

CENTER FOR RECONSTRUCTIVE URETHRAL SURGERY



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Jayaramdas Patel Academic Centre

Muljibhai Patel Urological Hospital

URETHROPLASTY



Nadiad – Gujarat - India

July 19 – 20, 2012

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Onlay urethroplasty:
What material, what method do
we have final answer



Art of
URETHRAL
Reconstruction

Sanjay B. Kulkarni
Guido Barbagli

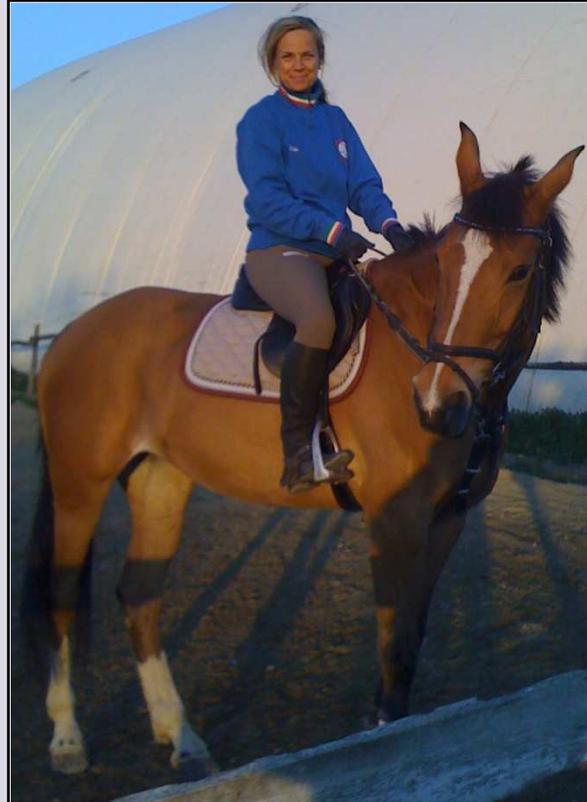
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The Team



Salvatore Sansalone



Sofia Balò



Giuseppe Romano

Based-evidence Medicine

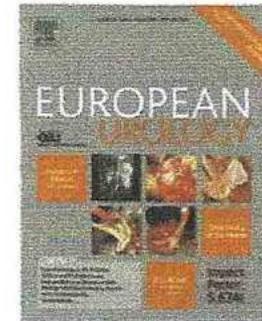
Metanalysis review

Guidelines

Consensus Conferences



available at www.sciencedirect.com
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Editorial

Can Reconstructive Urethral Surgery Proceed Without Randomised Controlled Trials?

Guido Barbagli^a, Massimo Lazzeri^{b,*}

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^b Department of Urology, Santa Chiara Hospital (GIOMI group), Florence, Italy

What has history taught us? The history of urethral reconstruction is based on observational studies that appear today to be disarming in their apparent ease. In 1968, Orandi introduced the concept of penile skin flap urethroplasty, publishing a paper consisting merely of two pages and two black and white figures and that lacked any outcome assessment [10]. Oral mucosa has become the most popular substitute material in the treatment of urethral strictures, as it is readily available and easily harvested from the cheek, lip, or tongue, allowing for a concealed donor site scar and low oral morbidity [11–14]. Unfortunately, all the papers that have contributed to the widespread use of the oral mucosa graft are retrospective, not prospective, and they are not RCTs.

Urethral surgery for stricture repair is performed on a small sample size and, for this reason, the focus tends to be on the comparison of different techniques in homogeneous groups rather than prospective, randomised design studies. What does homogenous mean? It means that a technique used for penile urethra repair cannot be compared with a technique used for bulbar urethra repair.

Eur Urol, 2008, 54: 709-711

Urological literature on urethral stricture

- ❖ Few prospective, randomized studies
- ❖ No homogeous series of patients
- ❖ Small sample size – no statistical significance
- ❖ No reliable data from developing countries

Personal opinion of high-volume surgeon from high-volume Center for Urethral Surgery

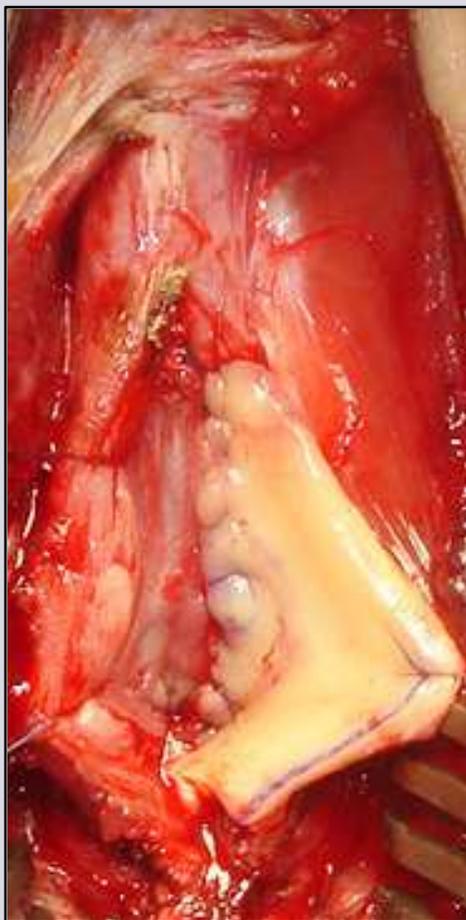
Data published in peer review scientific Journals

Data fully available and **updated** in our website
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**The oral mucosa is
the best material
for urethral
reconstruction**



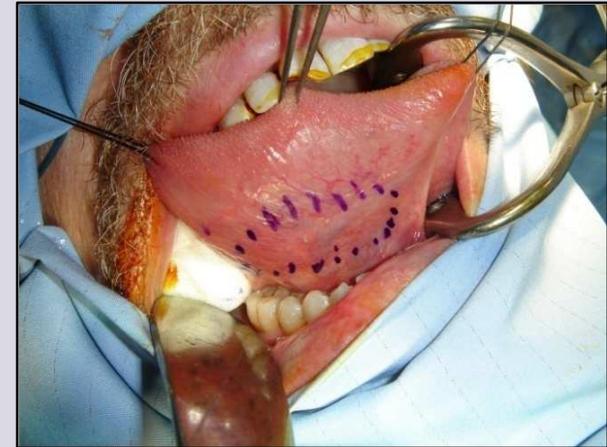
Oral mucosa: harvesting sites



cheek



lip



tongue

NO

Harvesting site from the lip: visible to the naked eye



Negative aesthetic consequences

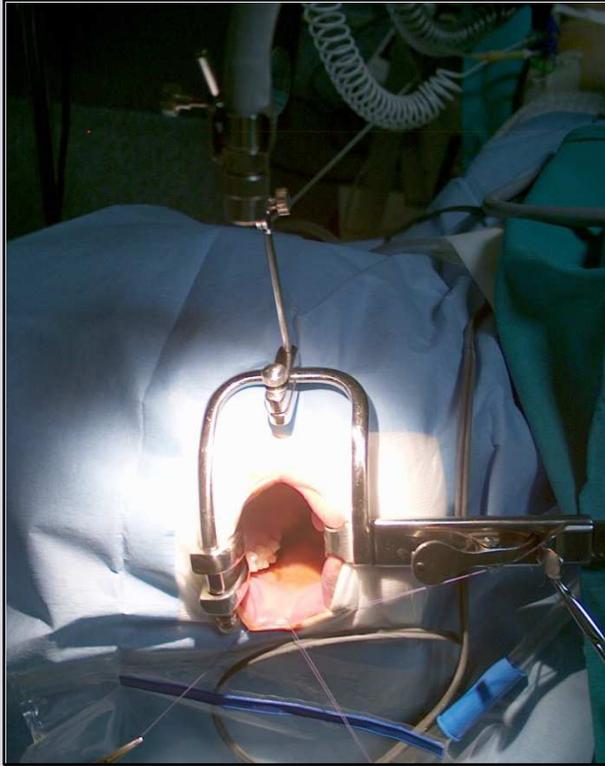
Unsatisfactory post-operative patient acceptance

Oral mucosa: surgical technique



Two surgical teams work simultaneously

Oral mucosa: surgical technique



**Appropriate
mouth retractor**



**Only one assistant is
needed to harvest the
oral graft**

Advantages of the double team

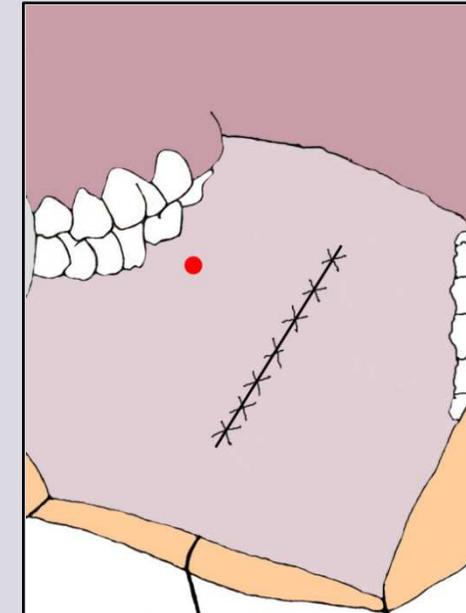
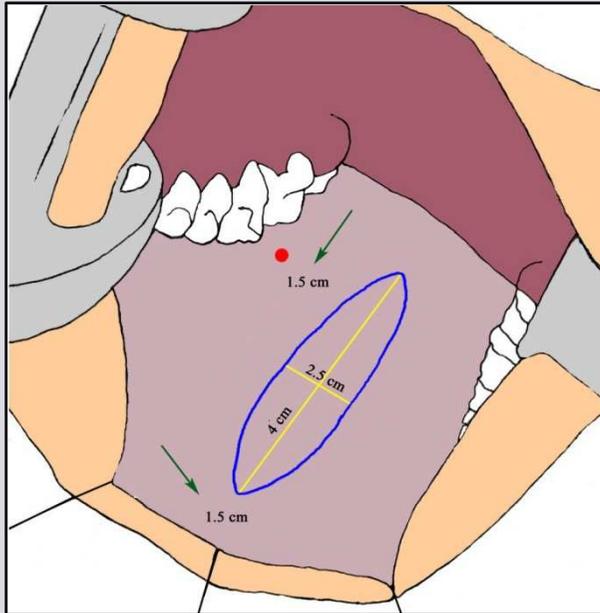
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graph TD; A[Advantages of the double team] --- B[decrease of surgical time to ~ one hour]; A --- C[decrease of contamination in surgery]; A --- D[provides training opportunity for a young assistant interested in learning urethral surgery];
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**decrease of
surgical time
to ~ one hour**

**decrease of
contamination in
surgery**

**provides training
opportunity for a young
assistant interested in
learning urethral surgery**

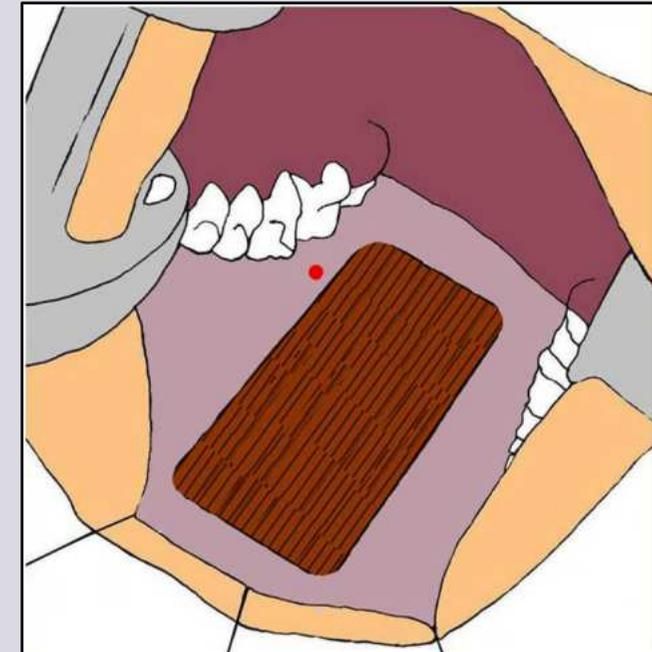
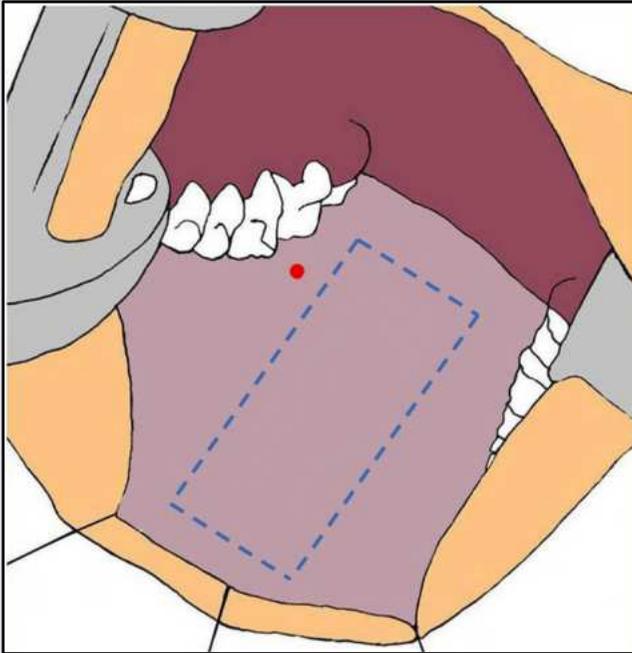
Oral mucosa: surgical technique



closure

One-stage techniques: ovoidal graft shape

Oral mucosa: surgical technique



No - closure

Staged techniques: rectangular graft shape

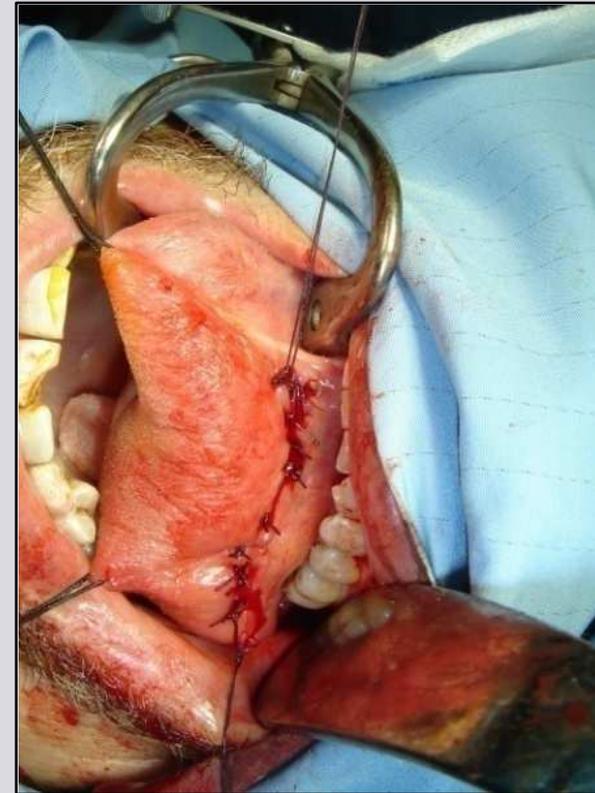
Oral mucosal grafts

right cheek	5 x 2.5 cm
left cheek	5 x 2.5 cm
tongue	4 x 2.5 cm
	4 x 2.5 cm



18 cm x 2.5 cm

Harvesting site



Oral mucosa



concealed

Harvesting site



Skin → **visible to the naked eye**

aesthetic consequences → **psychological sequelae**

Oral mucosa: biological characteristics

Easy to adapt for any type of urethroplasty



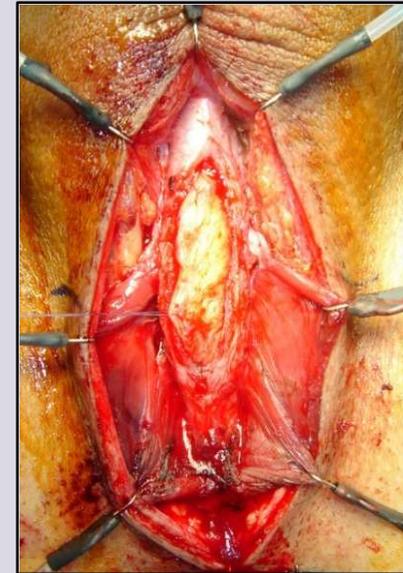
One-stage



Two-stage

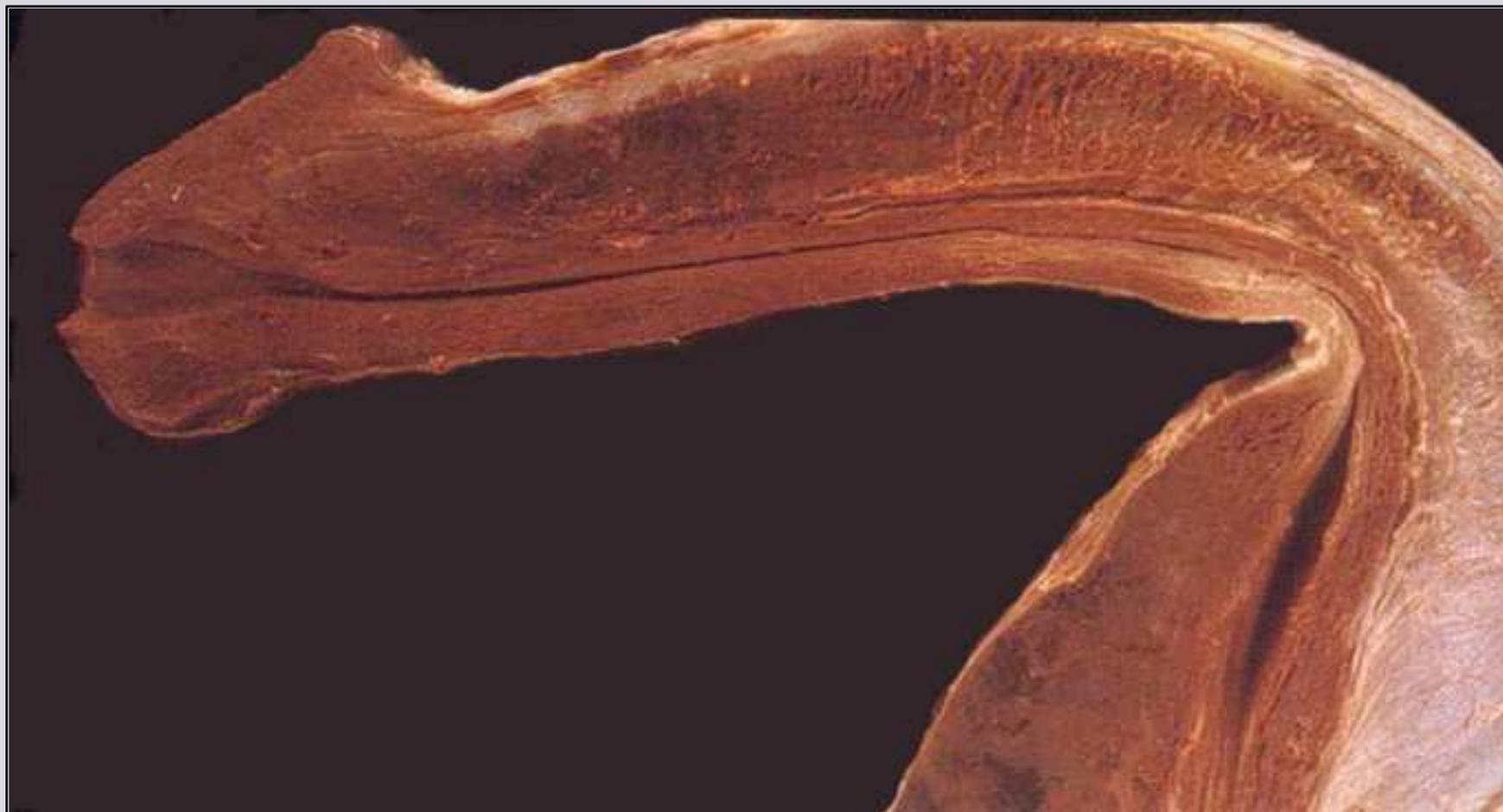


Inlay



Onlay

Penile urethroplasty



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One-stage penile urethroplasty



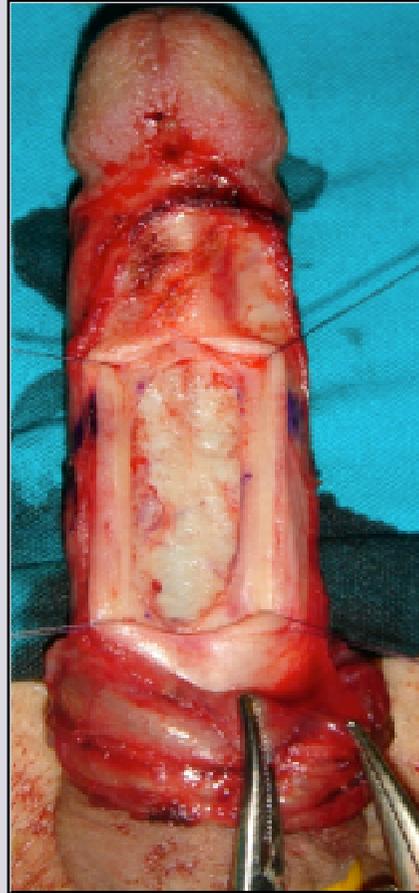
Minimally invasive technique using oral graft

Penile urethroplasty



One-stage technique

Penile urethroplasty



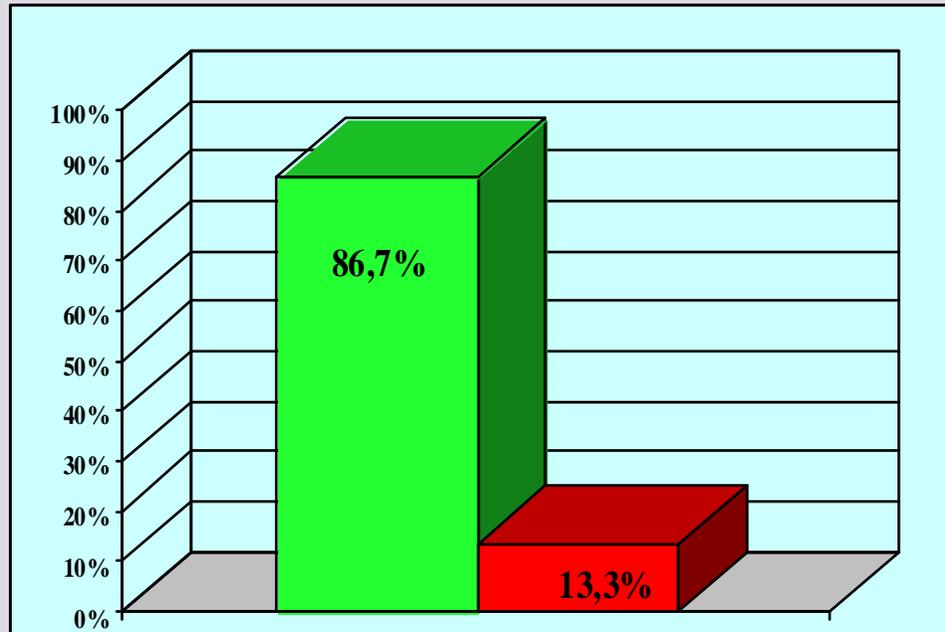
One-stage technique

Penile urethroplasty



One-stage technique

Oral graft

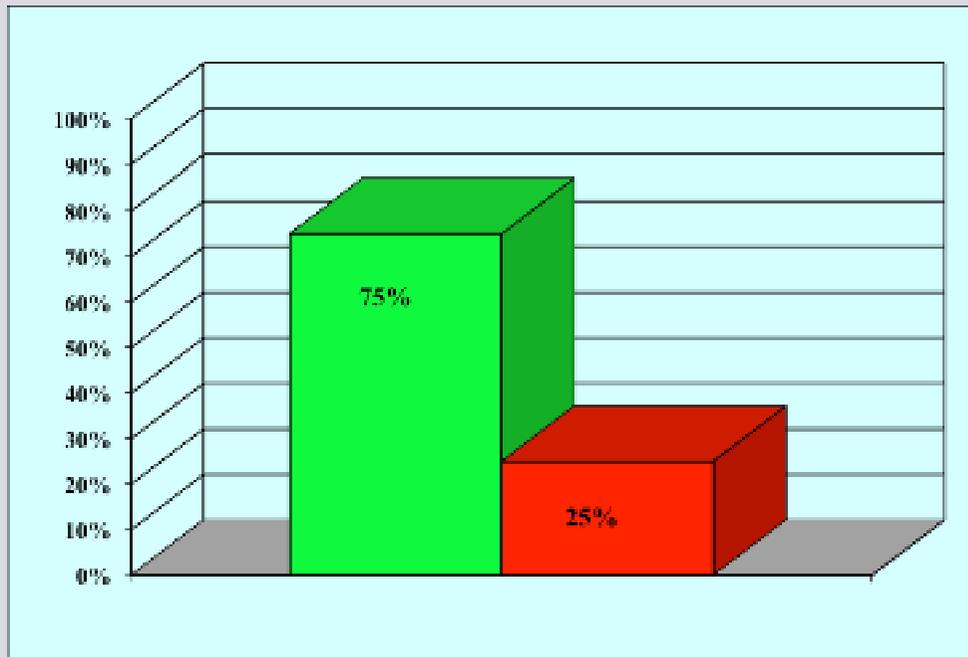


**30
patients**

■ success	26 (86.7%)		
■ failure	4 (13.3%)		
	minimum	maximum	mean
Follow-up (months)	6	129	73
Age (years)	27	78	51

**Up-to-date
December 31, 2011**

Skin graft



**32
patients**

■ success	24 (75%)
■ failure	8 (25%)

	minimum	maximum	mean
Follow-up (months)	8	185	76
Age (years)	15	75	44

**Up-to-date
December 31, 2011**

Bulbar urethoplasty



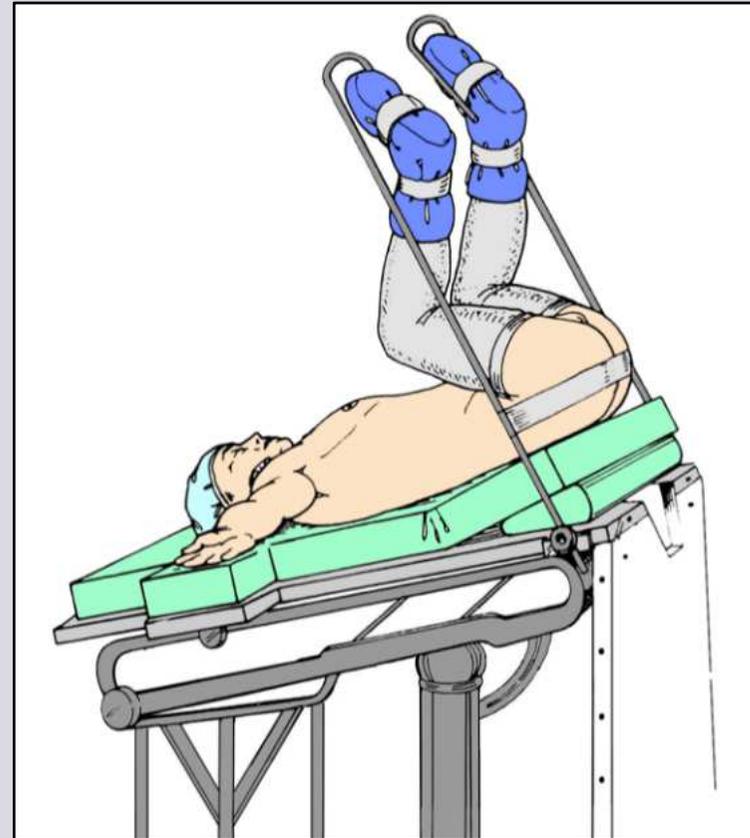
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Bulbar urethroplasty



