

CENTER FOR RECONSTRUCTIVE URETHRAL SURGERY



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5th Surgical Workshop of CUGRS SAVA PEROVIC

3-day Live-Surgery Workshop and Lectures
26 - 28 September 2013

Belgrade – Serbia

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CENTER FOR RECONSTRUCTIVE UROLOGICAL SURGERY

Urethroplasty using tissue engineered oral mucosa: preliminary results on 12 patients

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Repair of the anterior urethra is one of the most demanding surgical problems in urology. In recent years, regenerative medicine and tissue engineering studies have led to the development of novel biomaterials for urethral repair.

Here we describe the first clinical report of a homogeneous series of patients who underwent tissue-engineered oral mucosal graft urethroplasty for bulbar urethral stricture.

Dr. Gouya Ram-Liebig and Dr. Soren Liebig
UroTiss GmbH – Dresden - Germany



Prof. G. Barbagli and Dr. G. Romano
Center for Reconstructive Urethral Surgery – Arezzo - Italy

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Dresden - Germany

UroTiss GmbH is a pharmaceutical company, founded in Germany in 2005 by Dr. Gouya Ram-Liebig and Dr. Soren Liebig.

UroTiss provides products with highest safety and quality, in accordance to current Good Manufacturing Practices (GMP).

www.urotiss.com

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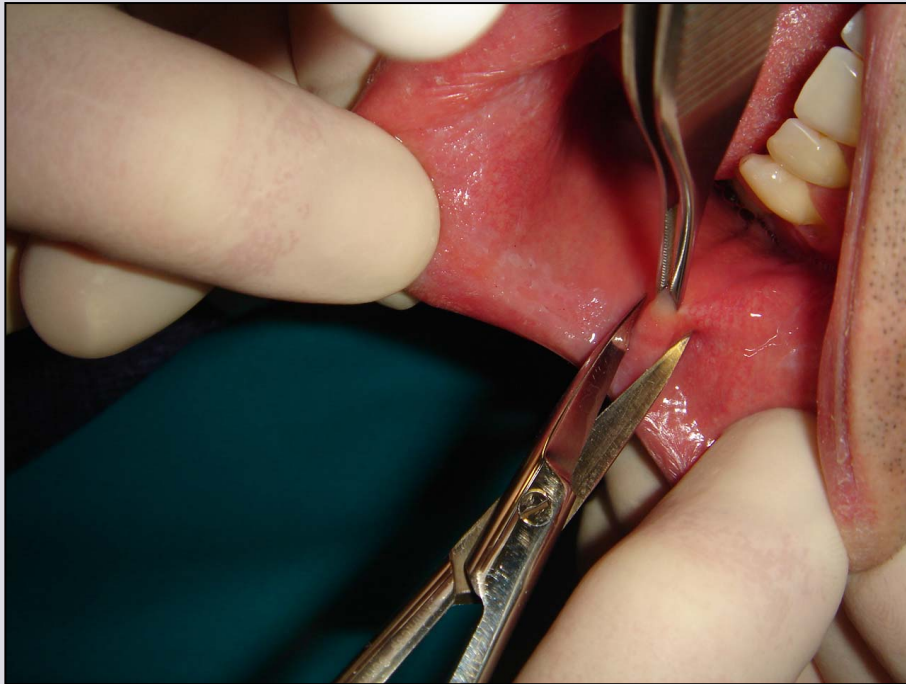
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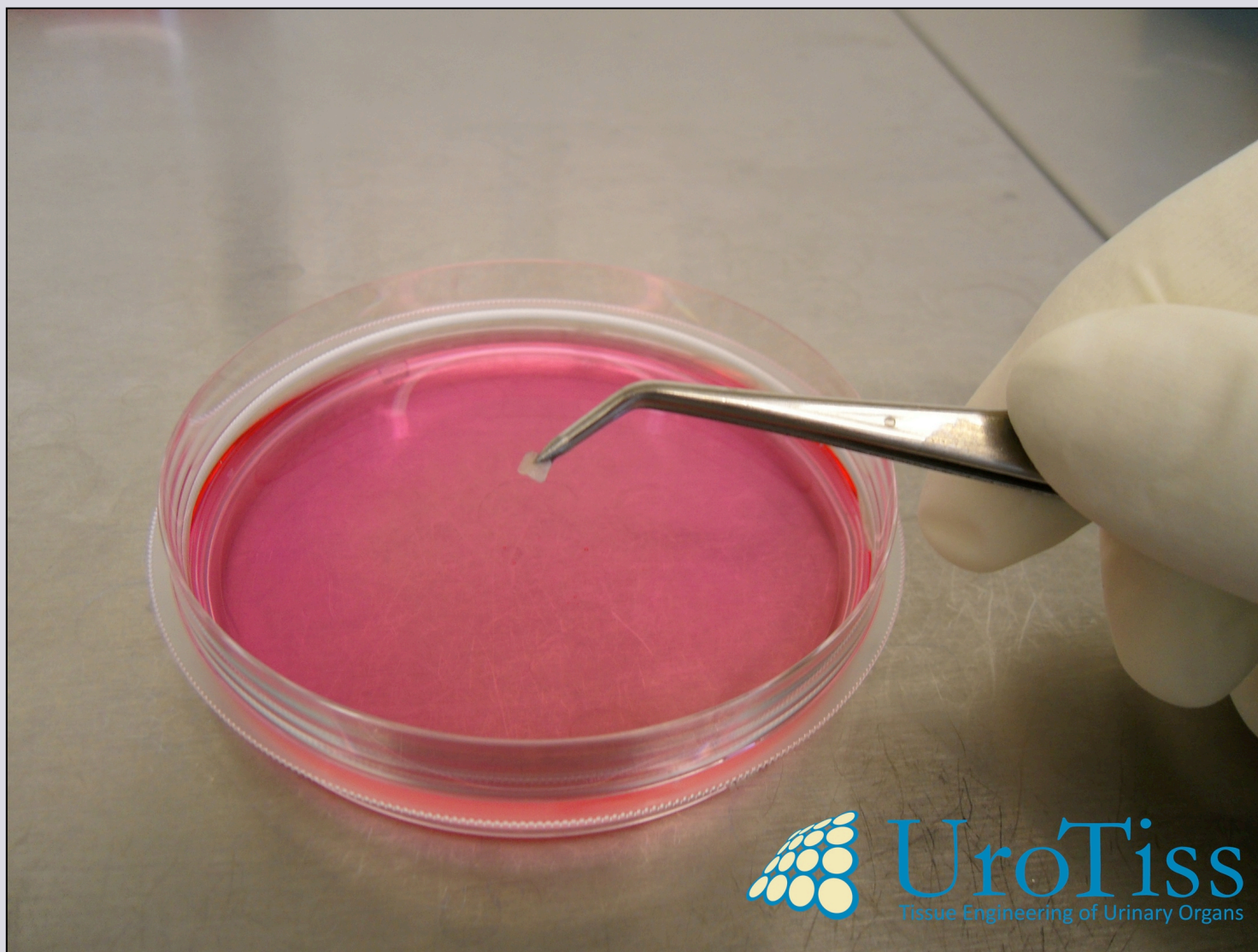
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Step 1

