Center for Reconstructive Urethral Surgery

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1st Oceana Paediatric Urology Course

Valencia – Spain

1 – 2 April 2011

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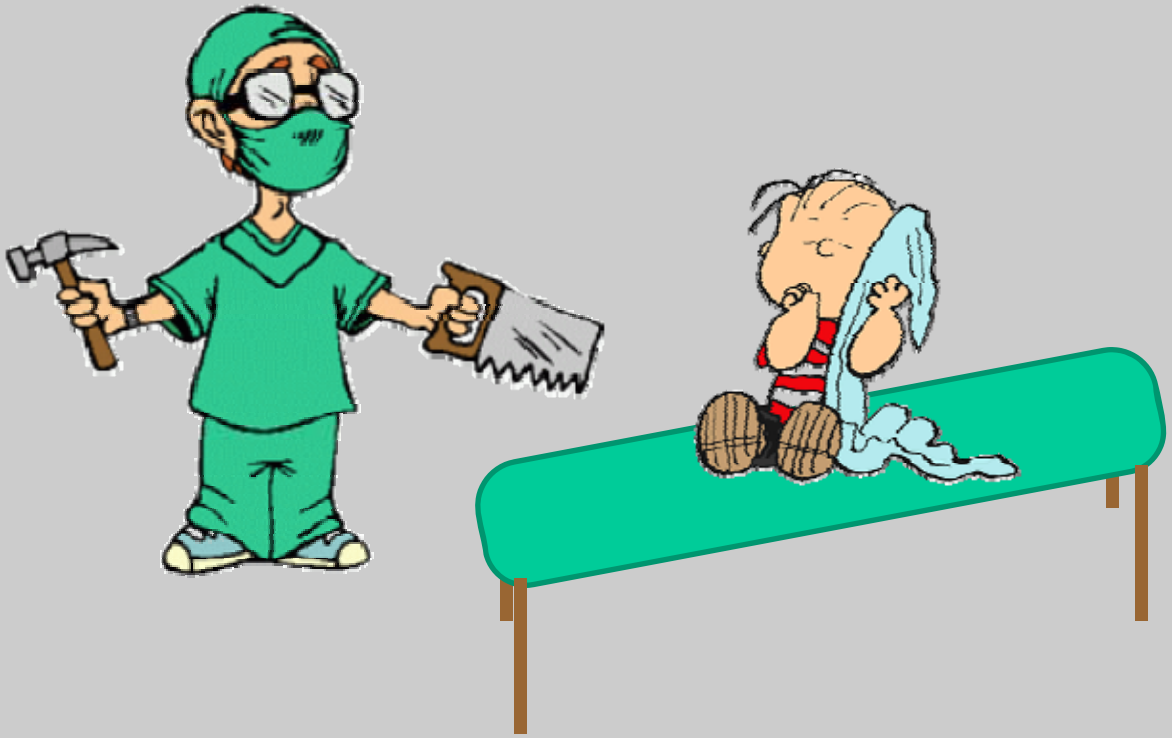
Professor Sava Perovic – Belgrade - Serbia

Surgical options in patients with failed hypospadias repair



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Original Paper

Urologia Internationalis

Urol Int 319856
DOI: 10.1159/000319856

Surgical Challenge in Patients Who Underwent Failed Hypospadias Repair: Is It Time to Change?

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Urol Int 2010; 85: 427-435

The study is a retrospective observational analysis of the patient chart of those who were treated for failed hypospadias repair in 2 centers from 1988 to 2007

1176 patients

Urol Int 2010; 85: 427-435

Our experience on 1176 patients showed four different types of surgical options:

1. **Patient requiring only urethroplasty**
2. **Patient requiring only corporoplasty**
3. **Patient requiring urethroplasty and corporoplasty**
4. **Patient requiring complete resurfacing of the genitalia**

Urol Int 2010; 85: 427-435

Group	Type of complication	Type of repair	N° patients
1	meatal-urethral stricture, retrusive meatus, fistula diverticulum, other	urethroplasty	301 (25.5%)
2	residual penile curvature, corpora cavernosa deformity, penile shortening or torsion	corporoplasy	60 (5.2%)
3	stricture, fistula, diverticulum associated with residual glans or penile curvature or deformity	urethroplasty corporoplasty	166 (14.1%)
4	glans dehiscence, glans necrosis, glans torsion or curvature, loss of penile/srcotal skin, midline septum, abnormal peno.scrotal or peno.pubic junction, buried penis, trapped penis, other	genitalia resurfacing	649 (55.2%)
total			1176

Urol Int 2010; 85: 427-435

Urethroplasty

Group	Type of complication	Type of repair	N° patients
1	meatal-urethral stricture, retrusive meatus, fistula diverticulum, other	urethroplasty	301 (25.5%)

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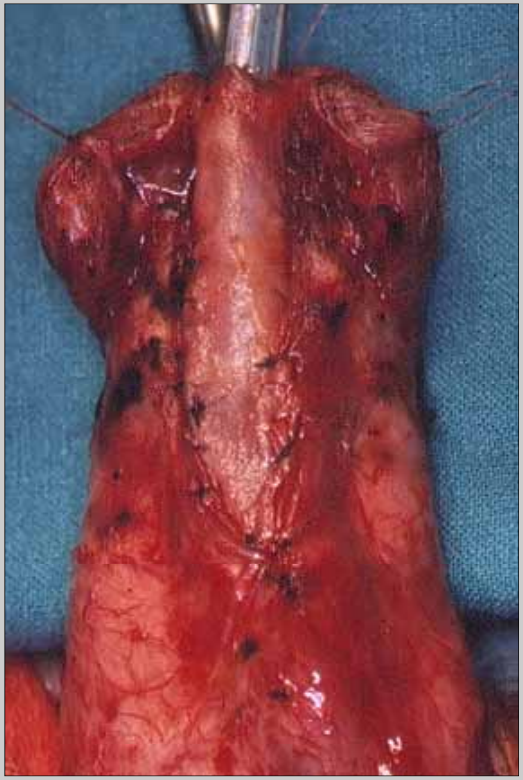
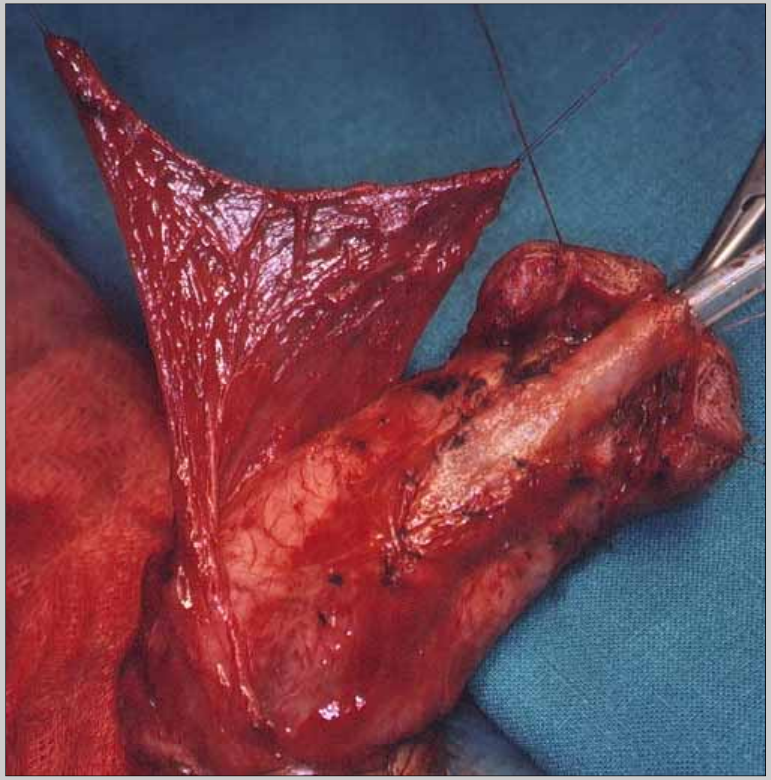
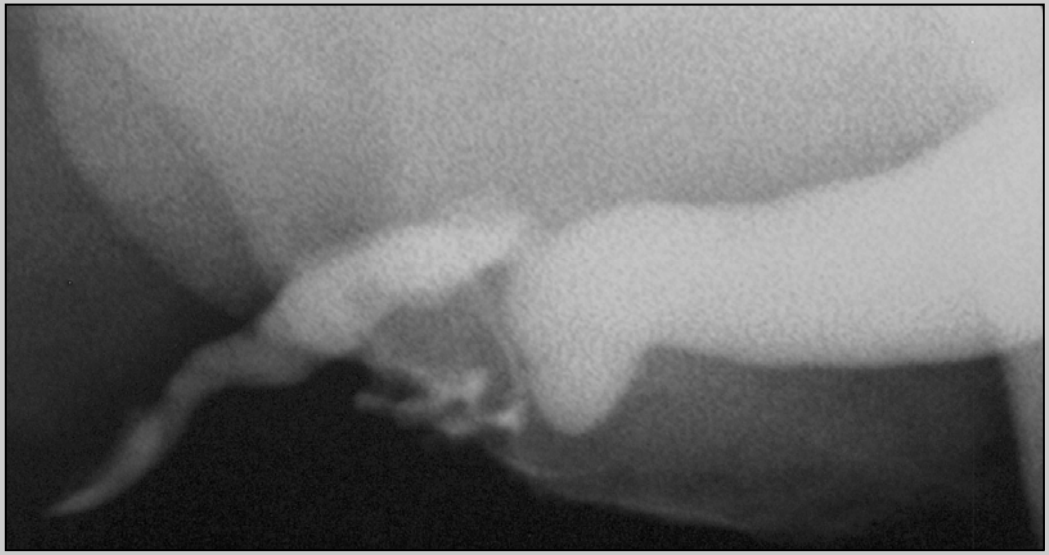
Ventral onlay oral mucosa graft





Dorsal onlay oral mucosa graft



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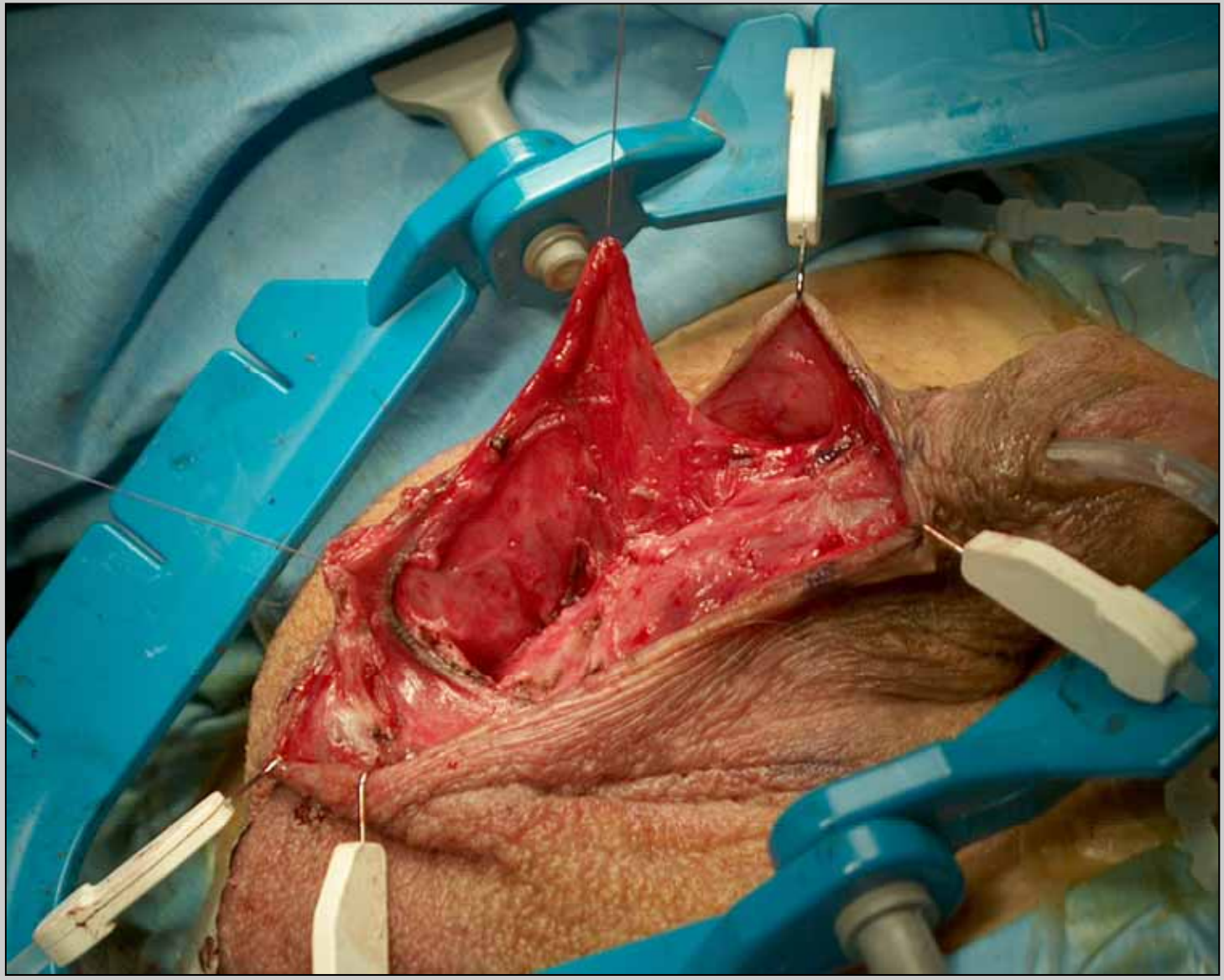