Simple lithotomy position



NO

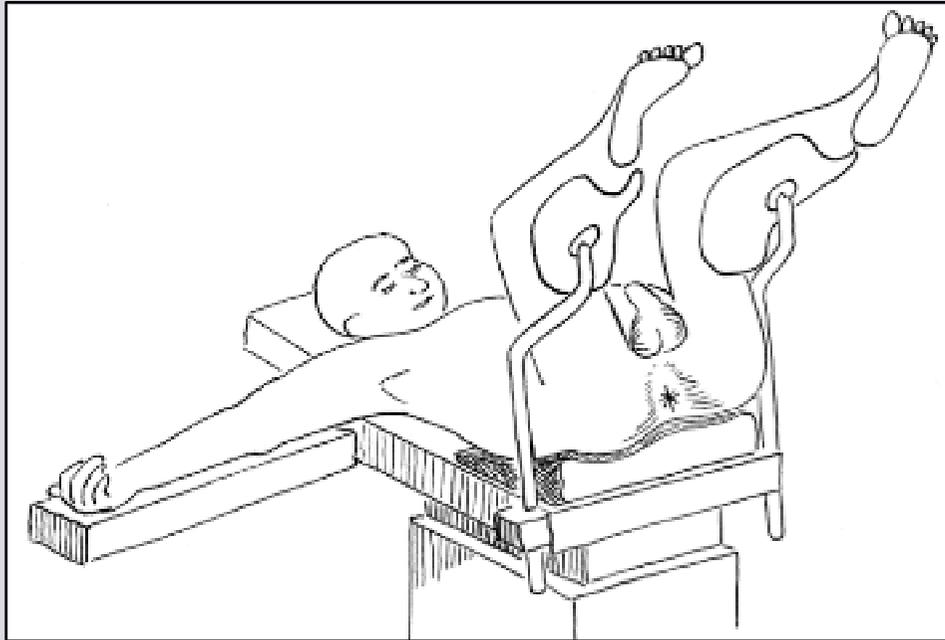
Bulbar urethroplasty



Allen stirrups with sequential inflatable compression sleeves

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Bulbar urethroplasty



**Pre-operative
urethroscopy**



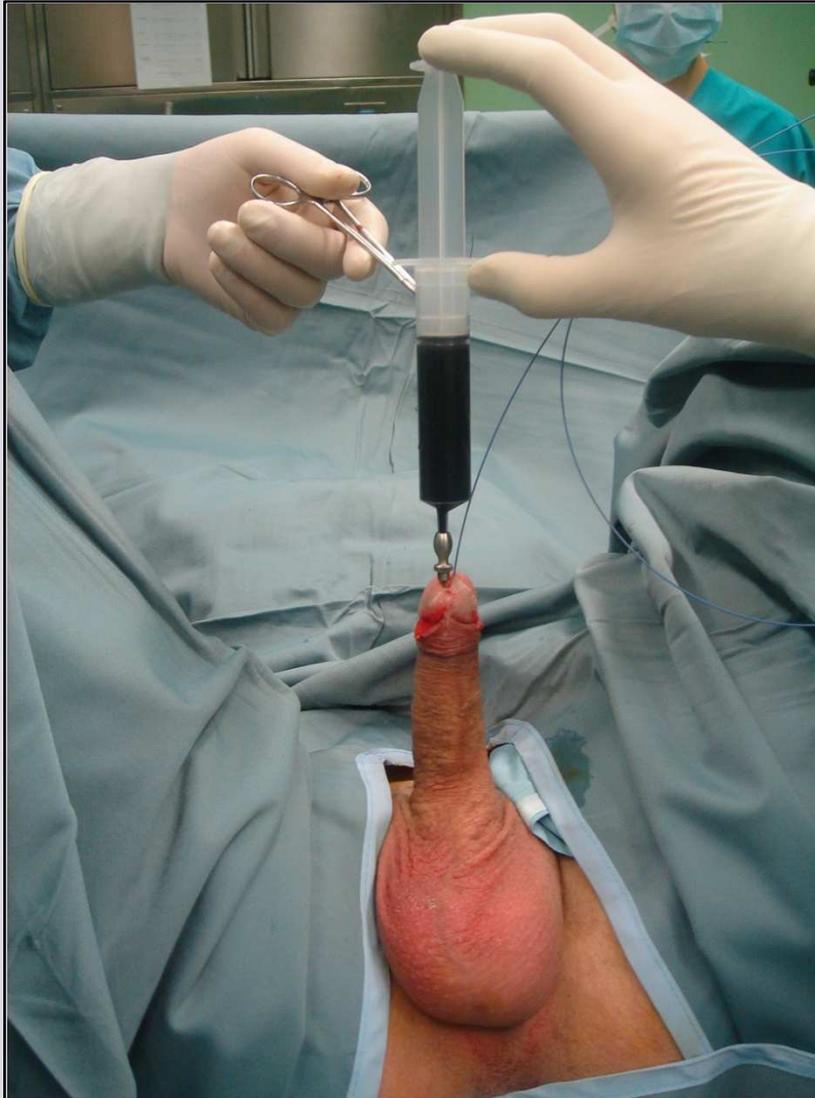
Insert Sensor guide wire

Bulbar urethroplasty



Insert Sensor guide wire

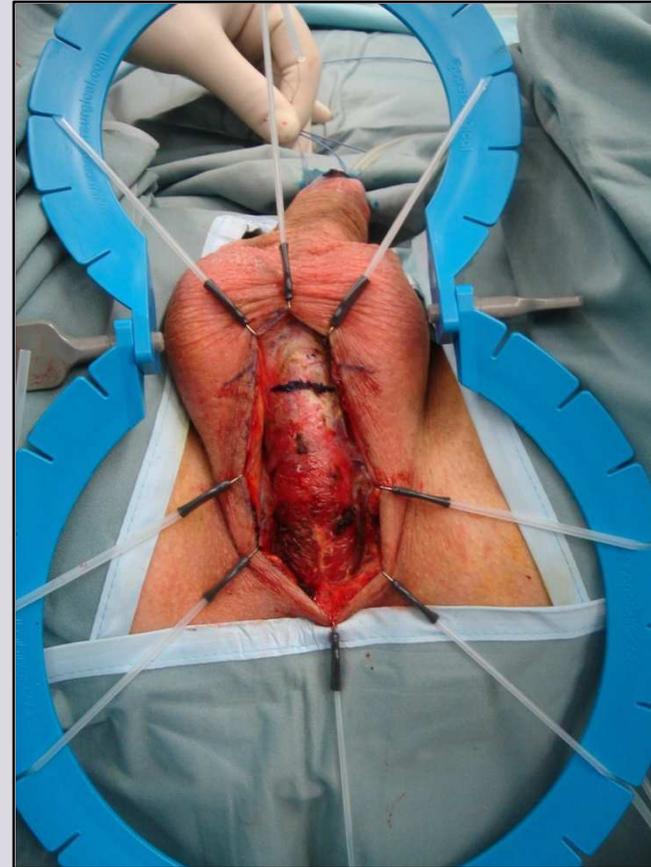
Bulbar urethroplasty



**Inject methylene blue
inside the urethra**

(G. Webster)

Bulbar urethroplasty



Calibrate the distal urethra and identify the distal stop

Bulbar urethroplasty



**Transect or not transect
the urethra?**

Ventral or dorsal graft?

Stricture etiology

Trauma

End-to-end anastomosis
Augmented anastomotic repair

Instrumentation

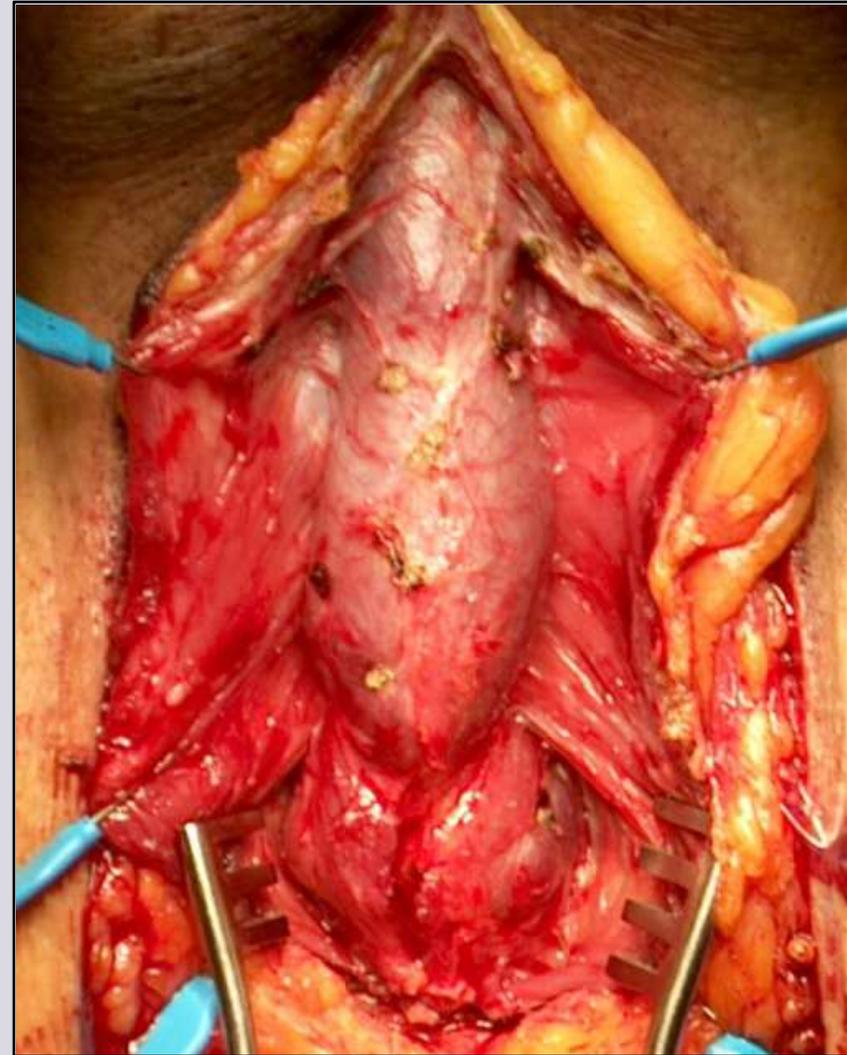
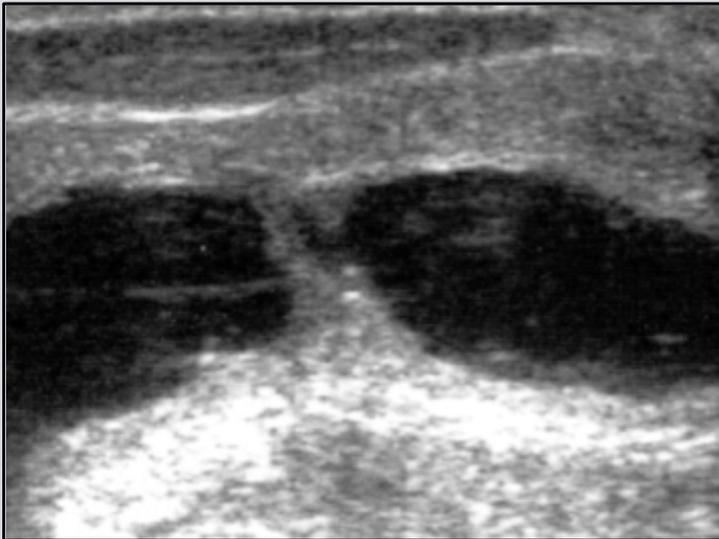
Catheter

Infection

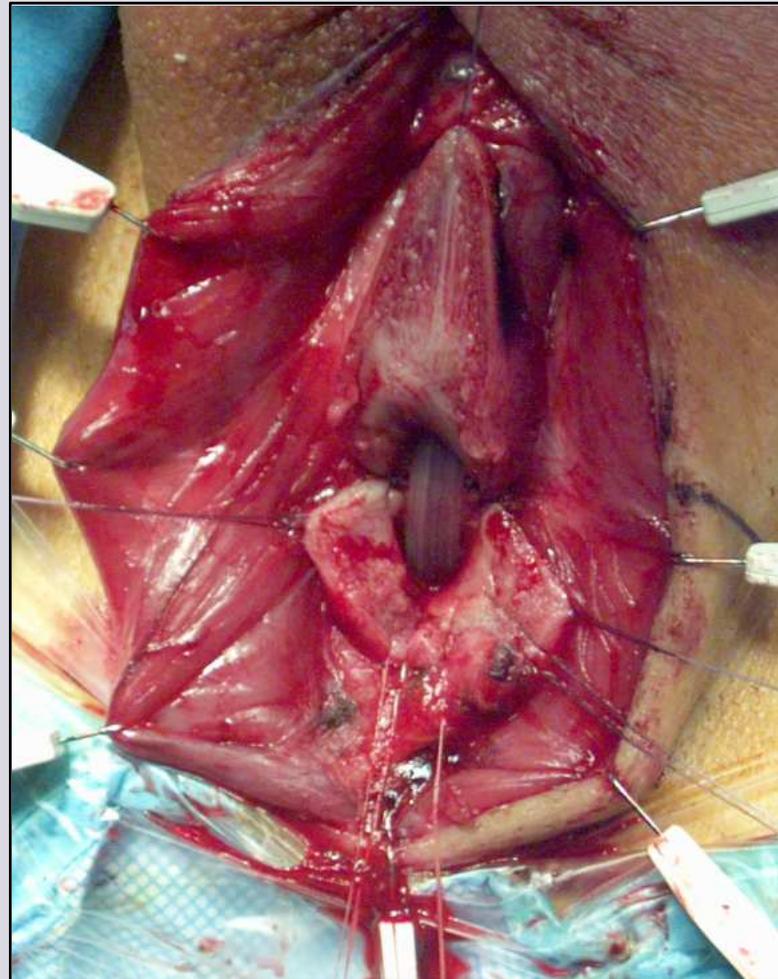
Other

Oral mucosa onlay

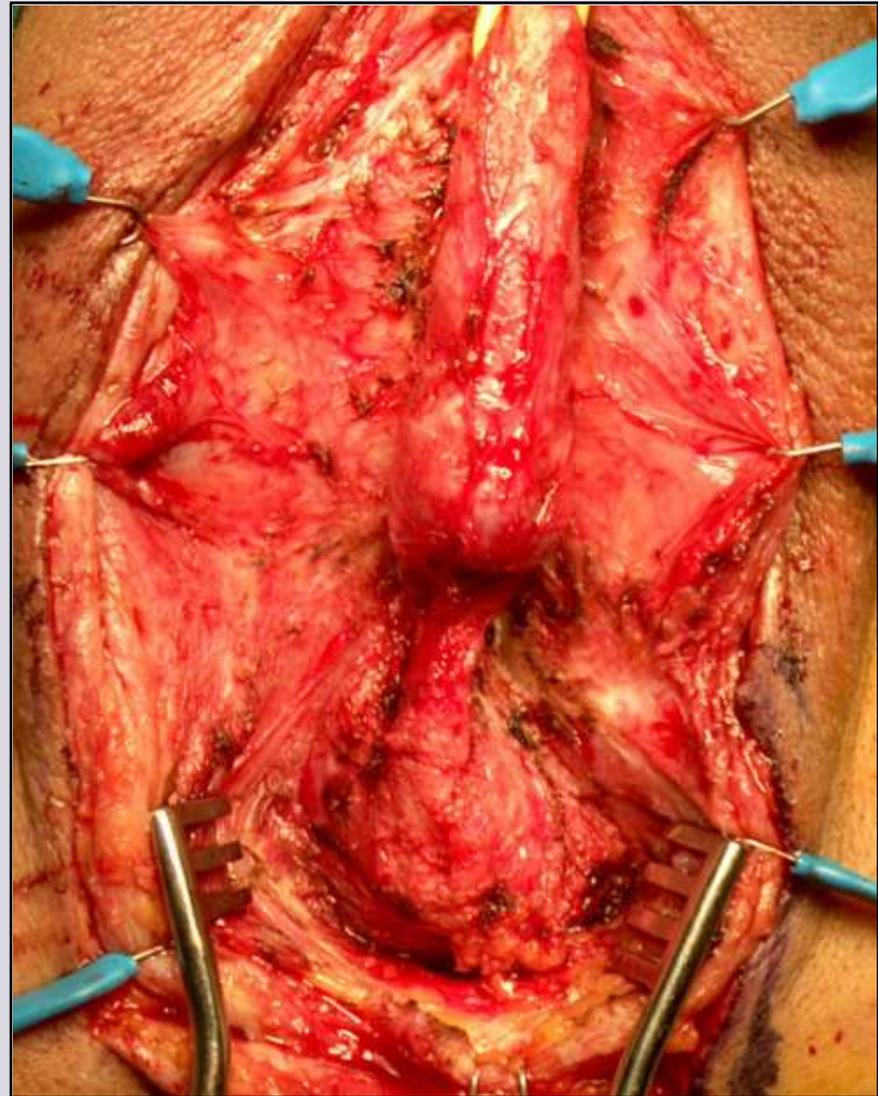
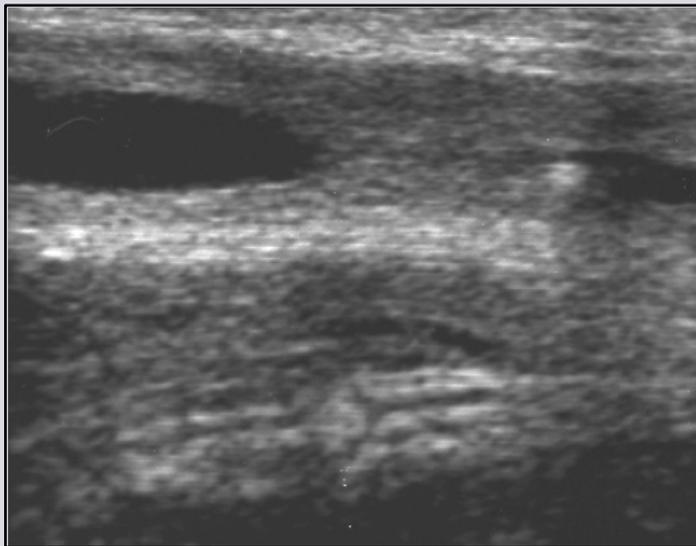
1 - 2 cm traumatic bulbar urethral stricture



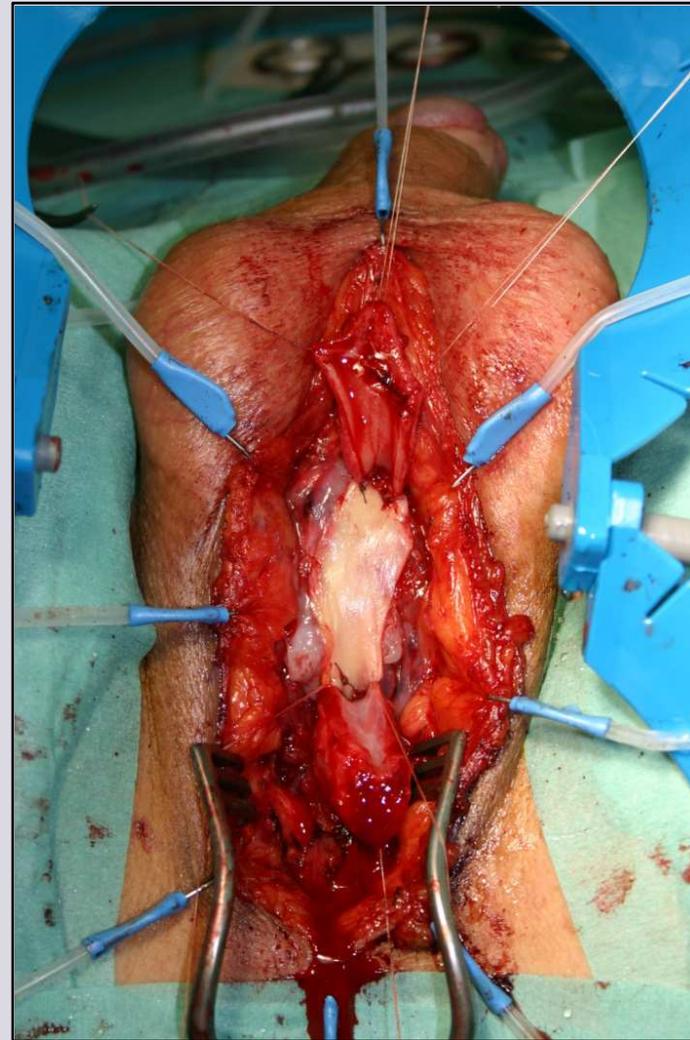
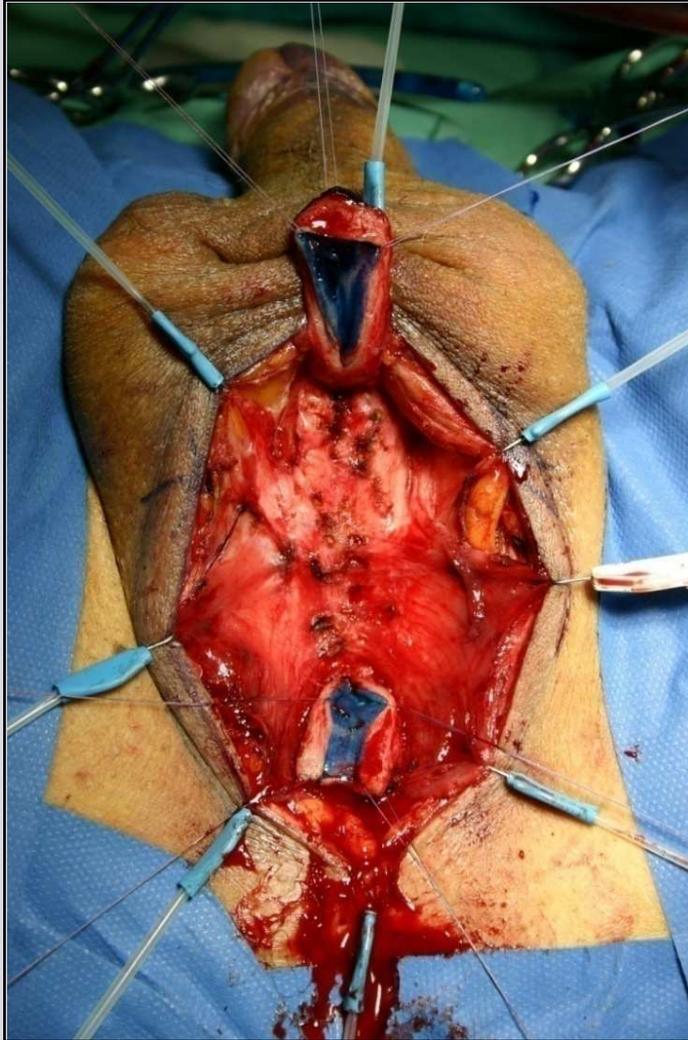
End-to-end anastomosis



2 - 4 cm traumatic bulbar urethral stricture



Augmented anastomotic repair



Stricture etiology

Trauma

End-to-end anastomosis
Augmented anastomotic repair

Instrumentation

Catheter

Infection

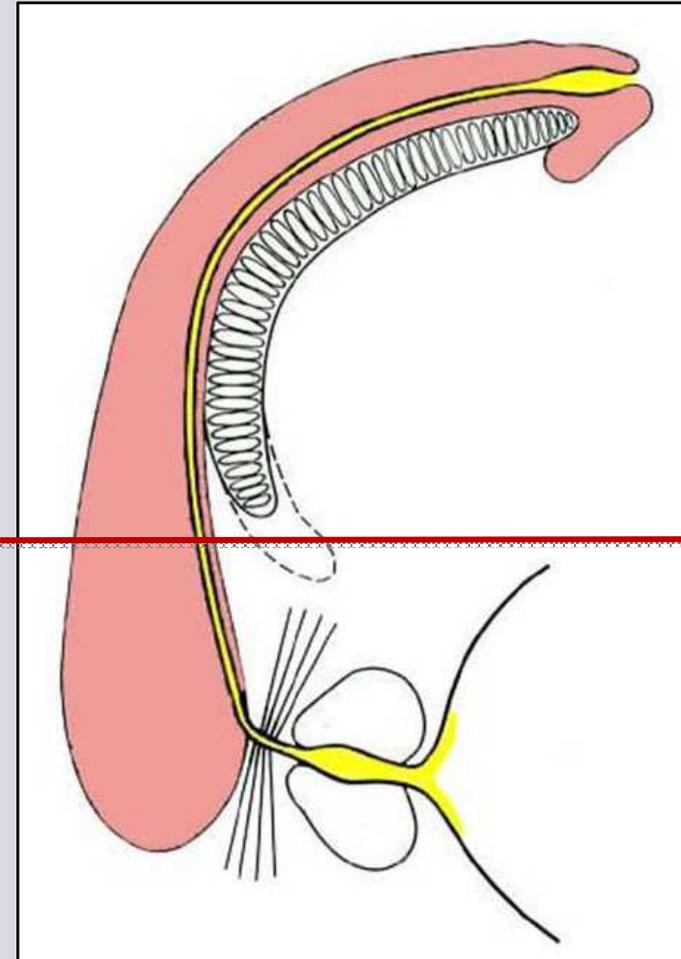
Other

Oral mucosa onlay

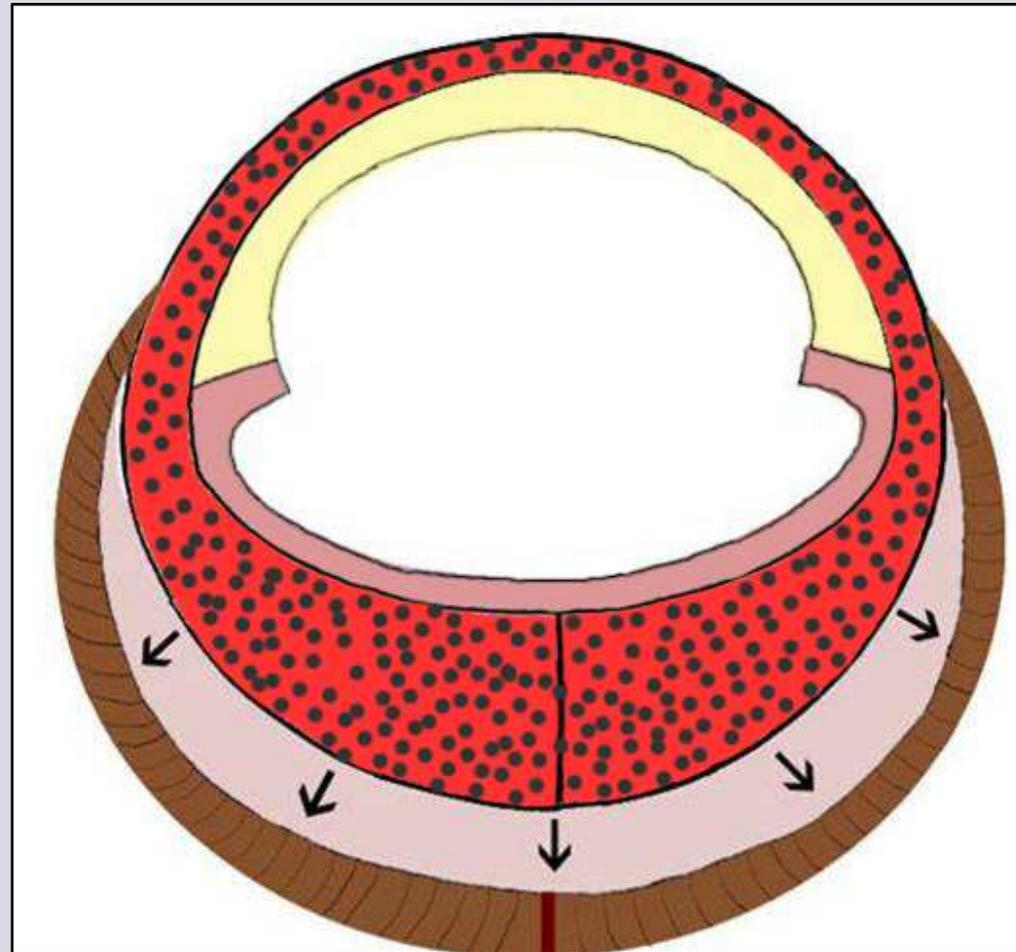
Ventral or dorsal graft?