Harvesting sample from the cheek

Local anaesthesia





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Step 2

Factory



**Clean roon Laboratory in accordance to current
Good Manufacturing Practices (GMP).**

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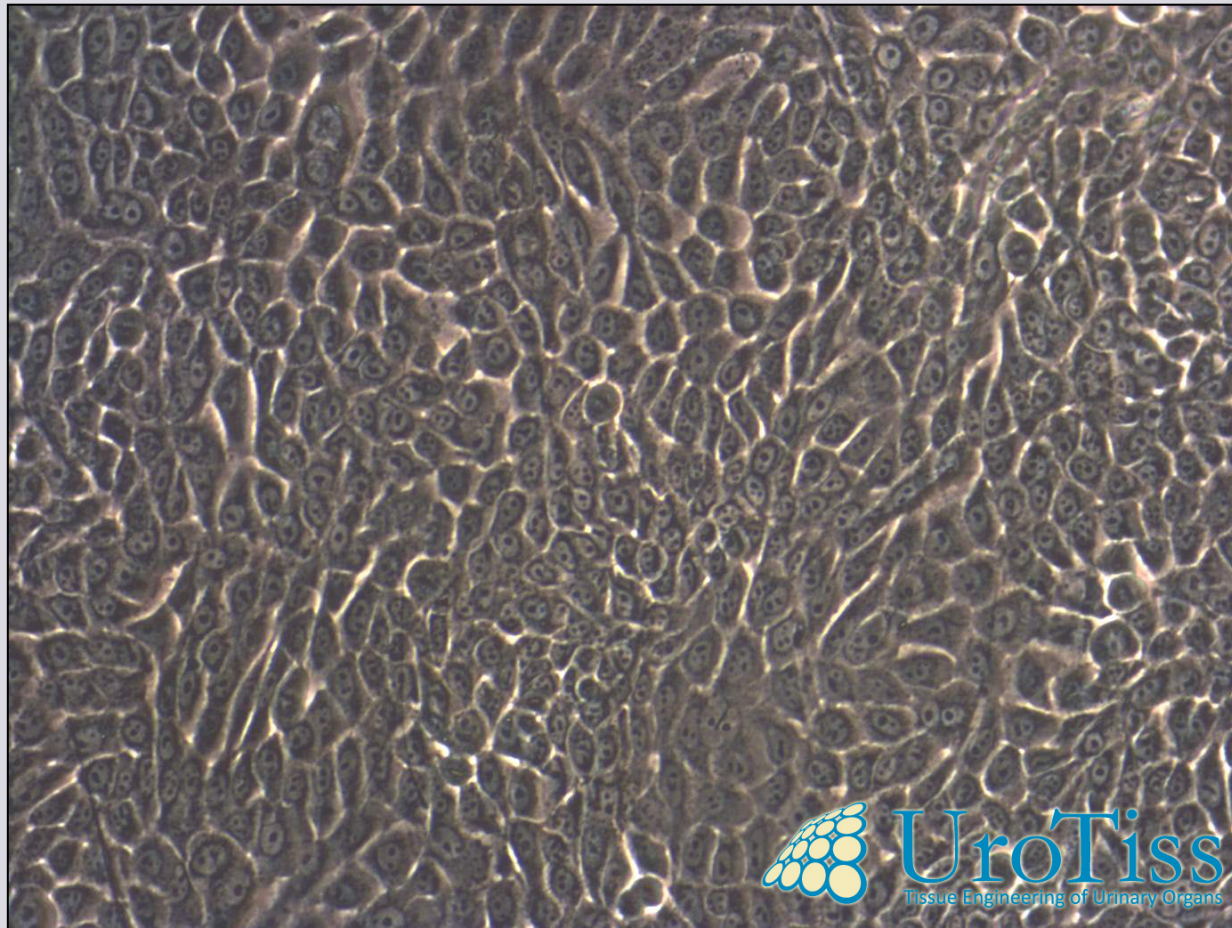
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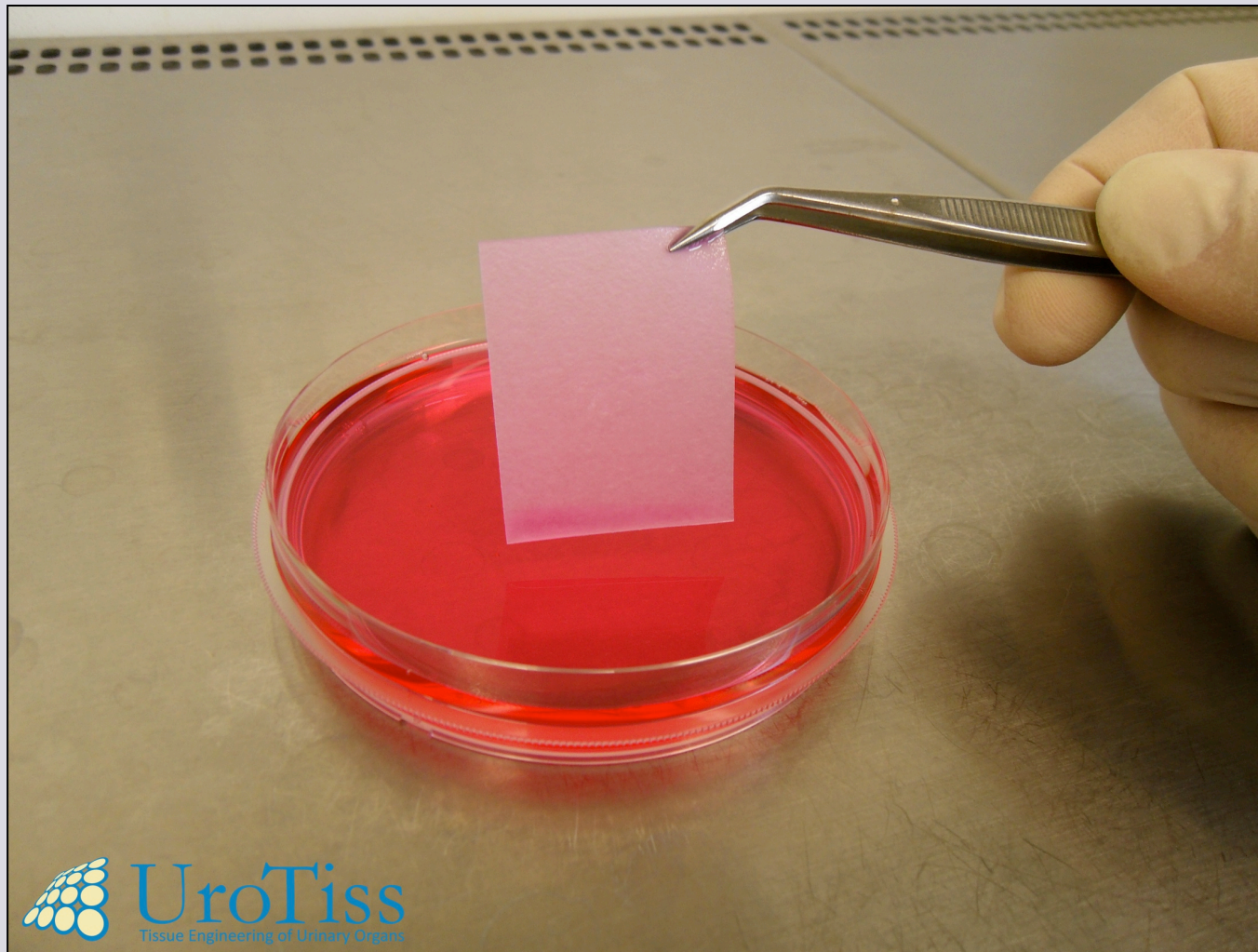
 **UroTiss**
Tissue Engineering of Urinary Organs

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**Cells were expanded
and cultured on the surface of a biocompatible scaffold.**



