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### Title

MP15-17 ASSESSMENT OF THE LEARNING CURVE FOR MALE URETHRAL RECONSTRUCTION: DOES EXPERIENCE MATTER?

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**MP15-15****REDO - BUCCAL MUCOSA GRAFT URETHROPLASTY: SUCCESS RATE AND ORAL MORBIDITY**

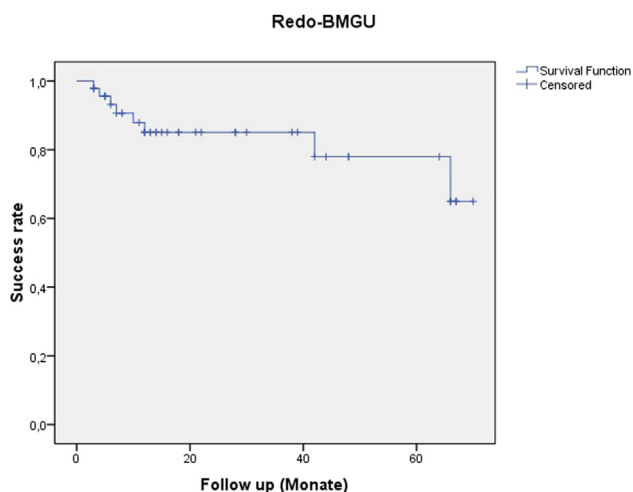
*Clemens Rosenbaum\*, Marianne Schmid, Tim Ludwig, Luis Kluth, Philip Reiss, Armin Soave, Roland Dahlem, Oliver Engel, Silke Riechardt, Margit Fisch, Sascha Ahyai, Hamburg, Germany*

**INTRODUCTION AND OBJECTIVES:** To determine success rate and oral morbidity of Redo - buccal mucosa graft urethroplasty (BMGU) in the treatment of stricture recurrences after previous BMGU.

**METHODS:** Patients who underwent Redo-BMGU for the treatment of urethral stricture recurrence after BMGU between 2009 and 2014 were retrospectively identified from our prospective urethroplasty data base. Patients were contacted and asked to fill out a self-administered standardized non-validated questionnaire. Primary end point of this retrospective analysis was the treatment specific success rate defined as no history of recurrent stricture or necessity of redo-surgery or catheter placement. Secondary endpoint was oral morbidity. For statistical calculation descriptive and Kaplan-Meier-analyses were applied.

**RESULTS:** 47 patients underwent Redo-BMGU. Median FU of this study cohort was 14 months (range 3- 70). Mean age was 50 years (range 20-76). Median length of the first BMGU was 5cm (range 2 – 11), median length of the Redo-BMGU was 5cm (range 2-12), too. Stricture location was bulbar in 70% and penile in 30%. Stricture recurrence after Redo-BMGU occurred in 17%, according to Kaplan-Meyer-analysis, success-rate at 60 month FU was 80%. Changed salivation, problems in opening of the mouth and changes in taste were not or only mildly present in 95.5% respectively. Severe or very severe oral numbness occurred in 18.2%, no patient complained about moderate to very severe burred language. Oral problems in daily life meant a moderate or severe burden for 13.6% and 4.4% of the patients respectively.

**CONCLUSIONS:** Success rate of Redo-BMGU and its oral morbidity after repeat buccal mucosa graft harvesting seems very acceptable.



**Source of Funding:** None

**MP15-16****REVISION URETHROPLASTY VS PRIMARY URETHROPLASTY: ARE THEY REALLY DIFFERENT?**

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**INTRODUCTION AND OBJECTIVES:** To assess the treatment failure of revision urethroplasty compared with urethroplasty-naïve controls.

**METHODS:** A retrospective analysis was performed of 294 urethroplasties performed at our institution between 2003 and 2014.

Patient age, stricture length, location, etiology, and type of surgery were recorded. Statistical comparison between the revision cohort and urethroplasty-naïve group were made using Fisher,  $\chi^2$ , and unpaired t tests or Kruskal Wallis test, with significance set at  $P < .05$  (2-tailed). Any urethral instrumentation after surgery was considered a treatment failure. Kaplan-Meier analysis was used to estimate failure free survival rates according to the type of surgery

**RESULTS:** A total of 288 patients met inclusion criteria. Previous urethroplasty had failed in 61 patients (21.2%). The mean age was 51,9 (SD 18,13). The mean stricture length was 3.43 cm (SD 3.33). The mean follow up was 29.3 months (SD 27.9). Age; length of stricture or etiology of the stricture did not differ between the two groups ( $P > .05$ ). Patients undergoing revision urethroplasty were more likely to have a stricture in the penile urethra (39.1%;  $P = .001$ ). The mean follow-up was 27. 39 months (SD 27.2). The estimated failure-free rate of naïve and revision urethroplasty cohorts were 85.9% and 83.6% respectively (Long-Rank  $p = .76$ ; Breslow  $p = .96$ ; Tarone-Ware  $p = .91$ ).