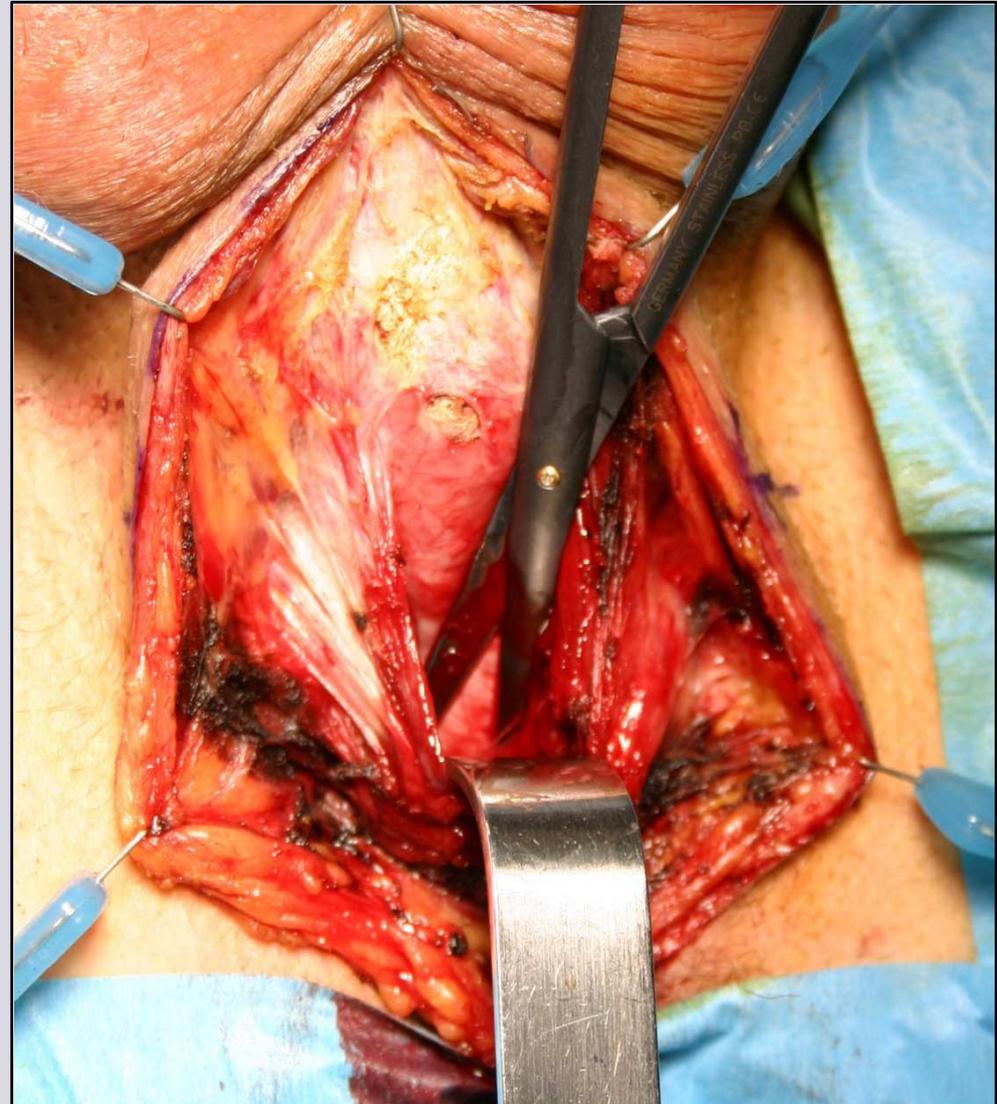
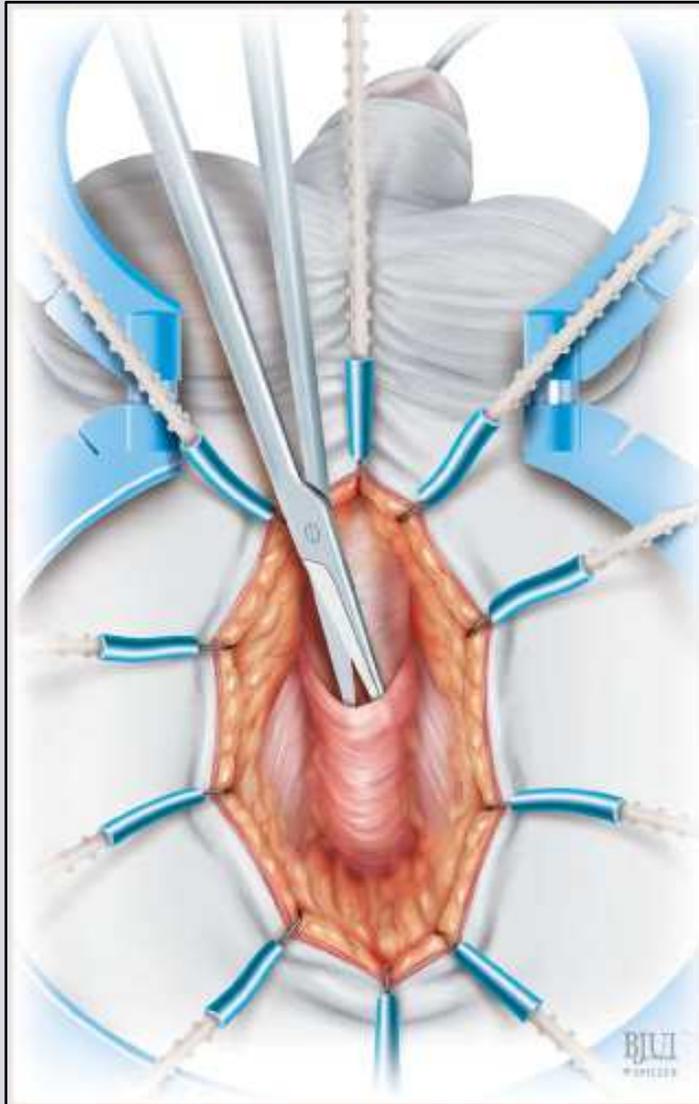
Distal
Dorsal onlay



Proximal
Ventral onlay

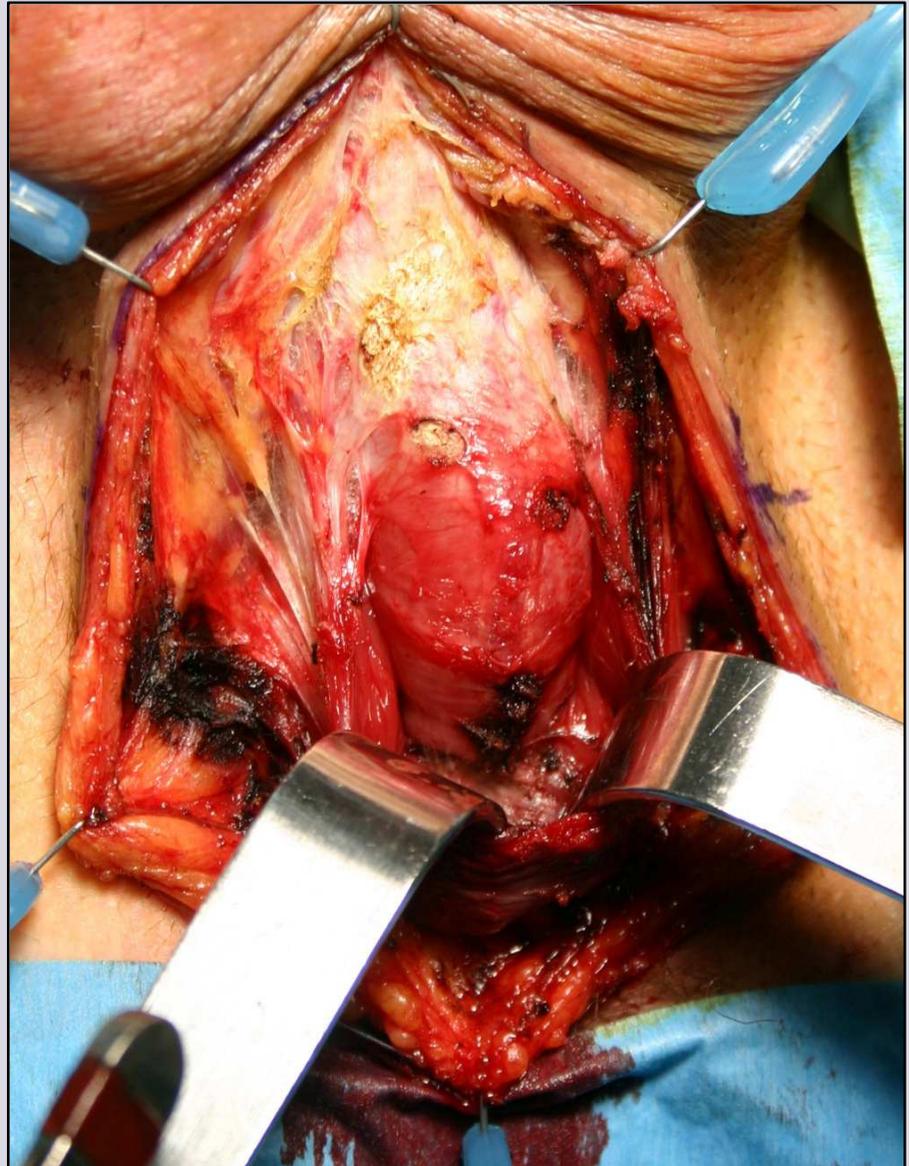
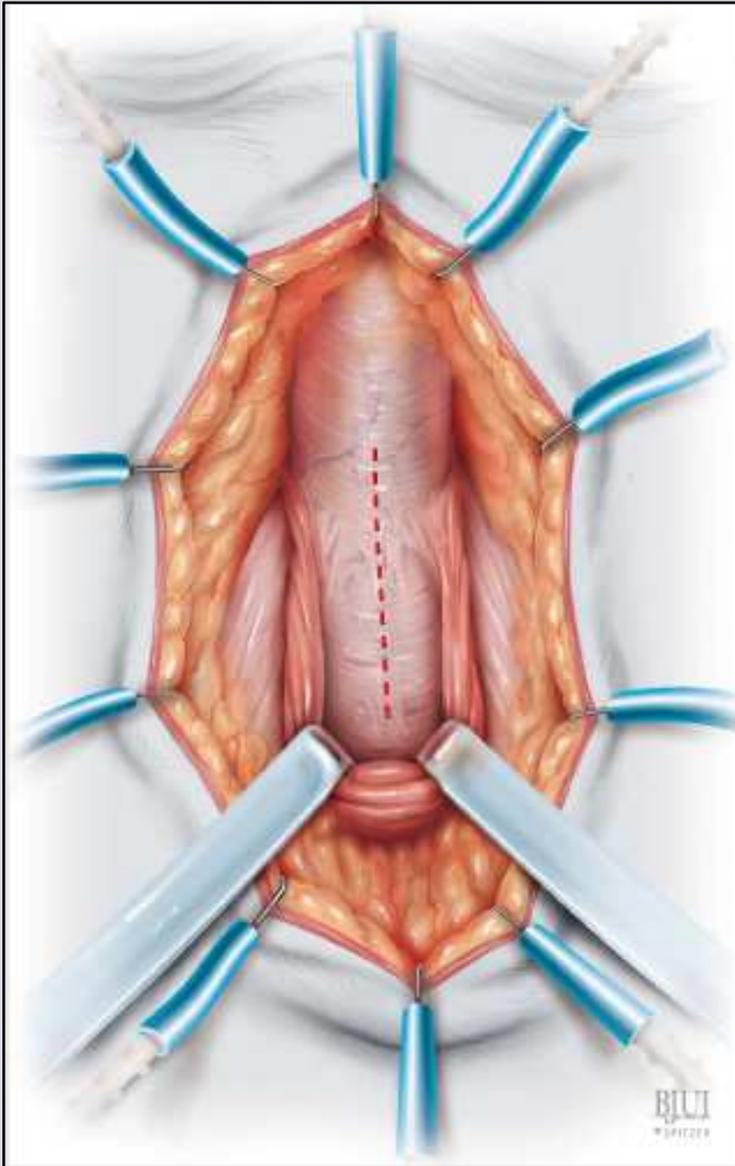


