

# (MP67-09) Risk Factors for Failure following Staged Urethral Reconstruction: Results from Long-Term Follow Up.

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## OBJECTIVES

- Despite a trend towards one-stage repairs, staged urethroplasties are still indicated for certain strictures associated with lichen sclerosus (LS) or after failed hypospadias surgery
- Risk factors for failure of staged urethroplasties have not been clearly elucidated in the literature.
- Objective: To report our series of staged urethroplasties with long-term follow up, and risk factors for failure

## METHODS

- We reviewed of our prospectively maintained urethroplasty database for all patients who underwent both first and second stage urethroplasty from 2000-2016
- Routine follow-up included a cystoscopy 4 months after 2nd stage repair to ensure early success, and then annual follow-up thereafter with flow rate, post-void residual, and symptom assessment.
- Primary outcomes were early success, defined as easy passage of a 16 Fr cystoscope 4 months after surgery, and long-term success, defined as an absence of voiding symptoms assessed with validated questionnaires.
- Stricture and patient characteristics, etiology and the need for split thickness skin grafts (STSG) in addition to buccal mucosal graft (BMG) versus BMG alone were analyzed with regards to success.

## RESULTS

- Forty-nine (49) patients were eligible for inclusion
- No patient had stricture recurrence via cystoscopy 4 months after the 2<sup>nd</sup> stage repair
- Overall long term success rate was 81.6% with a mean follow-up of 31.7 months (range 4 to 141.6).
- Patient characteristics and outcomes are outlined in **Table 1**

