Erectile Dysfunction in Patients with Urethral Stricture After Endoscopic Urologic Surgery

Review of Literature (2019–2025)

Sources: PubMed, Scopus, Springer, AUA Guidelines

Introduction

- Urethral stricture is a known complication after endoscopic surgery.
- Erectile dysfunction (ED) may result from stricture or its treatment.
- This presentation reviews recent studies on ED in stricture patients.
- Focus: epidemiology, mechanisms, outcomes, and management.

Epidemiology of ED

- ED is highly prevalent among men with urethral stricture.
- Rates up to 80% reported in some studies.
- Factors: fibrosis, vascular compromise, psychological burden.
- Baseline ED higher than general male population.

Ji et al. (2025)

- 128 patients: balloon dilation vs. DVIU/dilatation.
- ED incidence: 4.7% vs. 6.3%, no significant difference.
- Endoscopic procedures did not worsen erectile outcomes.
- Conclusion: Endoscopy is safe regarding sexual function.

Kaluzny et al. (2019)

- 75 men undergoing urethroplasty.
- Pre-op ED: 81.3%; Post-op ED: 78.6%.
- No significant change after surgery (p=0.68).
- Conclusion: Surgery did not worsen erectile function.

Calleja Hermosa et al. (2021)

- Systematic review of 38 studies.
- Sexual dysfunction (ED, ejaculatory issues, penile curvature) reported.
- Authors recommend routine assessment of sexual outcomes.
- Preoperative counseling is strongly advised.

Mazzone et al. (2021)

- 92 men with pelvic fracture urethral injury and posterior urethroplasty.
- Severe ED pre-op: 63%; post-op: 68%.
- 16% developed new ED after surgery.
- Conclusion: Trauma-related ED persists despite repair.

Shalkamy et al. (2023)

- 245 patients with bulbar urethroplasty.
- Transsecting vs. non-transsecting techniques compared.
- Temporary ED: 8.1% vs. 2.9%.
- Permanent ED incidence ~3–4%, not significant.

Risk Factors for ED

- Larger prostate size and long operative time.
- Intraoperative trauma to urethra.
- Type of surgical technique.
- Pelvic fracture injuries: highest ED risk.

Mechanisms of ED

- Fibrosis reduces blood supply to penis.
- Neural injury in posterior strictures.
- Catheterization-related trauma.
- Psychological stress from recurrent LUTS.

Impact of Endoscopic Surgery

- Balloon dilation and DVIU do not increase ED significantly.
- ED mainly related to stricture disease itself.
- New-onset ED after endoscopy is rare.
- When present, it is usually temporary.

Impact of Urethroplasty

- Temporary ED reported in up to 8% of patients.
- Most cases resolve within 12 months.
- Permanent ED is uncommon (3–4%).
- Surgical technique selection influences outcomes.

Posterior Strictures and Trauma

- Pelvic fracture strictures carry the highest ED risk.
- Posterior urethroplasty often associated with persistent ED.
- Up to 70% may remain with ED post-surgery.
- Trauma severity influences outcomes.

Systematic Review Findings

- Considerable variation in reported ED outcomes.
- Most ED is pre-existing, not caused by surgery.
- Surgery generally does not worsen erectile function.
- Need for standardized sexual outcome reporting.

Guidelines (AUA 2023)

- Urethroplasty recommended after failed endoscopy.
- Counseling about possible ED is essential.
- Patients should be informed about temporary vs permanent risks.
- Follow-up must include sexual function assessment.

Management of ED

- PDE5 inhibitors (sildenafil, tadalafil) first-line.
- Vacuum devices and injections as alternatives.
- Penile prosthesis for refractory cases.
- Multidisciplinary management improves outcomes

Future Directions

- Drug-eluting stents to reduce fibrosis.
- Neuroprotective surgical techniques.
- Stem cell therapy and tissue engineering.
- Development of better sexual outcome tools.

Key Takeaways

- ED is common among men with strictures.
- Endoscopic surgery does not significantly worsen ED.
- Urethroplasty may cause temporary ED but rarely permanent.
- Trauma-related strictures pose the highest risk.

Summary

- Stricture disease itself is main ED driver.
- Surgery should not be avoided for fear of ED.
- Counseling and follow-up remain essential.
- More research needed on prevention and recovery.

References

1. Ji X et al., Transl Androl Urol, 2025.
2. Kaluzny A et al., Cent Eur J Urol, 2019.
3. Calleja Hermosa P et al., Transl Androl Urol, 2021.
4. Mazzone A et al., Transl Androl Urol, 2021.
5. Shalkamy O et al., BMC Urol, 2023.
6. AUA Guidelines, 2023.