Muscle and nerve-sparing **ventral** onlay graft bulbar urethroplasty



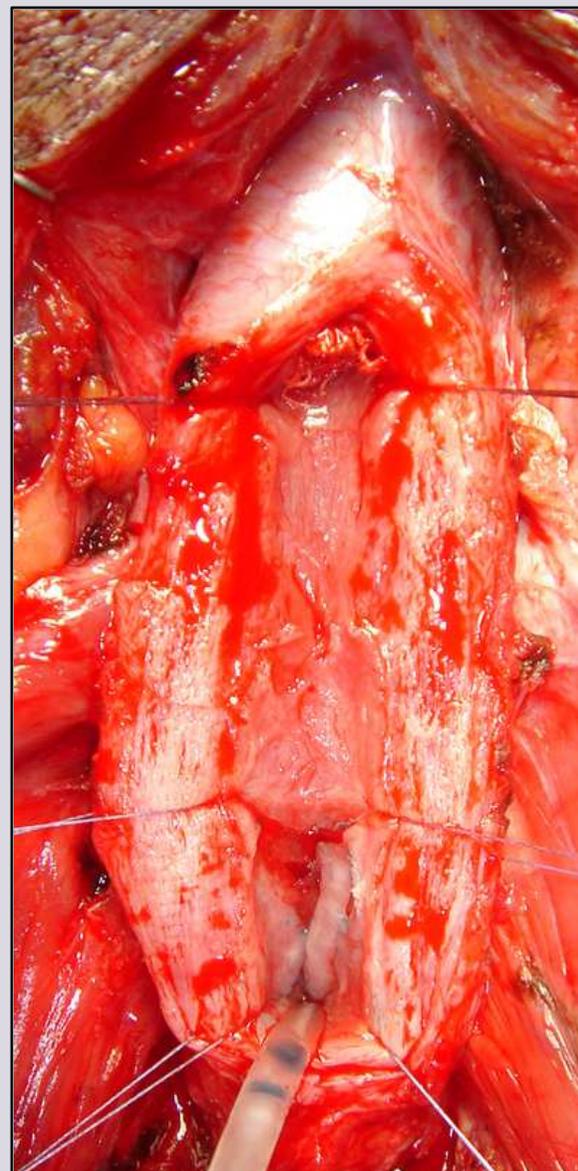
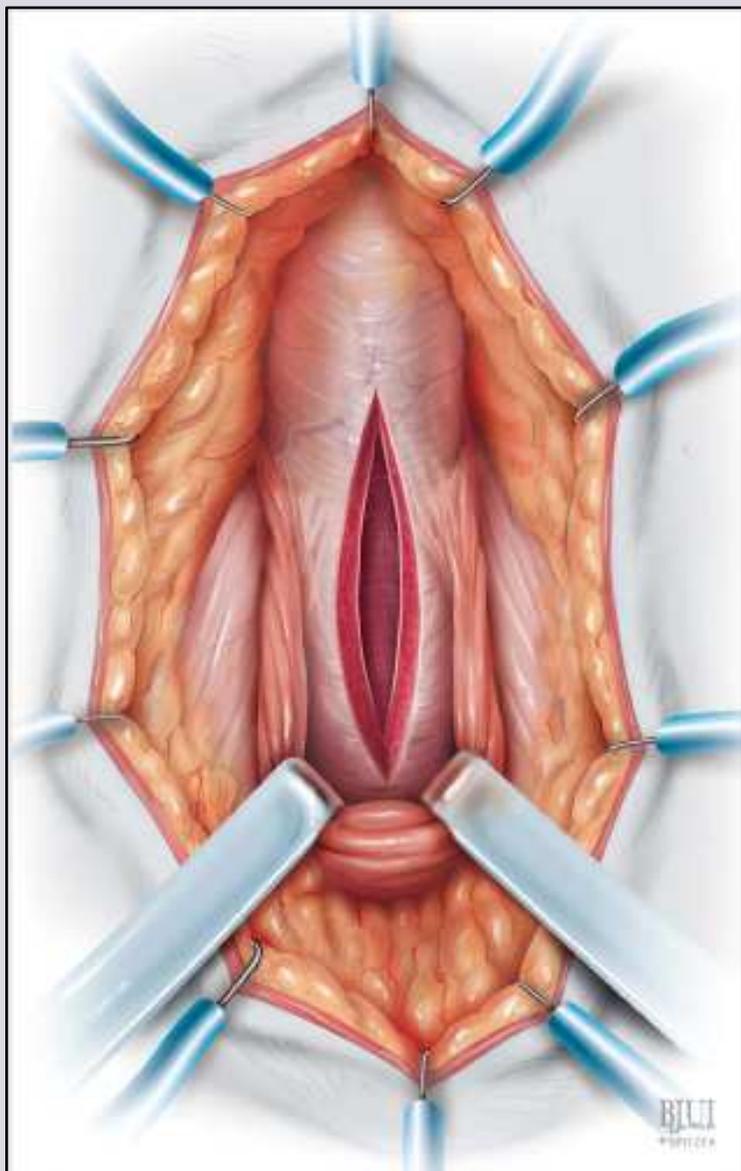
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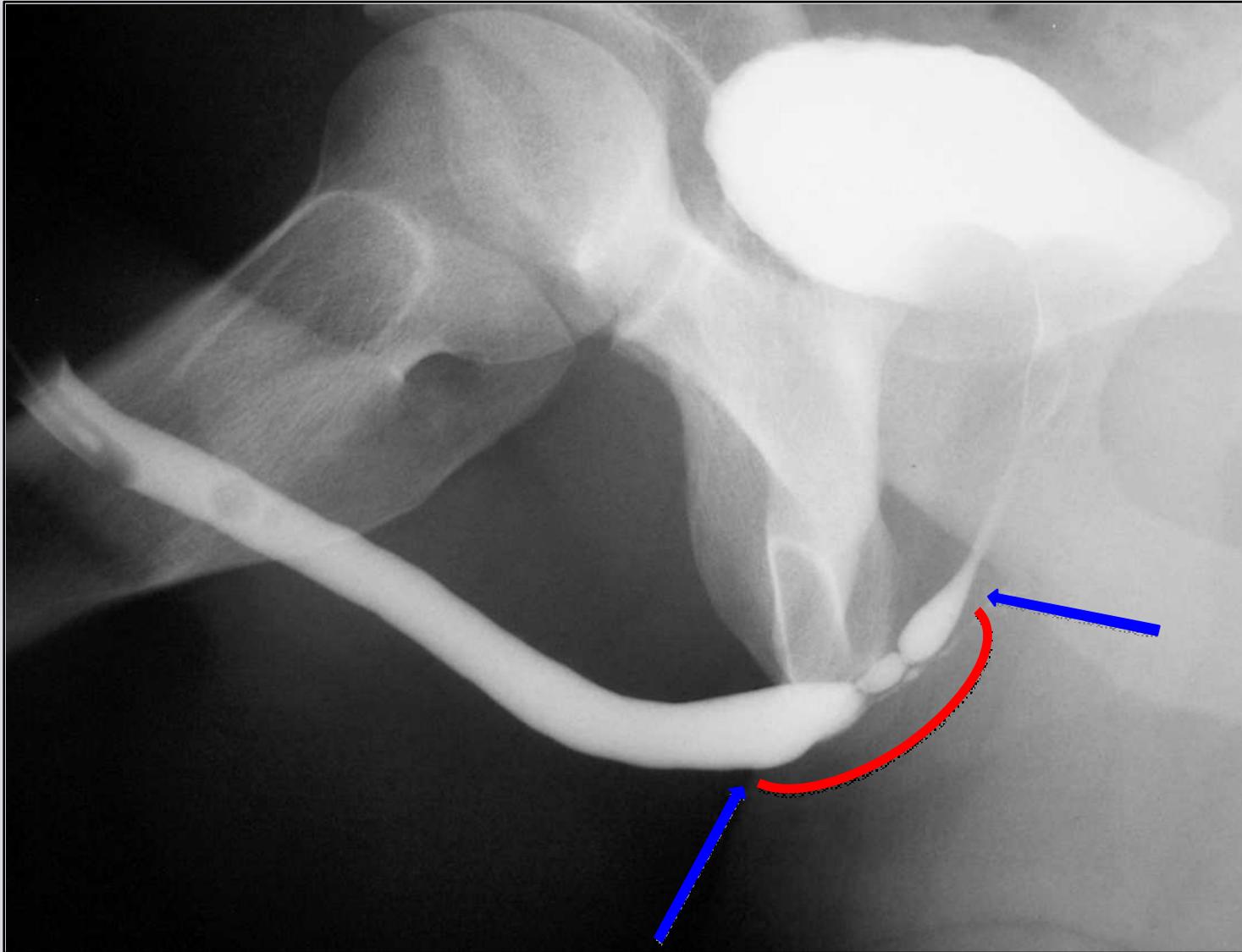
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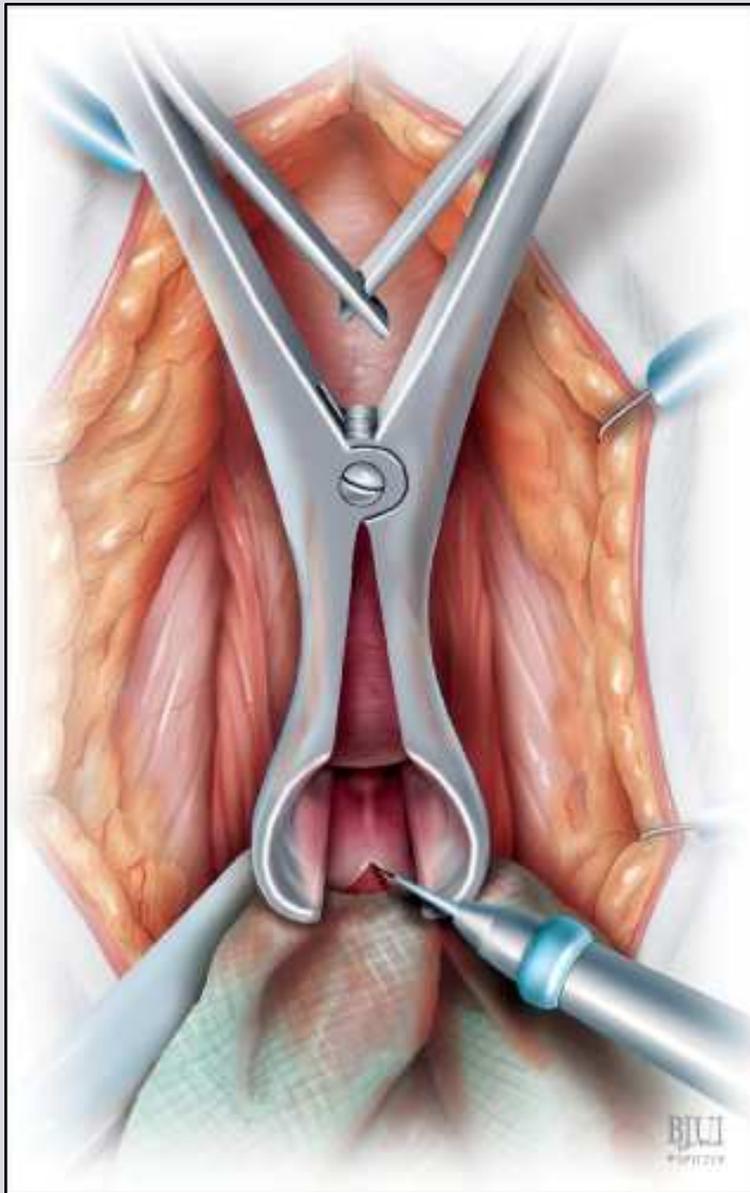
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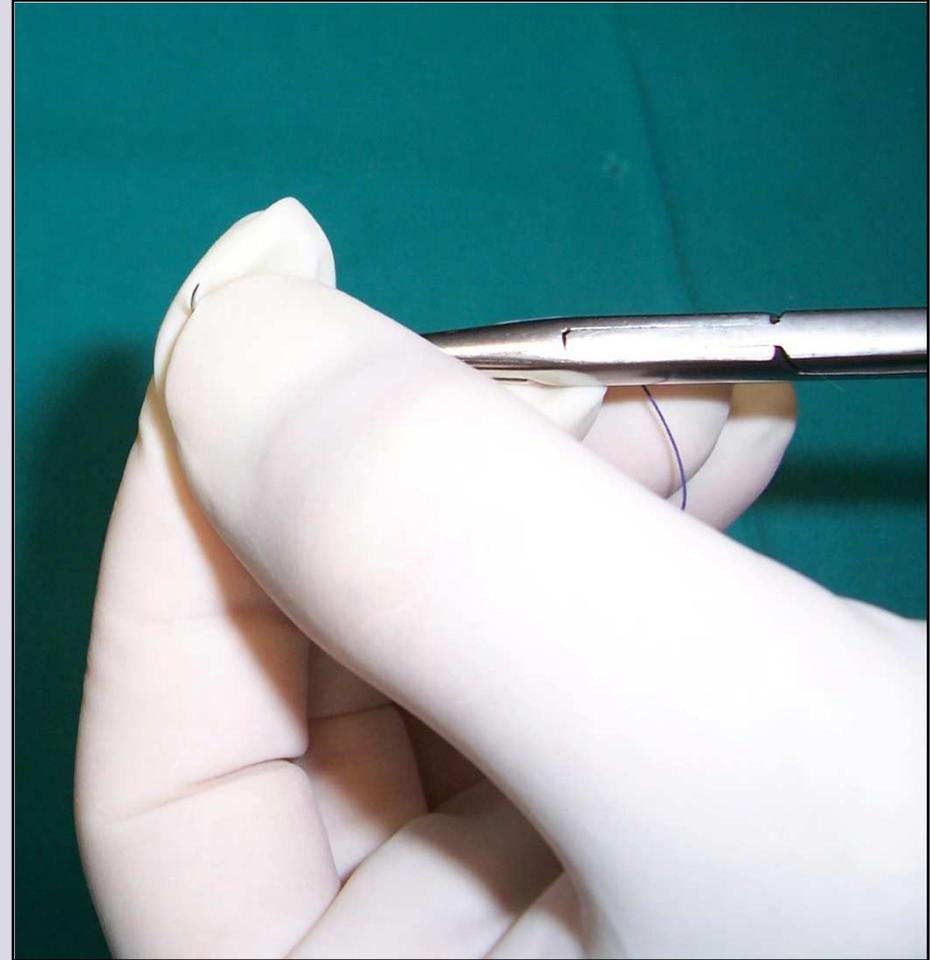
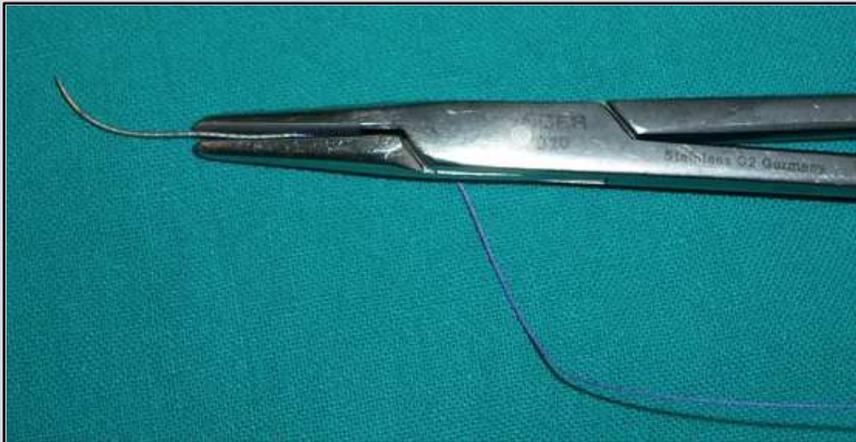
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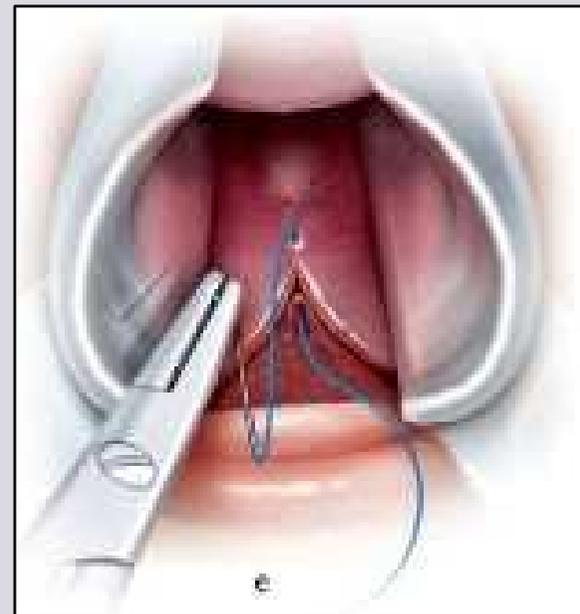
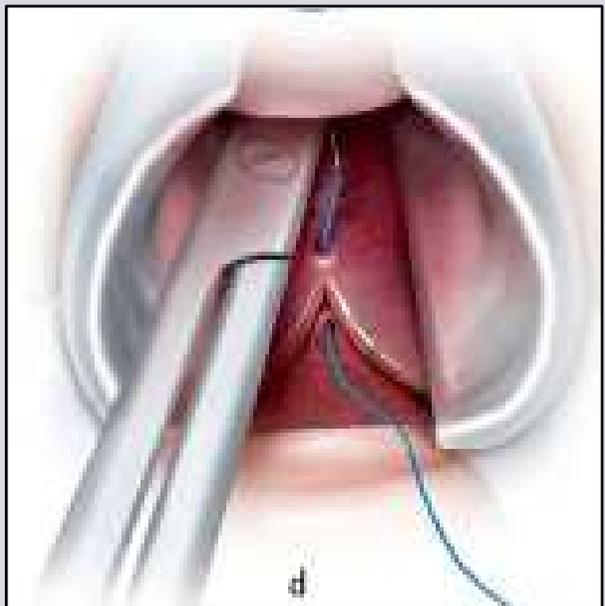
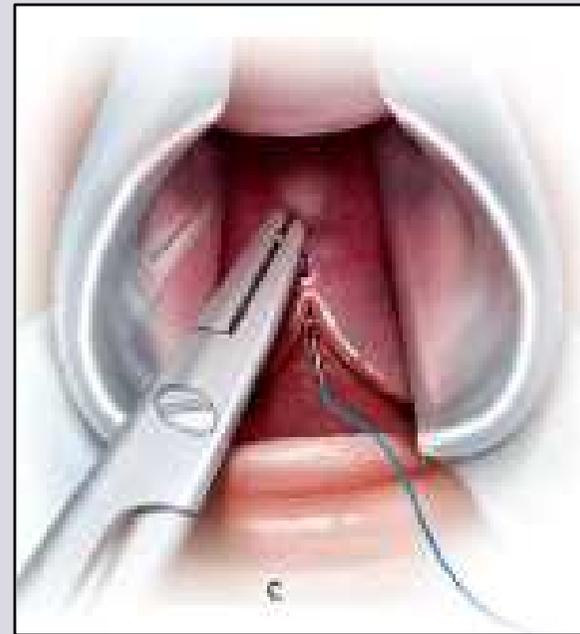
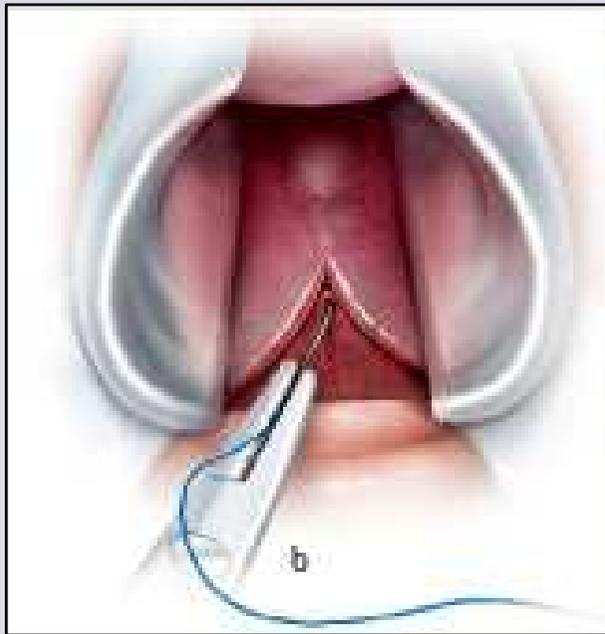
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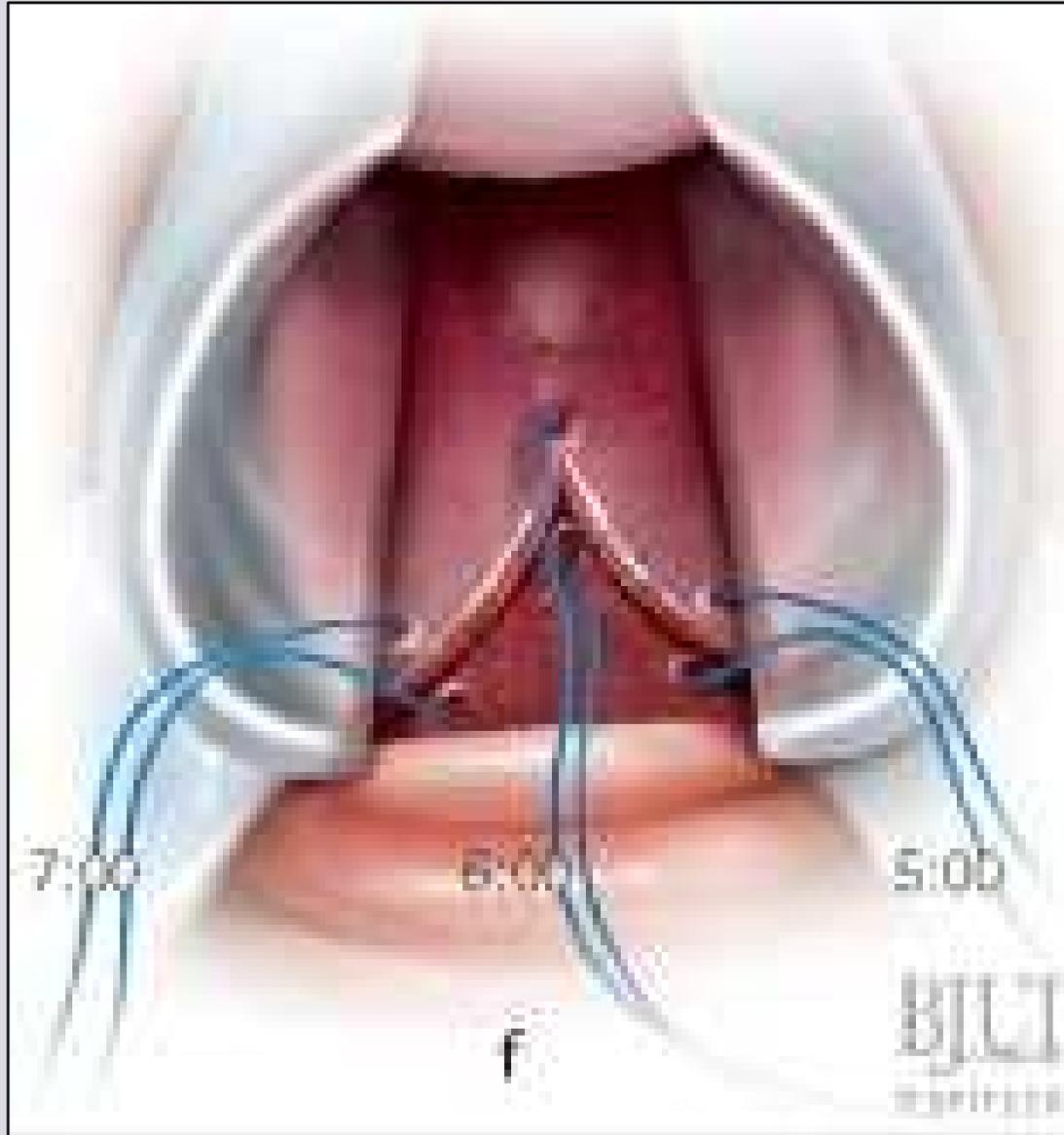
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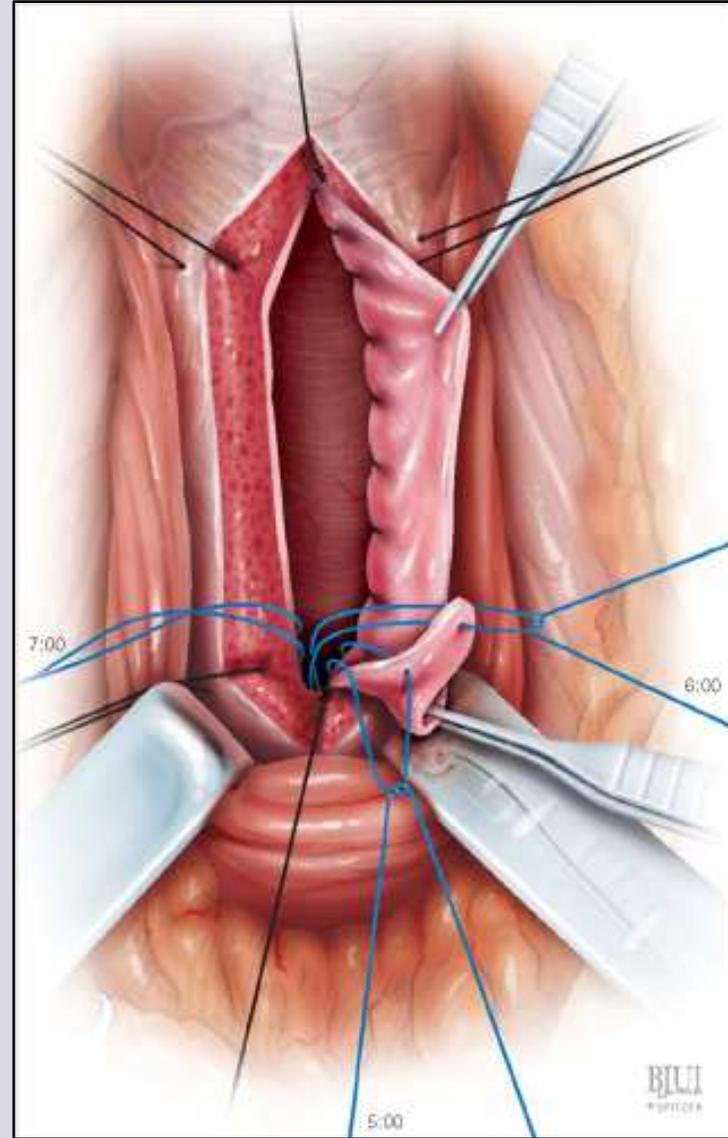
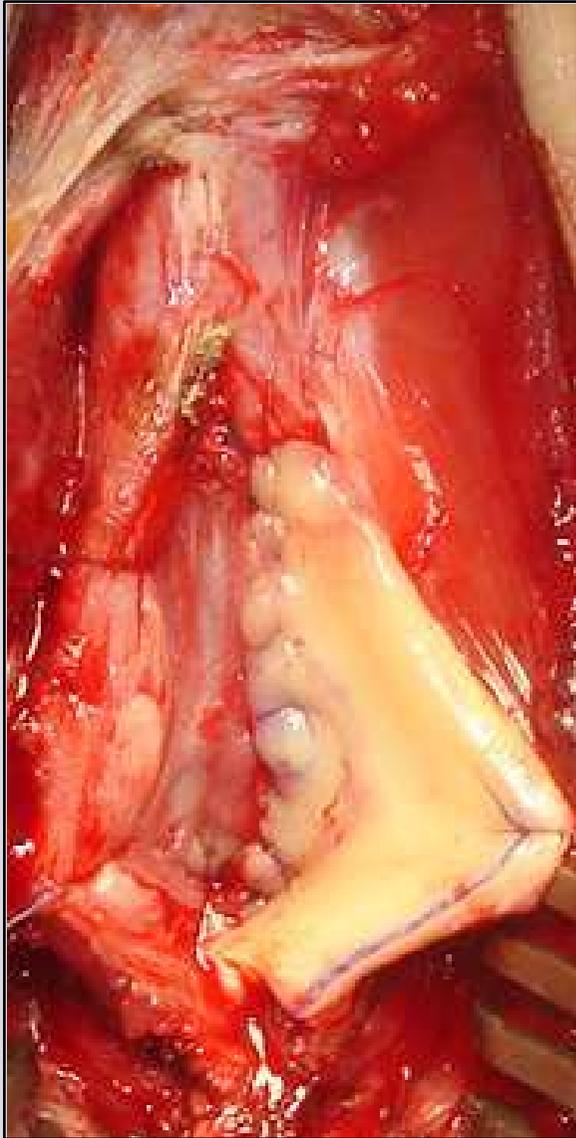
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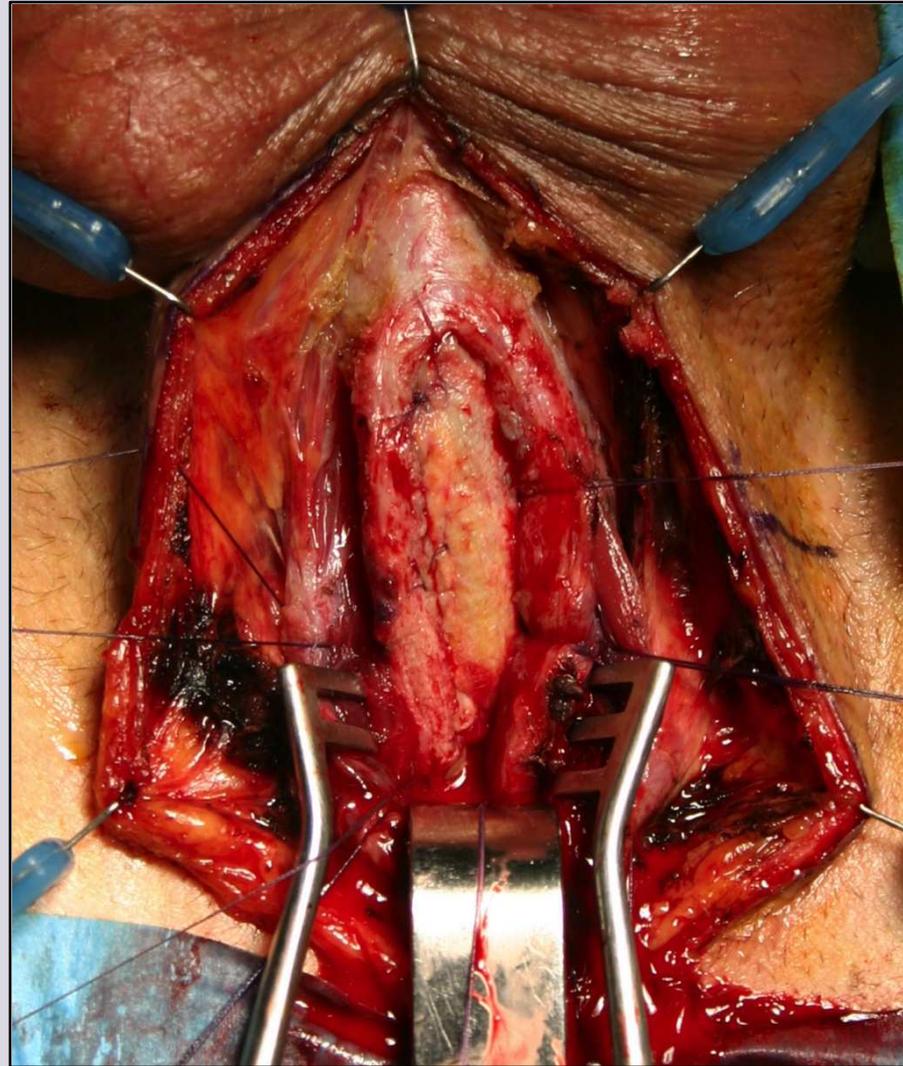
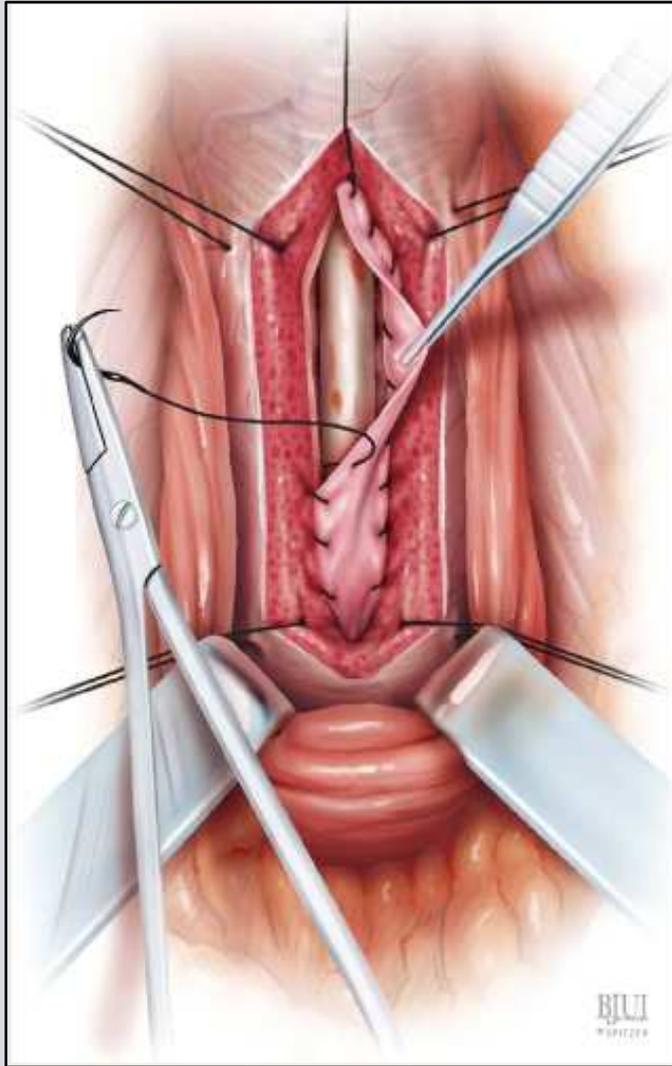
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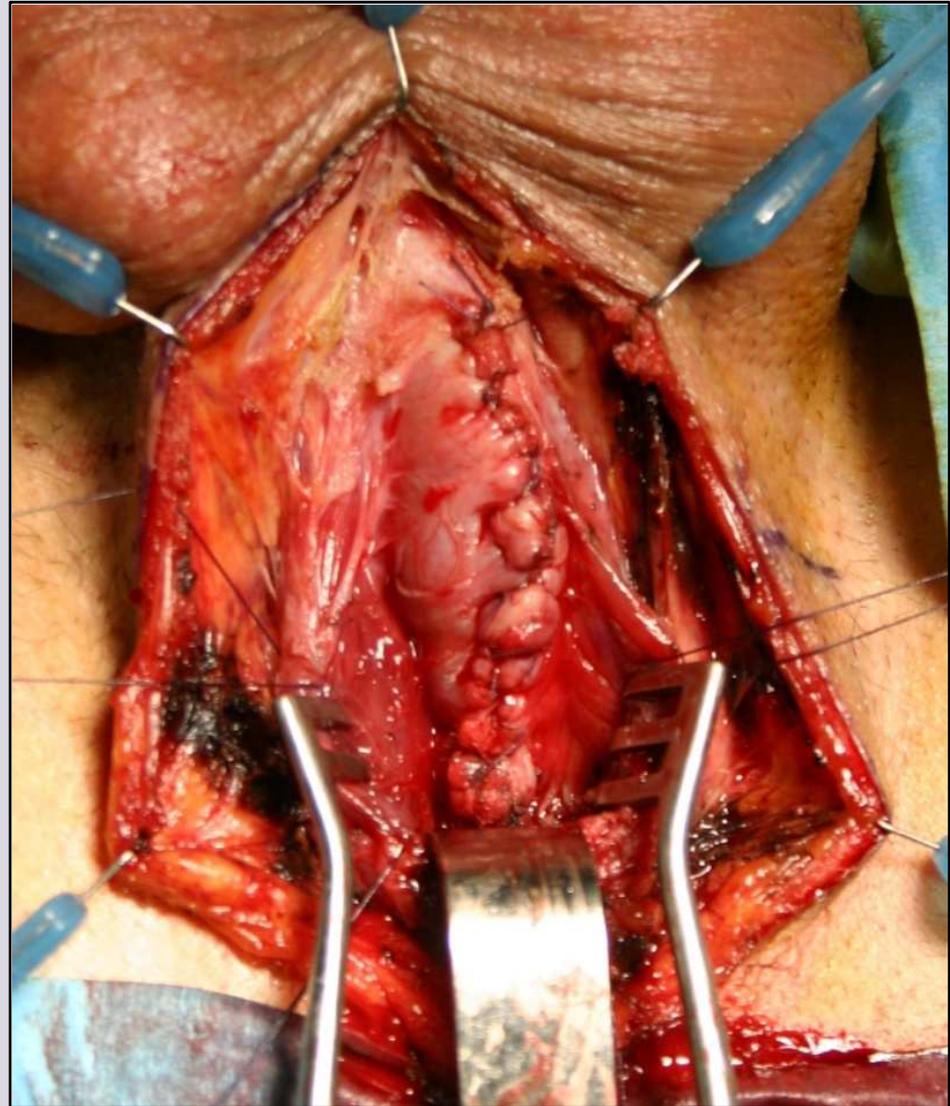
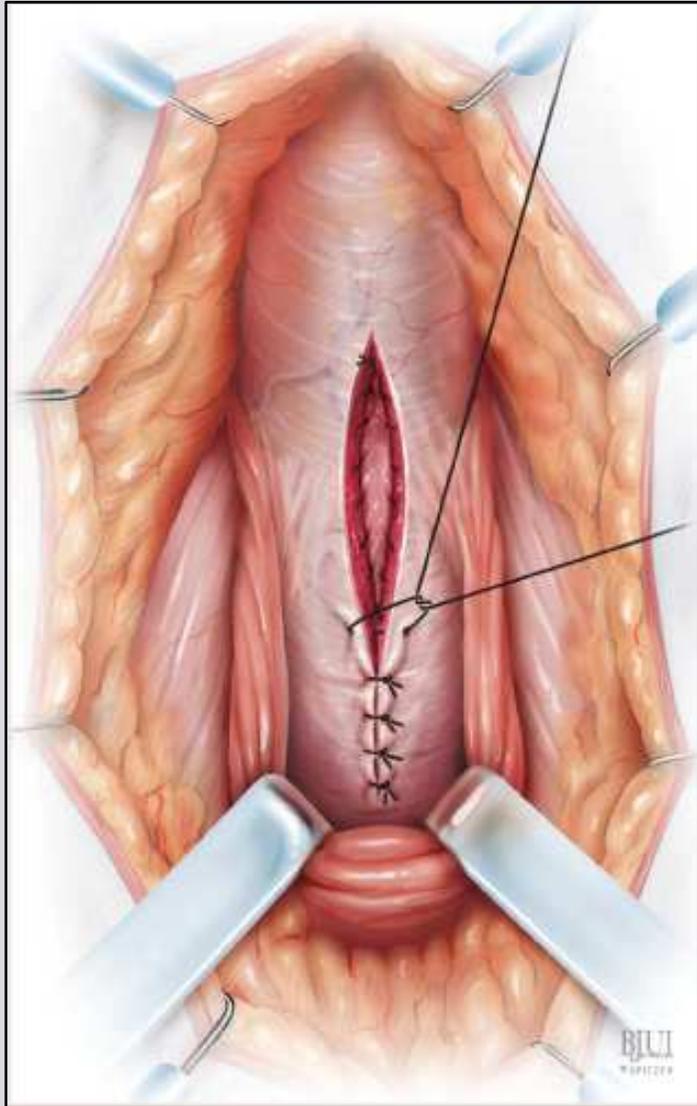
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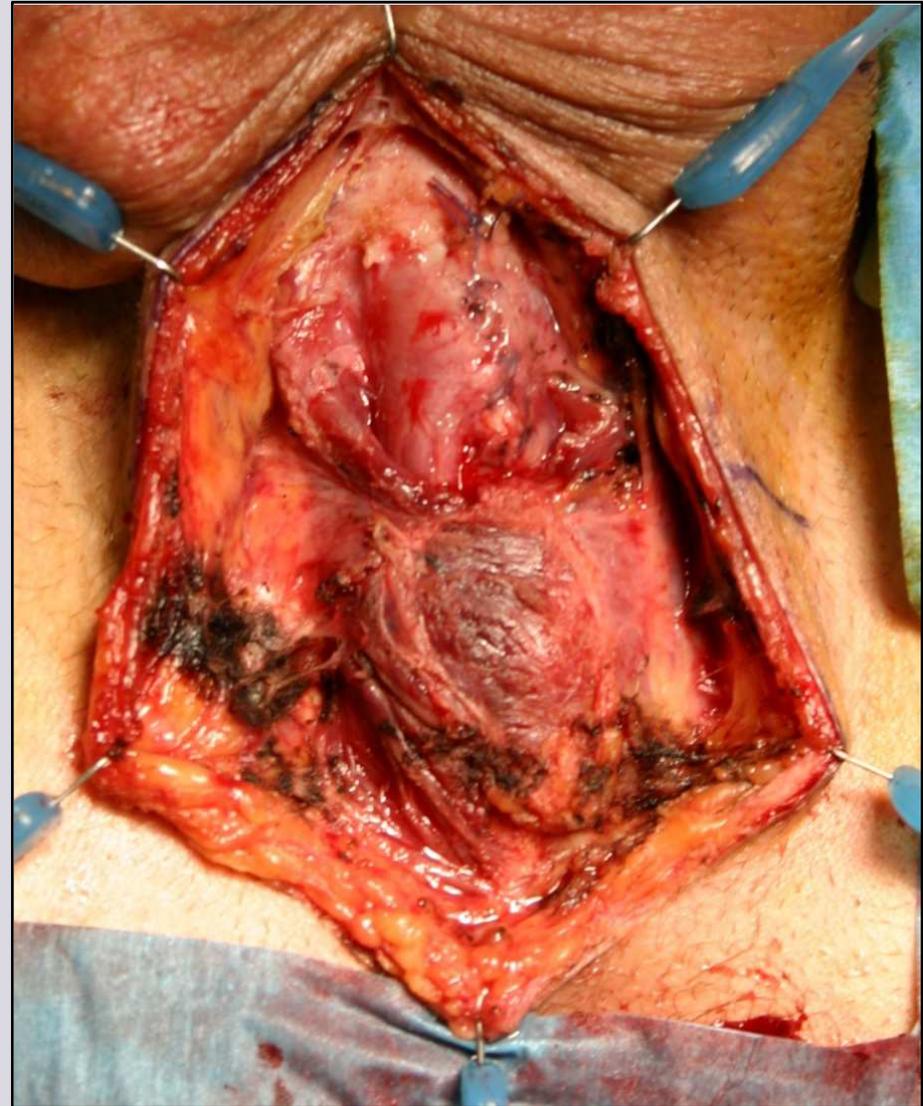
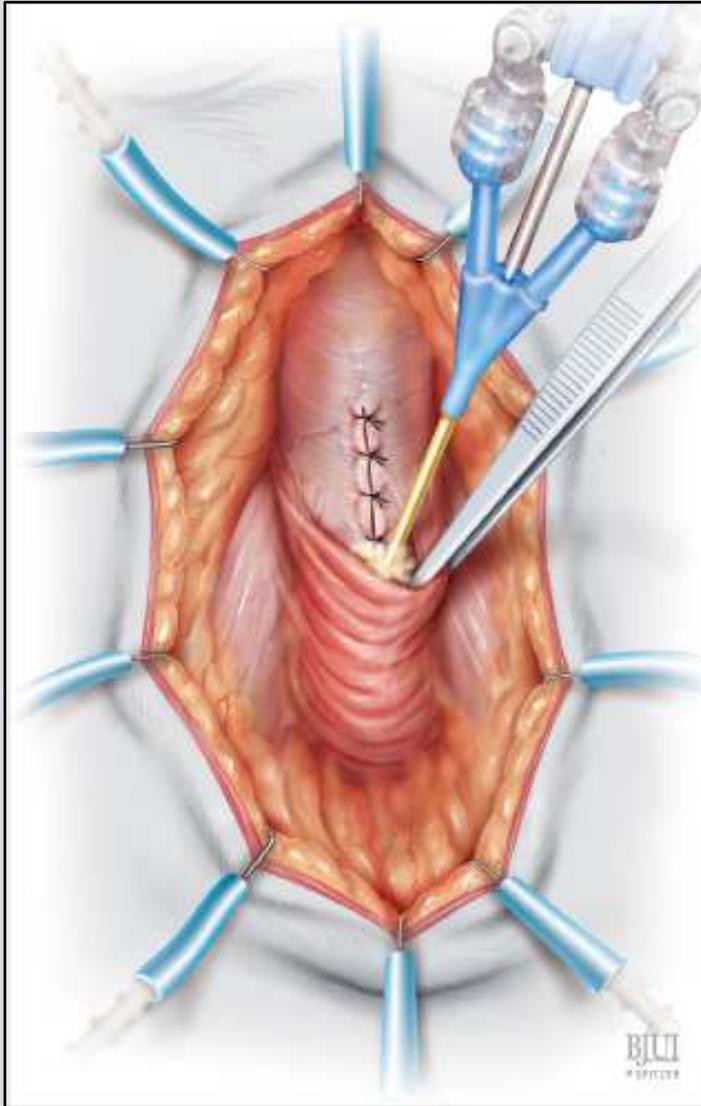
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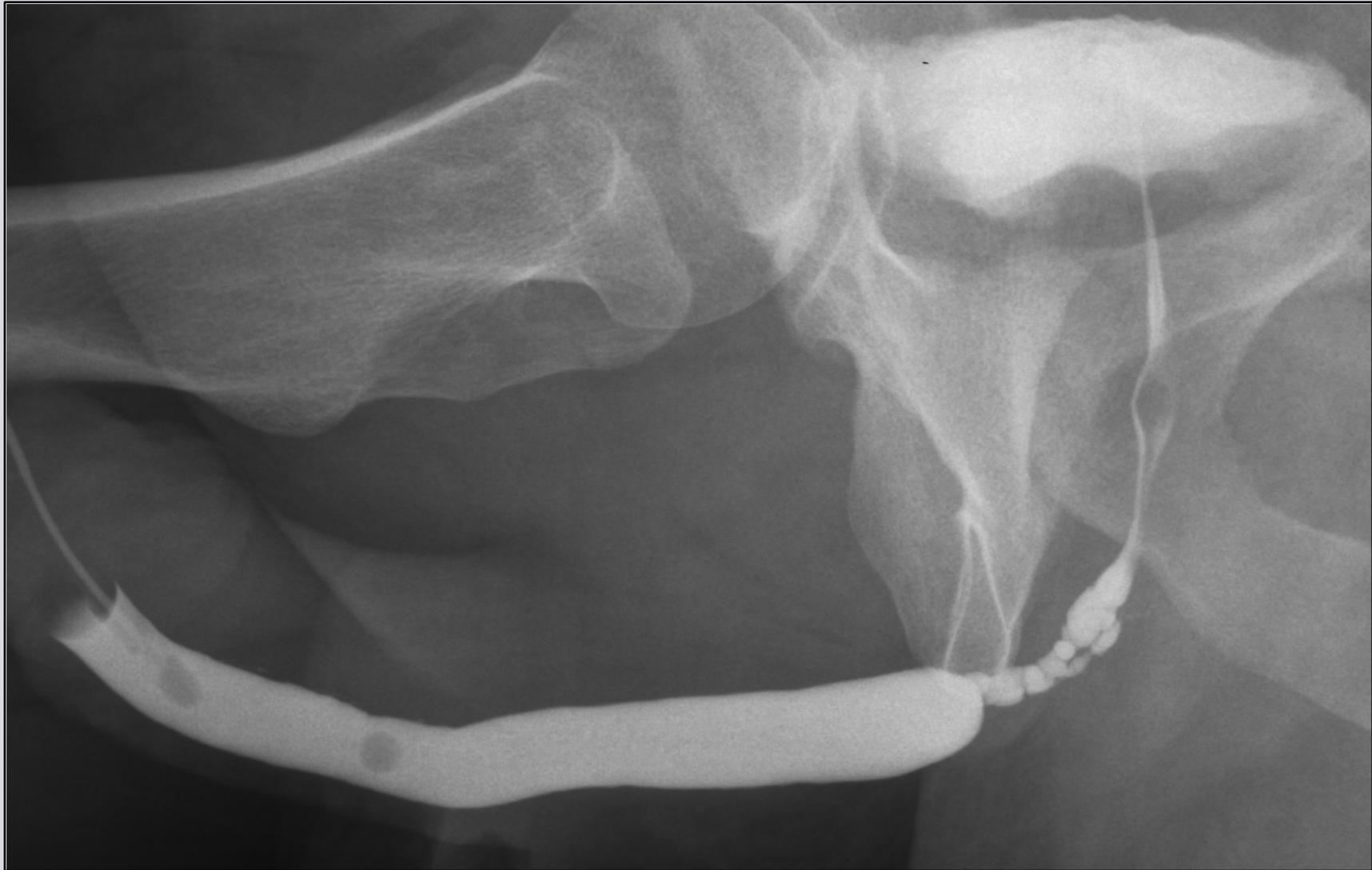
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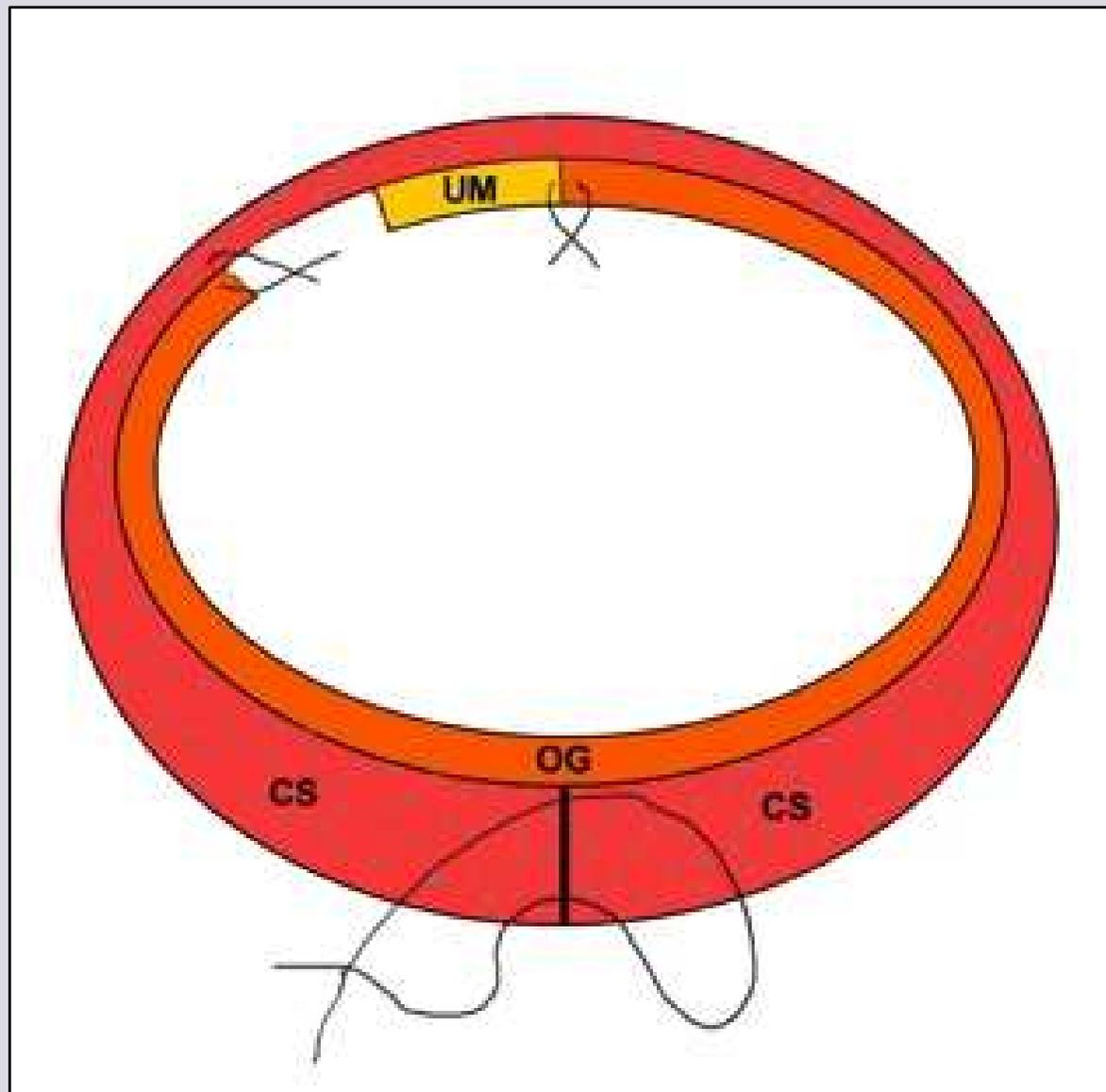
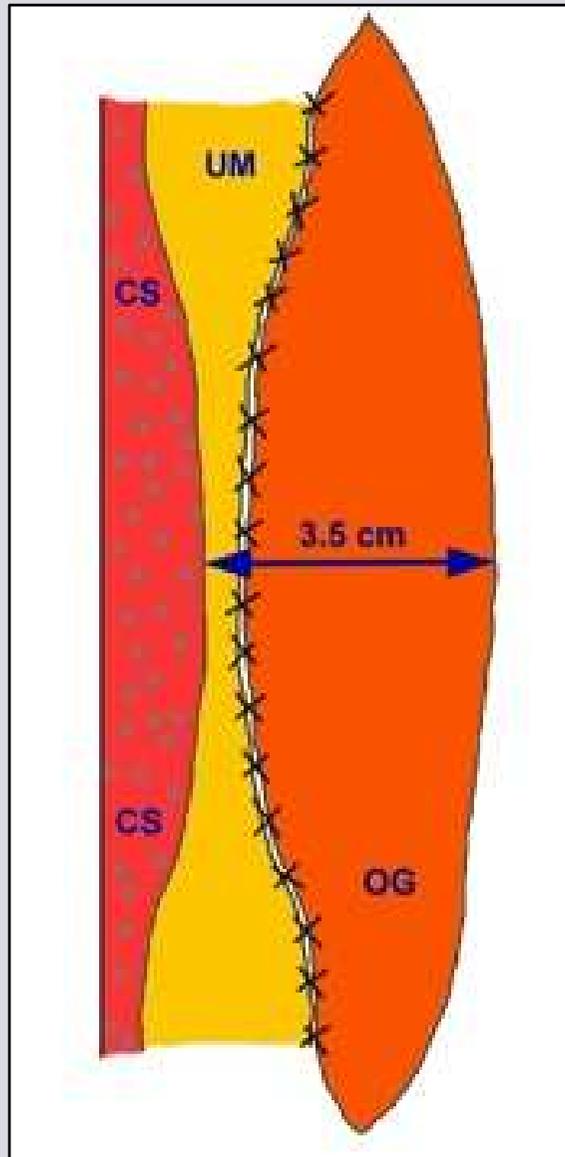
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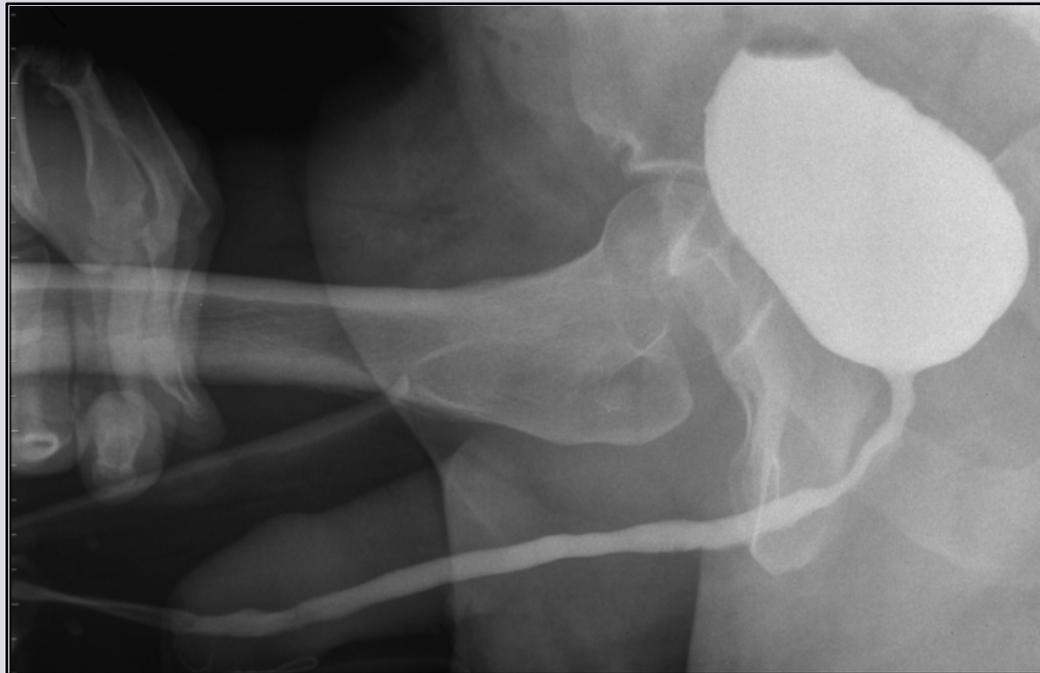
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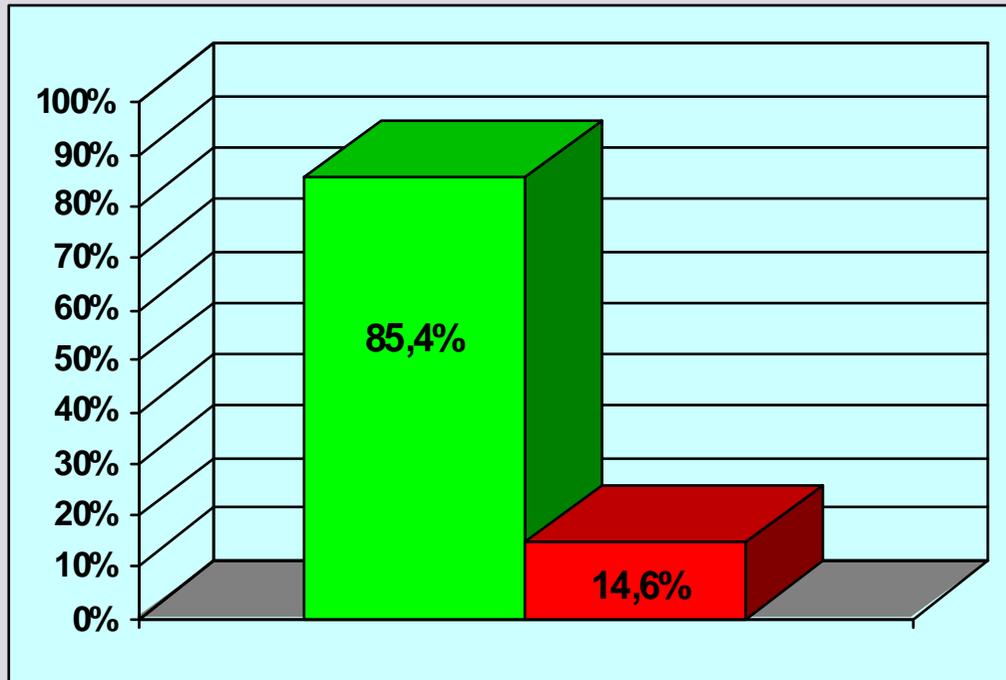




