

# **Dorsal- vs ventral-onlay buccal mucosal graft urethroplasty for urethral strictures: a meta-analysis**

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## **Abstract :**

### **Objective**

To compare ventral- and dorsal-onlay buccal mucosal graft (BMG) urethroplasty in patients with urethral stricture, as the optimal placement of BMG in urethroplasty for bulbar urethral strictures remains debated.

### **Methods**

A systematic search was conducted in PubMed, Scopus, Web of Science, and Cochrane Library.

Studies comparing dorsal- and ventral-onlay BMG urethroplasty were analysed.

Pooled effect

sizes were calculated using a random-effects model. Subgroup analyses and publication bias

assessments were performed.

### **Results**

Eight studies with 655 patients were included. The success rate showed no significant difference

between the dorsal- and ventral-onlay techniques (relative risk [RR] 1.00, 95% confidence interval [CI] 0.94–1.06;  $P=0.97$ ,  $I^2=0\%$ ). The maximum urinary flow rate at 3 months (mean

difference [MD] 0.64, 95% CI 2.14 to 0.86 mL/s;  $P=0.41$ ) and 12 months (MD 0.57, 95% CI

2.00 to 0.85 mL/s;  $P=0.43$ ) was comparable. Transient erectile dysfunction (ED) was significantly lower with the ventral technique (RR 0.24, 95% CI 0.08–0.67;  $P=0.006$ ), while

permanent ED rates were similar (RR 0.57, 95% CI 0.03–12.20  $P=0.72$ ). Sensitivity analysis

confirmed robustness, and no publication bias was detected.

### **Conclusion**

Dorsal- and ventral-onlay BMG urethroplasty have similar success rates and urinary flow

outcomes. However, ventral onlay may reduce transient ED.

International Prospective Register of Systematic Reviews (PROSPERO) registration number: CRD

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### **Keywords**

buccal mucosal graft, urethroplasty, dorsal onlay, ventral onlay, urethral stricture