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Project Page Link: <https://www.jove.com/account/file-uploader?src=19421838>

Title: Transcortporal Artificial Urinary Sphincter Cuff Placement in a Case Requiring Revision for Urethral Atrophy

Authors and Affiliations:

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Author Questionnaire

1. Microscopy: Does your protocol require the use of a dissecting or stereomicroscope for performing a complex dissection, microinjection technique, or something similar? **No**

2. Software: Does the part of your protocol being filmed include step-by-step descriptions of software usage? **No**

3. Interview statements: Please select one.

- ☐ Interviewees self-record interview statements.
- ☐ Interview Statements are read by JoVE's voiceover talent.

4. Proposed filming date: To help JoVE process and publish your video in a timely manner, please indicate the proposed date that your group will film here: **MM/DD/YYYY**

When you are ready to submit your video files, please contact our China Location Producer, Yuan Yue - yuan.yue@myjove.com.

Current Protocol Length

Number of Steps: 16

Number of Shots: 32

Ethics Title Card

This research has been approved by the local Medical Ethics Committee of Shanghai Ninth People's Hospital in China. A written consent was obtained from the patient

Protocol

NOTE: The Author never replied to the postshoot email or sent new footage or interviews. Hence, interviews and the rest of the protocol for which footage is not available have been removed. Narration, shots, and titles have also been edited based on available footage.

NOTE: The author uploaded a timestamp document covering the procedure only, and had long timestamps a long time ago. The authors are not responding at all. So, based on the information available, this project has been moved along. The postshoot note integrator (Swati) reviewed the footage and added timestamps. However, the video editor should also review the footage and select suitable timestamps from the author's provided ones. Those are also added next to the shot in red font.

2. Surgical Removal and Reimplantation of the Artificial Urinary Sphincter (AUS)

2.1. To remove the original artificial urethral sphincter or AUS (A-U-S), make a longitudinal incision of 5 centimeters on the middle line of the lower scrotum where the original cuff was placed [1]. Then, cut one side of the cuff using scissors and remove it from the urethra [2].

2.1.1. LAB MEDIA: 00219.MTS-h265: 02:41-02:48 and 03:34 – 03:37 Video00219, 02:44-03:47

2.1.2. LAB MEDIA: 00220.MTS-h265: 07:24 – 07:29 and 07:36 – 07:46 Video00220, 07:20-07:50

2.2. For reimplantation of the new AUS, select the new cuff site 2 to 3-centimeter distal to the original cuff site [1]. Then, dissect the urethra containing the bulbospongiosus muscle from the tunica albuginea of the corpora cavernosa [2] and measure the urethral circumference [3].

2.2.1. LAB MEDIA: 00220.MTS-h265: 08:50 – 08:53 and 11:16 – 11:19 Video00220, 08:50-11:20

2.2.2. LAB MEDIA: 00220.MTS-h265: 23:42 – 23:49 and 28:18 – 28:30 Video00220, 11:25-29:01

2.2.3. LAB MEDIA: 00221.MTS-h265: 00:42 – 00:48 and 00:55 – 00:59 Video00221, 00:00-01:54

2.3. Next, make 2-centimeter longitudinal incisions on the tunica albuginea of the corpora cavernosa bilaterally, 2 millimeters lateral to the urethra, and deepen it until corporal spongy tissue is visible [1].

- 2.3.1. LAB MEDIA: 00221.MTS-h265: 05:44 – 05:50 and 09:20 – 09:26. [Video00221, 05:35-09:35](#)
- 2.4. Create a tunnel between the two corporotomies by blunt dissection [1] and measure the urethral circumference containing the tunica albuginea and bulbospongiosus muscle [2].
 - 2.4.1. LAB MEDIA: 00221.MTS-h265: 09:45 – 09:53 and 10:13 – 10:15 [Video00221, 09:40-10:20](#)
 - 2.4.2. LAB MEDIA: 00221.MTS-h265: 10:24 – 10:30, 10:52 – 10:58, and 11:20 – 11:23. [Video00221, 10:21-11:58](#)
- 2.5. Then, remove the pump [1] and water reservoir along the connecting tubes [2].
 - 2.5.1. LAB MEDIA: 00221.MTS-h265: 26:31 – 26:33 and 27:40 – 27:48. [Video00221, 21:30-29:00](#)
 - 2.5.2. LAB MEDIA: 00222.MTS-h265: 12:09 – 12:20 [Video00222, 11:20-12:30](#)
- 2.6. After expelling the air from the AUS components, immerse all the components in the solution containing 0.5 grams of vancomycin and 500 milliliters of 0.9 percent sodium chloride [1].
 - 2.6.1. LAB MEDIA: 00216.MTS-h265: 11:30 – 11:35 and 15:21 – 15:28 [Video00216, 05:00-18:53](#)
- 2.7. Next, position a new 4-centimeter cuff containing the tunica albuginea, bulbospongiosus muscle, and urethra [1]. Place the pump in the original scrotal disc space [2].
 - 2.7.1. LAB MEDIA: 00222.MTS-h265: 18:04 – 18:09 and 21:45 – 21:50 [Video00222, 17:55-22:20](#)
 - 2.7.2. LAB MEDIA: 00222.MTS-h265: 23:35 – 23:39 and 23:57 – 24:05. [Video00222, 22:40-26:25](#)
- 2.8. After opening the external inguinal ring, use the index finger to create a retropubic perivesical space by blunt dissection [1]. Place the water reservoir into the space using sponge forceps [2].
 - 2.8.1. LAB MEDIA: 00222.MTS-h265: 27:07 – 27:12 and 27:30 – 27:35. [Video00222, 26:50-27:48](#)

2.8.2. LAB MEDIA: 00222.MTS-h265: 27:42 – 27:47 and 00223.MTS-h265: 00:05 – 00:10 **Video00223, 00:00-01:50**

2.9. Fill the reservoir with 22 milliliters of 0.9 percent sodium chloride solution [1] and connect the whole device in the usual manner [2].