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Oral graft

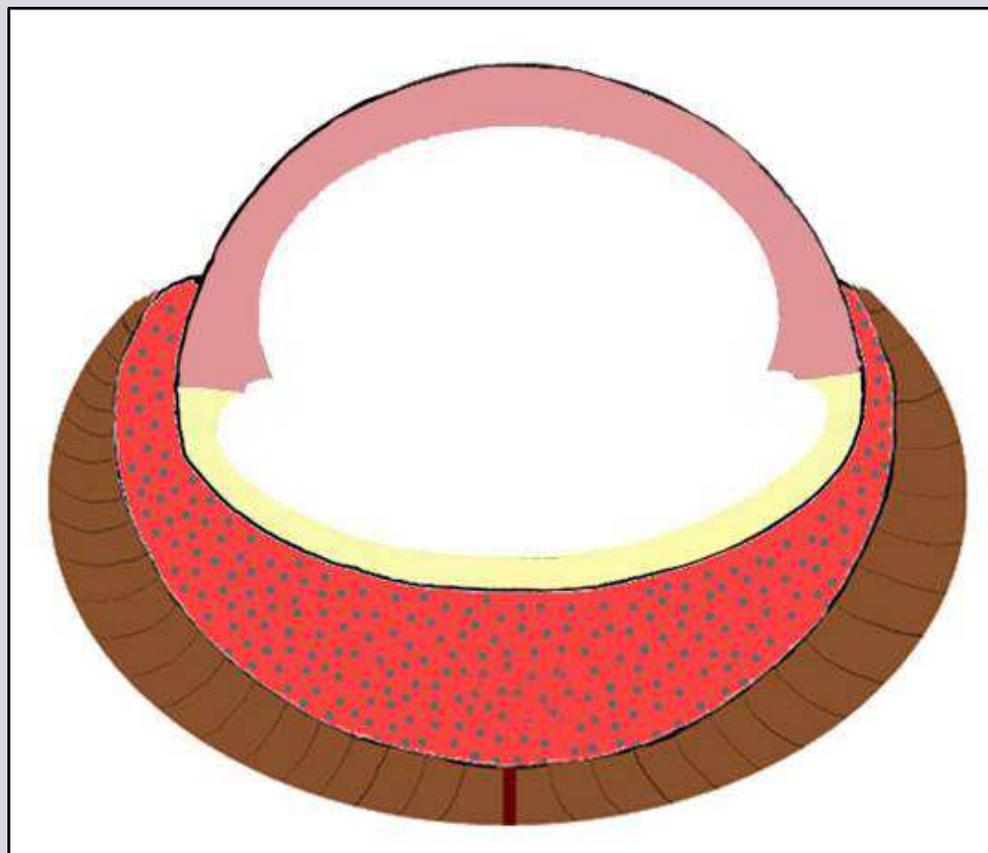


247
patients

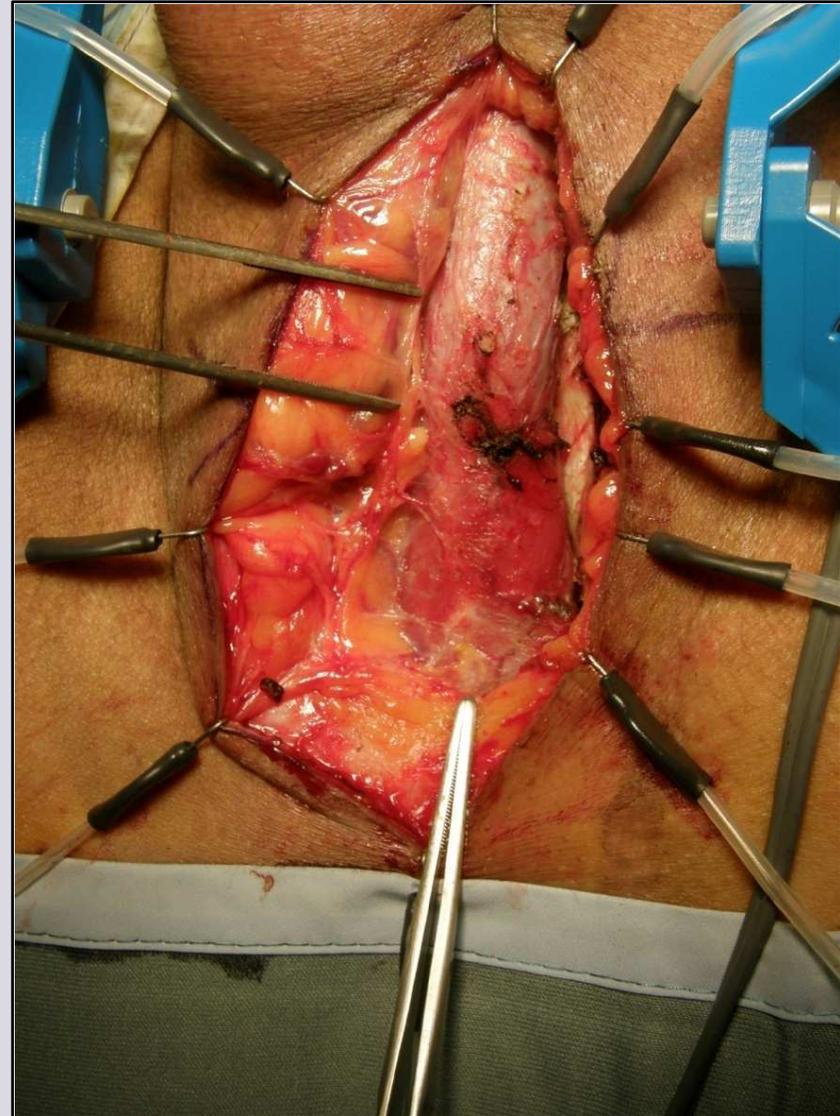
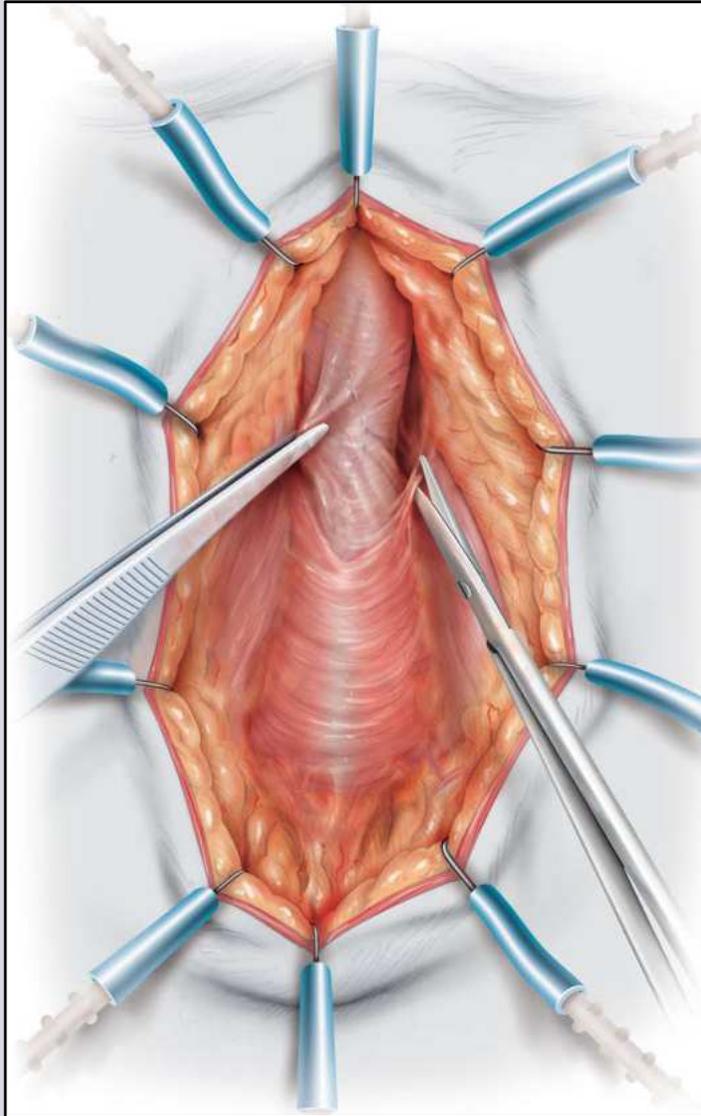
■ success	211 (85.4%)
■ failure	36 (14.6%)