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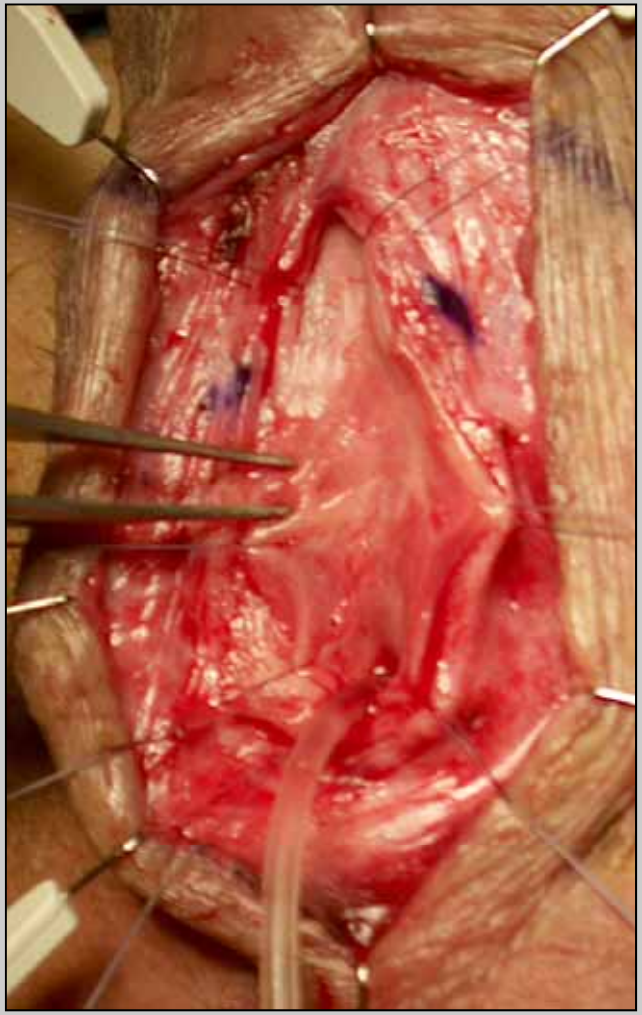
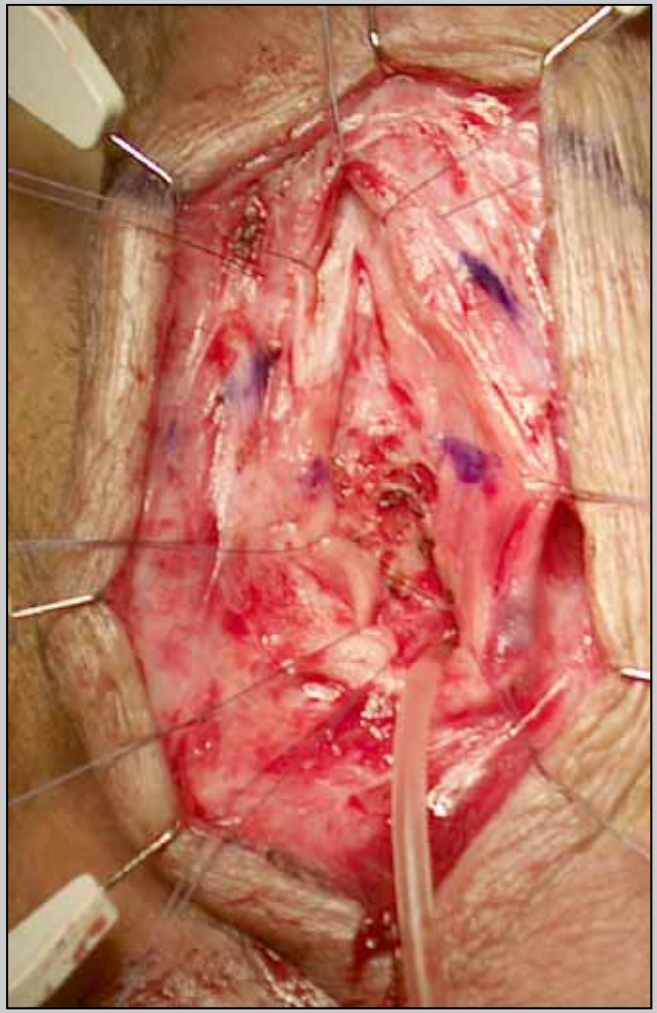
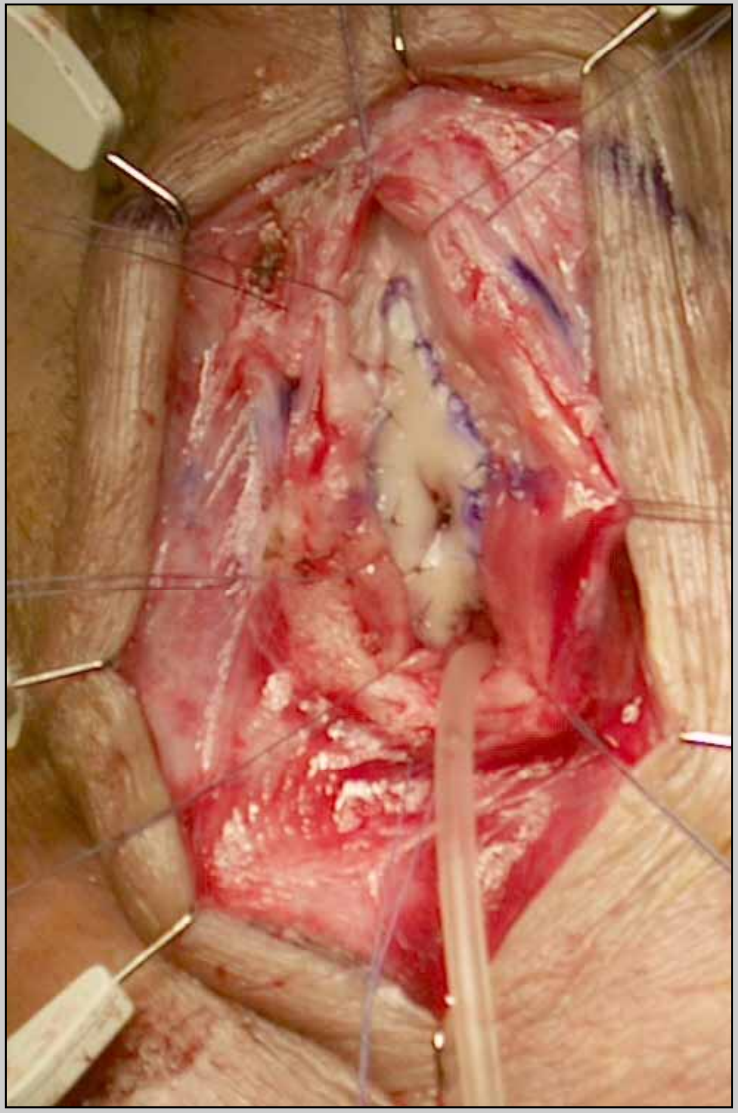
Dorsal inlay oral mucosa graft







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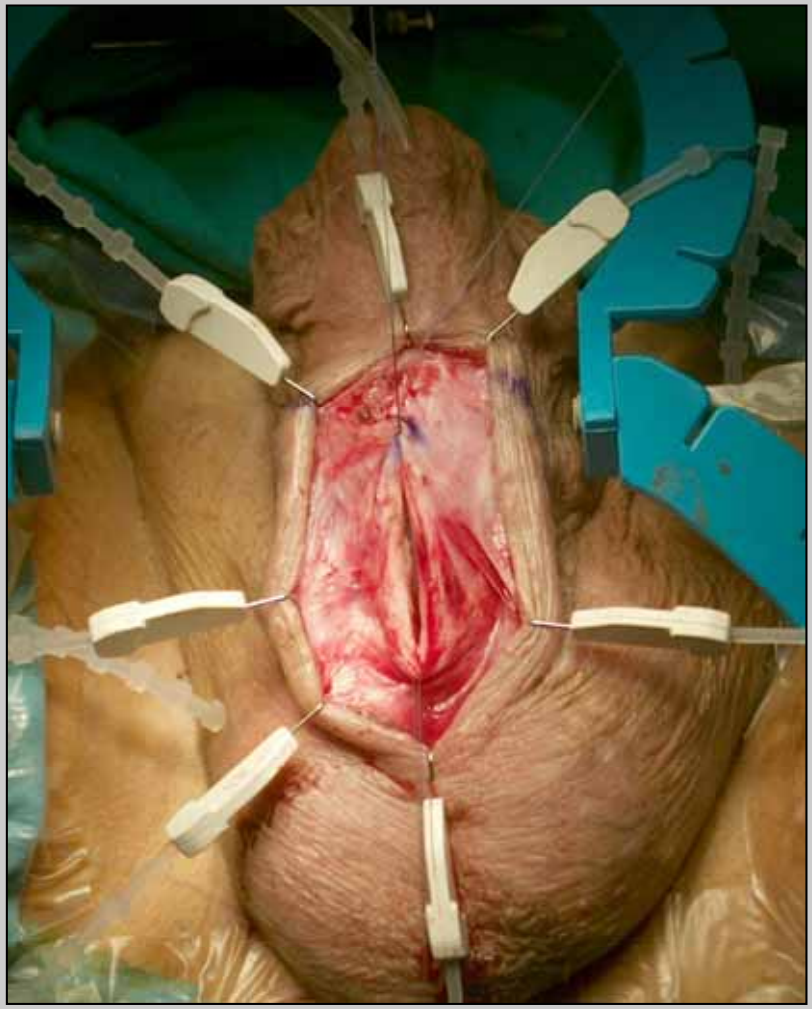

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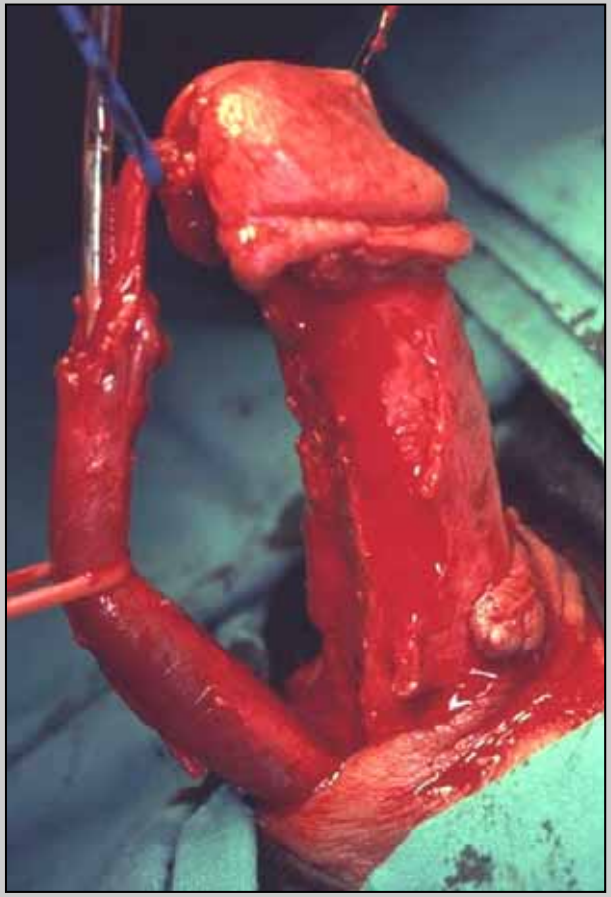
Dartos fascial flap urethroplasty