**CONCLUSIONS:** No difference in term of failure-free rate was detected between naïve and revision urethroplasty groups.

**Source of Funding:** none

**MP15-17****ASSESSMENT OF THE LEARNING CURVE FOR MALE URETHRAL RECONSTRUCTION: DOES EXPERIENCE MATTER?**

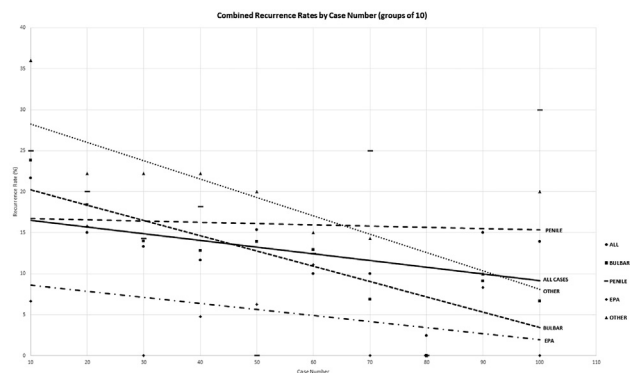
*Sarah Faris\*, Christopher Tam, Iowa City, IA; Bryan Voelzke, Seattle, WA; Jeremy Myers, Salt Lake City, UT; Sean Elliott, Minneapolis, MN; Alex Vanni, Burlington, MA; Thomas Smith III, Houston, TX; Benjamin Breyer, Thomas Gaither, San Francisco, CA; Deep Bhatt, Bradley Erickson, Iowa City, IA*

**INTRODUCTION AND OBJECTIVES:** Urethral reconstruction has a historically high success rate, though is often technically demanding. Success rates are assumed to increase with surgeon experience, though the learning curve for these procedures has not been previously analyzed.

**METHODS:** We retrospectively reviewed all anterior urethroplasty cases from a prospectively maintained multiinstitutional reconstructive urologic database. Success was analyzed at the 18 month mark in all patients and defined as the freedom from secondary operation (e.g. urethral dilation, urethrotomy) for stricture recurrence. Success rates were analyzed relative to the total number of cases performed after fellowship training. Comparisons were made between surgeons and broken down by location and type of repair.

**RESULTS:** A total of 613 cases from 7 surgeons were analyzed, with an overall functional success rate of 87.3%. The success for bulbar repairs was higher than for penile repairs (88.2% vs 78.3%,  $p = 0.0116$ ). The success of anastomotic repairs was higher than for substitution repairs (95.0% vs 82.4%,  $p = 0.0001$ ). Figure 1 shows success rates by number of cases broken down by type of repair. Notably, there was an overall statistically significant trend towards improved outcomes by number of cases ( $p = 0.0422$ ), which was most pronounced with bulbar repairs. There was no statistical improvement in penile repairs over time. The case number to reach proficiency (defined as a success rate of  $> 90\%$ ) was approximately 100 cases when all types of reconstruction was considered and 70 cases for bulbar urethroplasties. There were statistical differences in success rates for all types of repairs between the surgeons ( $p = 0.0014$ ).

**CONCLUSIONS:** This study shows that success rates of anterior urethral reconstruction improve significantly as surgeon experience accumulates and proficiency occurs after approximately 100 cases. Additionally, significant differences in success rates were noted between surgeons. These findings highlight the potential opportunity to improve outcomes through continuing surgical education after fellowship training.



Source of Funding: None

**MP15-18**  
**PREDICTIVE VALUE OF POST-URETHROPLASTY VOIDING**  
**CYSTOURETHROGRAM**

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**INTRODUCTION AND OBJECTIVES:** There is currently no standard for patient follow up after urethroplasty. While recurrence rates are generally low, there are no clearly defined risk factors to help predict which patients are at increased risk of failure. Our objective was to assess the predictive value of routine post-operative voiding cystourethrogram (VCUG) on recurrence after urethroplasty.

**METHODS:** We performed a retrospective chart review of 227 patients undergoing urethroplasty at a single institution between 2000–2013. All patients underwent routine post-operative VCUG at 1–3 weeks following urethroplasty. Recurrence was defined as any need for subsequent procedural intervention. Abnormal VCUG was defined as evidence of extravasation or early stricture recurrence.

**RESULTS:** Mean age at surgery was 47 years and the mean post-operative follow-up period was 14.8 months. The overall recurrence rate was 14% (n=31). Within the entire cohort, 21(9%) patients had abnormal VCUG and 206(91%) were normal. There was a higher rate of stricture recurrence among the patients with an early abnormal VCUG; 33% (n=7) versus 12% (n=24) if VCUG was normal (p <0.05).

Sub-group analysis of bulbar strictures by type of urethroplasty demonstrated no significant difference in recurrence rates in patients who had anastomotic urethroplasty (n=50) and a normal or abnormal VCUG, 12% and 14% respectively; however, there was a very significant increase in recurrence rate when comparing patients with abnormal VCUG after buccal graft urethroplasty (n=112), 10% versus 63% (p <0.05).