	minimum	maximum	mean
Follow-up (months)	6	139	55
Age (years)	14	77	39

Up-to-date
December 31, 2011

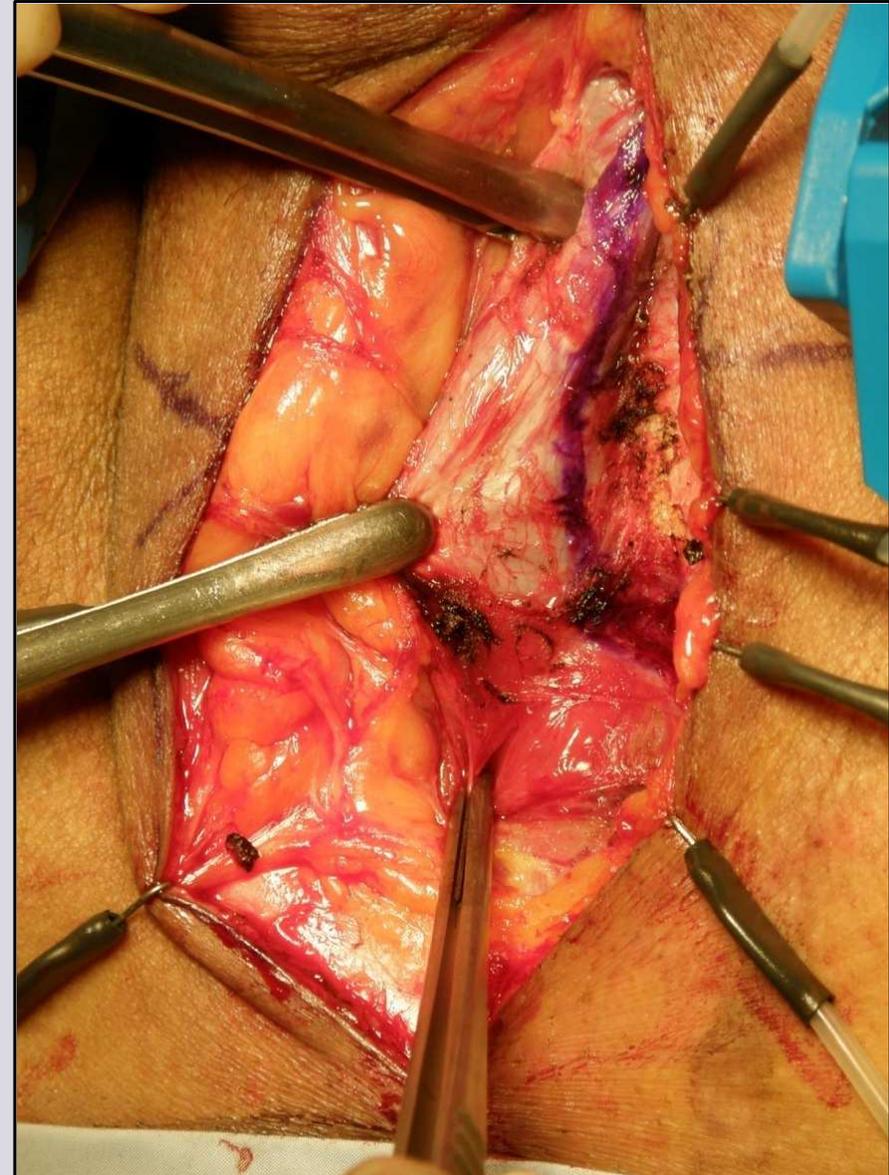
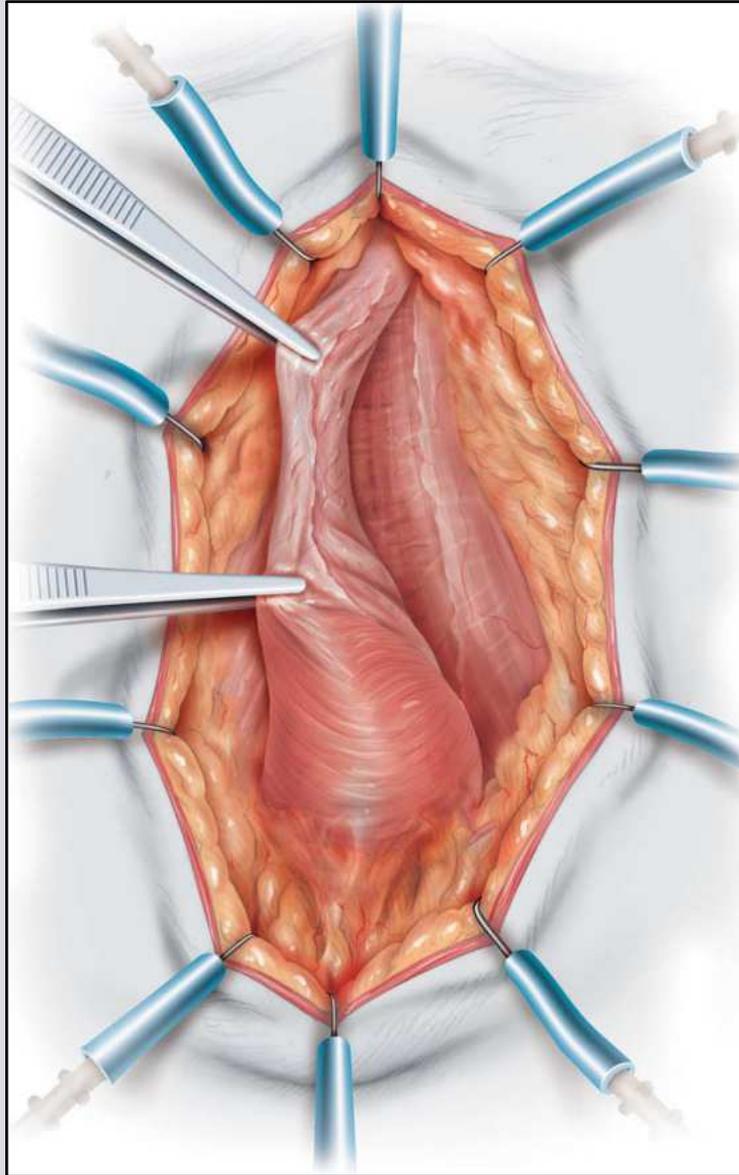


**Muscle and nerve-sparing dorsal onlay graft
bulbar urethroplasty**



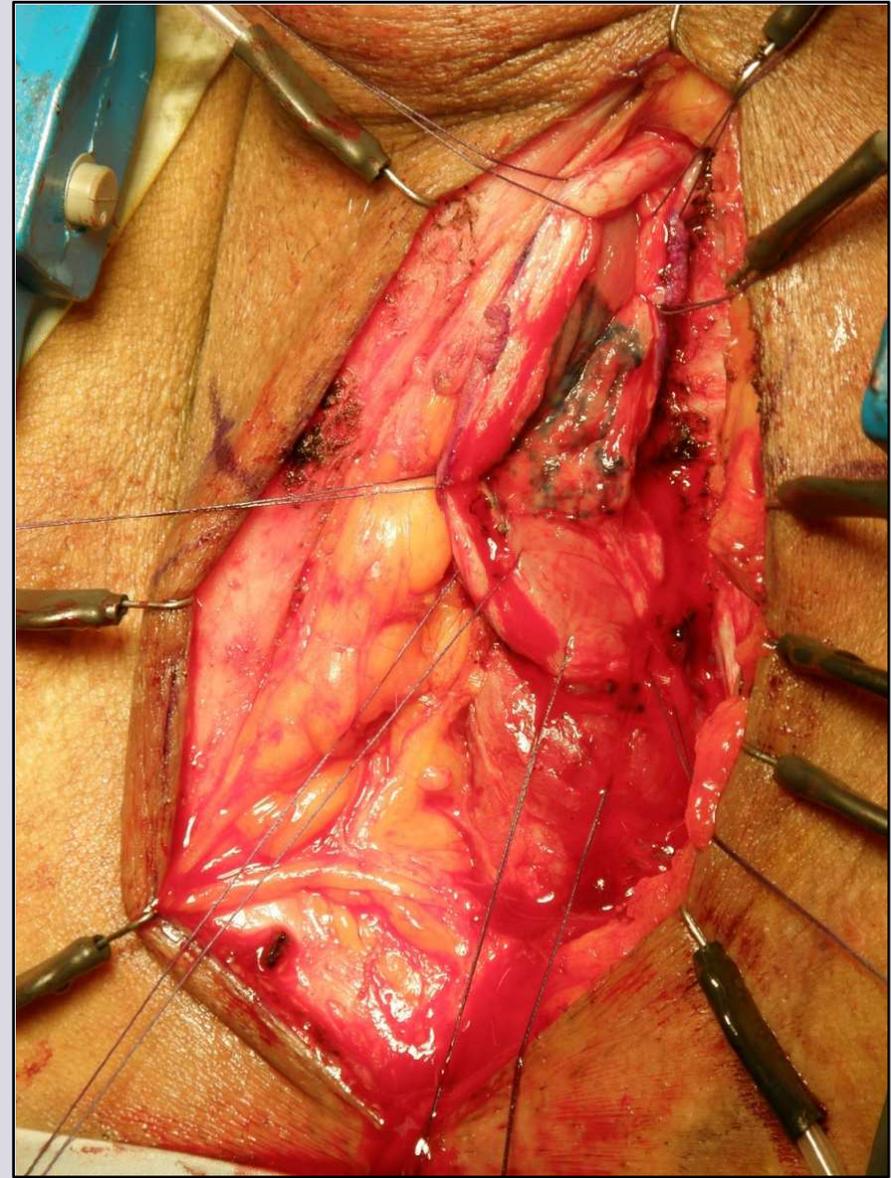
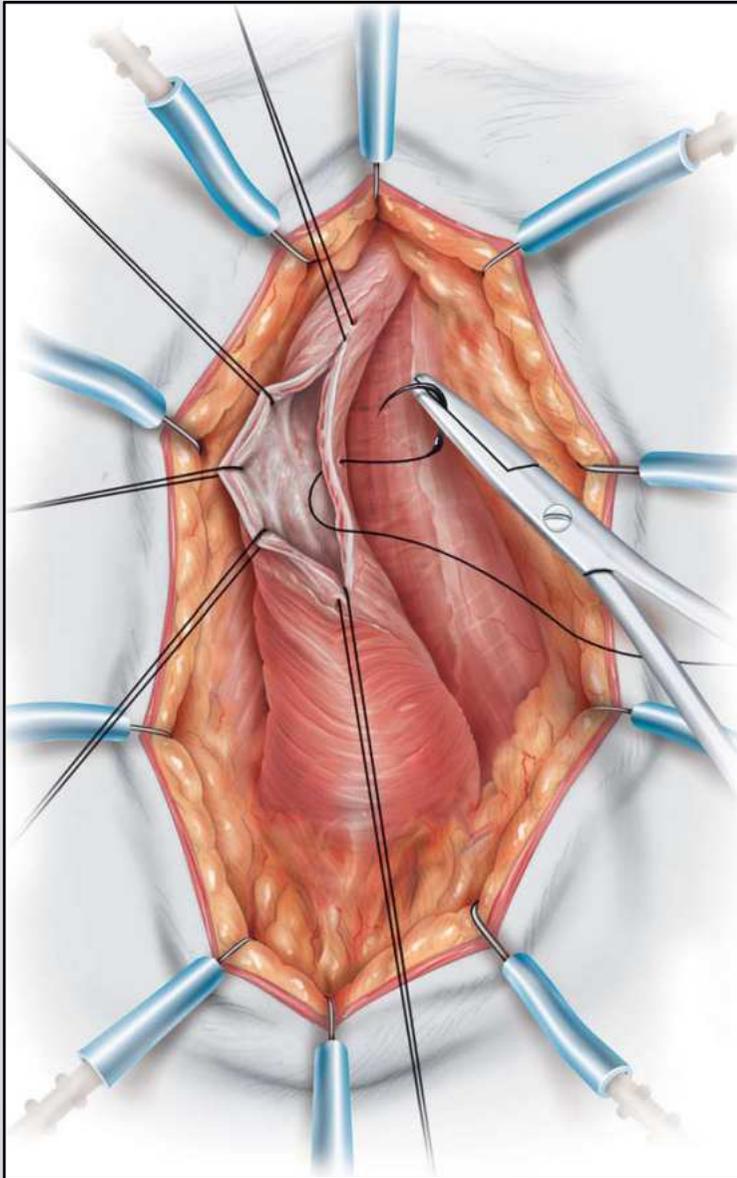
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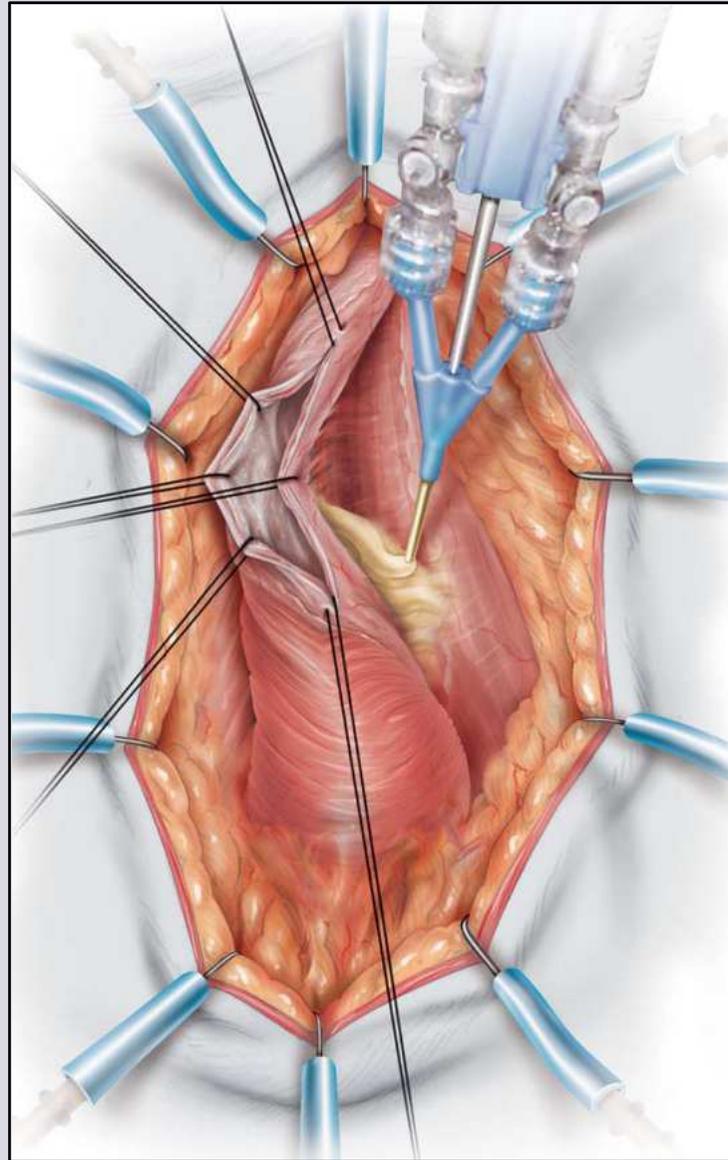
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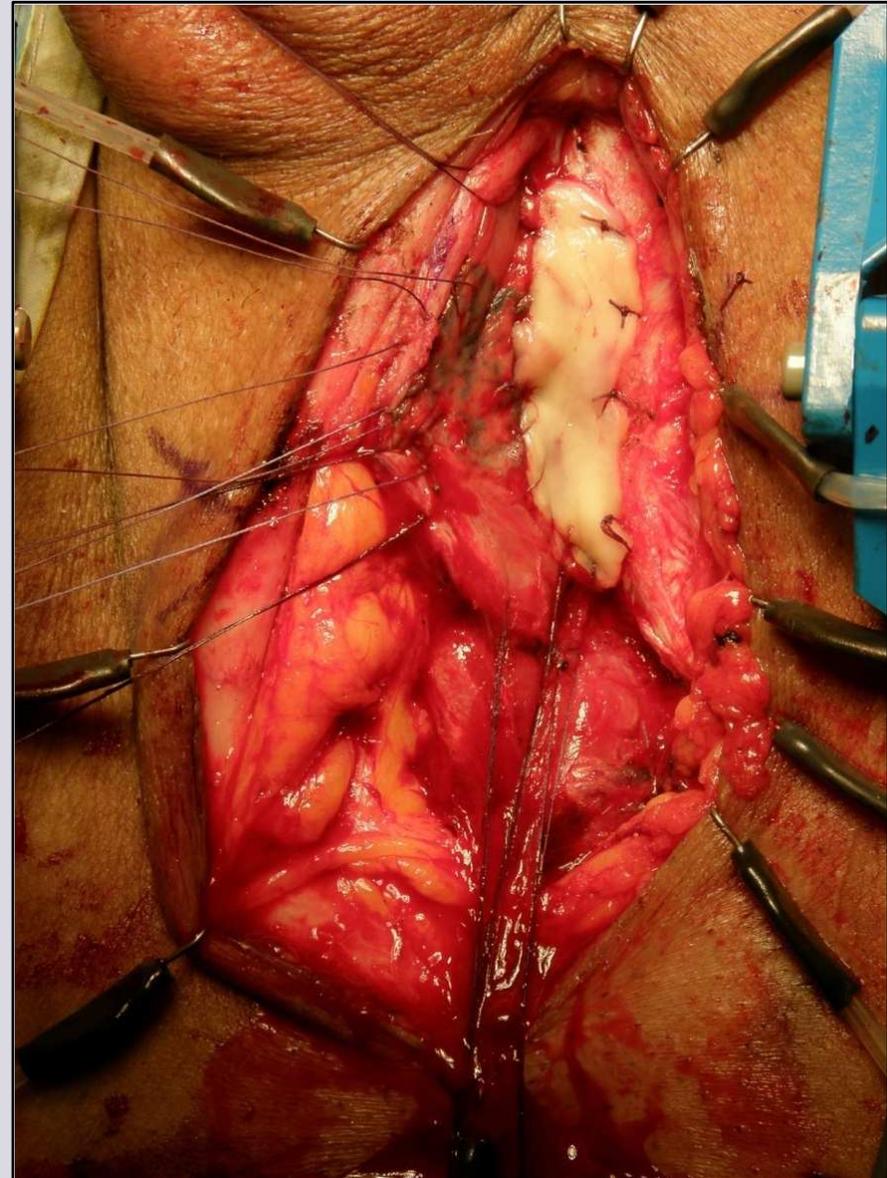
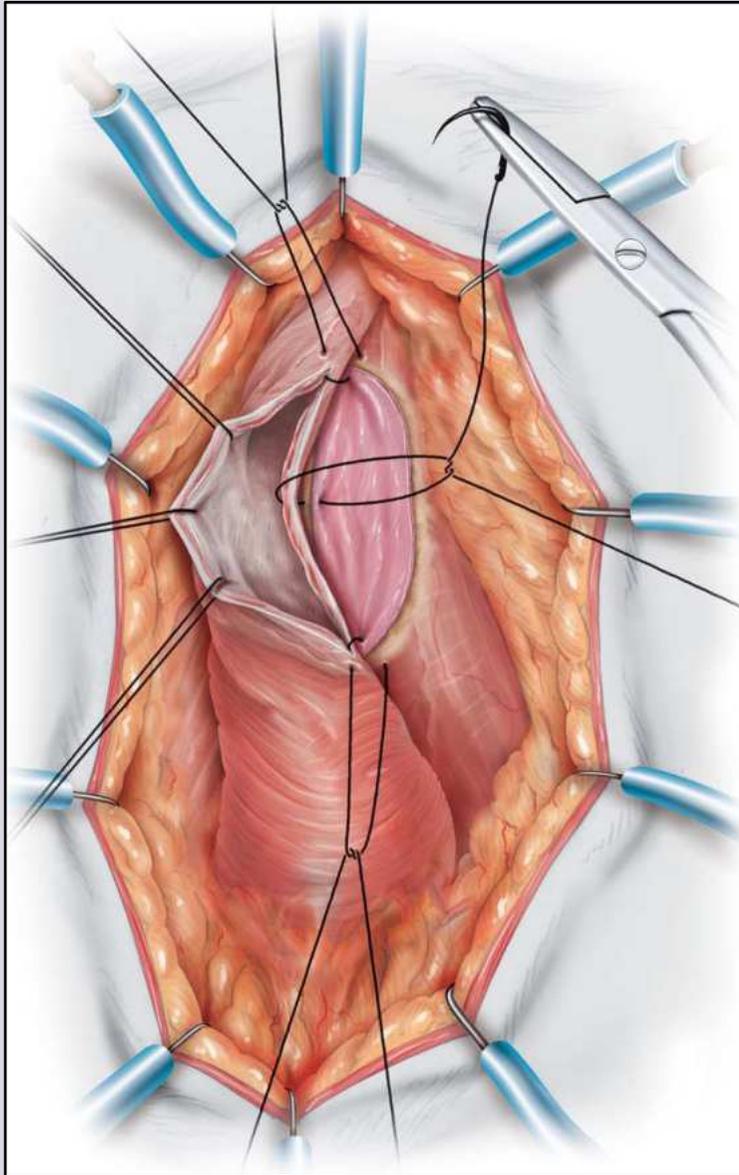
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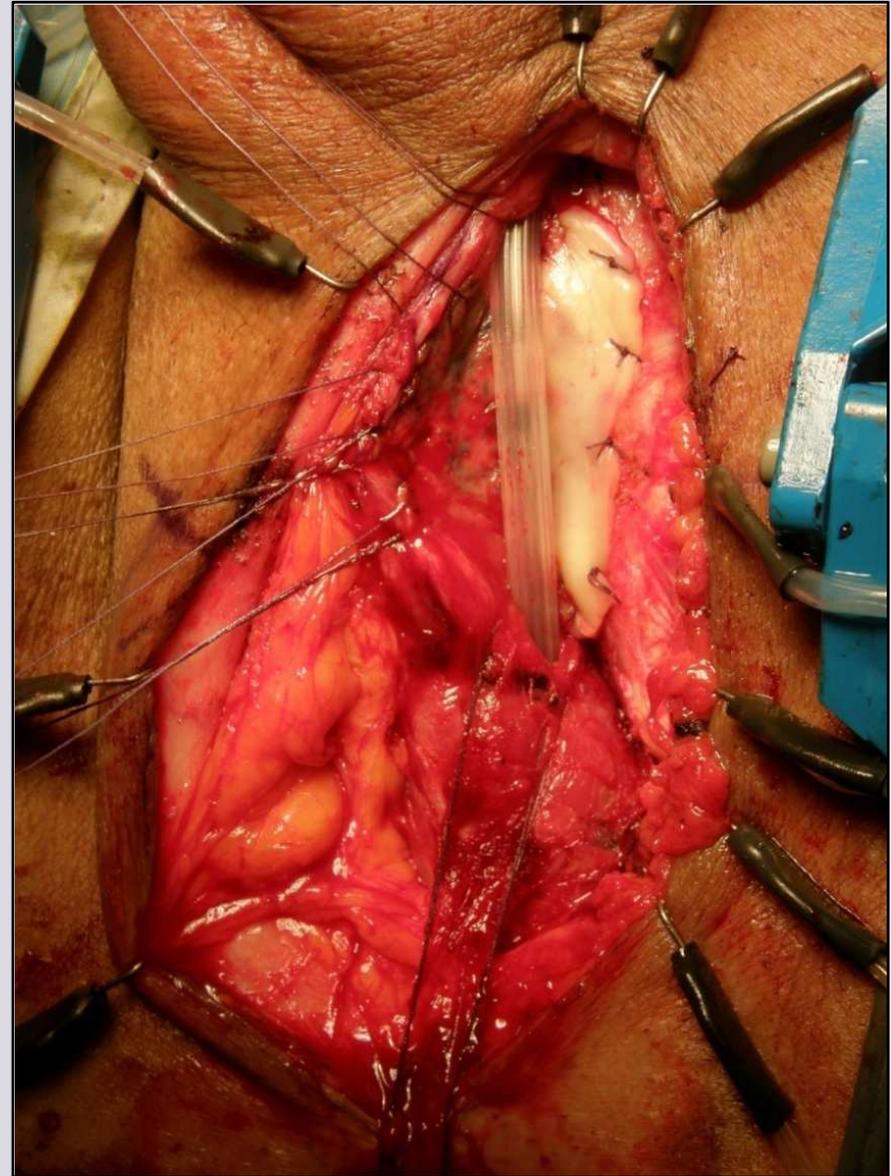
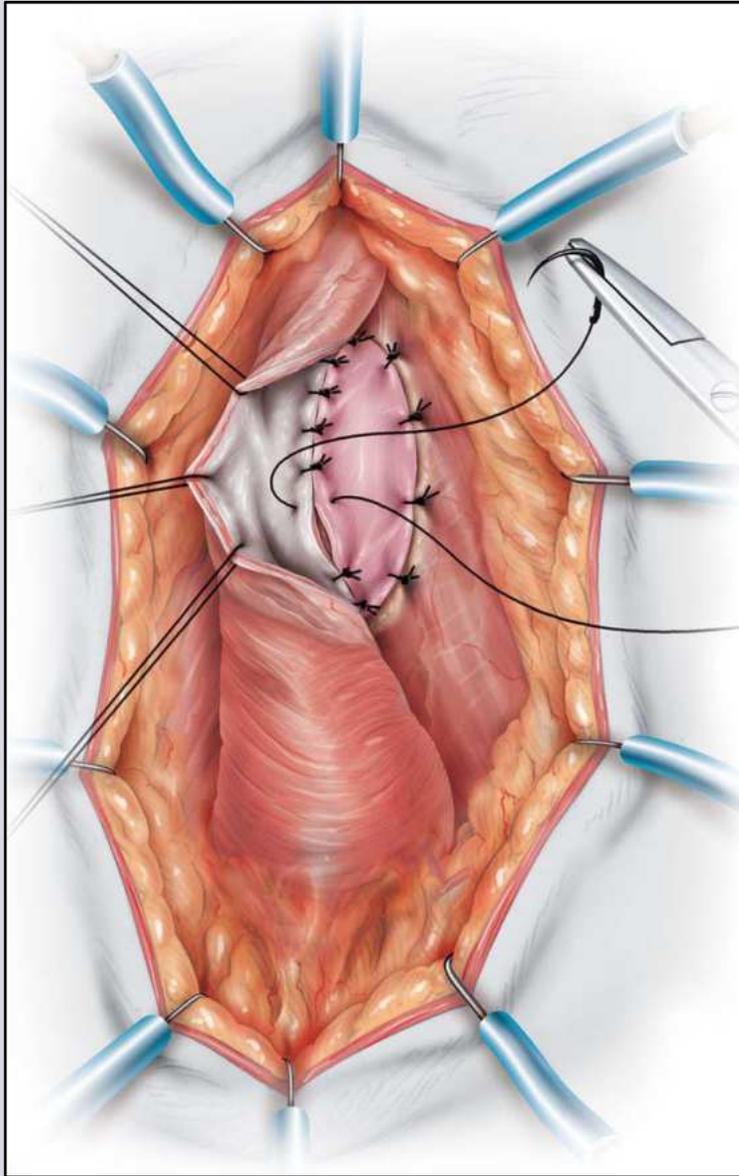
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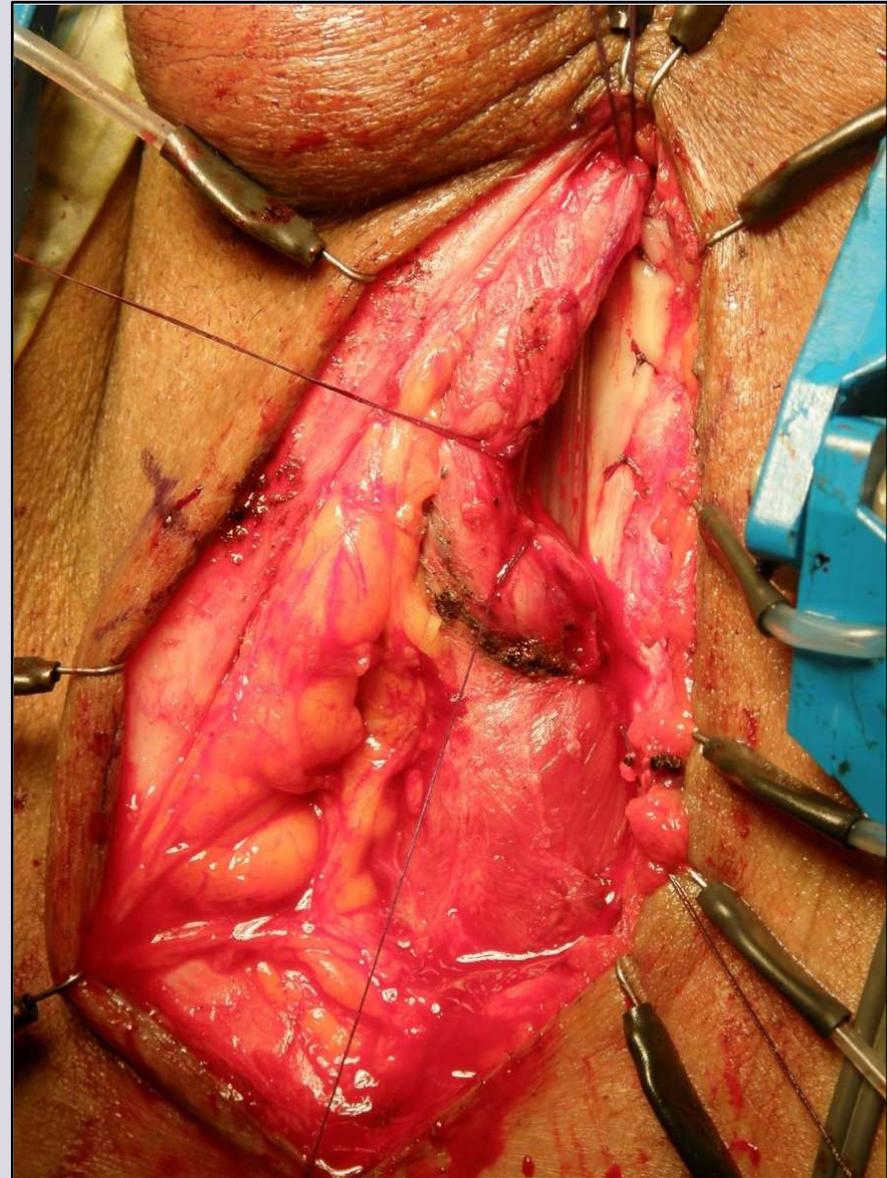
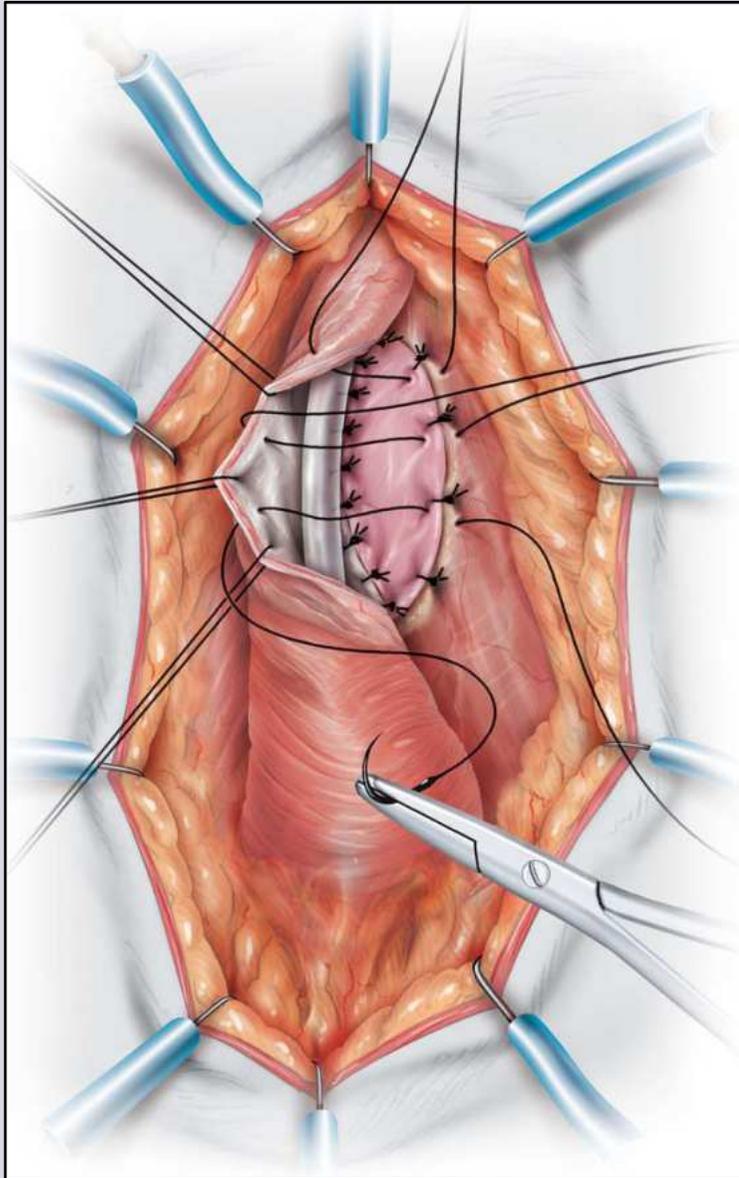
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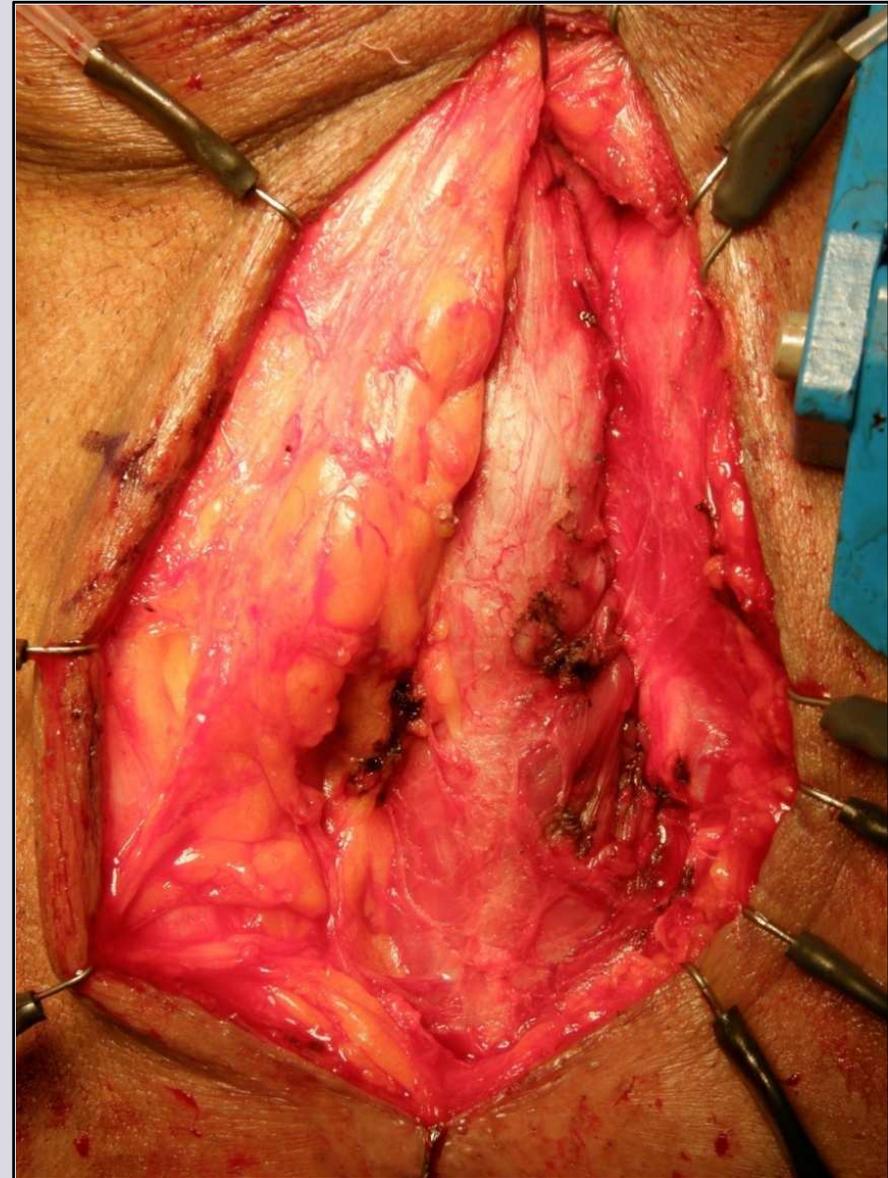
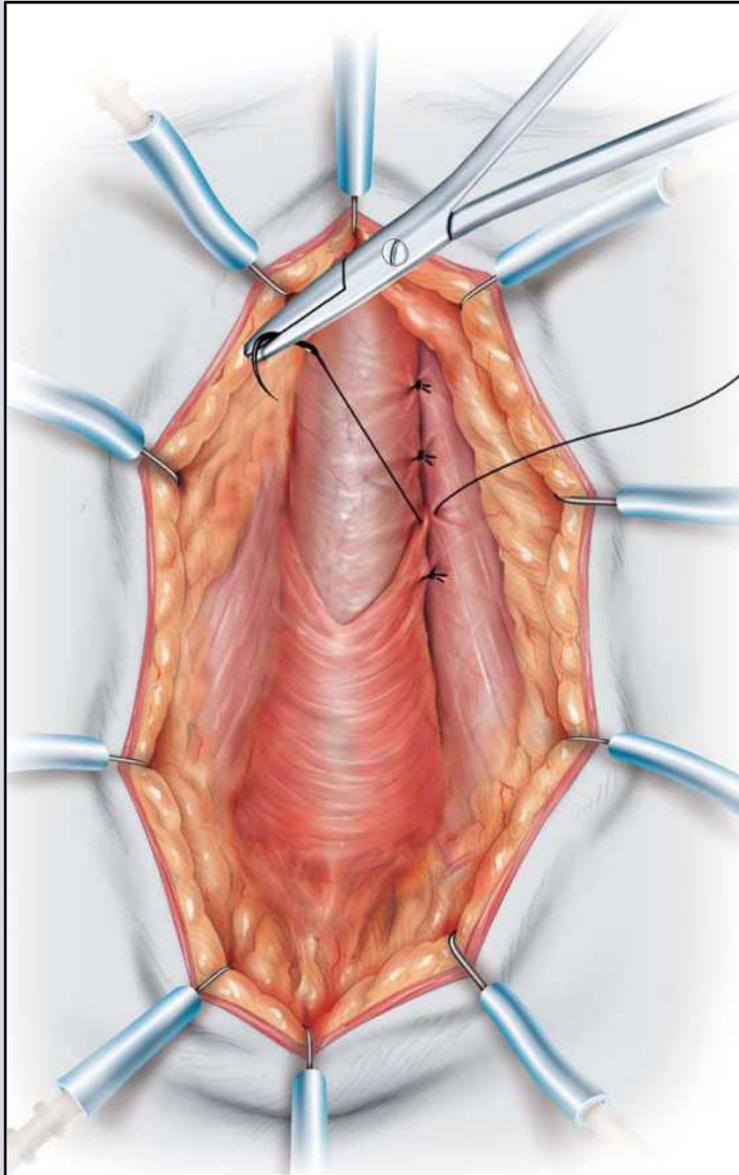
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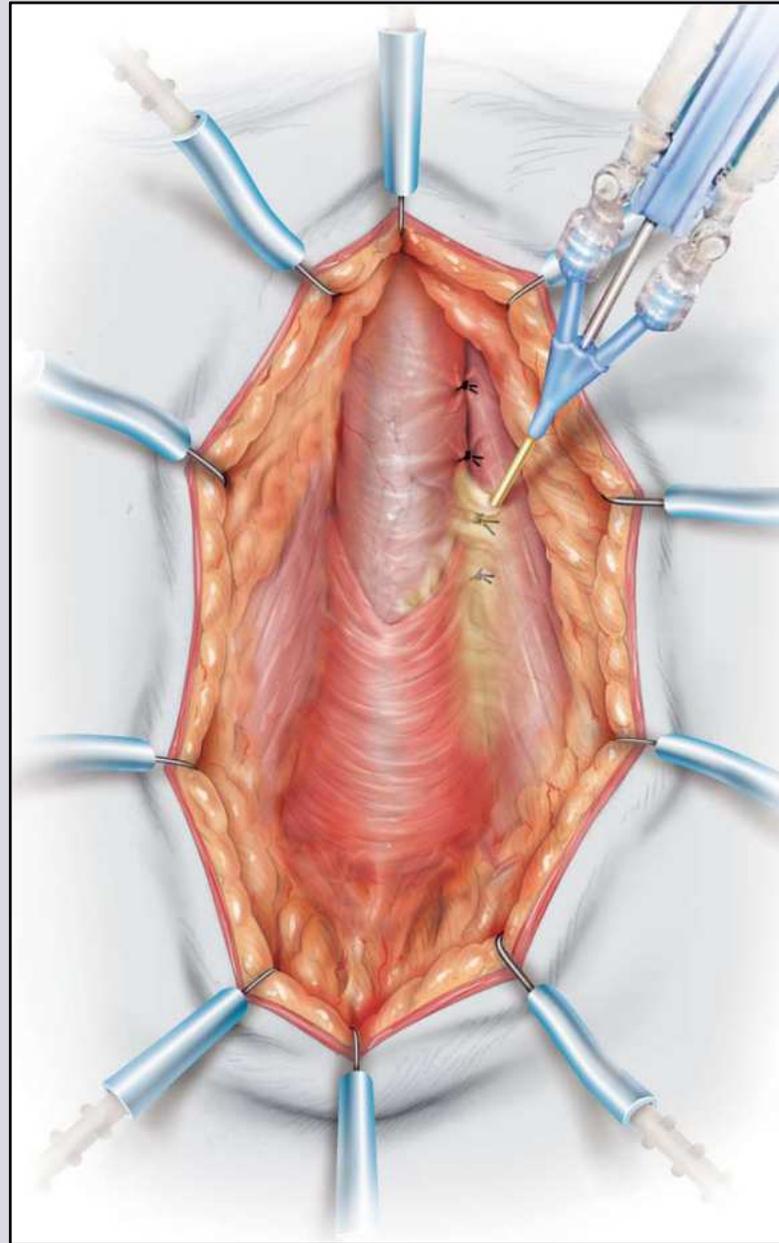
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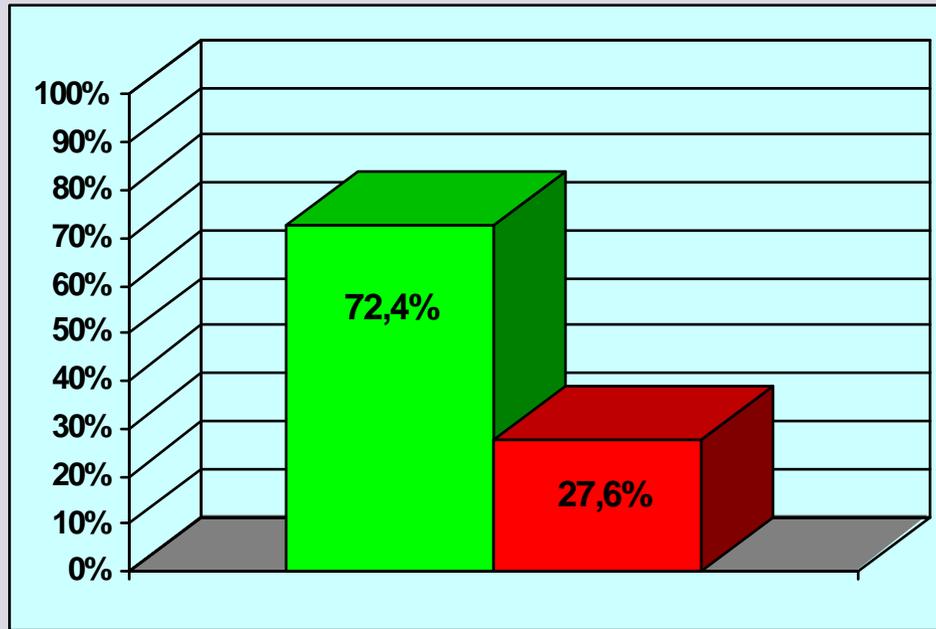
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Oral graft