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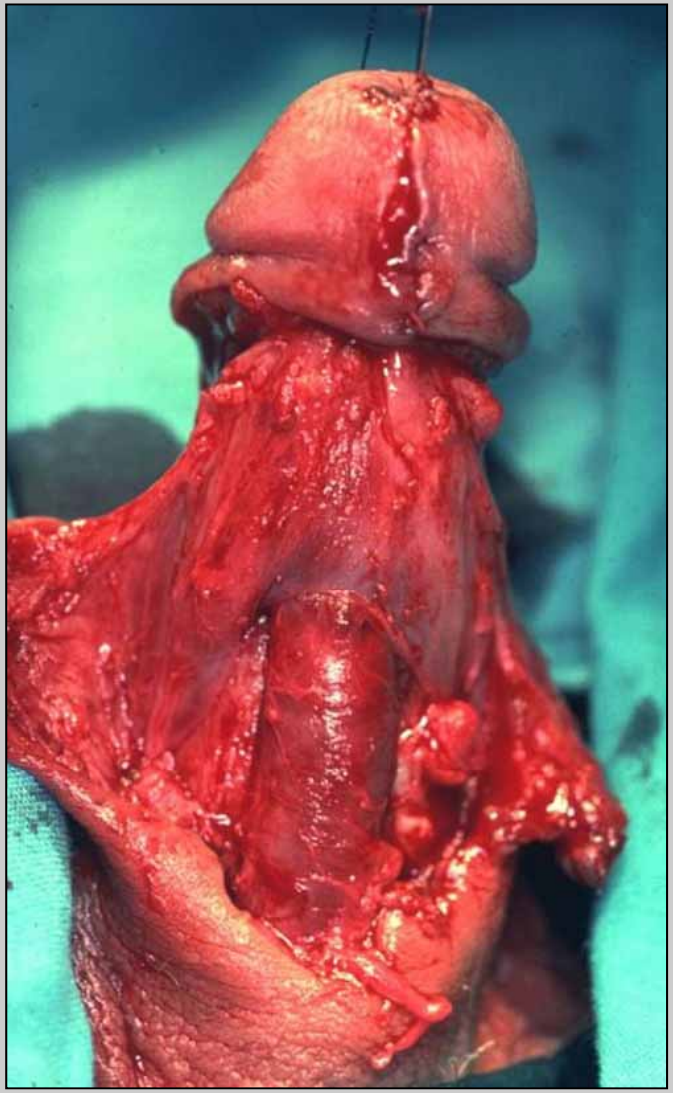

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Combined dartos fascial flap and oral mucosal graft urethroplasty

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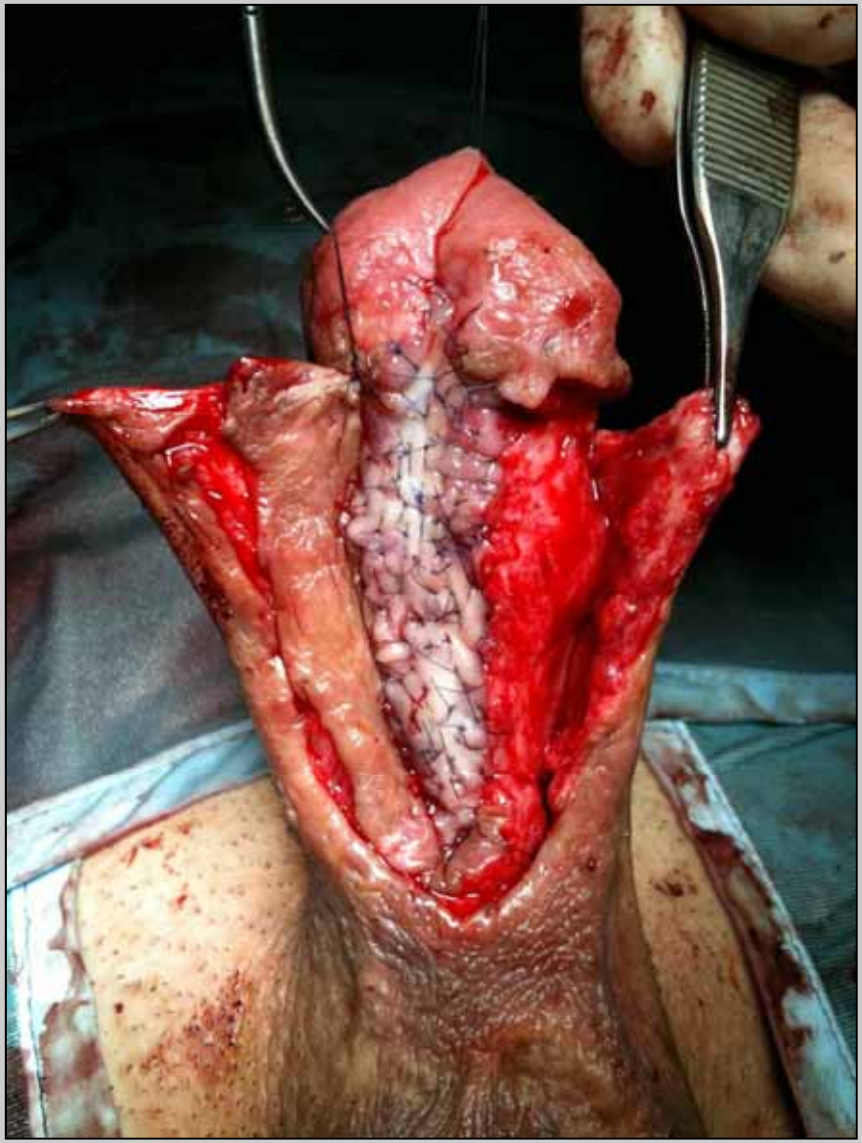

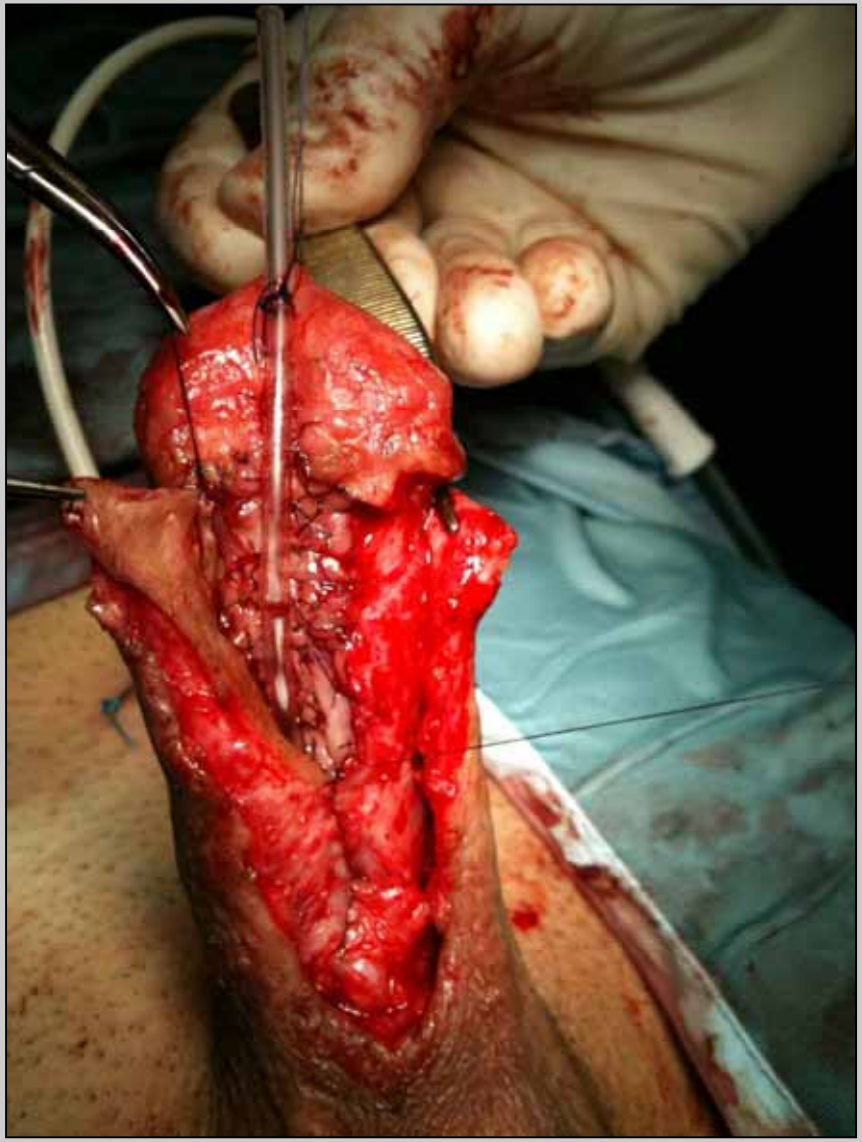

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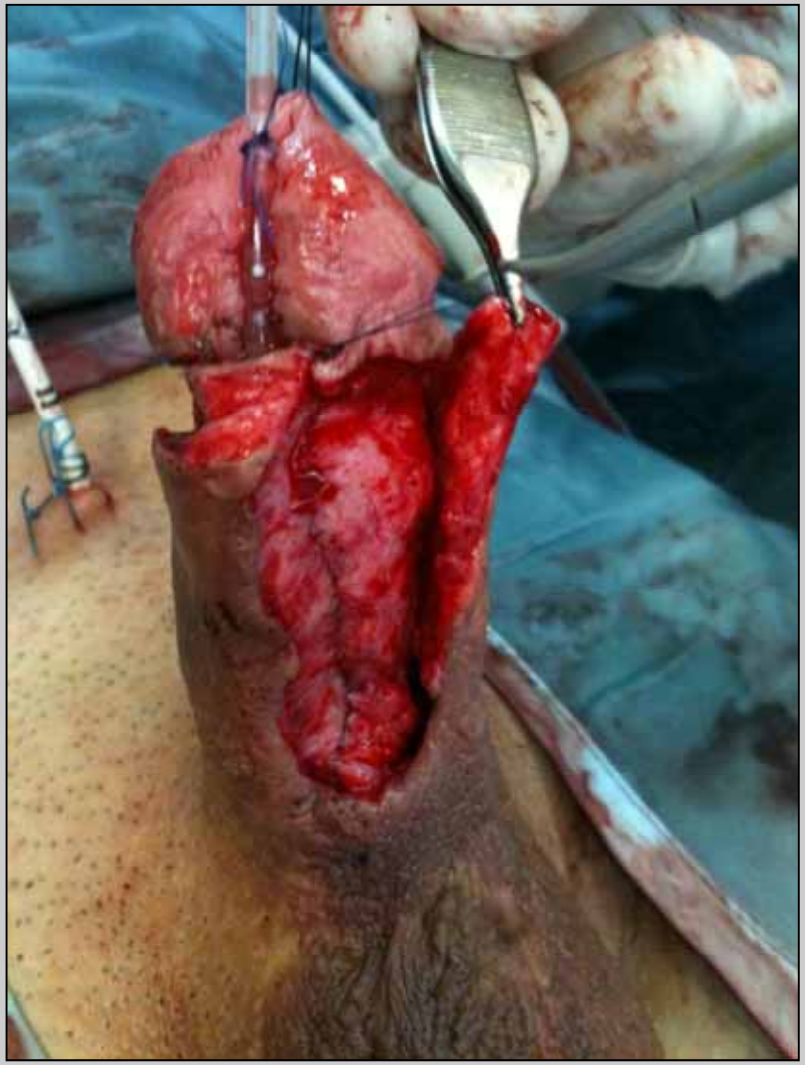