**CONCLUSIONS:** Abnormal post-operative VCUG portends an approximately 3-fold increased risk of stricture recurrence overall; however, when stratified by type of urethroplasty, VCUG only predicted failure among buccal graft urethroplasties. As such, routine post-operative VCUG performed after buccal graft urethroplasties may be a useful adjunct predictive tool to help inform long term follow-up after urethroplasty.

		Stricture recurrence rate	
		VCUG	
		Normal	Abnormal
Recurrence	All urethroplasties	12% (24/206)	33% (7/21)
	Bulbar anastomotic	12% (5/43)	14% (1/7)
	Bulbar buccal graft	10% (10/104)*	63% (5/8)*

\*P-value < 0.05

Source of Funding: none

**MP15-19**  
**COLLAGENASE CLOSTRIDIUM HISTOLYTICUM FOR TREATMENT**  
**OF URETHRAL STRICTURE DISEASE IN A RAT MODEL OF**  
**URETHRAL FIBROSIS**

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 Wayne Hellstrom, New Orleans, LA

**INTRODUCTION AND OBJECTIVES:** Collagenase clostridium histolyticum (CCH) has been recently FDA-approved for minimally invasive treatment of Peyronie’s disease (PD). PD is a fibrotic wound-healing disorder of the tunica albuginea of the corpus cavernosum. Urethral stricture is a scarring process involving the urethral mucosa and surrounding spongy tissue of the corpus spongiosum. Increases in collagen type I and III have been documented in both conditions. We, therefore, postulate that CCH may effectively treat urethral stricture fibrosis. This is a proof of concept study using CCH for the treatment of urethral fibrosis in a rat model.

**METHODS:** Male Sprague-Dawley rats (n=24, 300–350 g) were anesthetized with 100/10 ml/kg ketamine/xylazine intraperitoneally. Urethral fibrosis was induced by TGF-β1 injection into two places of the urethra via a small penoscrotal incision. Two weeks following TGF-β1 injection, different groups were injected with 0.05 mg CCH or calcium chloride vehicle into the same area of the urethra. The rats were sacrificed at two weeks following the CCH or vehicle injection. The urethral tissues were harvested and evaluated by Hematoxylin & Eosin (H&E) and Masson trichrome staining by a single, blinded pathologist.

**RESULTS:** Histological assessment of urethral sections (H&E and Masson’s trichrome stain, x400) demonstrated a normal urethral lumen surrounded by normal distribution of collagen bundles and smooth muscle cells without fibrosis in the sham group, and moderate fibrosis with densely packed collagenous stroma involving the submucosal tissues in the stricture groups. There was minimal submucosal fibrosis with a moderate amount of smooth muscle cells in the vehicle and CCH injection groups (Fig. 1). There were no complications from the CCH injection.

**CONCLUSIONS:** CCH is contraindicated in ventral plaque PD patients due to concerns of urethral complications. Our study shows that CCH was safe for urethral injection and may have a role in the treatment of urethral stricture disease.

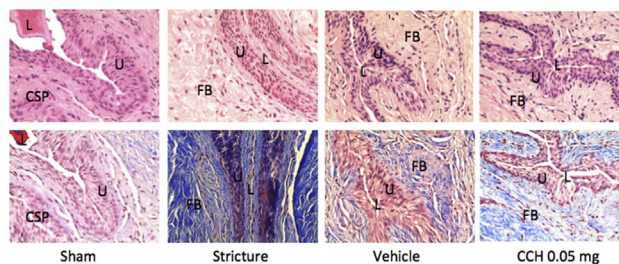


Figure 1 Histology of rat urethral tissue sections (H&E stain-Top, Masson’s trichrome stain-Bottom, x400) demonstrating normal urethral lumen surrounded by normal distribution of collagen bundles and smooth muscle cells without fibrosis in Sham group, moderate fibrosis with densely packed collagenous stroma involving submucosal tissue in Stricture group, and minimal submucosal fibrosis in Vehicle and CCH groups (L, Urethrium (U), Fibrosis (FB), Corpus spongiosum (CSP)).

Source of Funding: Auxilium Pharmaceutical

**MP15-20**  
**ROBOTIC UROLOGICAL SURGERY FOR BENIGN INDICATIONS:**  
**THE USC EXPERIENCE**

Sameer Chopra\*, Shalini Nagaraj, Carlee Beckler, Andre Luis de Castro de Abreu, Raj Satkunasivam, Raed A. Azhar, Charles Metcalfe, Inderbir Gill, Monish Aron, Mihir Desai, Andre K. Berger, Los Angeles, CA

**INTRODUCTION AND OBJECTIVES:** Since 2000, Urology has experienced one of the largest growths in the use of robotics, and its use continues to be on the rise. While robotics has mostly been used in