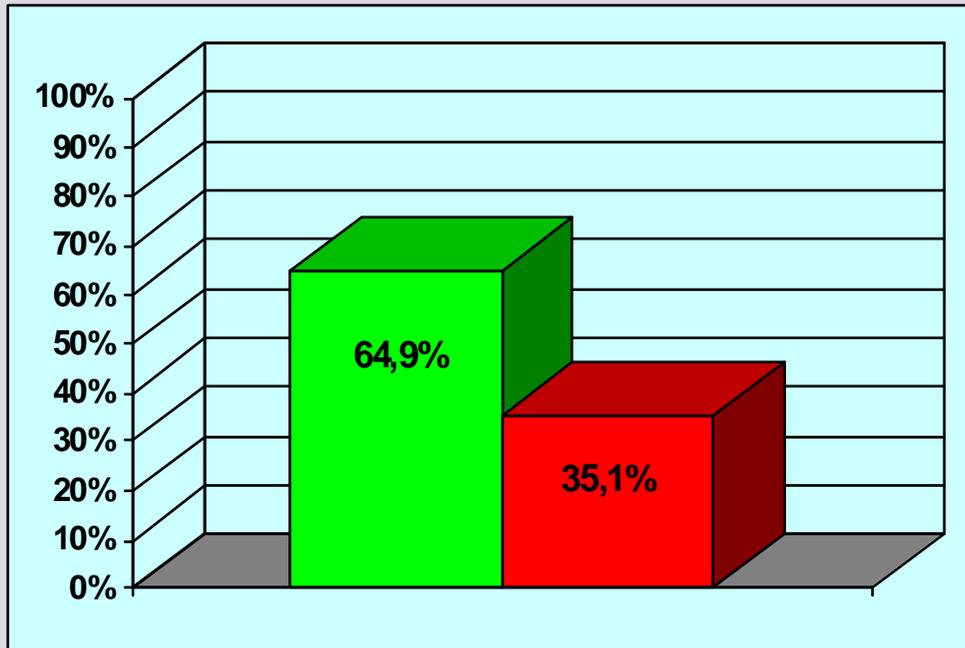


29
patients

■ success	21 (72.4%)		
■ failure	8 (27.6%)		
	minimum	maximum	mean
Follow-up (months)	7	158	76
Age (years)	24	77	42

Up-to-date
December 31, 2011

Skin graft



37
patients

■ success	24 (64.9%)
■ failure	13 (35.1%)

	minimum	maximum	mean
Follow-up (months)	140	209	171
Age (years)	19	73	45

Up-to-date
December 31, 2011

Tissue-engineered oral mucosa graft urethroplasty

Fahlenkamp D, Barbagli G, Romano G, Ram-Liebig G

Dresden – Chemnitz (Germany)

2010 - 2011 - 2012



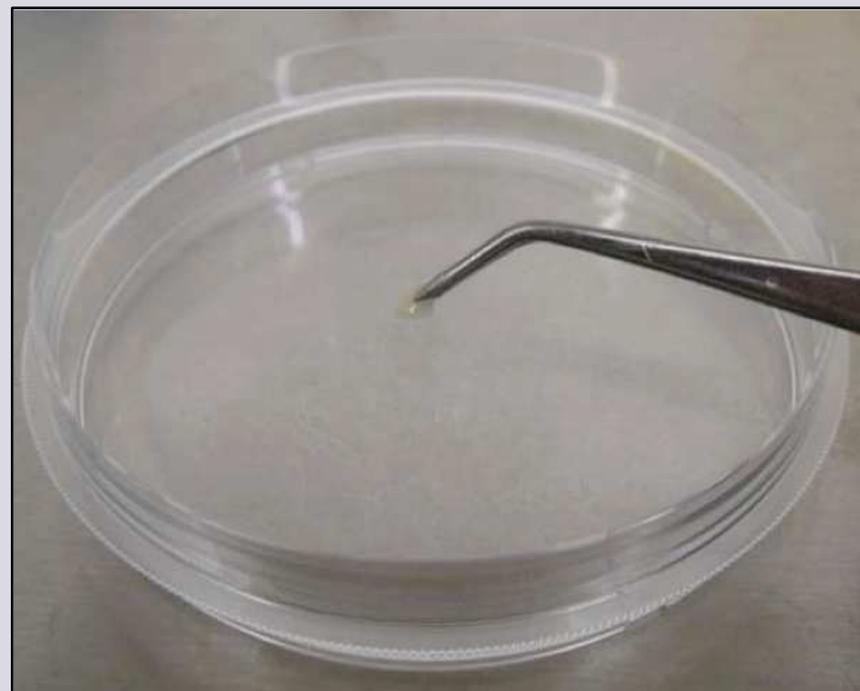
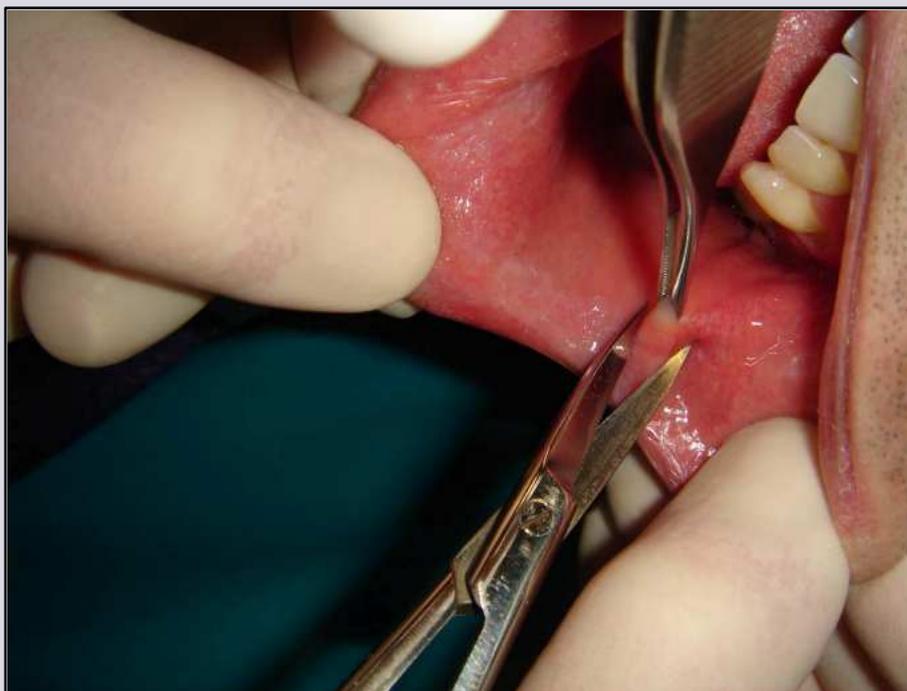
The **tissue-engineered oral mucosa graft urethroplasty** was performed at the **Department of Urology in Chemnitz (Germany)**, under the direction of **Prof. Dirk Falhenkam**