3 weeks later

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Step 3

Surgical transplant

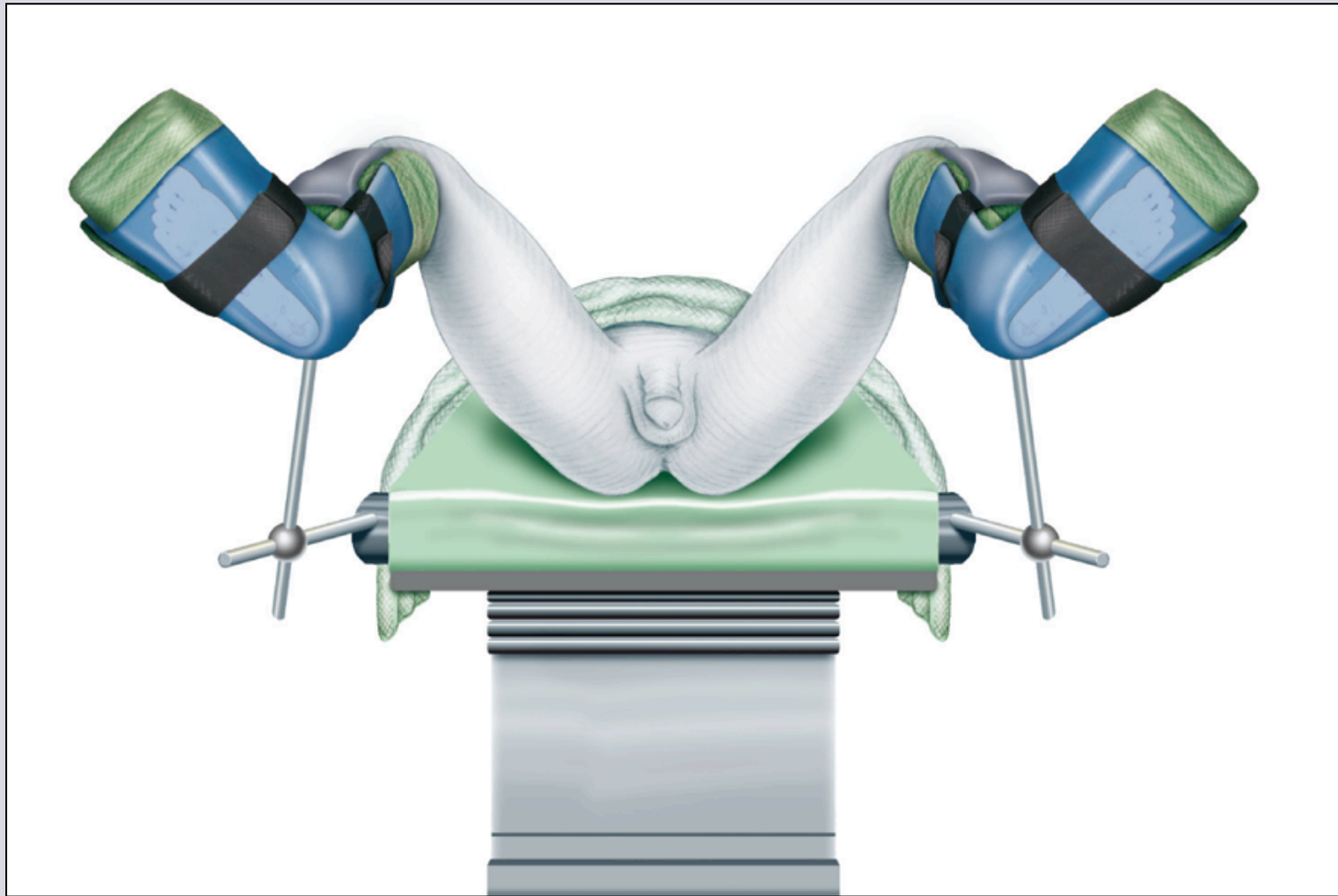
Pre-operative retrograde urethrography



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Simple lithotomy position



Allen stirrups



Sequential inflatable compression sleeves

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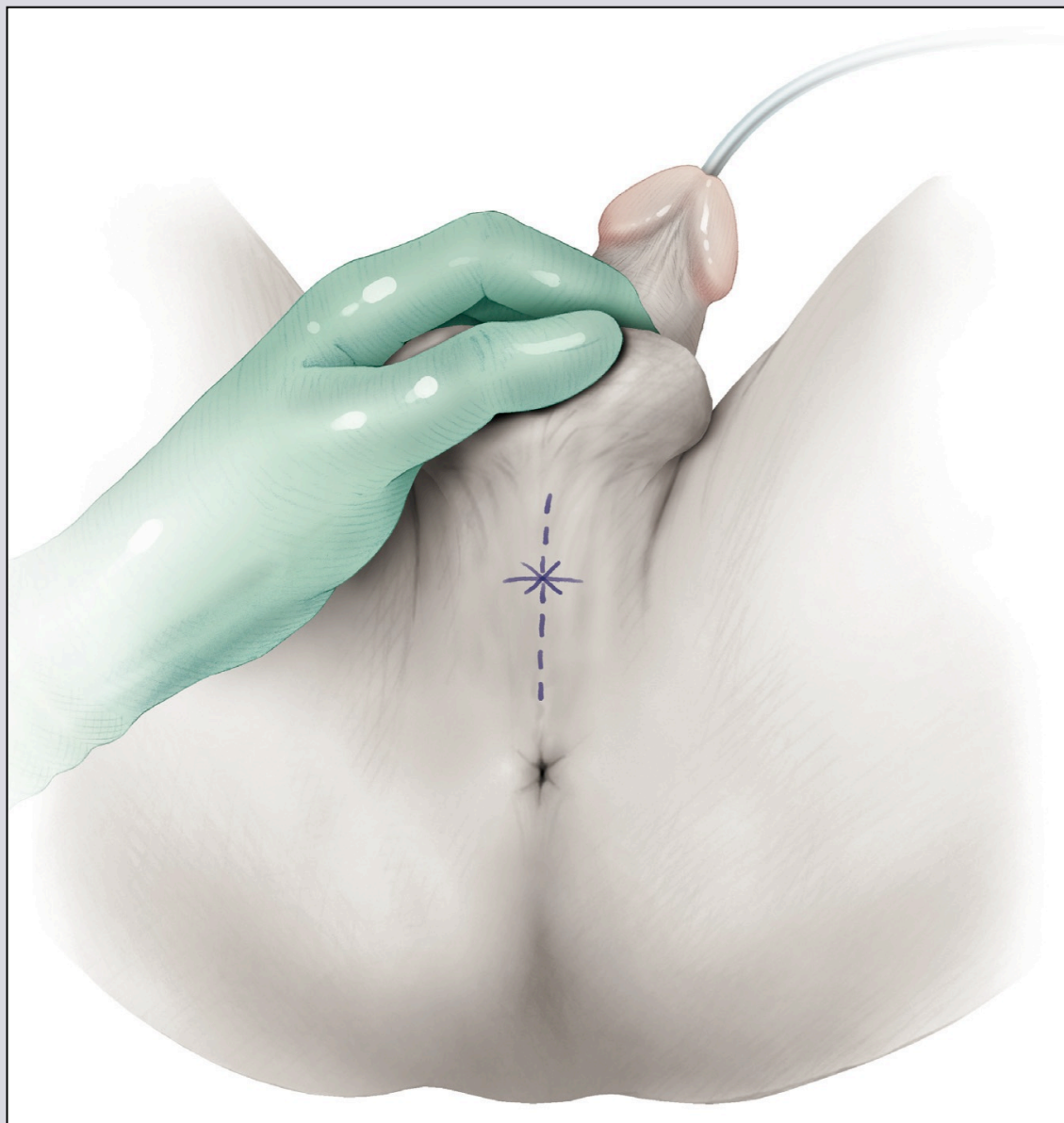
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**Pre-operative
urethroscopy**

