

Center for Reconstructive Urethral Surgery



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1st Oceana Paediatric Urology Course

Valencia – Spain

1 – 2 April 2011

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Failed hypospadias repair presenting in adults

Why?

Failed hypospadias repair

How often it is?



“ Strictures in adults who had a hypospadias repair is a growing industry ”

Andrich DE and Mundy AR, Eur Urol 2008; 54: 1031-1041

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Retrospective Descriptive Analysis of 1,176 Patients With Failed Hypospadias Repair

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From the Center for Reconstructive Urethral Surgery (GB), Arezzo and Departments of Urology, University "Tor Vergata" (SS), Rome and Santa Chiara-Firenze (ML), Florence, Italy, and Clinical Centre "Zvezdara," University of Belgrade (SP, RD), Belgrade, Serbia

J Urol 2010; 183: 207-211

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**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



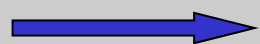
Patients with urethral stricture diseases: 1510

→ Failed hypospadias repair: 223 (14.7%)

J Urol 2010; 183: 207-211



Patients with penile urethral stricture diseases: 437



Failed hypospadias repair: 223 (51%)

J Urol 2010; 183: 207-211

Age range in 1176 patients

age (years)	N. patients
1 – 16	250 (21.2%)
17 – 20	451 (38.4%)
21 – 40	358 (30.5%)
41 – 60	112 (9.5%)
> 60	5 (0.4%)
< 16 years	250 (21.2%)
> 16 years	926 (78.8%)

J Urol 2010; 183: 207-211

Site of primary hypospadias in 1176 patients

glandular : 193 (16.4%)

penile : 702 (59.7%)

peno-scrotal: 281 (23.9%)



J Urol 2010; 183: 207-211

Number of operations to repair primary hypospadias in 1176 patients

N. operations	N. patients
1	130 (11.1%)
2	347 (29.5%)
3	320 (27.2%)
4	159 (13.5%)
5	108 (9.2%)
> 5	112 (9.5%)

minimum: 1 maximum: 23 median: 3

J Urol 2010; 183: 207-211

Number of operations to repair complications following primary hypospadias repair in 1176 patients

N. operations	N. patients
1	760 (64.6%)
2	280 (23.8%)
3	82 (6.9%)
4	31 (2.7%)
5	9 (0.8%)
> 5	14 (1.2%)

minimum: 1 maximum: 8 median: 2

J Urol 2010; 183: 207-211

Total number of operations to repair primary hypospadias repair and complications in 1176 patients

N. operations	N. patients
2	102 (8.7%)
3	289 (24.6%)
4	369 (31.4%)
5 – 10	311 (26.4%)
11 – 20	91 (7.7%)
> 20	14 (1.2%)

minimum: 2 maximum: 23 median: 5

J Urol 2010; 183: 207-211

In conclusion, 1176 patients underwent a median of 5 surgical operations to repair primary and failed hypospadias



No other congenital abnormality of the body requires a median of 5 surgical operations to be cured



Our experience in 1176 patients showed two different populations in which attempts at hypospadias surgical correction failed

Patients showing penile deformity caused by:

- **Error in evaluation**
- **Error in design**
- **Error in surgical technique**
- **Error in postoperative care**



Patients showing a satisfactory final outcome having:

- Cosmetically acceptable meatus
- No evident penile deformities such as fistula or chordee