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Two-stage urethroplasty with oral mucosal graft

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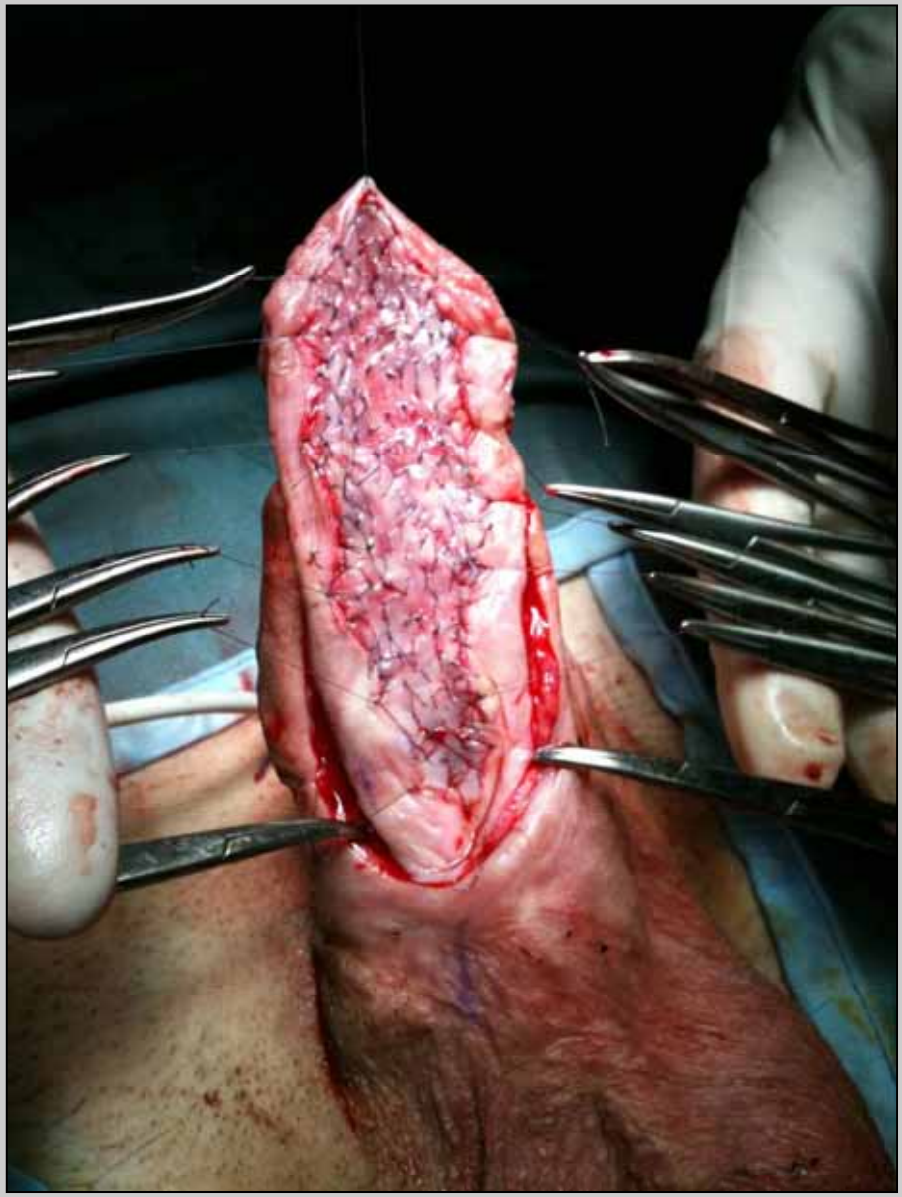

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Oral mucosa is a versatile material to use in one-stage (onlay – inlay), two-stage or combined (flap + graft) procedures for urethral reconstruction in patients with failed hypospadias repair.

The choice of the surgical technique should be based on:

- **Intraoperative features of the stricture and genitalia.**
- **Surgeon preference (flap vs graft) (skin vs oral mucosa)**

  (one-stage vs two-stage).
- **Surgeon background (pediatric vs adult) (plastic vs urologist).**

Corporoplasty

Group	Type of complication	Type of repair	N° patients
2	residual penile curvature, corpora cavernosa deformity, penile shortening or torsion	corporoplasy	60 (5.2%)

Urol Int 2010; 85: 427-435

Shorthening technique using multiple small incision and suture

Shorthening technique using penile disassembly and incision corporoplasty

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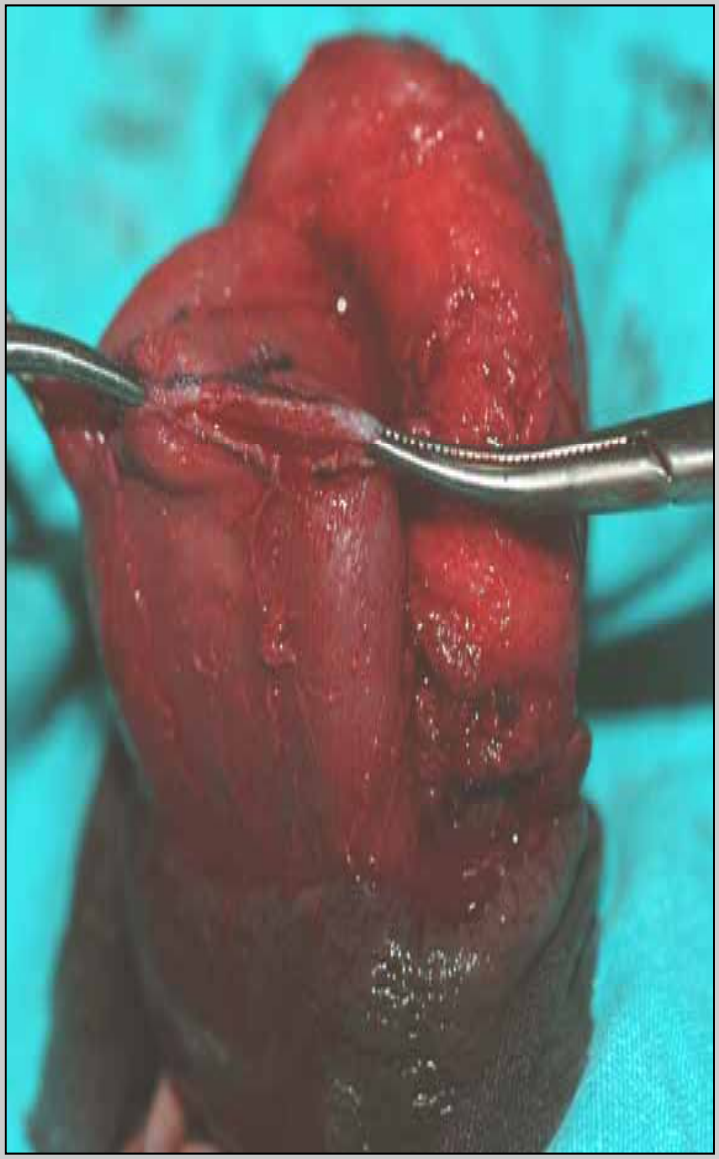

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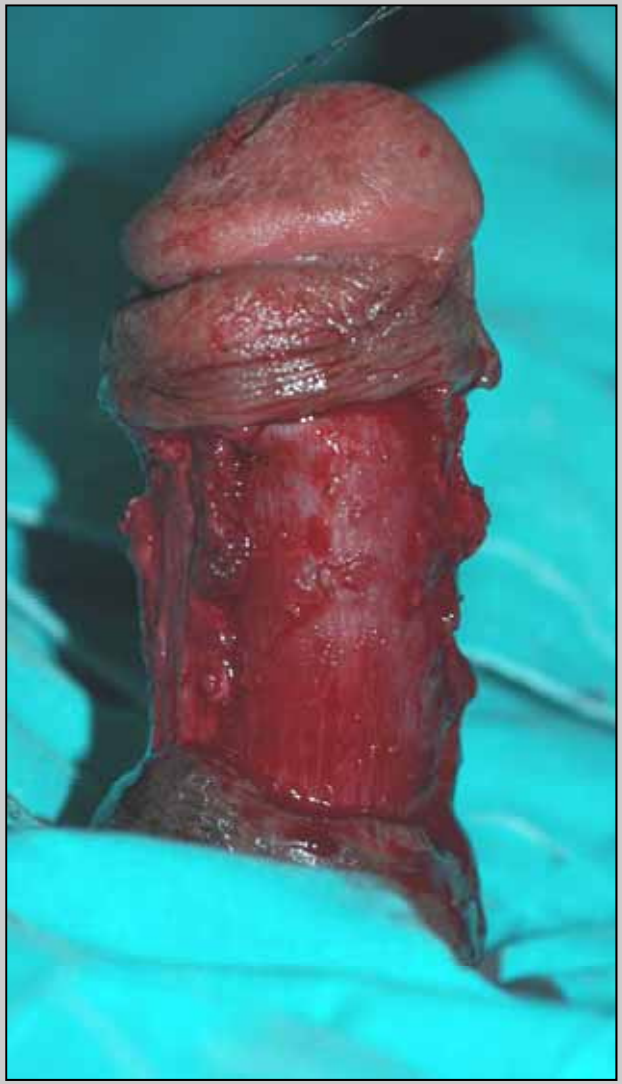

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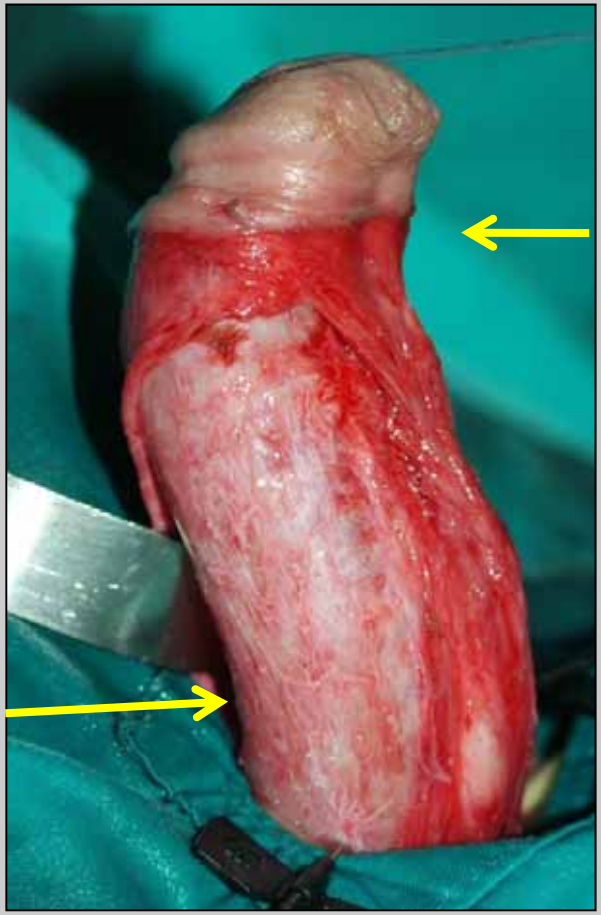
Double “S” curvature (arrows) modified using double incision and corporoplasty