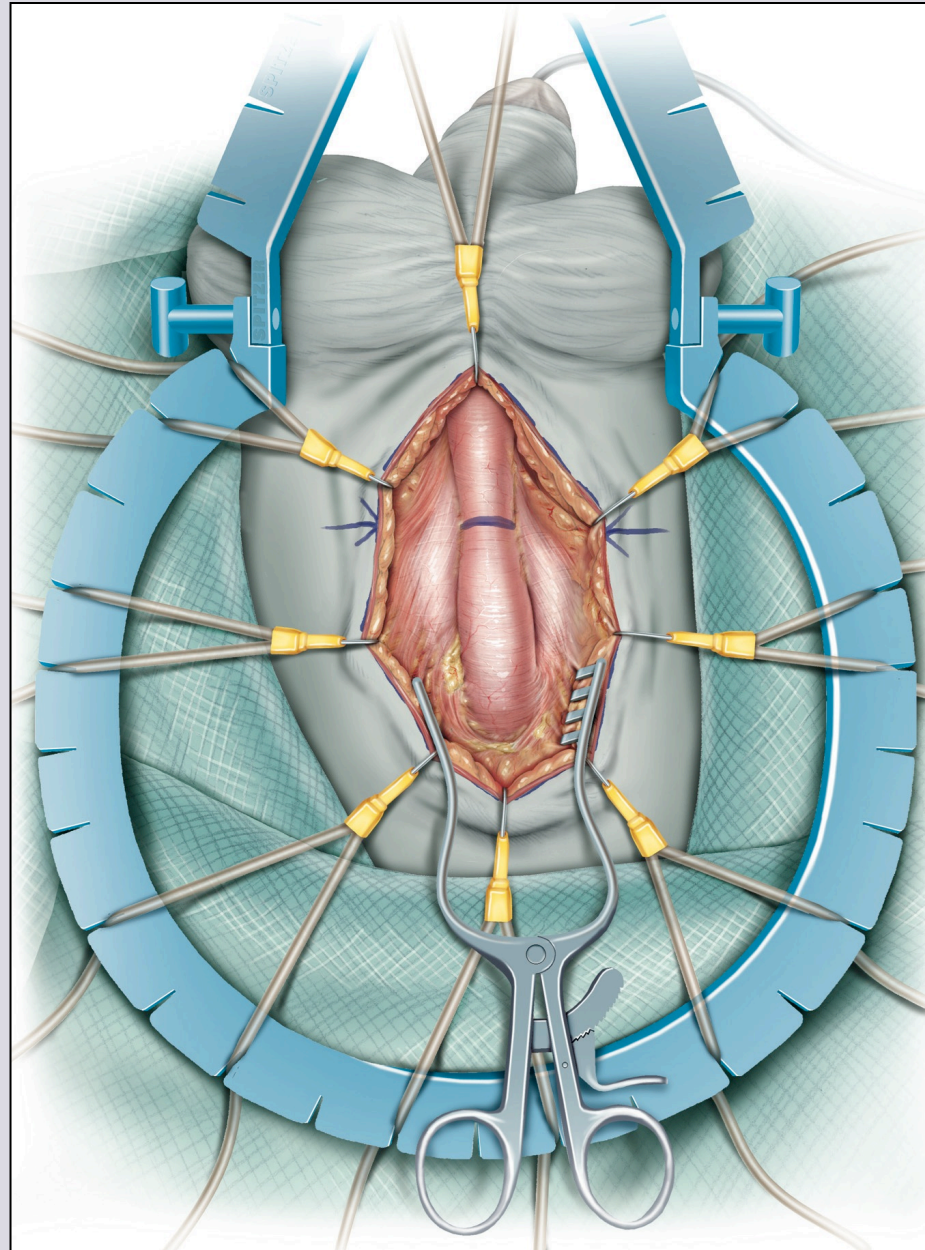


Insert Sensor 3 Fr. guidewire



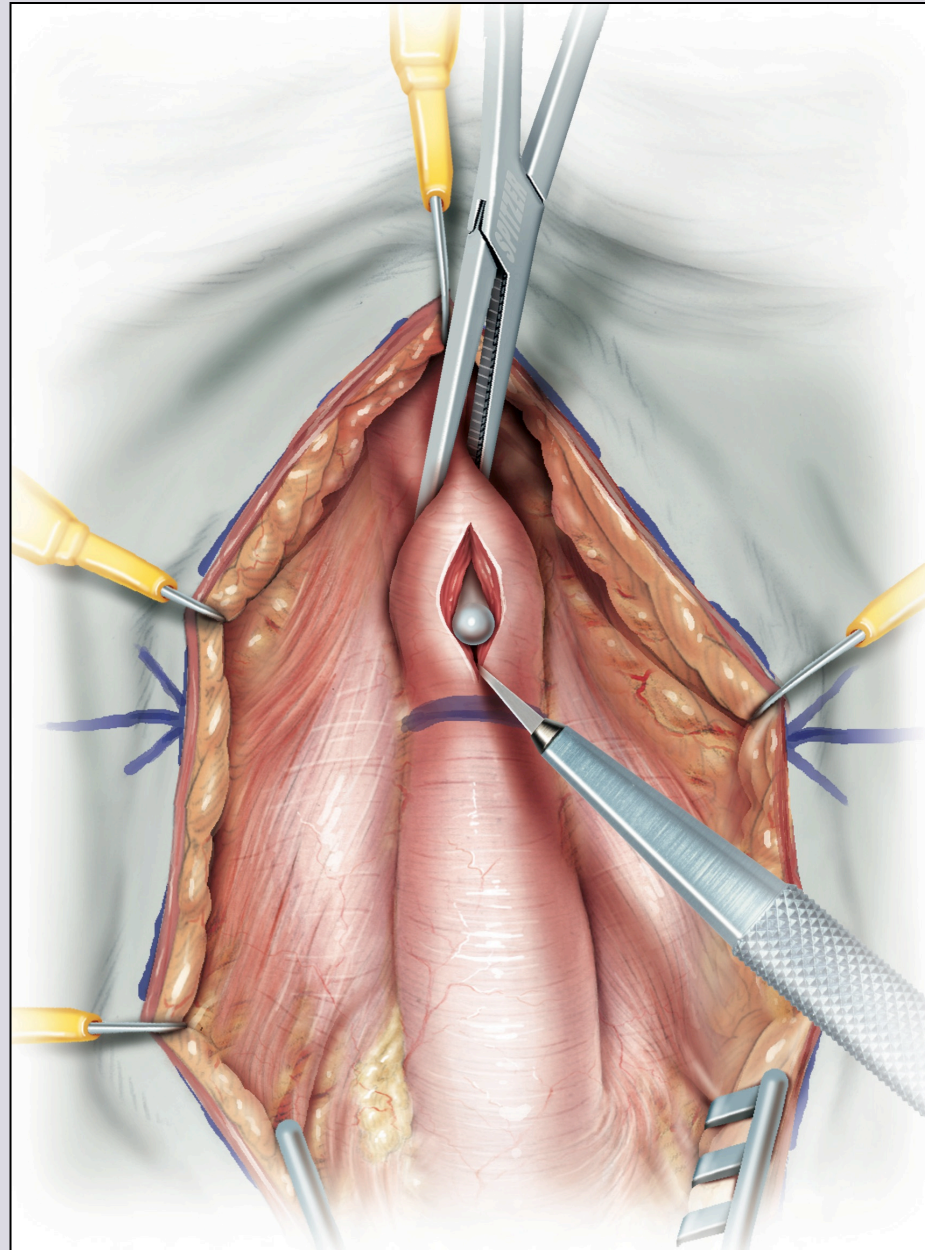
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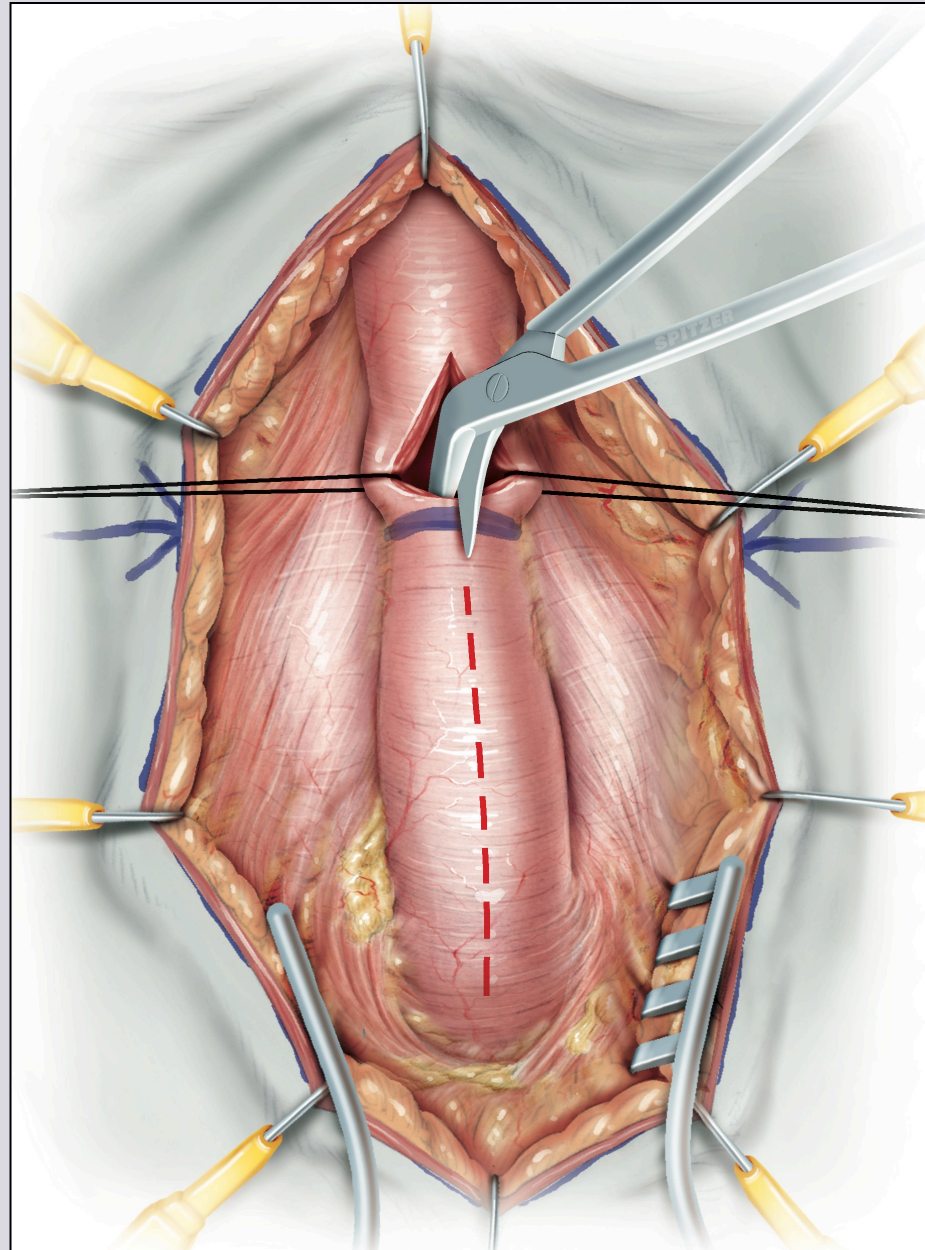
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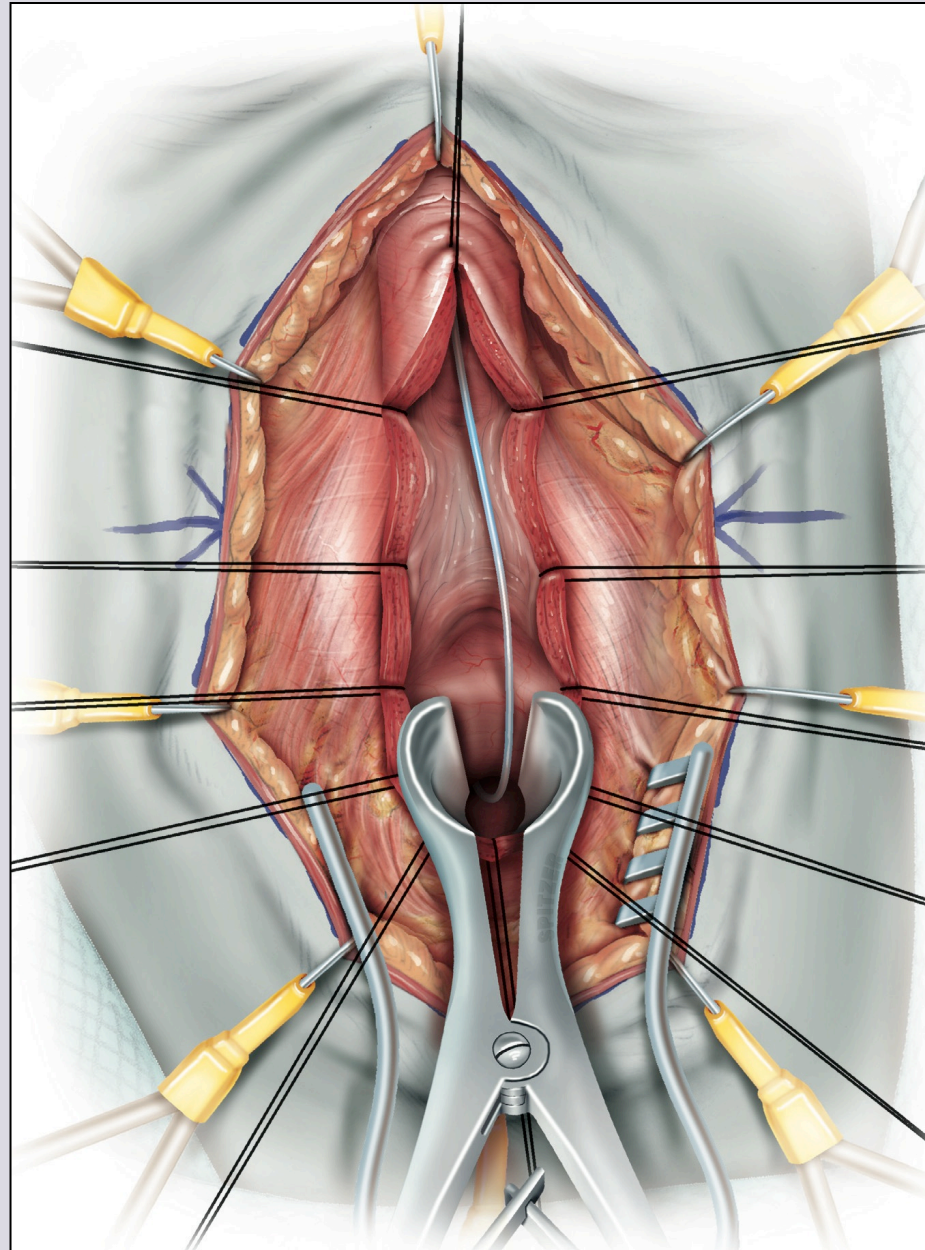
