

Safety and efficacy of the 980nm diode laser system (EVOLVE prostatectomy) in the treatment of bothersome LUTS from BPH

ZHUO K¹, NASSOUR AJ¹, QUAH S¹, CHALASANI V^{1,2}, RASIAH K^{1,2} and VASS J^{1,2}

1 North Shore Urology Research Group, Sydney, Australia

2 North Shore Private Hospital, Sydney, Australia



INTRODUCTION

TURP with electrocautery is the most commonly performed surgery for the management of symptomatic BPH. However, electrocautery TURP remains morbid with a short term complication rate of up to 11.1%.¹ Various laser technologies have been developed to reduce this morbidity without compromising clinical efficacy. One such technology is the Evolve prostatectomy.

AIM

To investigate the clinical efficacy and outcomes of using the 980nm diode laser (EVOLVE) in treating symptomatic BPH.

METHOD

Retrospective review:

- Adult men treated at North Shore Private Hospital with Evolve prostatectomy for BPH
- Procedure date: 01 Jan 2008 – 31 December 2020

Data collected:

- Patient demographic data
- Pre- and post-operative measurements of peak urinary flow-rate (Q_{max}), post void residuals (PVR), International Prostate Symptom Score (IPSS)
- Intra-operative and post-operative complications

RESULTS

98 patients (mean age 70.5, range 52.3-88.9) were identified.

- Mean improvement of Q_{max} post-operatively by 14.9mL/s (SD \pm 8.2mL/s, $p < 0.001$)
- Mean reduction of PVR post-operatively by 229.9mL (SD \pm 179.2mL, $p < 0.001$)
- 87 (89%) of patients had favourable improvement in IPSS categories post-operatively

Complications:

- Short term: UTI (14%), mild haematuria (15%), clot retention (2%)
- Long term: urethral stricture (2%), bladder neck contracture (4%)
- Nil peri-operative blood transfusions or emergency revision surgery

CONCLUSION

Within this cohort, EVOLVE prostatectomy has similar efficacy to electrocautery TURP with comparable complication rates, but a reduced risk of bleeding and clot retention.

Further assessment of the long term functional outcome and haemostatic properties in actively anti-coagulated patients is required.

REFERENCES

1. Teo, J. S., Lee, Y. M., & Ho, H. (2017). An update on transurethral surgery for benign prostatic obstruction. *Asian journal of urology*, 4(3), 195–198. <https://doi.org/10.1016/j.ajur.2017.06.006>