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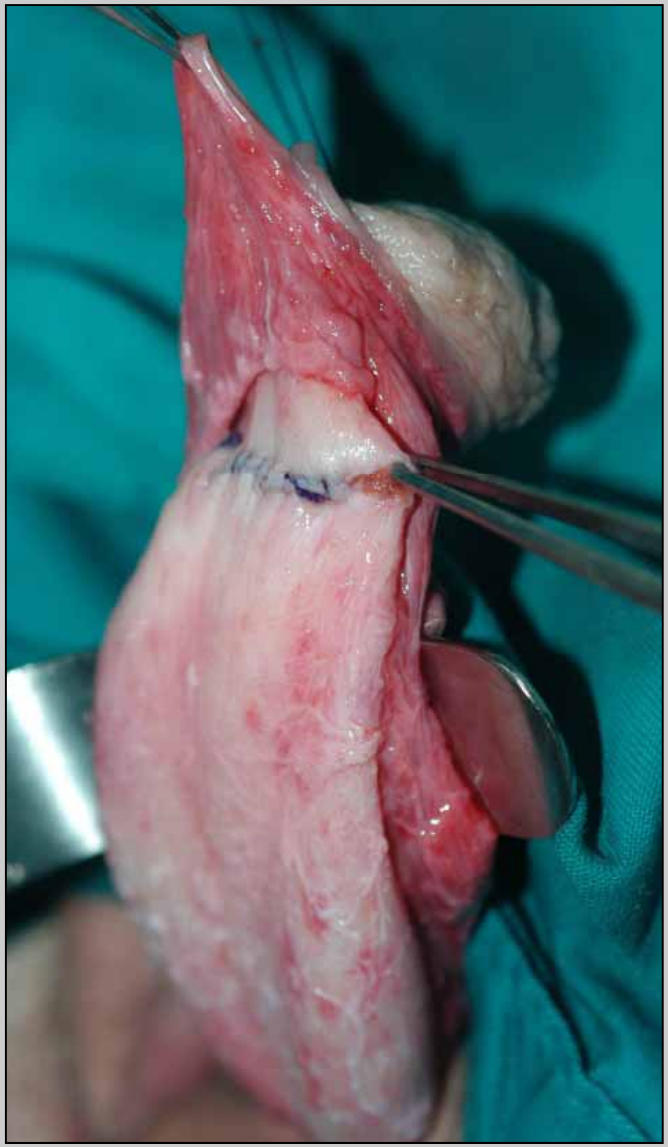

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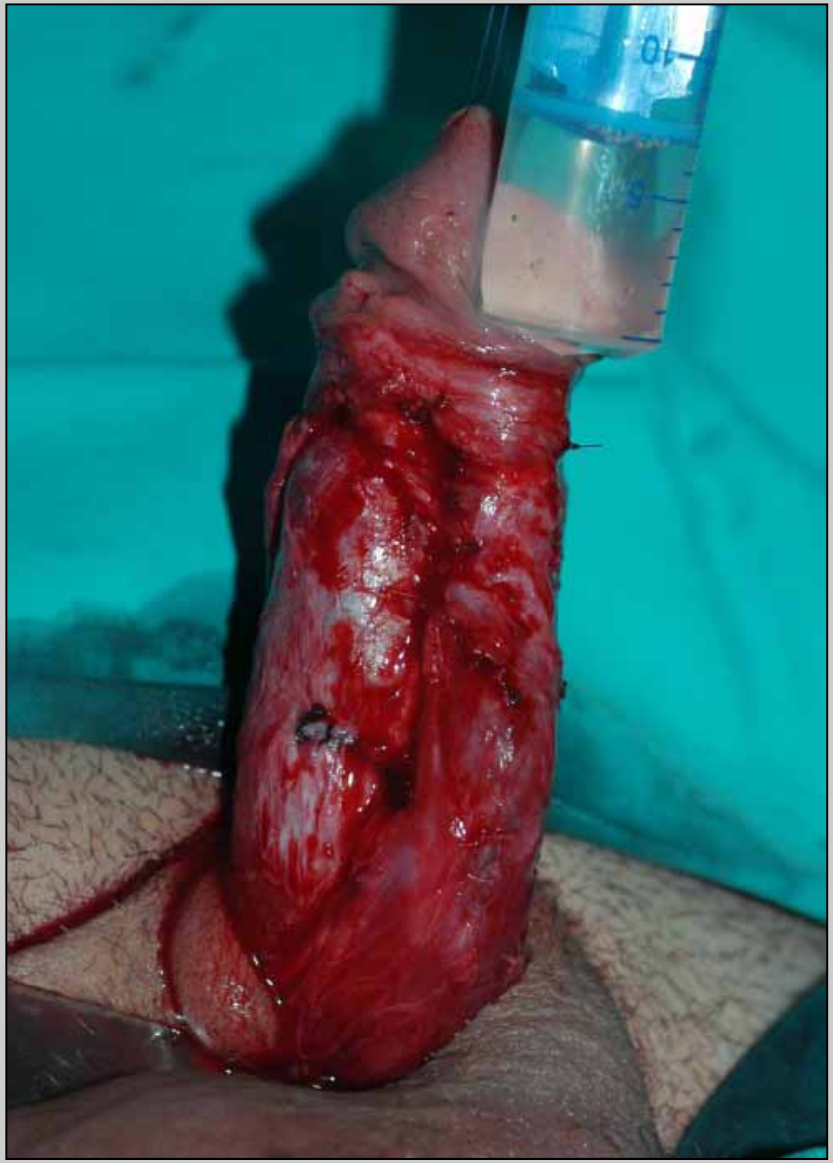

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The Nesbit's technique still represents a simple and effective procedure in patients with residual penile curvature due to failed hypospadias repair.

In selected patients, the technique require to be modified and settled according to the feautures of the penile curvature or torsion.

Urethroplasty and corporoplasty

Group	Type of complication	Type of repair	N° patients
3	stricture, fistula, diverticulum associated with residual glans or penile curvature or deformity	urethroplasty corporoplasty	166 (14.1%)

Urol Int 2010; 85: 427-435

Urethral fistula and residual distal curvature

Multiple incisions and suture corporoplasty

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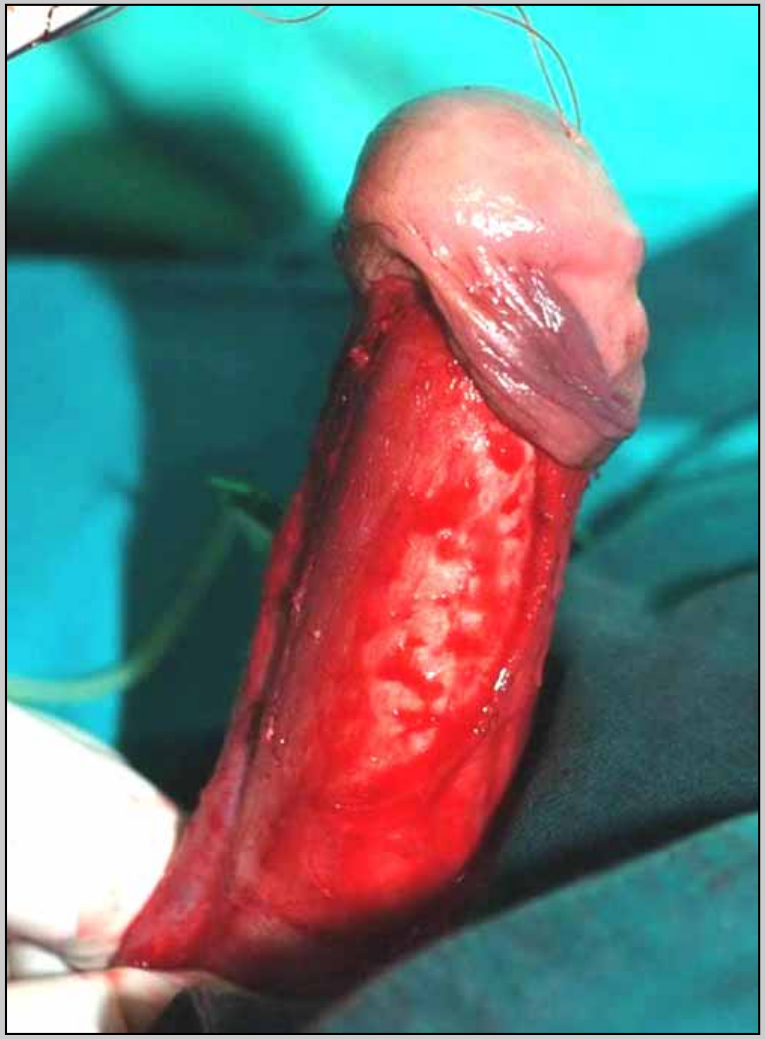
Multiple incisions and suture corporoplasty



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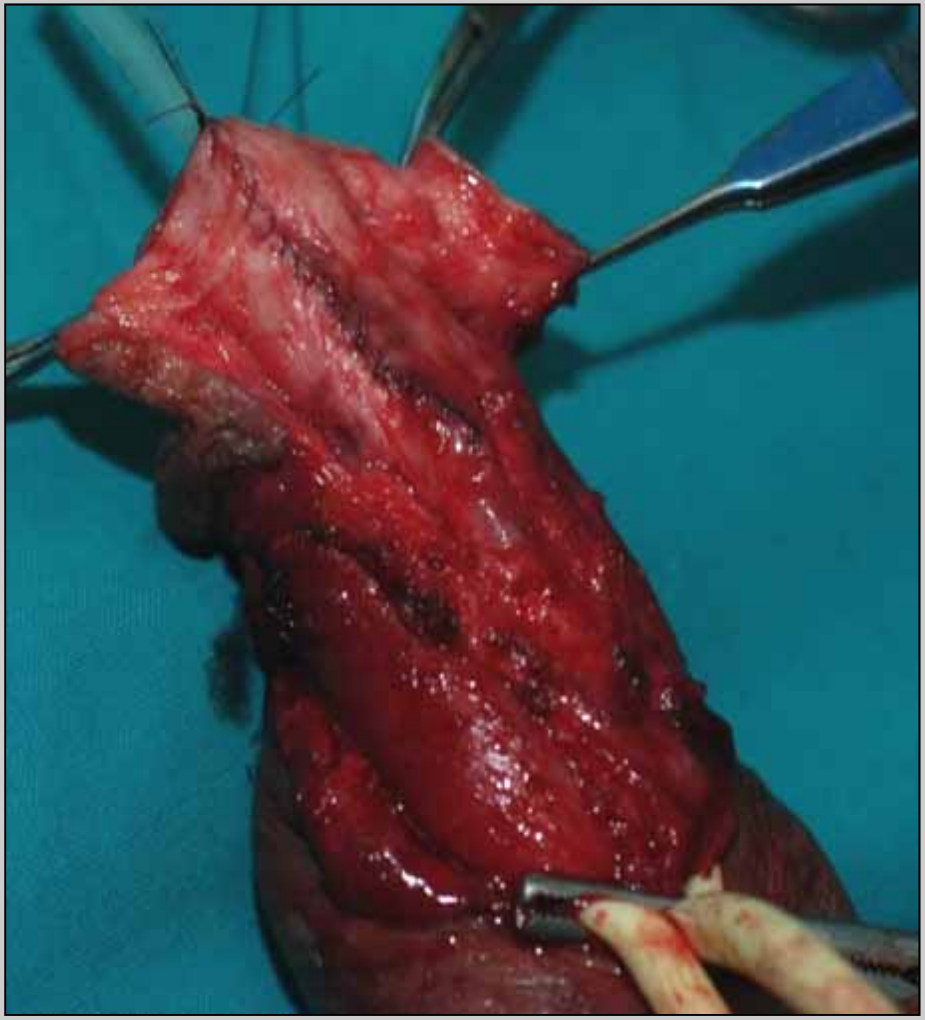
One-stage urethroplasty covered by dartos fascial flap



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Short urethra fistula and residual distal curvature