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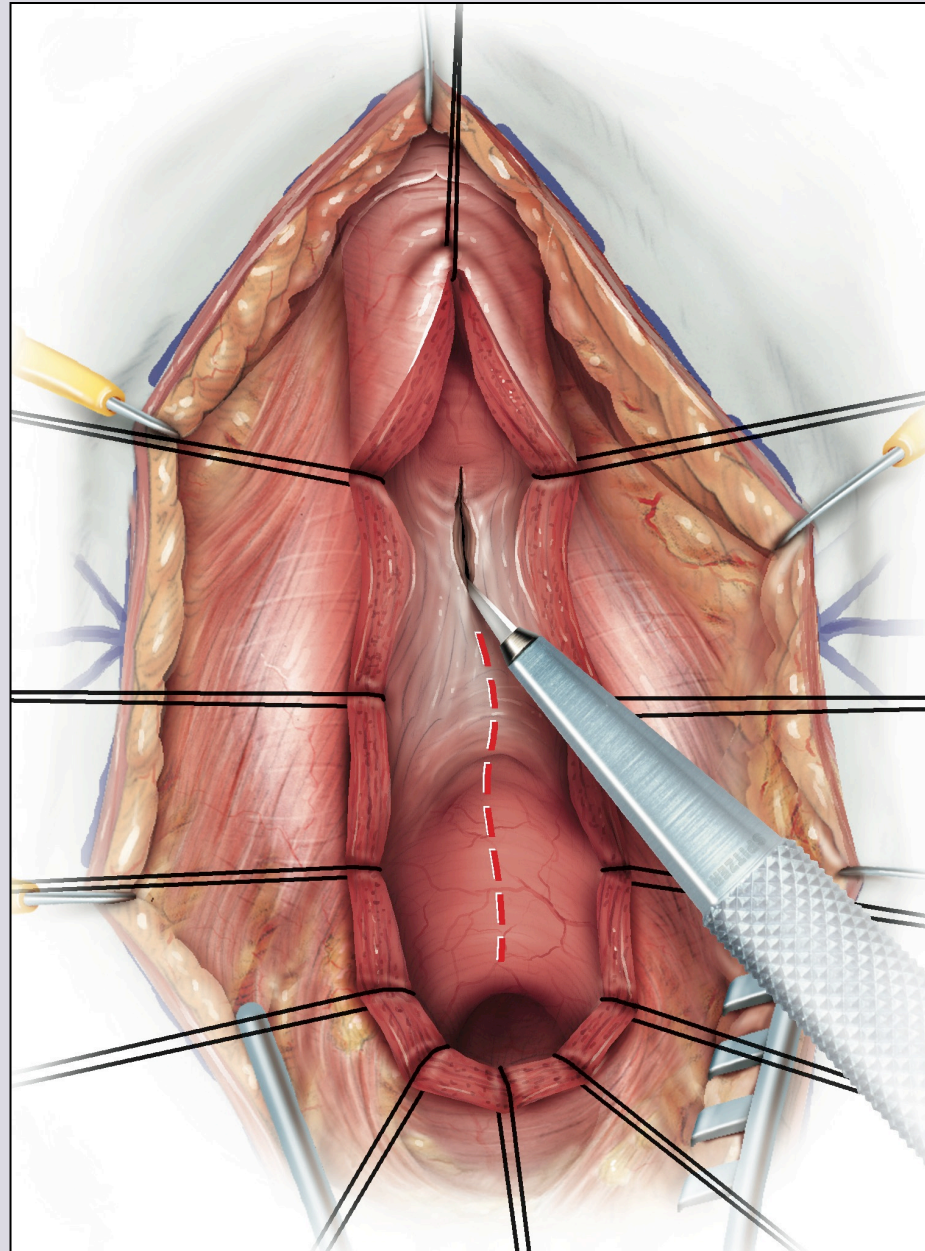
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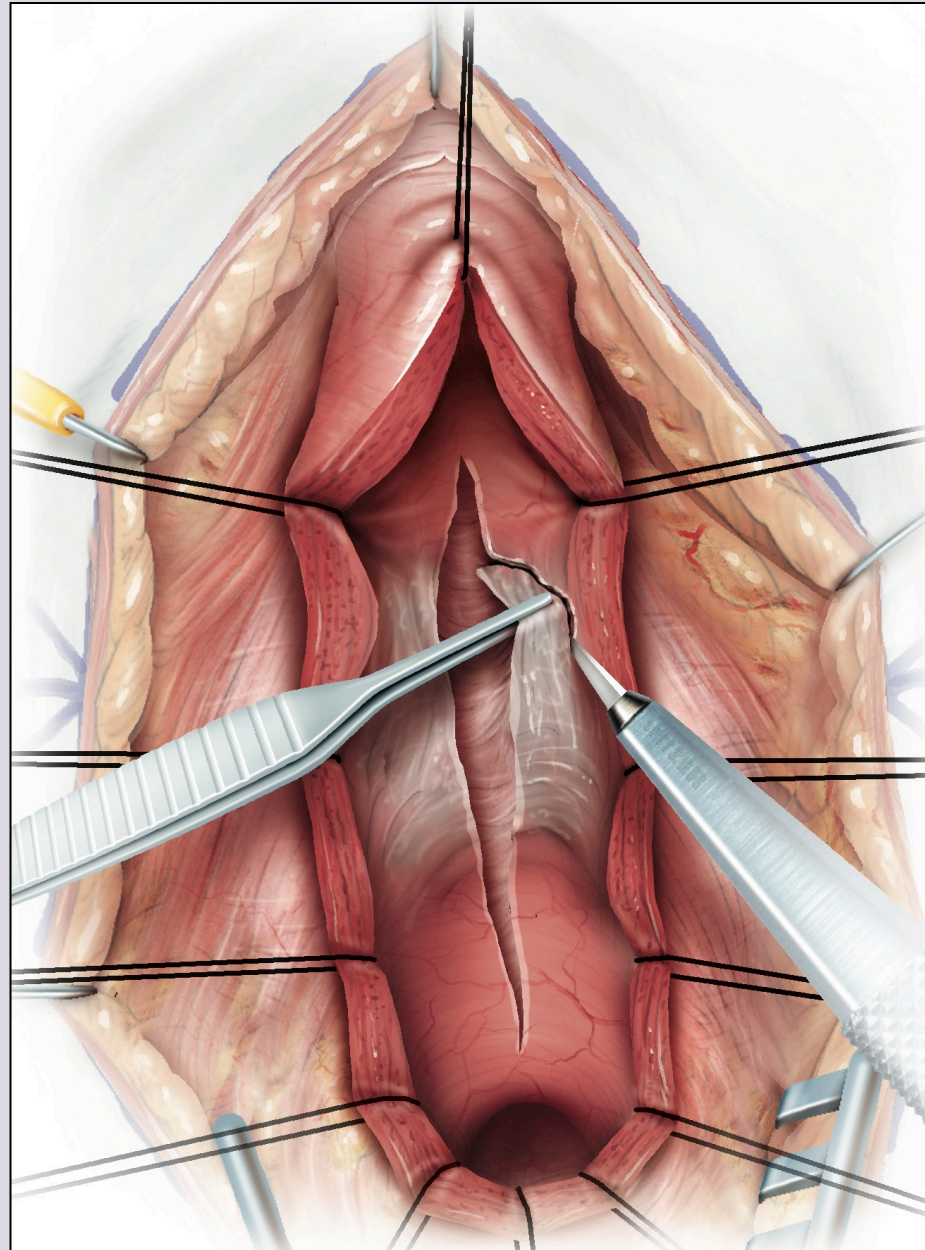
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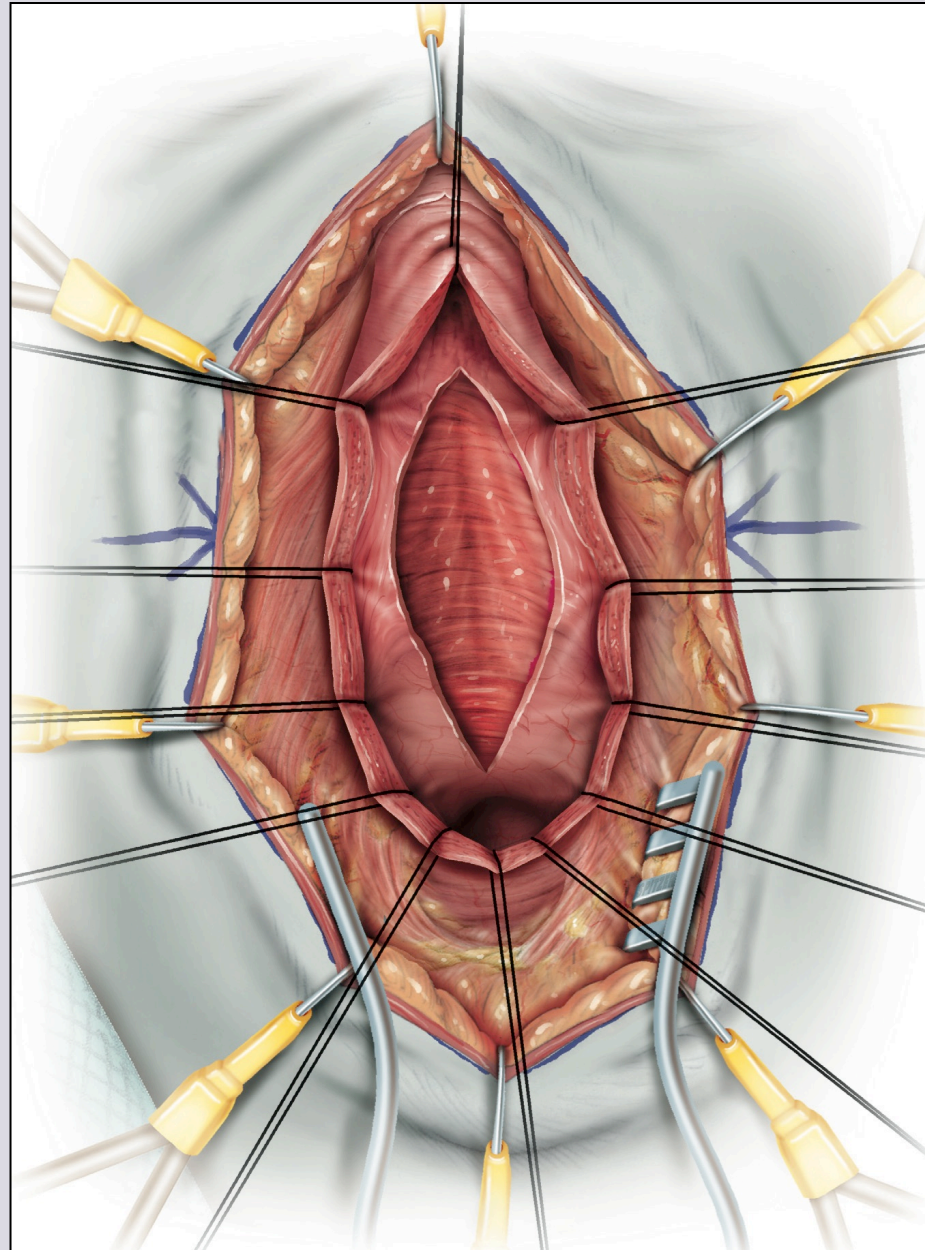
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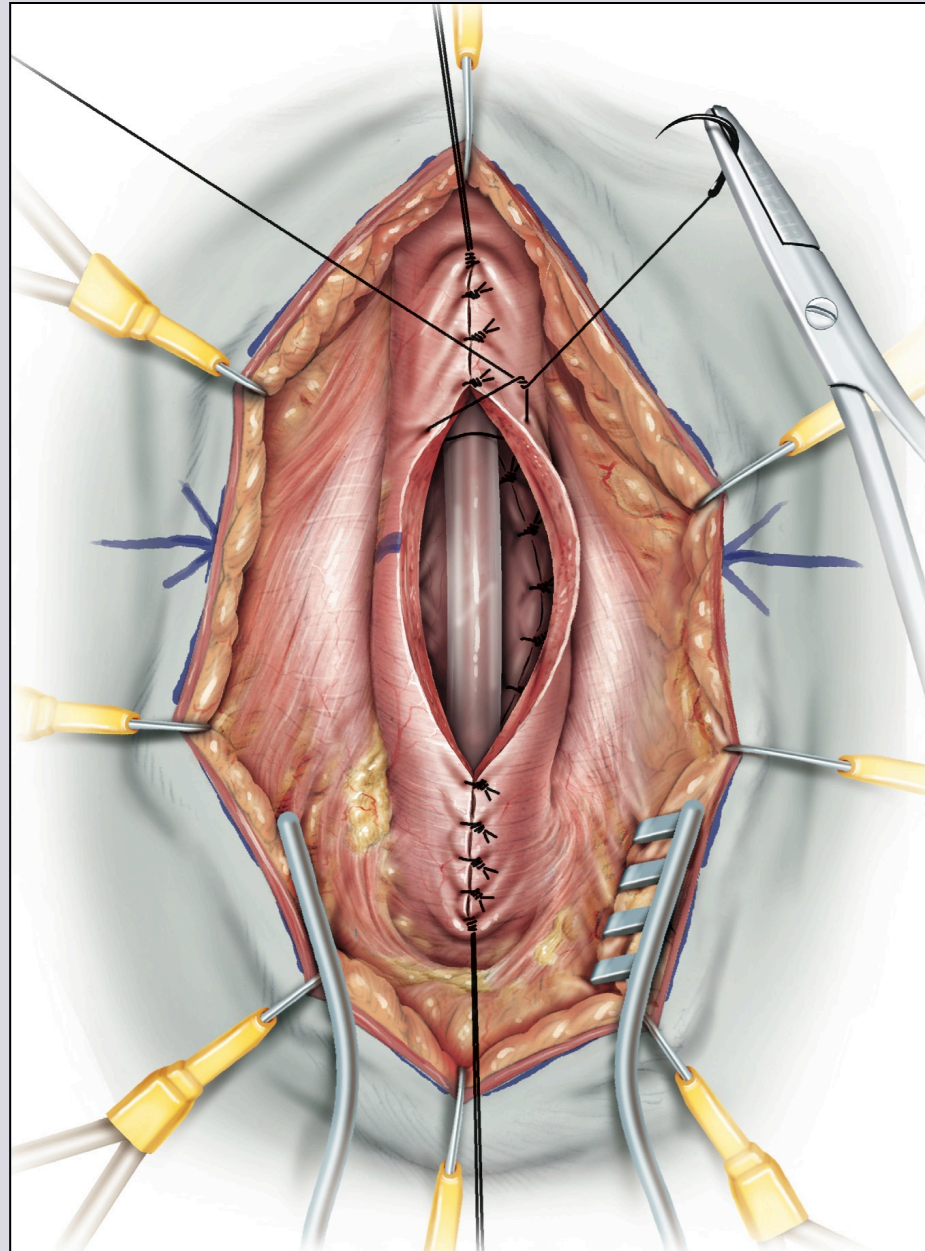