- Urethral stricture

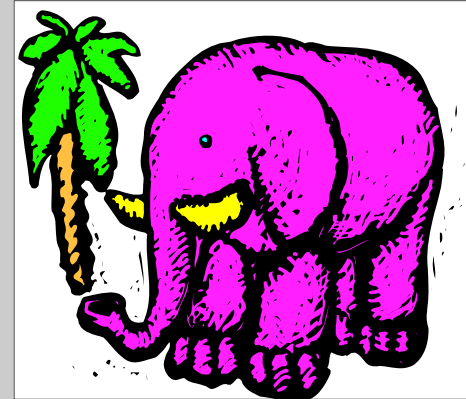
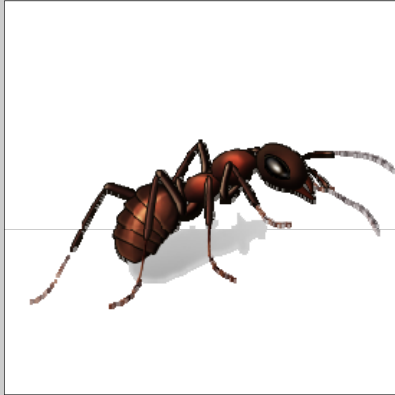


Why ?

The neo-urethra I construct in the child will follow the growth of the penis into adulthood ?



Have you ever seen an ant become an elephant ?



18 months old



18 years old

The normal urethra is a **spongiosum-made** urethra



The urethra in the patient who underwent hypospadias reconstruction is a **skin-made** urethra



**What is the the difference between
the **spongiosum-made urethra** and
the **skin-made urethra****

?

As far as urinary function is concerned, the reconstructed **skin-made urethra** is able to work as a normal **spongiosum-made urethra**



Pediatric surgeons and parents are very satisfied with the outcome.....

....but, unfortunately, the urethra is a part of the penis...



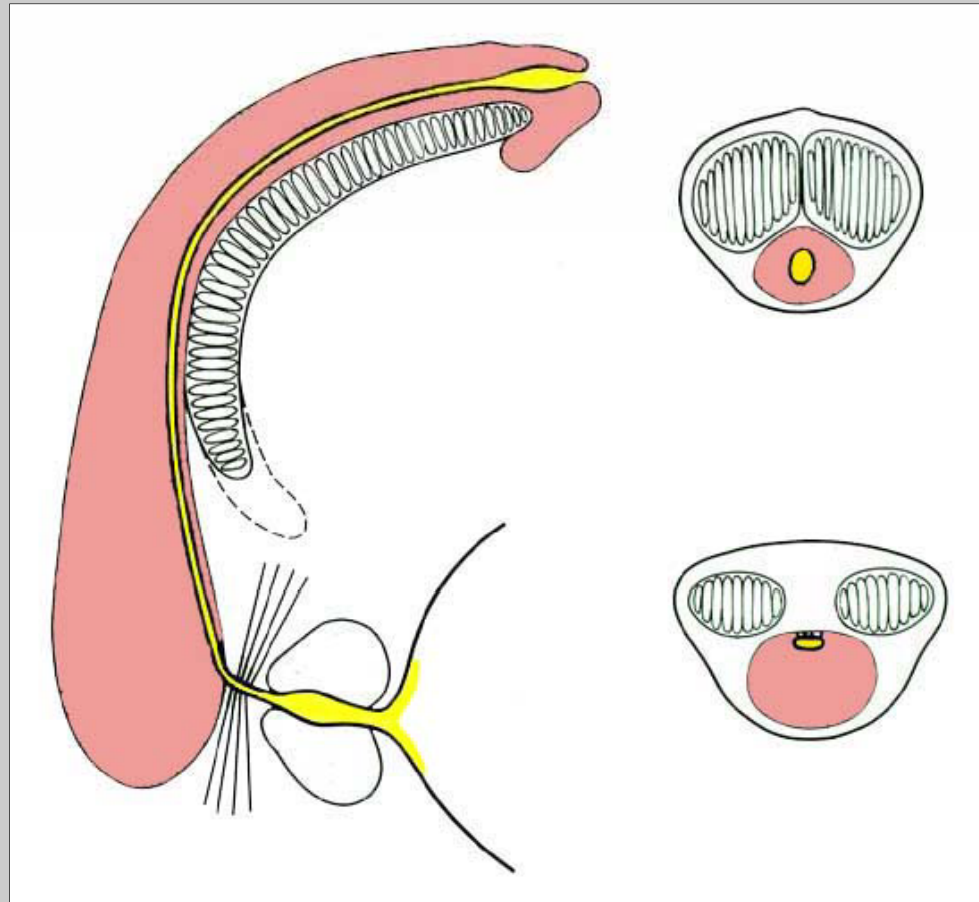
...and when children reach full sexual maturity, problems come ...

