvic fracture, 19% of patients had ED. After primary endoscopic alignment, patients had a lower reported rate of ED (10%). Delayed endourology associated an additional 7% risk above the 10% associated with PFUI alone, with 17% of patients having at least ED. The difference in at least ED after primary endoscopic alignment vs. delayed endourology is probably due to reporting differences in ED among patients with less severe injury undergoing primary endoprosthesis.

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# COMPLICAÇÕES

postoperative incontinence due to surgery-related damage to the intrinsic sphincter organ when the bladder neck is incompetent, when the bladder neck is involved in the primary trauma. This complication can be avoided by a careful assessment before surgery.

+++ consequência da cirurgia reconstrutiva

# RECIDIVA DO APERTO

This is because such problems are as a result of ischemia of the anastomosis because the blood supply is insufficient to sustain adequate vascularity of the anastomosis, fibrotic tissue was left behind. More commonly, lesion anastomosis during operation may lead to the recurrence. If the procedure was performed technically competently then almost always the patients who show this early failure also have complete erectile dysfunction supporting the concept that this recurrent stricture is vascularogenic and ischemic in origin. In such cases, the suprapubic catheter must be replaced and the patient must wait another three months and the procedure is repeated.

- Mesmo procedimento
- *Progressive perineal approach*
- Abordagem combinada transpúbica-perineal

### Reconstructive Urology

## A Posterior Sagittal Pararectal Approach for Repair of Posterior Urethral Distraction Injuries

Medhat Ahmed Abdalla \*

Department of Urology, Assiut University Hospital, Assiut 71515, Egypt

**Conclusions:** This technique is a good alternative approach for repair of complicated PFUDDs. It is safe and has the advantage of better visualisation of the apex of the prostate and surgical field, with subsequent good outcomes without immediate or remote effects on the sphincteric function of the rectum or bladder. Further studies with larger cohort of patients are needed to justify the specific indications of this approach.



Available online at [www.eurjvs.com](http://www.eurjvs.com)  
Journal homepage: [www.eurjvs.com/home](http://www.eurjvs.com/home)



Endorectal sphincterotomy

## Surgical Treatment of 18 Complex Traumatic Posterior Urethral Strictures Associated with Urethrorectal Fistulas

Yun-Min Ho<sup>1</sup>, Ming-Lung Ho, Cheng-Hsiung Cheng, Han-Hsin Jhih

Department of Urology, National Taiwan University Hospital, Taipei, Taiwan; <sup>1</sup>Department of Urology, National Taiwan University Hospital, Taipei, Taiwan



# CONCLUSÕES

- Gravidade das lesões da uretra posterior associadas a # da bacia dependem da abordagem inicial do traumatismo.
- Baixa incidência da necessidade de uretroplastia posterior por # uretra.
- Técnica exigente e com implicações nos resultados.
- Necessidade de familiaridade com técnicas alternativas.
- Centros de referência para este tipo de cirurgia.