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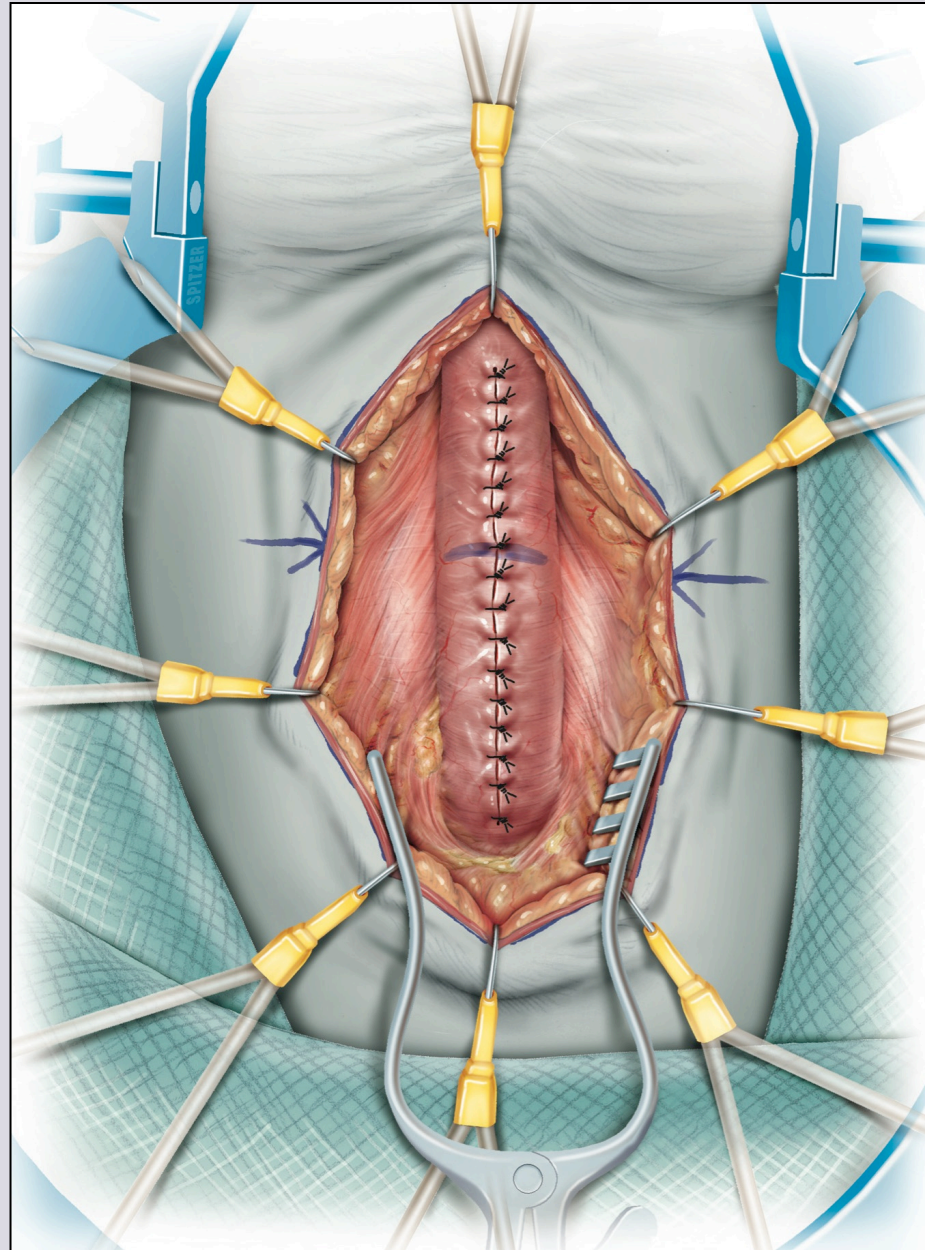
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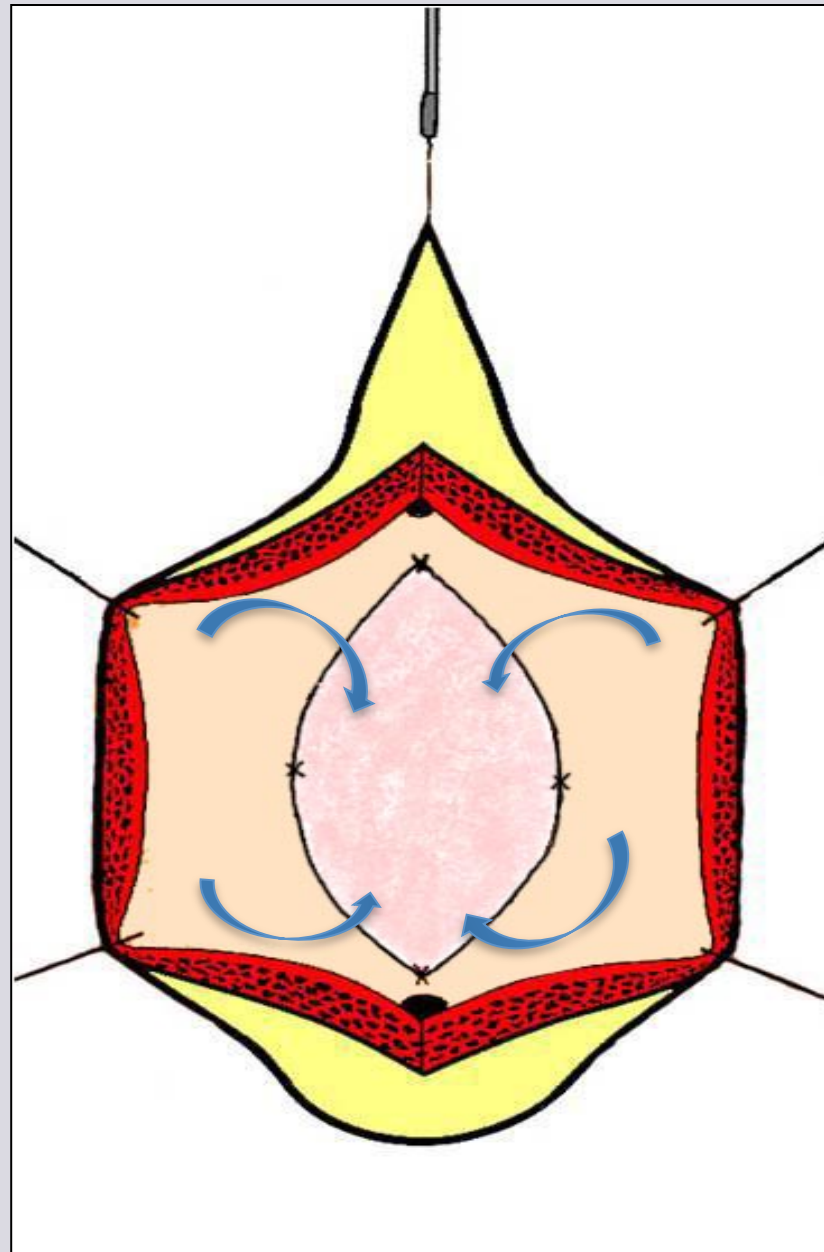
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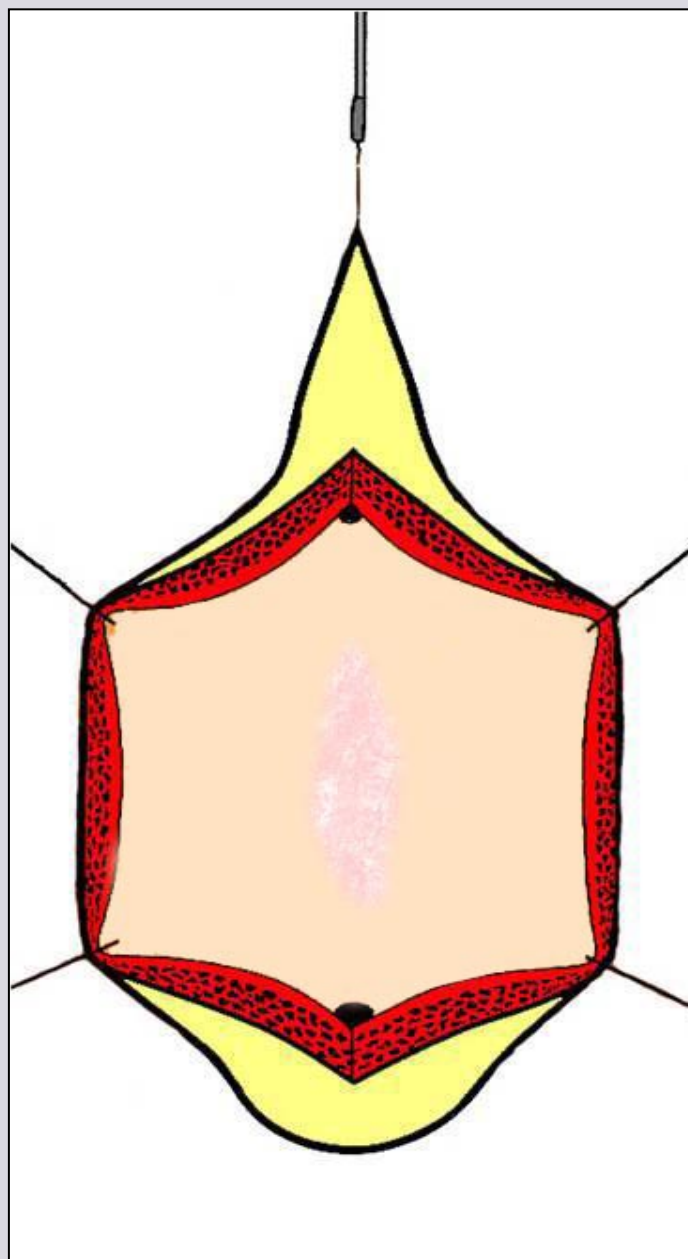
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Preliminary series of patients