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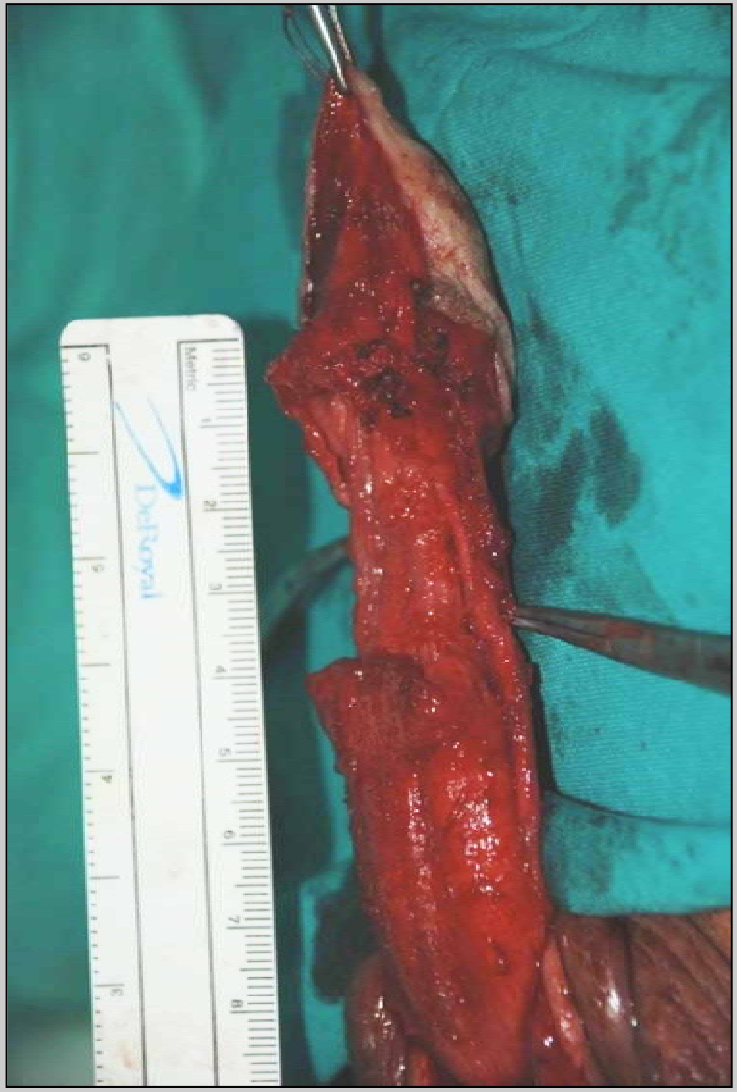
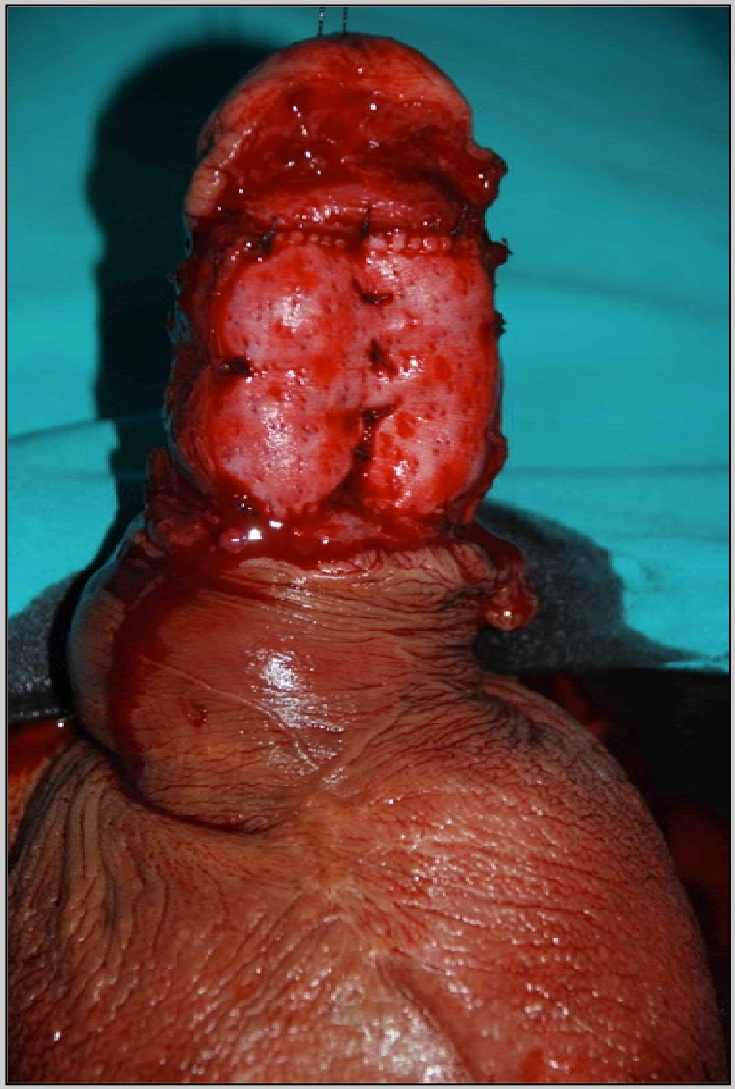
Ventral graft for penile lenghtening





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Two-stage urethroplasty using oral graft

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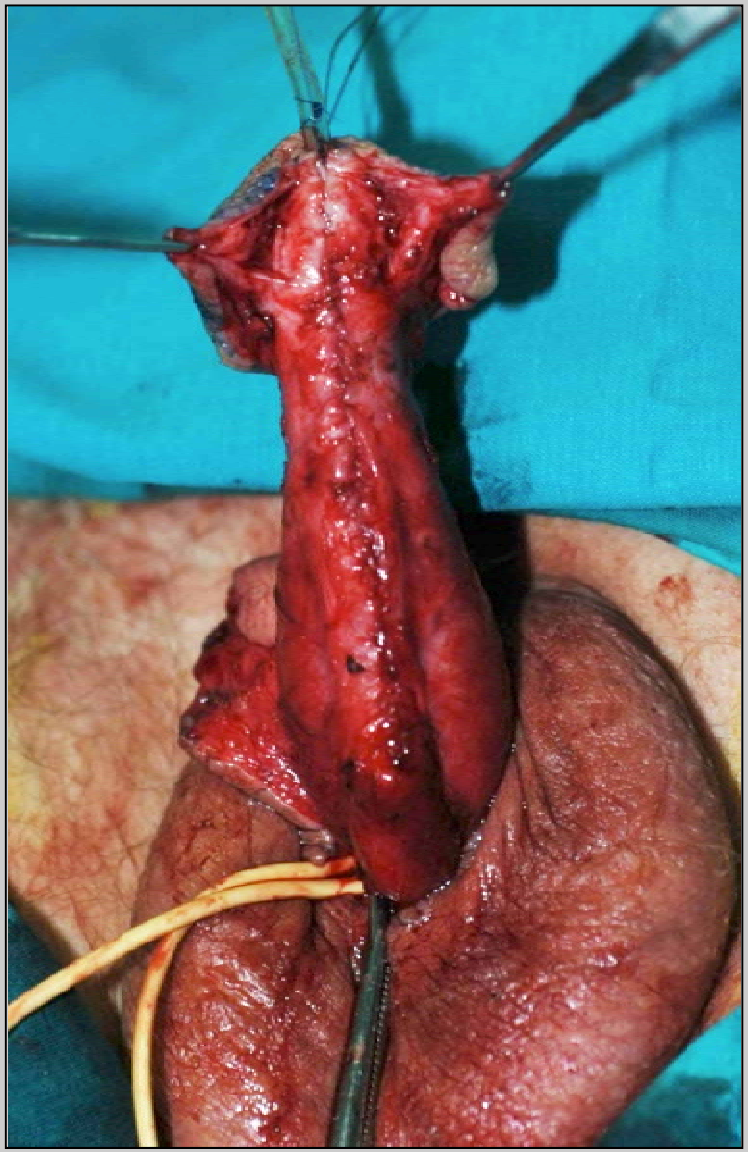

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Patients with failed hypospadias repair requiring combined urethroplasty and corporoplasty still represent a difficult population to treat.

In selected patients, combined two-stage urethroplasty and corporoplasty using grafting material is often necessary to obtain a satisfactory penile lenght and functional urethra.

Genitalia resurfacing

Group	Type of complication	Type of repair	N° patients
4	glans dehiscence, glans necrosis, glans torsion or curvature, loss of penile/srcotal skin, midline septum, abnormal peno.scrotal or peno.pubic junction, buried penis, trapped penis, other	genitalia resurfacing	649 (55.2%)

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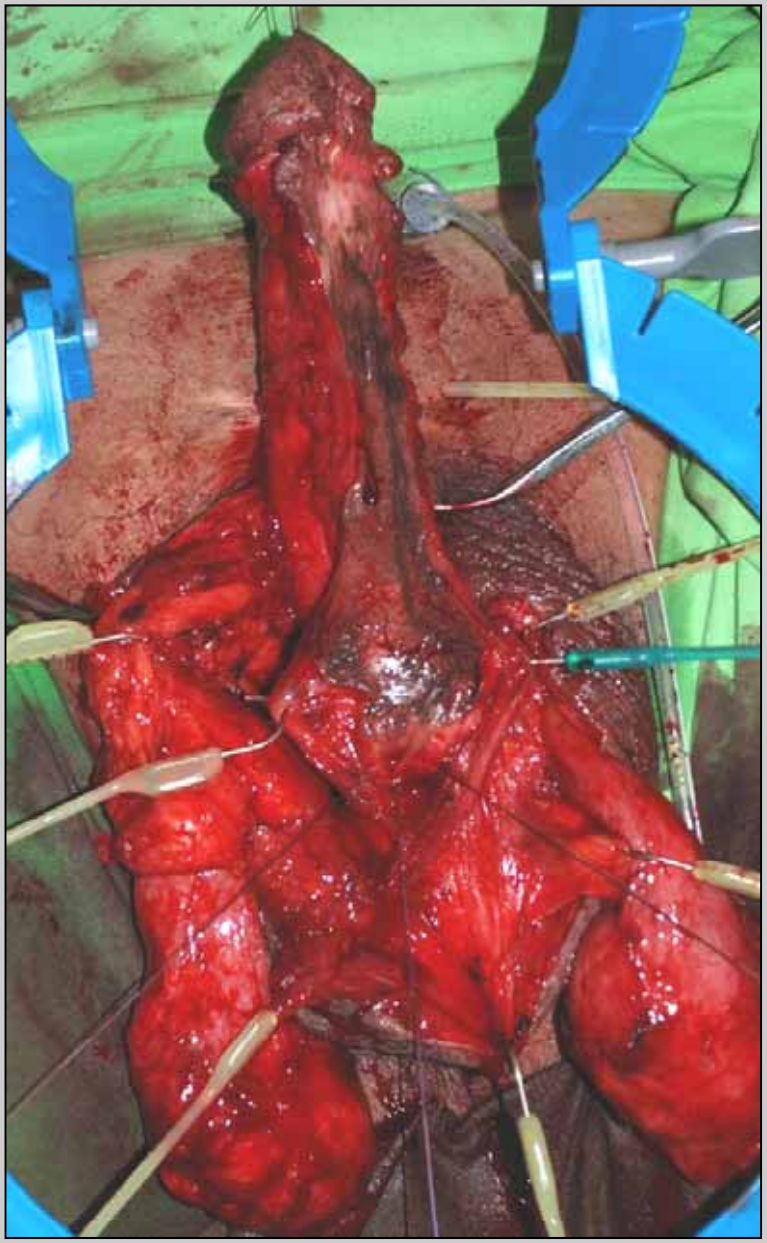