Pre-operative retrograde urethrography



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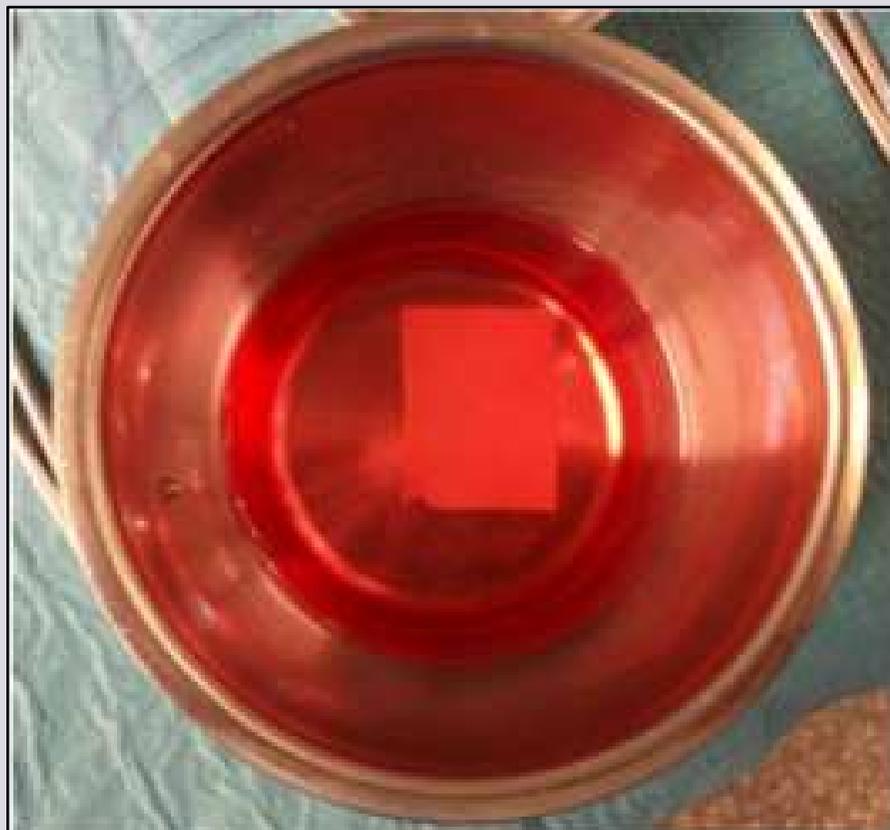
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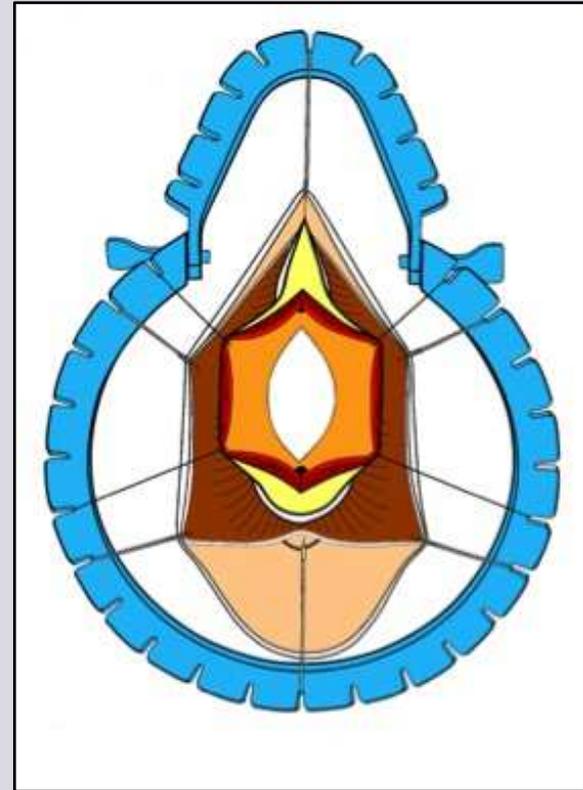
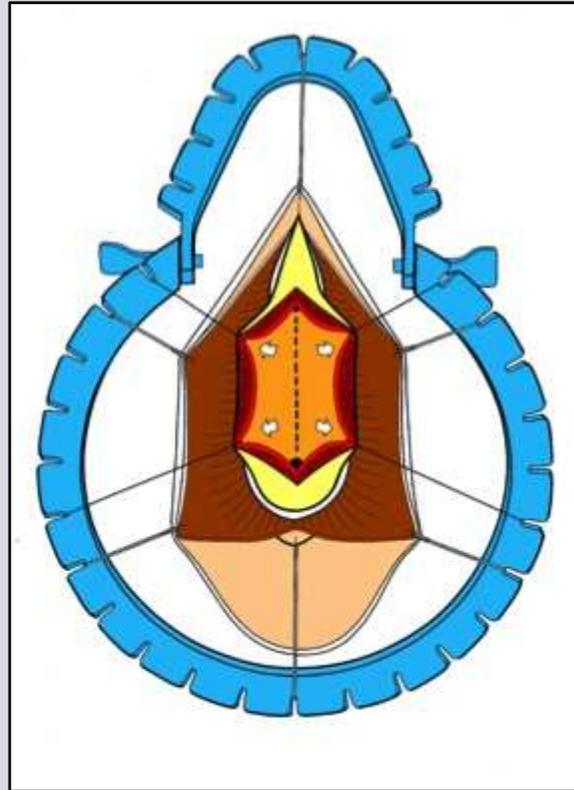
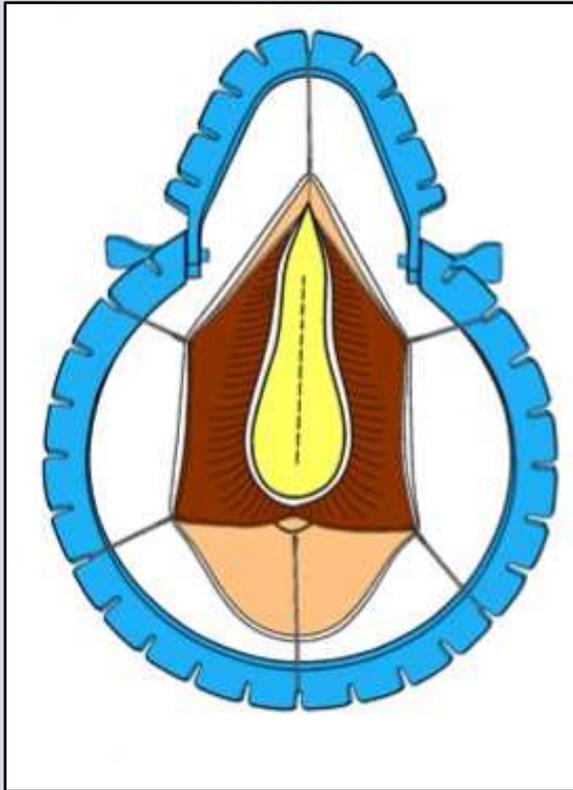
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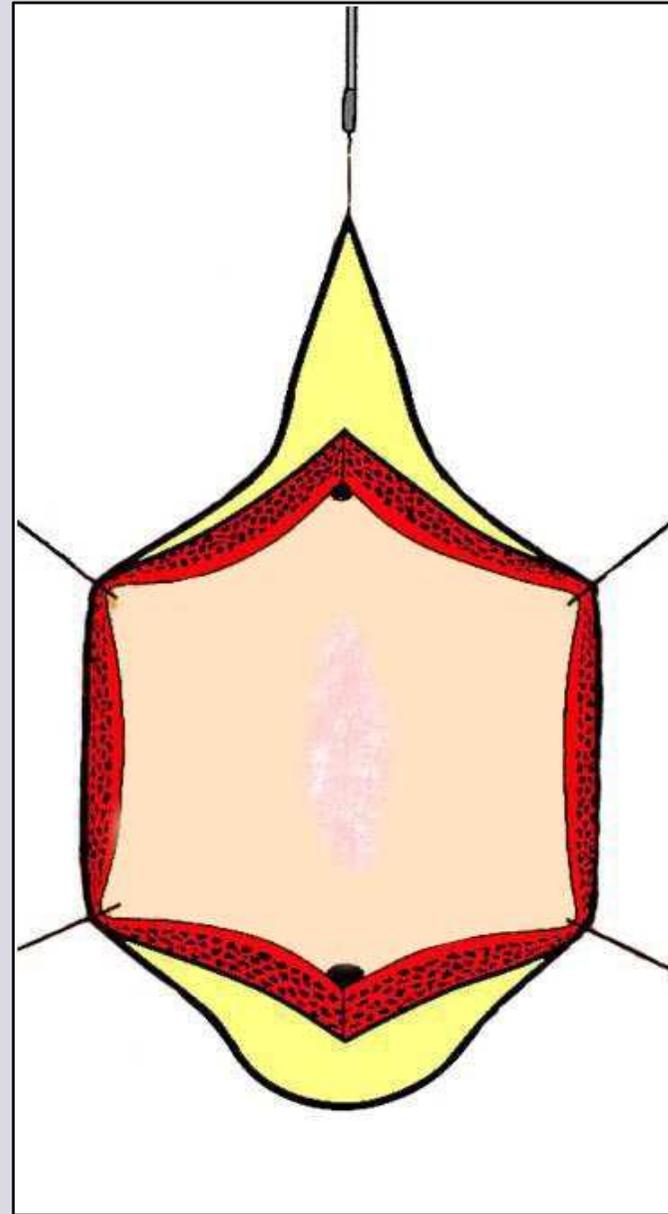
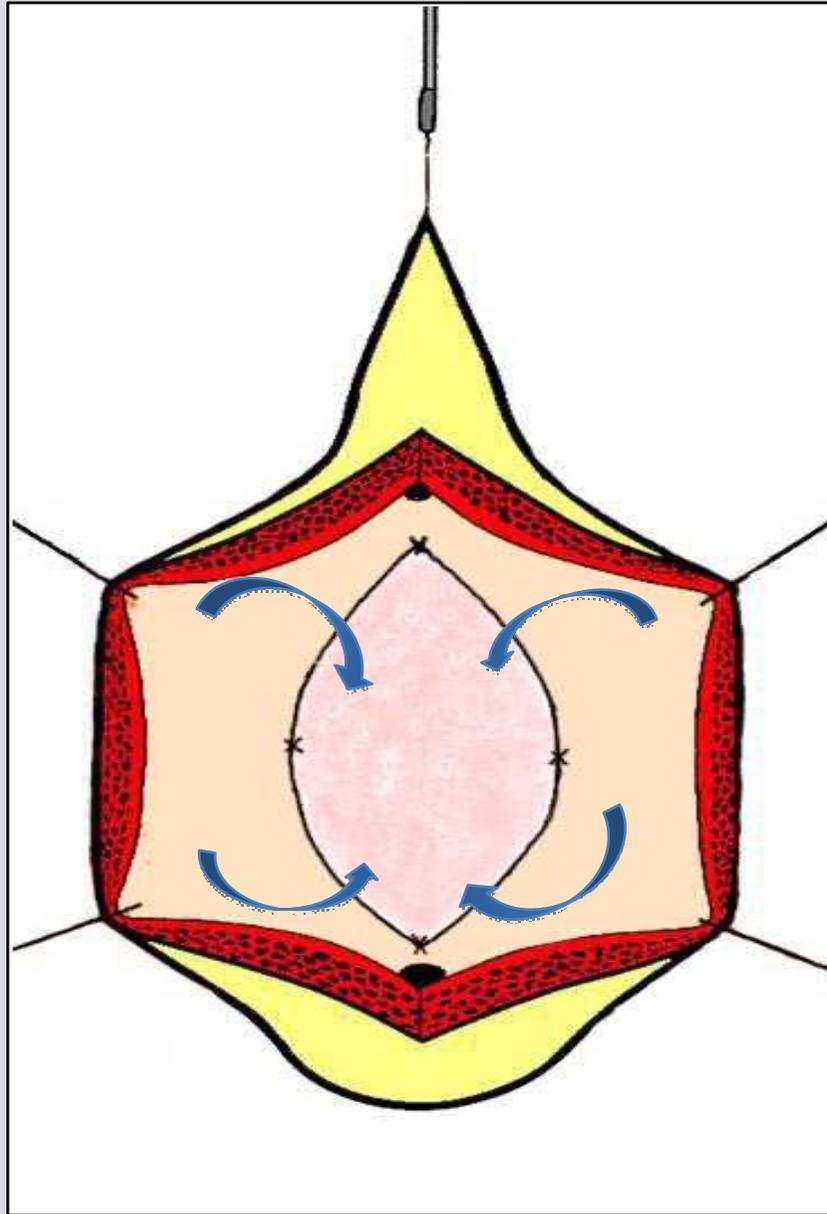
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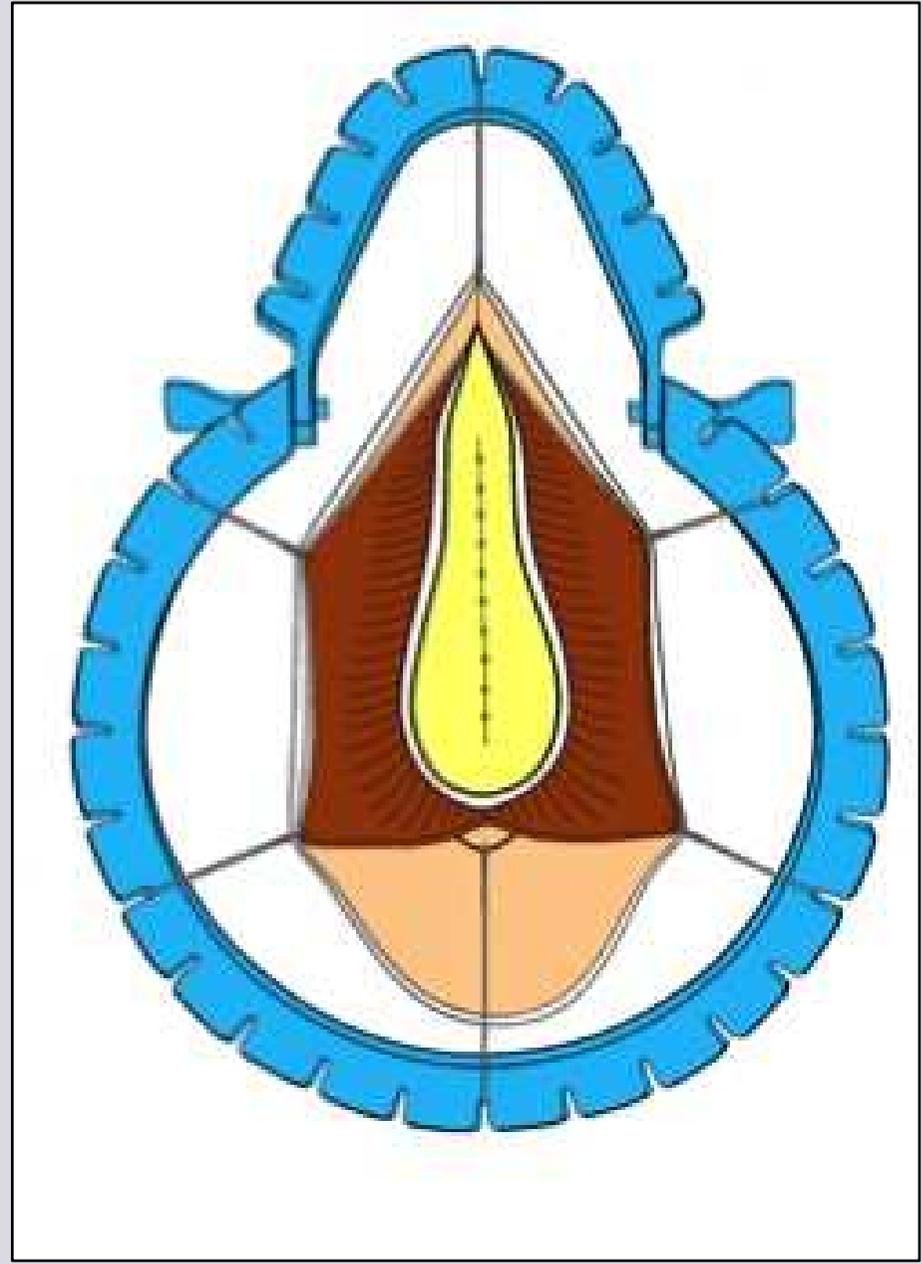
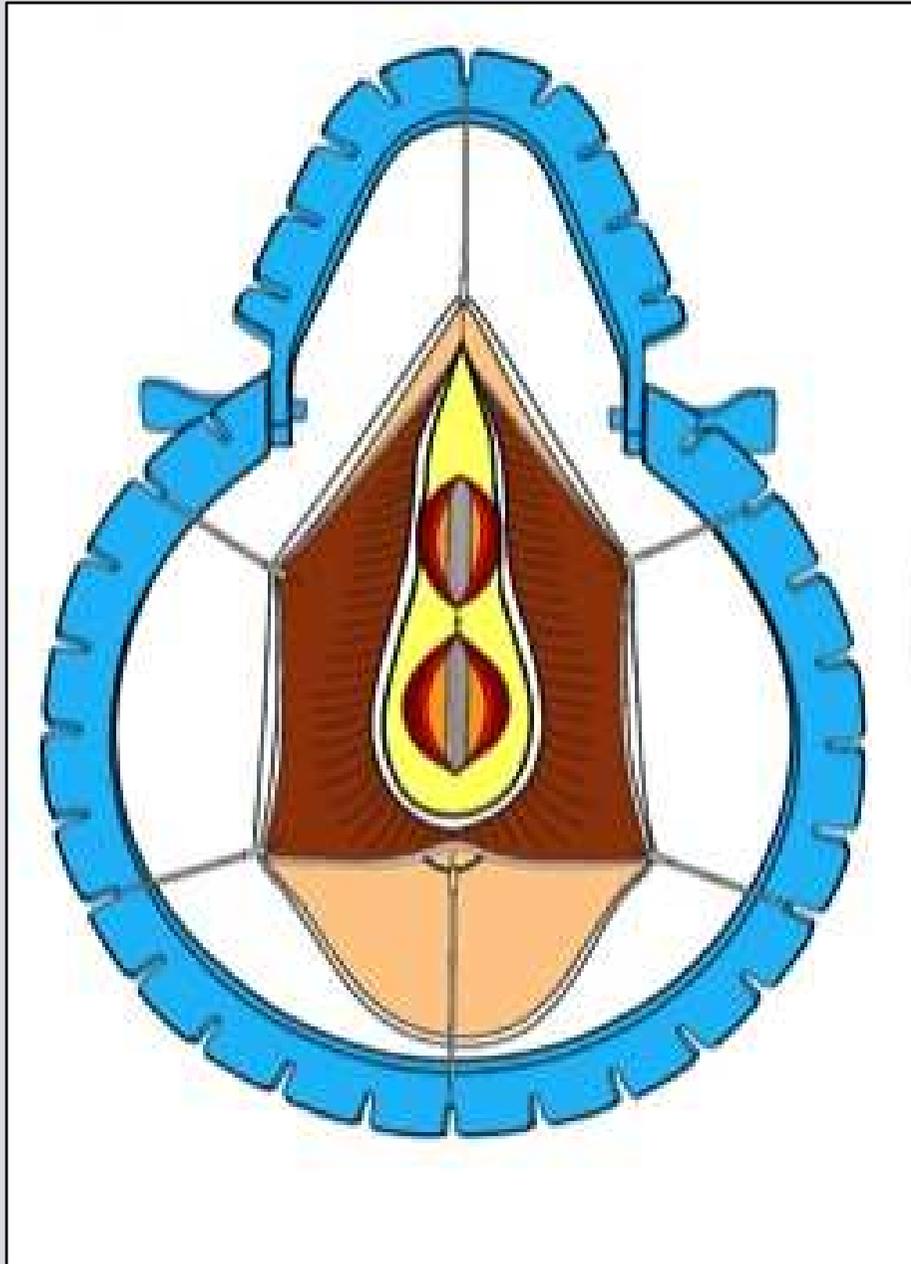
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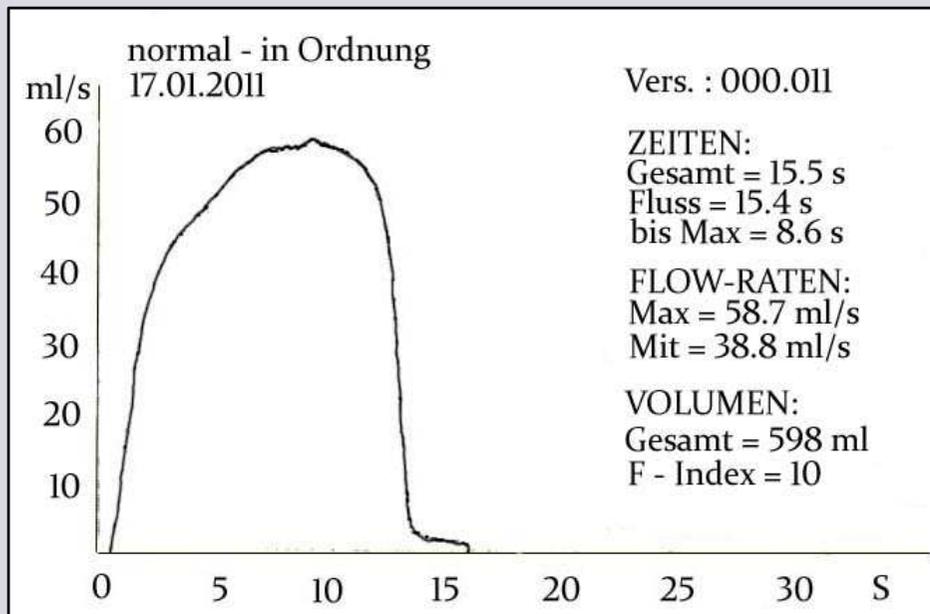
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Post-operative uroflowmetry and urethrography

Our preliminary experience

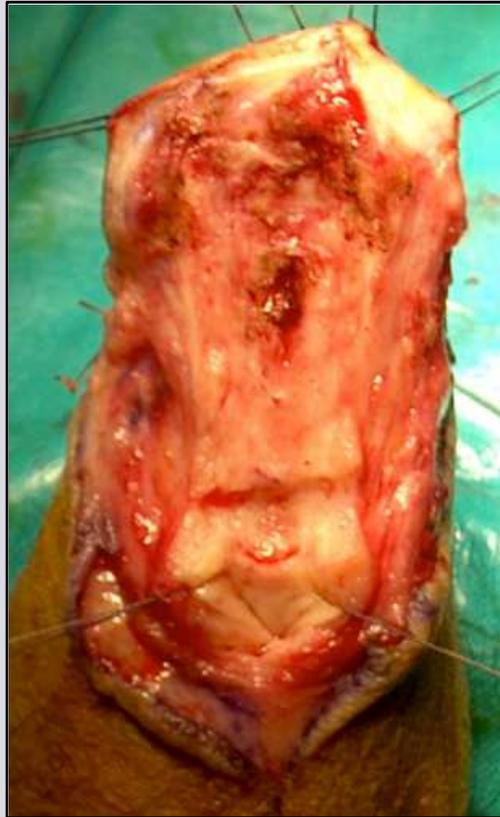


Oral mucosa



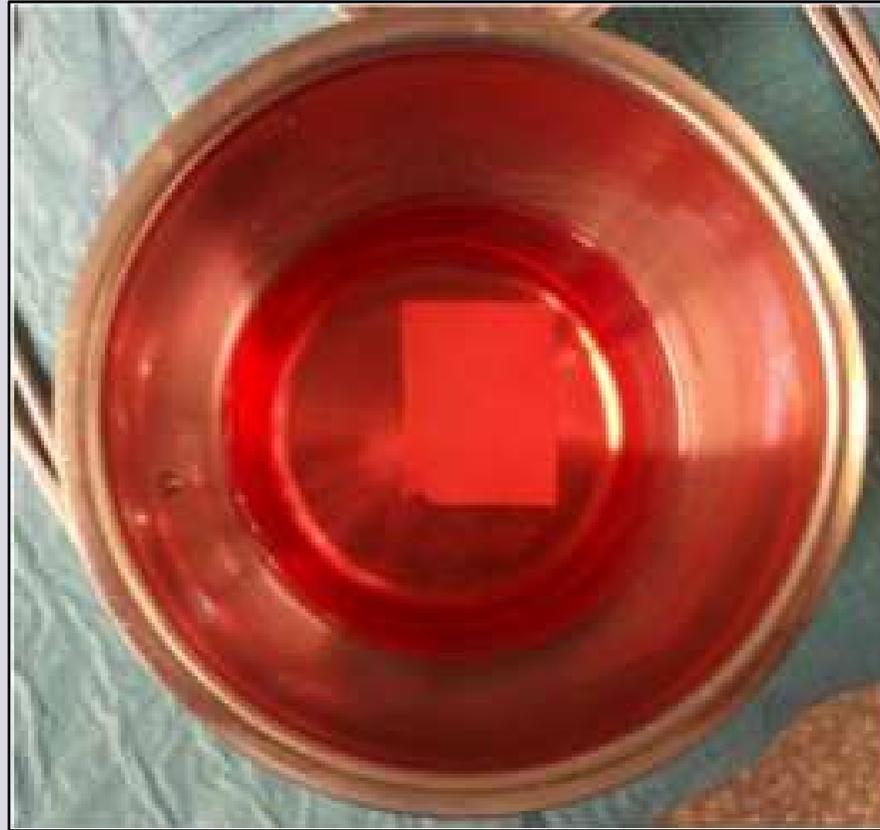
Tissue engineered oral mucosa

Our preliminary experience



Is tissue engineered oral mucosa adaptable for any type of urethroplasty ?

Our preliminary experience



The use of tissue engineered oral mucosa is not a simple surgical procedure and should be performed only in a Centre of excellence for urethral surgery.



Conclusions

In the era of robotic surgery, it is also time to change urethral surgery!

- ❖ **Increase the use of minimally invasive techniques in urethroplasty, reducing the incidence of complications and improving patient quality of life.**
- ❖ **Increase the use of appropriate questionnaires to better evaluate the outcome of urethroplasty.**

WORKSHOP REGISTRATION

Registration Fee: Before 1 August € 300,00
After 1 August € 400,00
Residents: € 10,00

Registration fee includes official dinner, lunches and coffee/tea break

PAYMENT METHOD: Bank Transfer to DAFNE SRL

Banca di Napoli – Agenzia di Siderno (RC)

89048 Siderno (RC) – Italia

IBAN: IT 79010108159110000004778

BIC: IBSPTINA516

Official language: English



Failed Hypospadias Repair

esgurs



WEBON REGISTRATION

Registration Fee: Before 1 August € 150,00
Residents: € 50,00

Registration includes live surgeries and all presentations
by internet connection

For more information: <http://www.webonuretra.it>

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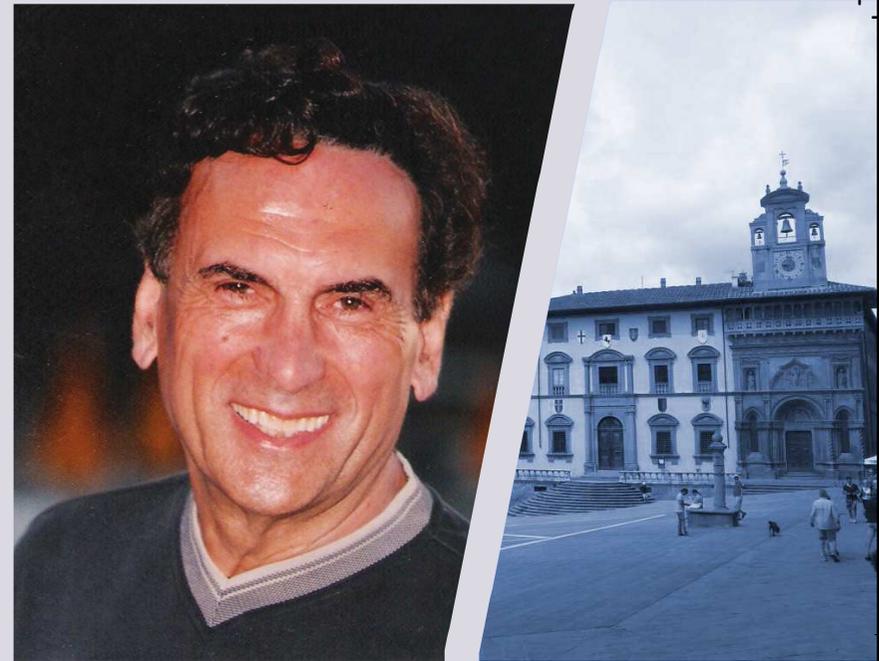
Banca di Napoli – Agenzia di Siderno (RC)

89048 Siderno (RC) – Italia

IBAN: IT 79010108159110000004778

BIC: IBSPTINA516

Official language: English



Please submit your Abstract (in English) at:
e-mail: salvatore.sansalone@yahoo.it
Deadline for Abstract submission:
August 20, 2012

Scientific secretary:
R. Barbagli, R. Djinovic,
G. Roccano, S. Sansalone

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Sava Perovic Memorial

September 14 -15, 2012

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Live Surgery

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(Complex Uro-Genital Reconstructive Urethral Surgery)

Organizing Committee:
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