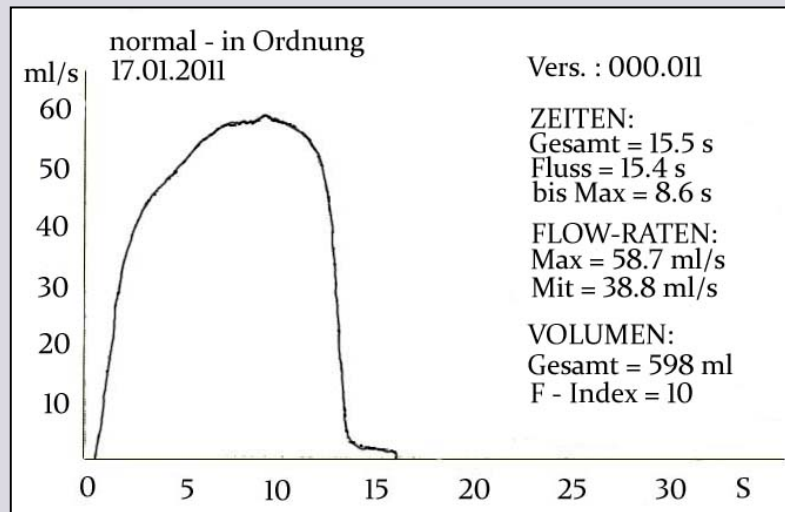
12 patients

Bulbar urethral stricture

- ✓ **Mean age: 53 years (range 28 – 75)**
- ✓ **Median follow-up: 18 months (range 12 – 28)**
- ✓ **Median stricture length: 4 cm (range 2 – 6)**