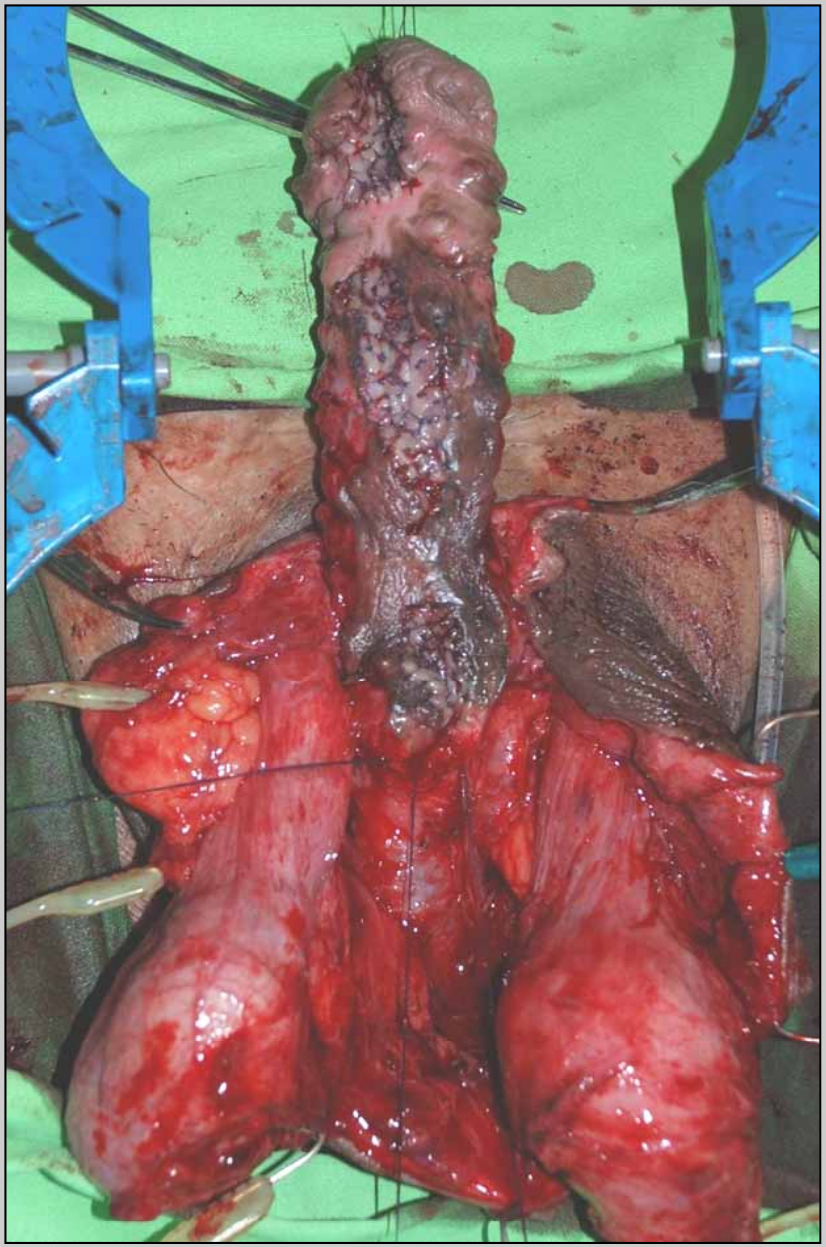

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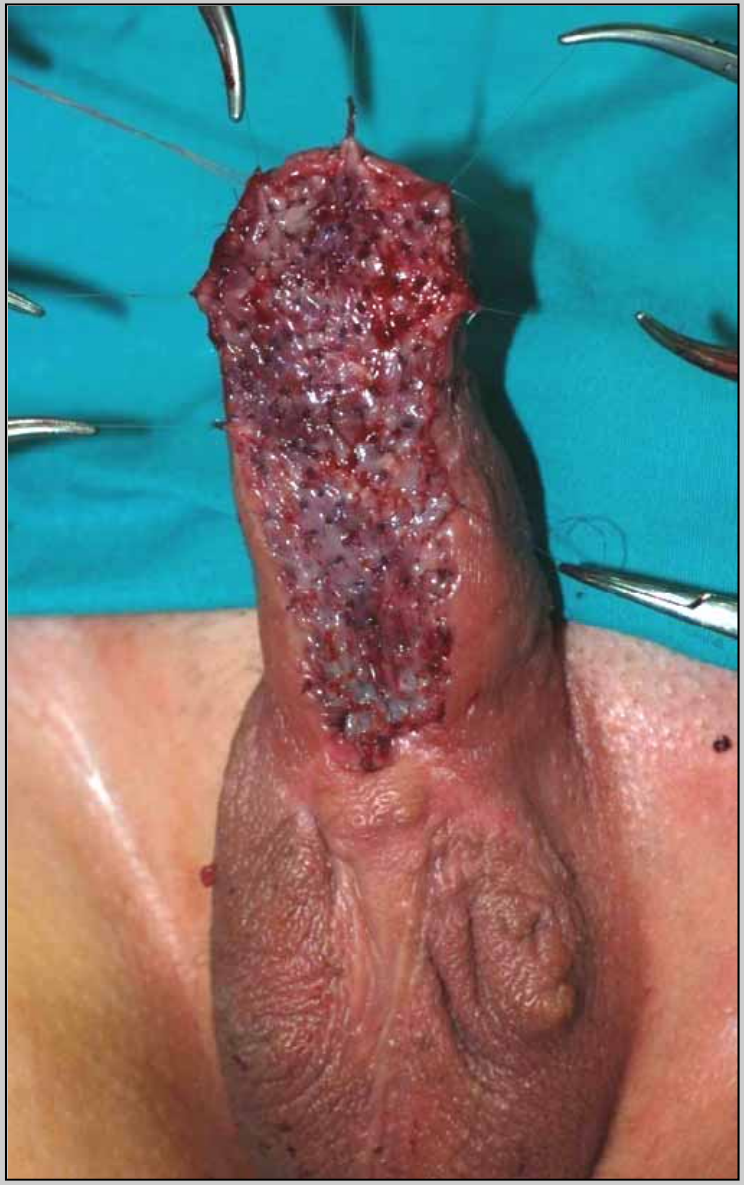

Completely straightened and lenghtened penis

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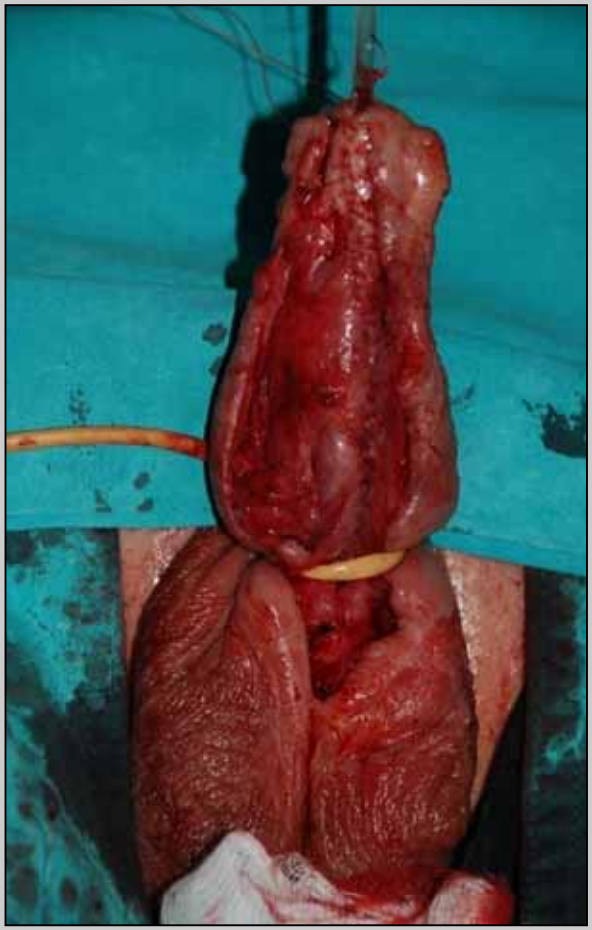

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Patients with failed hypospadias repair requiring complete resurfacing of the genitalia should be referred to a specialized center.

Success or failure ?

- **End-point of the reconstructive surgical itinerary**
- **No meatal or urethral dilation**
- **Absence of complications or poor aesthetic outcome requiring revision**

Results in 1176 patients

Type of repair	N° patients	Mean follow-up months	Success rate %	Failure rate %
urethroplasty	301 (25.5%)	58.6 (12-186)	270 (89.7%)	31 (10.3)
corporoplasy	60 (5.2%)	63.2 (12-237)	58 (96%)	2 (3.3%)
urethroplasty corporoplasty	166 (14.1%)	60 (12-210)	147 (88.5%)	19 (11.5%)
genitalia resurfacing	649 (55.2%)	59.8 (12-192)	561 (86.4%)	88 (13.6%)
total	1176	60.4 (12-237)	1036 (88.1%)	140 (11.9%)

Urol Int 2010; 85: 427-435

Clinical Outcome and Quality of Life Assessment in Patients Treated With Perineal Urethrostomy for Anterior Urethral Stricture Disease

Guido Barbagli, Michele De Angelis, Giuseppe Romano and Massimo Lazzeri*

From the Center for Reconstructive Urethral Surgery (GB) and Unità Operativa Urologia, Ospedale San Donato (MDA, GR), Arezzo, and Department of Urology, Santa Chiara-Firenze, Florence (ML), Italy

J Urol 2009; 182: 548-557

CENTRO DI CHIRURGIA RICOSTRUTTIVA DELL'URETRA E DEI GENITALI MASCHILI

Prof. G.Barbagli

USL8 Azienda Unità Sanitaria Locale Arezzo

U.O. di Urologia
PO S.Donato AR

Primario
Dr M.de Angelis

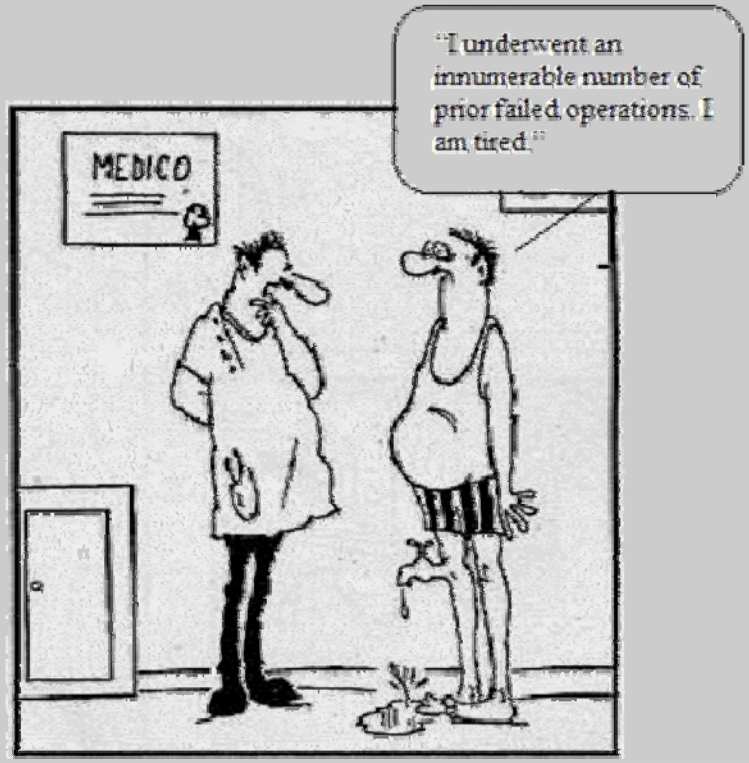
Definitive perineal urethrostomy in patients with failed hypospadias repair

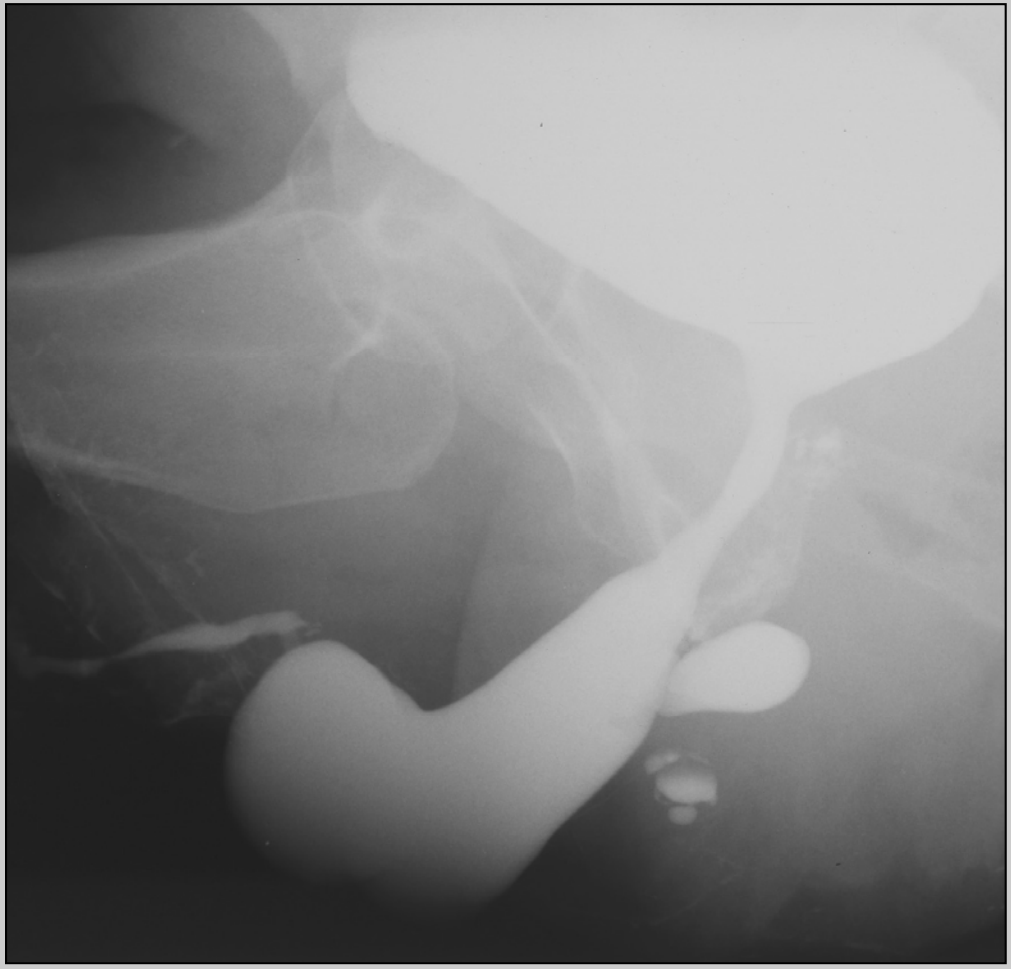
Dr Giuseppe Romano

Center for Reconstructive Urethral Surgery - U.O. di Urologia Ospedale S.Donato USL8 - Arezzo

Italy

The population of patients included those who informed us, "I underwent an innumerable number of prior failed operations. I am tired." These words were usually from patients (mean age 53 years) who had undergone failed hypospadias repair (mean previous operations 4.5). These patients were unable to accept the possibility of another complete urethroplasty failure.