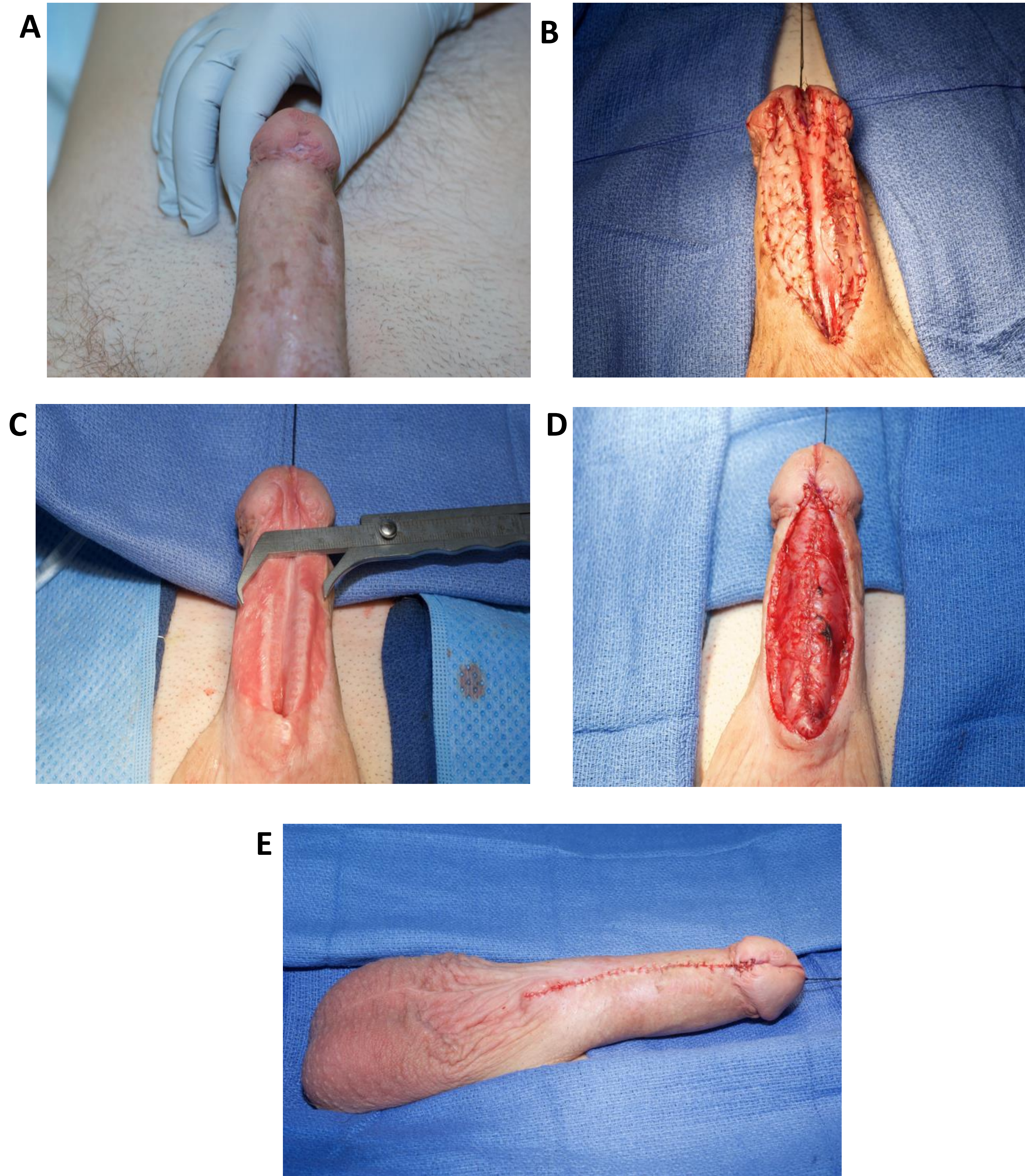


Figure 1: A) Patient with a long penile urethral stricture and history of hypospadias. B) The ventral urethrotomy has been made and BMG quilted to recipient bed via spread fixation to either side of the urethral plate. C) Demonstration of 3cm width to the healed urethral plate to allow for a 30Fr caliber lumen. D) Closure of urethra E). Closure of skin in multiple layers.

Table 1: Patient Demographics and Outcomes

<b>Number of Patients</b>	49
<b>Average Age (years)</b>	46.7 (95% CI 42.0 – 51.4)
<b>Diagnosis (%)</b>	
Hypospadias	33 (66%)
LS	10 (20%)
Both	2 (4%)
Neither/Recurrent Stricture Disease	4 (8%)
<b>Prior Failed Reconstruction (%)</b>	39 (80%)
<b>Stricture Length (cm)</b>	8.7 (95% CI 7.3 – 10.1)
<b>Follow-Up (mo)</b>	31.7 months (95% CI 20.4 – 41.8)
<b>Complications (%)</b>	5 (10%)
<b>Long Term Success Rate</b>	81.6%

- Longer strictures (11.9 cm versus 5.7 cm,  $p < 0.001$ ) were associated with addition of STSG used versus BMG alone
- There was higher long term success rate in those who were treated exclusively with BMG compared to those who required addition of STSG (100% vs. 64%,  $p < 0.01$ ).
- All but one recurrence ( $n=8$ ) occurred distally, where the STSG was placed.
- Risk factors for recurrence are outlined in **Table 2**

Table 2: Risk Factors for Failure of Staged Urethroplasty

	Success	Recurrence	P-Values
<b>Age (years)</b>	43.2	62.7	0.001
<b>Other Diagnosis</b>			
% Hypospadias (n=)	73.2% (n=30)	33.3% (n=3)	0.02
% LS (n=)	17.0% (n=7)	33.3% (n=3)	0.27
<b>Prior Failed Reconstruction</b>	19 (79.1%)	20 (76.9%)	0.44
<b>Stricture Length (cm)</b>	7.8	12.7	0.005
% Length > 9 cm (n=)	24.3% (n=10)	77.8% (n=7)	0.002
% with STSG (n=)	36.6% (n=15)	100% (n=9)	0.001

## CONCLUSIONS

- Staged repairs amenable to BMG-only repairs have high long term success
- However, stricture recurrence was associated with longer stricture length, older age, and the use of STSG

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