2.9.1. LAB MEDIA: 00223.MTS-h265: 01:57 –02:03. **Video00223, 01:57-02:07**

2.9.2. LAB MEDIA: 00223.MTS-h265: 09:08 –09:14 and 12:22 – 12:25. **Video00223, 05:25-12:40**

2.10. Squeeze and release the pump bulb two to three times quickly and determine that all fluid has been removed from the cuff [1].

2.10.1. LAB MEDIA: 00223.MTS-h265: 13:12 –13:21 and 15:13 – 15:17. **Video00223, 13:12-15:40**

2.11. After system testing, press the metal button on the pump for several seconds to deactivate the device [1].

2.11.1. LAB MEDIA: 00223.MTS-h265: 17:55 –18:00 and 18:11 – 18:15. **Video00223, 17:50-18:15**

2.12. Next, layer off each incision with 3-0 (*Three-oh*) absorbable polyglactin sutures and dress the operative region with appropriate pressure [1].

2.12.1. LAB MEDIA: 00223.MTS-h265: 9:40 – 9:42 and 16:00 – 16:09 **Video00224, 07:45-20:30**

Results

3. Results

- 3.1. After a successful operation [1], quick patient recovery and no complications, such as infection, edema, hematoma, or uroschesis, were observed [2].
- 3.1.1. LAB MEDIA: Table 1.
- 3.1.2. LAB MEDIA: Table 1. *Video Editor: Please emphasize the last row corresponding to 'complication'.*
- 3.2. The device was activated at postoperative week 6 in the outpatient service [3]. During a 6-month follow-up, the patient could operate the AUS device expertly without stress incontinence, and no urethral injury or dysuresia occurred [4].
- 3.2.1. LAB MEDIA: Table 1. *Video Editor: Please emphasize the 'Activation of the device' row.*
- 3.2.2. LAB MEDIA: Table 1. *Video Editor: Please emphasize the 'Results' row.*

Pronunciation guides:

1. Urethral

- **Pronunciation link:** <https://www.merriam-webster.com/dictionary/urethral>
 - **IPA:** /juˈri:θrəl/
 - **Phonetic Spelling:** yoo-ree-thruhl
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2. Sphincter

- **Pronunciation link:** <https://www.merriam-webster.com/dictionary/sphincter>
 - **IPA:** /ˈsfɪŋktər/
 - **Phonetic Spelling:** sfing-ter
-

3. Scrotum

- **Pronunciation link:** <https://www.merriam-webster.com/dictionary/scrotum>
- **IPA:** /ˈskroʊtəm/
- **Phonetic Spelling:** skroh-tuhm

4. Bulbospongiosus

- **Pronunciation link:** <https://www.howtopronounce.com/bulbospongiosus>
- **IPA:** /ˌbʌlbʊsˌspʌŋˈdʒaɪəsəs/
- **Phonetic Spelling:** bul-boh-spun-jai-uh-suhs

5. Tunica albuginea

- **Pronunciation link:** <https://www.howtopronounce.com/tunica-albuginea>
- **IPA:** /ˈtuːnɪkəˌælˈbjuːdʒɪniə/
- **Phonetic Spelling:** too-nih-kuh al-byoo-jih-nee-uh

6. Corpora cavernosa

- **Pronunciation link:** <https://www.howtopronounce.com/corpora-cavernosa>
- **IPA:** /ˈkɔːrpərəˌkævərˈnoʊsə/
- **Phonetic Spelling:** kor-puh-ruh kav-er-noh-suh

7. Reservoir

- **Pronunciation link:** <https://www.merriam-webster.com/dictionary/reservoir>
- **IPA:** /ˈrɛzərˌvʊər/
- **Phonetic Spelling:** reh-zer-vwahr

8. Vancomycin

- **Pronunciation link:** <https://www.merriam-webster.com/dictionary/vancomycin>
- **IPA:** /ˌvæŋkəˈmaɪsɪn/
- **Phonetic Spelling:** vang-kuh-my-sin

9. Inguinal

- **Pronunciation link:** <https://www.merriam-webster.com/dictionary/inguinal>
 - **IPA:** /ˈɪŋɡwənəl/
 - **Phonetic Spelling:** ing-gwuh-nuhl
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10. Perivesical

- **Pronunciation link:** <https://www.howtopronounce.com/perivesical>
 - **IPA:** /ˌpɛrəˈvɛsɪkəl/
 - **Phonetic Spelling:** pair-uh-veh-sih-kuhl
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11. Dysuresia

- **Pronunciation link:** <https://www.howtopronounce.com/dysuresia>
 - **IPA:** /ˌdɪsjʊˈriːzə/
 - **Phonetic Spelling:** dis-yoo-ree-zhuh
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