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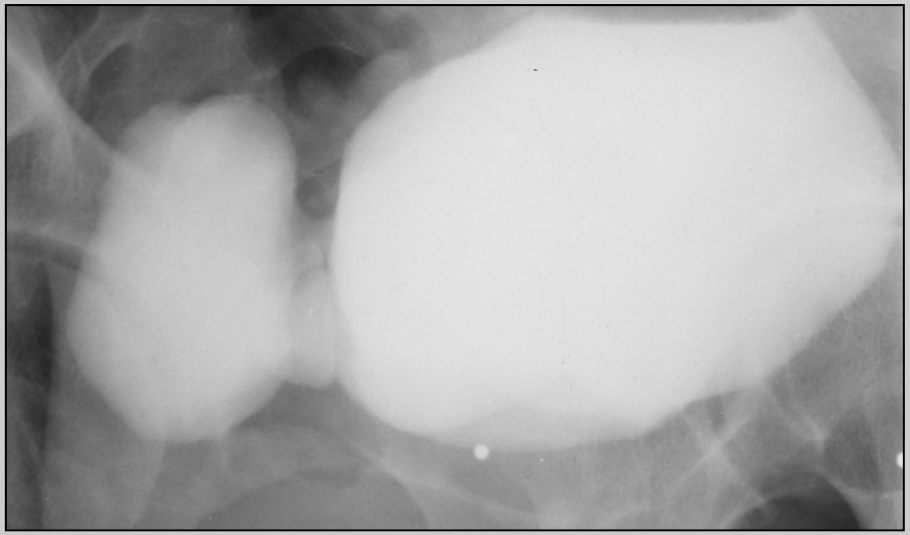

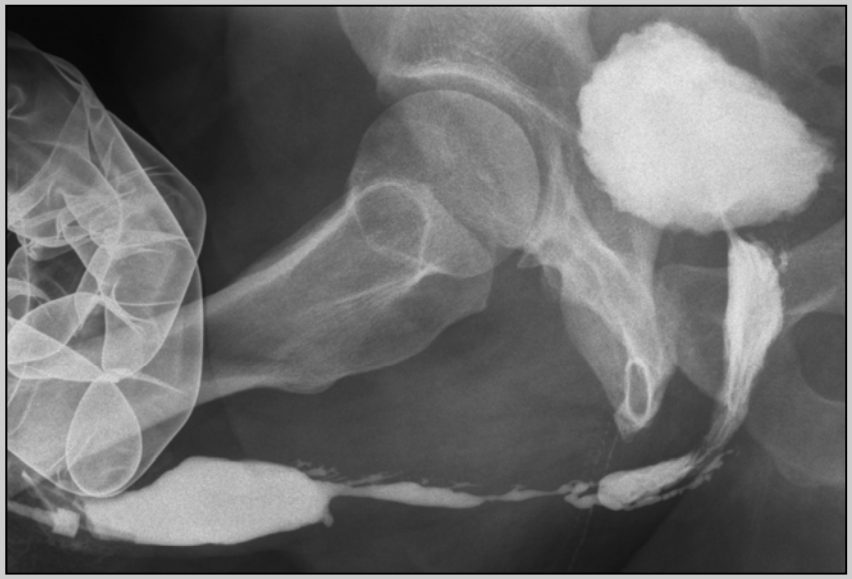

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patient	age	married	sons	n° operations	hypospadias	Concomitant pathology
CF	49	No	No	10	Scrotal	Diabetes - Down
CB	65	Si	No	5	Balanic	BPI
DCG	33	No	No	3	Scrotal	CRF - Dialysis
FG	67	Si	No	6	Scrotal	
FM	64	Si	Si	3	Scrotal	
GS	41	Si	Si	7	Scrotal	
GP	58	Si	Si	3	Scrotal	
LBS	35	No	No	2	Scrotal	
MG	64	Si	No	3	Scrotal	
PG	58	Si	Si	5	Scrotal	Squamous CA
PG	70	Si	Si	13	Penile	Diabetes
PM	47	Si	No	10	Scrotal	
PP	64	Si	No	12	Scrotal	
SF	20	No	No	2	Scrotal	Heavy psychomotor delay
SL	31	Si	No	8	Scrotal	
CS	53	Si	No	13	Scrotal	Anus – scrotal malformation

Questionnaire

1. Has the perineal urethrostomy caused you any problems?

Psychological problems
Urination Problems
Sexual activity problems

2. Have you had problems with your partner due to this operation?

Psychological problems
Penetration problems
Minor problems

3. Are you pleased with the result obtained with surgery?

Dissatisfied
A little satisfied
Satisfied
Very satisfied

4. How would you evaluate these results?

Negative
Fair/passable
Good
Excellent

5. Would you undergo this type of operation again?

Yes
No

6. Would you like to undergo second stage urethroplasty to restore normal urinary function?

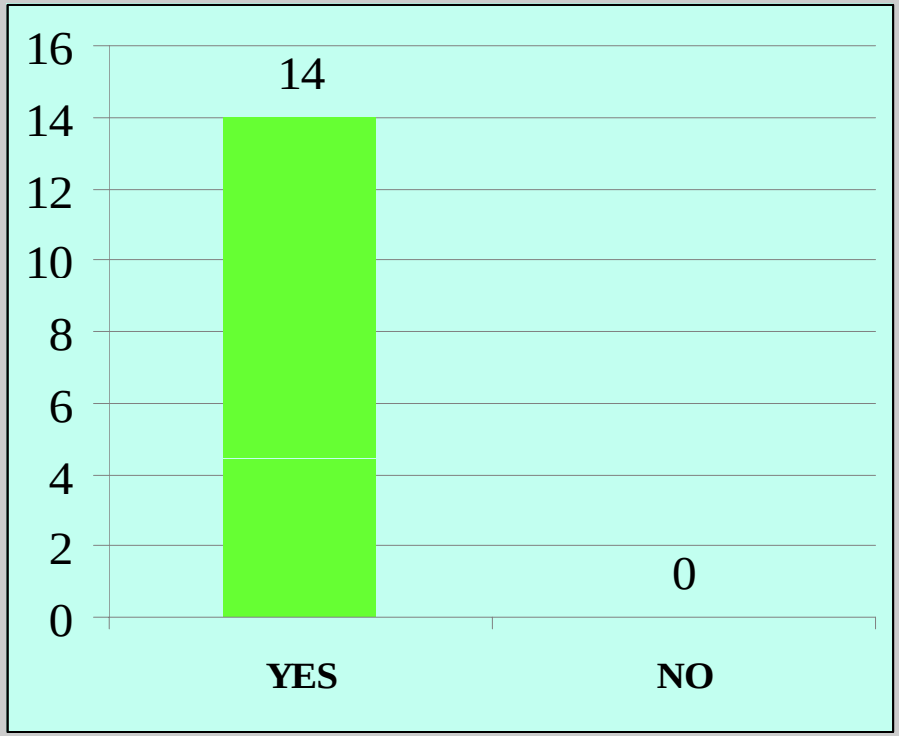
Yes
No

14/16 patients

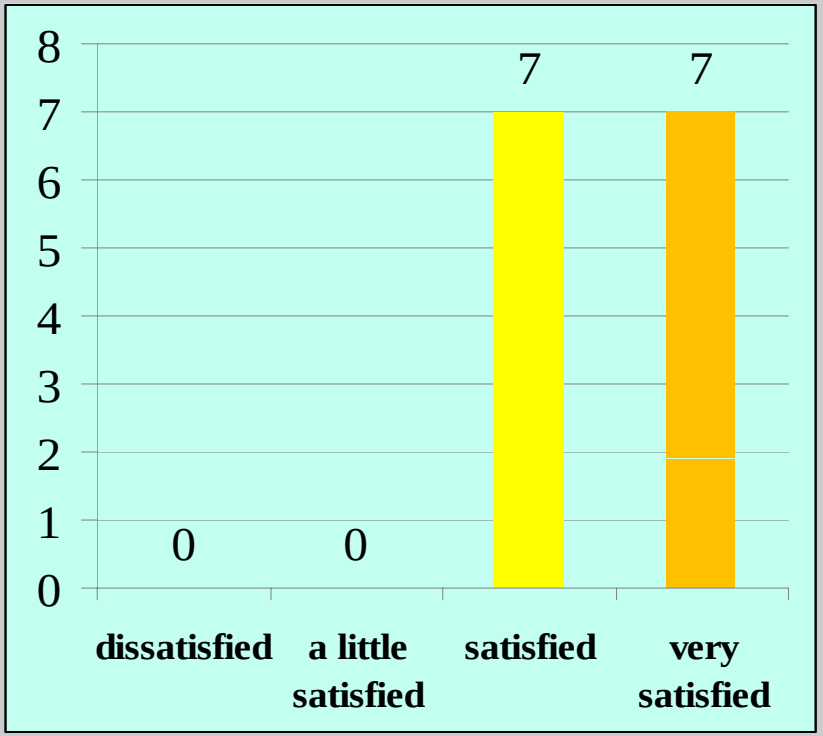
	YES	NO
Has the perineal urethrostomy caused you any problems?	**3 (21%)**	**11 (79%)**
Psychological problems	**2 (66.7%)**	
Urination problems		
Sexual activity problems	**1 (33.3%)**	
Have you had problems with your partner due to this operation?	**0**	**14 (100%)**
Psychological problems		
Penetration problems		
Minor problems		
Are you pleased with the results obtained with surgery?		
Dissatisfied		
A little satisfied		
Satisfied	**6 (42.8%)**	
Very satisfied	**8 (57.2%)**	
How would you evaluate these results?		
Negative		
Fair/passable		
Good	**7 (50%)**	
Excellent	**7 (50%)**	
Would you undergo this type of operation again?	**14 (100%)**	
Would you like to undergo second stage urethroplasty to restore normal urinary function?	**1 (7%)**	**13 (93%)**

Results

Would you do this type operation again?



Patient satisfaction



Definitive perineal urethrostomy is often a necessary procedure when dealing with complex urethral pathology.

Patient satisfaction following this surgical procedure is high and quality of life is not negatively influenced.

Center for Reconstructive Urethral Surgery
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Conclusions

Failed hypospadias repair is not a problem for the pediatric urologist, because the mean age of patients was 31 years.

Failed hypospadias repair is not a problem for the urethral surgeon, because only in 25.5% of cases the reoperative surgery was restricted only to the urethra.

Failed hypospadias repair involves, in the majority of patients (55.2%), the urethra, corpora cavernosa, glans, penile shaft and skin, requiring complete resurfacing of the genitalia.

Conclusions

Failed hypospadias repair is a complex problem requiring full collaboration between the urethral surgeon and the surgeon widely skilled in reconstructive surgery of the genitalia (penile prosthesis implant, surgery for Peyronie's disease, surgery for male to female transition, surgery for complex defects of the corpora cavernosa).

Conclusions

Shouldn’t patients with complex failed hypospadias repair be referred to a Center of expertise?

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