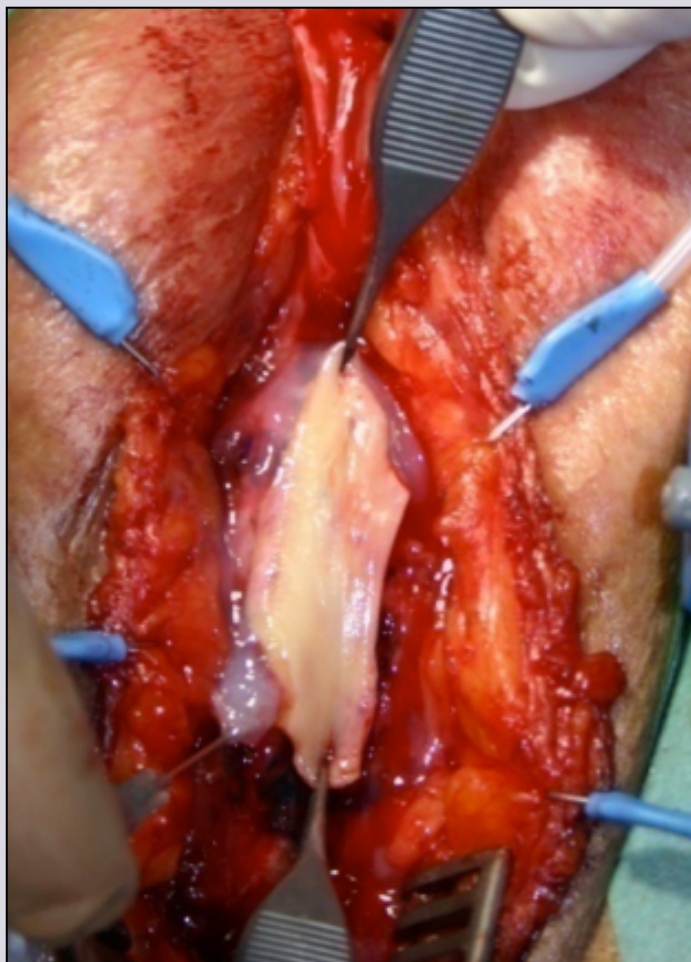
Preliminary results at short-term follow-up (median: 18 months)

Out of 12 patients, 10 (83%) do not require further urethral manipulation, after the MukoCell's transplantation into the bulbar urethra

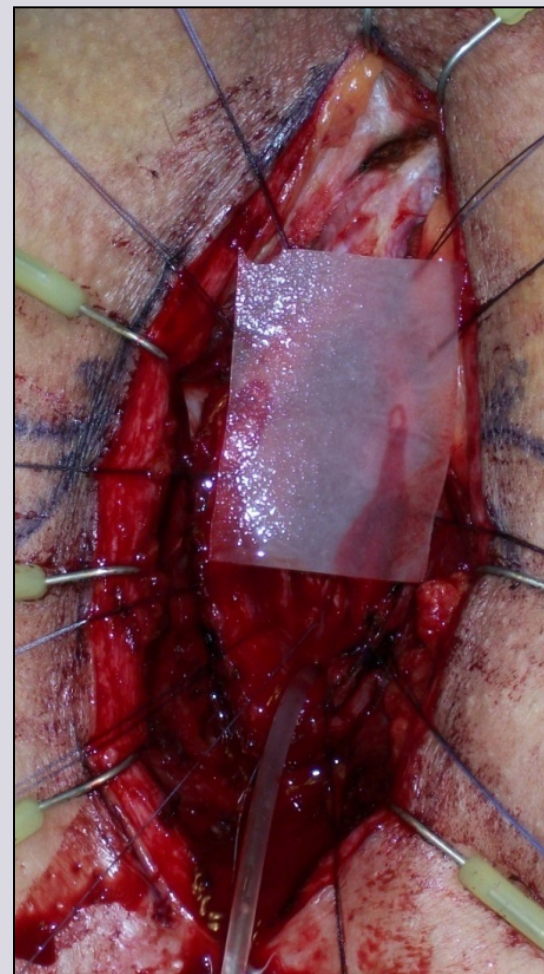


The mean Qmax increased from 3 ml/sec preoperatively to 20 ml/sec postoperatively

Our preliminary experience

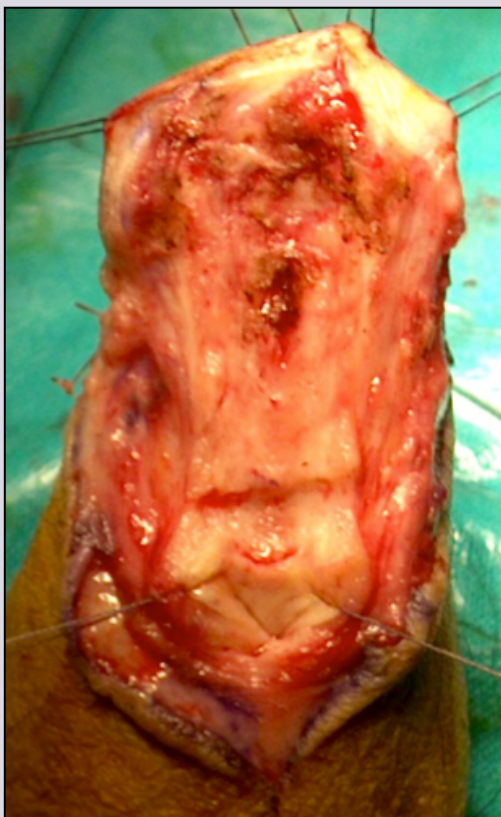


Oral mucosa



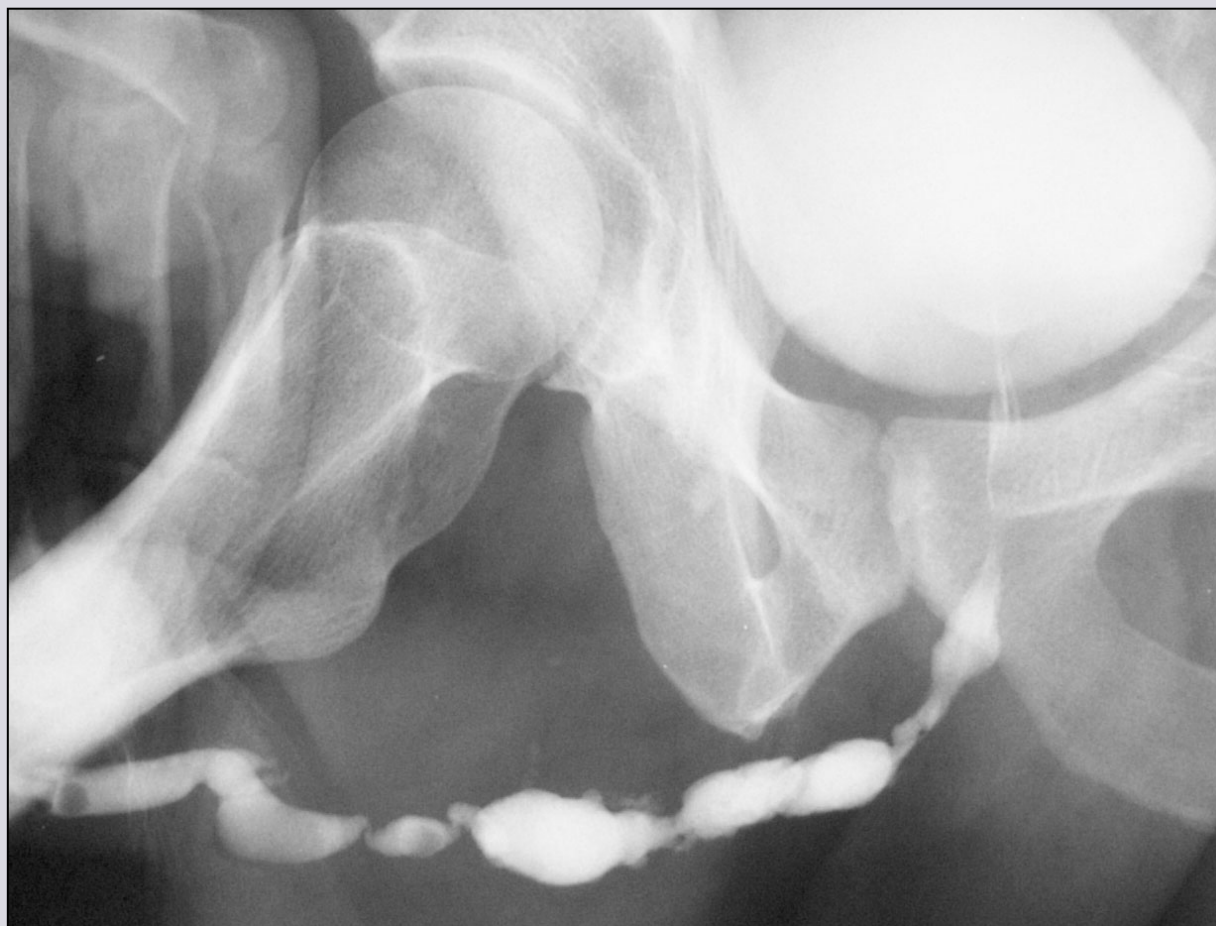
Tissue engineered oral mucosa

Our preliminary experience



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

Our preliminary experience



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

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Take home message:

It is not the end line of the long history of urethral reconstruction, but the first step for a new future of urethral surgery

Limitations of this study

- **Small series of patients**
 - **Short follow-up**
-
- ✓ **This material should be used only in Germany**
 - ✓ **The cost is about 4.000,00 to 5.000,00 Euro**

For more information about MukoCell manufacturing or if you are interested in developing this technology in your country please contact Dr. Gouya Ram-liebig at:



Email: g.ram-liebig@urotiss.com

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