...and the **skin-made urethra** over time will be
KO!



Why ?

The **skin-made urethra** is not surrounded by the soft, well vascularized **corpus spongiosum** ...



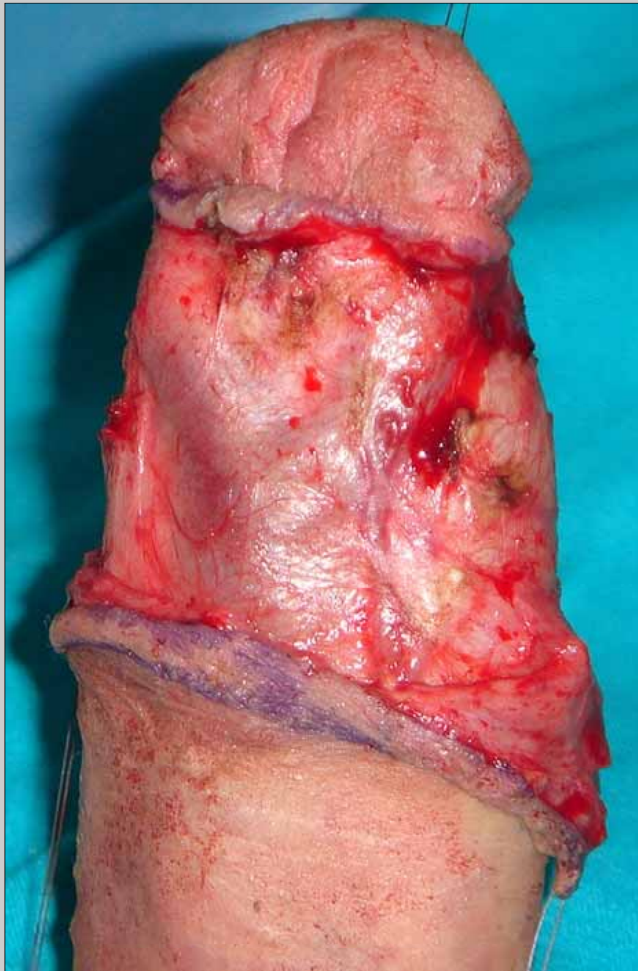
... and this **skin-made urethra** does not tolerate the repeated mechanical stretch and trauma during erection and sexual activity



During sexual activity, the corpus spongiosum is to the urethra what the airbag is to the body during a car accident



The lack of spongiosum tissue promotes urethral deterioration over time



Failed hypospadias repair in adult population



Future objectives

Future objectives 1

- **To investigate the true epidemiology and incidence of failed hypospadias repair in adult population.**
- **The collaboration between pediatric surgeons and urologists is a fundamental step.**

In order to collect epidemiological data, pediatric surgeons are invited to search and publish the long-term results (> 20 years) of hypospadias surgery performed in their hospitals.



Future objectives 2

- **To better standardize the use of the current surgical techniques and the use of oral mucosa.**
- **To develop new surgical techniques using tissue engineered material.**

Future objectives 3

To develop a validated questionnaires to investigate the patient reported outcome in adult patients treated for failed hypospadias repair.

Future objectives 4

To organize, in any country, meeting and round tables on these topics, involving all surgeons working in primary hypospadias repair and failed hypospadias repair.



Dear Colleagues,
The European Center for Failed Hypospadias Repair is pleased to invite you to the

1ST INTERNATIONAL CONFERENCE ON FAILED HYPOSPADIAS REPAIR

which will be held on
SEPTEMBER, 18th 2010 in AREZZO, ITALY.

We look forward to welcoming you.



Please fill the Contact form on the website www.failedhypospadias.com for the Conference registration

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Second European Conference on Failed Hypospadias Repair

September 22 - 2012

Arezzo - Italy