## SEXUAL MEDICINE

#### **EJACULATORY FUNCTION**

# Ejaculatory Disorders in Men With Urethral Stricture and Impact of Urethroplasty on the Ejaculatory Function: A Systematic Review



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#### **ABSTRACT**

Background: Urethral stricture may disturb both micturition and semen emission. Urethroplasty, despite the restoration of a proper urethral patency, may not eliminate the accompanying ejaculatory dysfunction (EjD).

Aim: To investigate the relationship among urethral stricture, urethroplasty, and ejaculatory function.

**Methods:** For the systematic review, the authors followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis statement. Internet-based bibliographic databases (PubMed and Scopus) were searched to access studies that examined the influence of urethral stricture and urethroplasty on ejaculatory function.

Outcomes: EjD accompanying urethral stricture, before and after urethroplasty, was evaluated.

Results: 20 Studies were included in the final analysis. In total, these studies comprised a population of 1,913 patients, aged between 11–86 years, 1,823 with an anterior urethral stricture and 90 with a posterior one. No randomized trials regarding the topic were found. Patients with urethral stricture typically report poor force of ejaculation, reduced ejaculatory volume, reduced pleasure, or complete failure to ejaculate. The prevalence of preoperative disorders depends on patients' age and is more severe in the older population. The pre-operative stricture length, location, and type of surgery have no statistically significant influence on post-operative EjD. In some patients, despite a successful urethral reconstruction, problems with ejaculation persist. The improvement in ejaculation after urethroplasty is observed only in younger men. The available data are inconclusive whether the separation of the bulbospongiosus muscle during urethroplasty impairs its later functionality.

Clinical Implications: Analyzing the available literature on the subject, this review provides knowledge about the possible influence of urethroplasty on ejaculatory function, which may be useful both in the pre-operative patient consultation and in the choice of treatment method.

**Strengths & Limitations:** The evidence is sufficient to determine effects on health outcomes. However, the strength of evidence is limited by the lack of randomized trials and differences in terms of methodology and analyzed populations, preclusive of conducting the meta-analysis.

Conclusion: It has not been unequivocally determined which factors related to the stricture or surgery are decisive for post-operative ejaculatory function. The improvement in ejaculation after urethroplasty is observed only in younger men. Kaluzny A, Gibas A, Matuszewski M. Ejaculatory Disorders in Men With Urethral Stricture and Impact of Urethroplasty on the Ejaculatory Function: A Systematic Review. J Sex Med 2018;15:974—981.

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Key Words: Ejaculation; Ejaculatory Dysfunction; Sexual Dysfunction; Urethral Stricture; Urethroplasty; Pelvic Fracture

#### INTRODUCTION

In the urological literature, urethral stricture is usually evaluated by its effect on micturition and related symptoms. 1,2

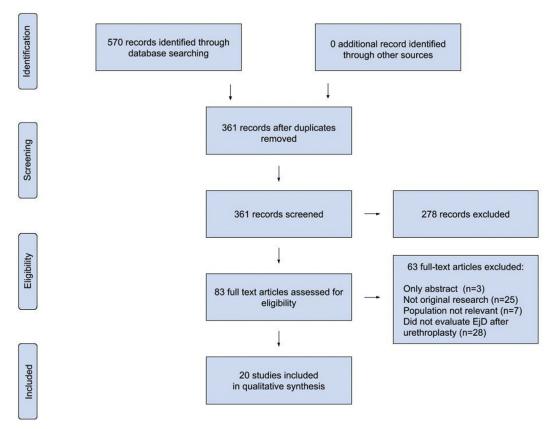
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However, this pathology also influences ejaculation, impairing semen emission, and causing pain and fertility problems, <sup>3–5</sup> and thus may significantly reduce patients' quality of life. <sup>6</sup>

Urethroplasty is the gold-standard treatment method of urethral stricture. Its efficiency is evaluated by the lack of recurrence allowing normal micturition and can reach up to 85–95% success rate.<sup>6–9</sup> Restoring acceptable urethral lumen should enable free outflow of semen as well. Unfortunately, in some cases, despite successful urethroplasty, ejaculation problems



**Figure 1.** Preferred Reporting Items for Systematic Reviews and Meta-Analysis flowchart. Figure 1 is available in color online at www.jsm. jsexmed.org.

persist. In the literature, there are few conclusive data on the relation among urethral stricture and urethroplasty and ejaculatory disorders. A reliable analysis should include complete data on the ejaculation before the stricture occurs, when it is present, and after the surgery. However, these data are difficult to collect. The purpose of this systematic review is to investigate the relationship between urethral stricture and ejaculatory function.

### DATA ACQUISITION

For the current systematic review, the authors followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement, which is an evidence-based minimum set of items for reporting in systematic reviews and meta-analyses, to ensure transparent and complete reporting. <sup>10,11</sup> It was impossible for meta-analysis to be conducted due to the diversity in the studies reporting the influence of urethral stricture or urethroplasty on ejaculation. Therefore, only a qualitative analysis was performed.

Internet-based bibliographic databases (PubMed and Scopus) were searched by 2 independent researchers to access studies that examined the influence of urethral stricture on ejaculatory function. PubMed was selected as the primary database because it provided more relevant articles. The Scopus database was also used because it is a reliable research tool for health

professionals. The process of eliminating non-relevant articles is illustrated in the flowchart below (following PRISMA guidelines) (Figure 1).

Searches on the 2 databases were originally conducted on April 10, 2017. The following search criteria were entered into the 2 databases: ["ejaculation" OR "ejaculatory function" OR "ejaculatory dysfunction" OR "sexual dysfunction" OR "sexual function"] AND ["urethroplasty" OR "urethral stricture" OR "urethral stenosis" OR "urethral distraction" OR "urethral injury" OR "urethral surgery" OR "urethral reconstruction" OR "pelvic fracture"].

PubMed provided a total of 213 abstracts, and Scopus a total of 356. After combining the 2 search findings (in total 569 abstracts), 208 duplicates were eliminated. Numerous references found in the articles—if relevant—were also incorporated into the present review.

#### Screening

Abstracts for each reference were obtained and screened using the following criteria:

Inclusion criteria:

- 1. Human study population;
- 2. Inclusion of men with anterior or posterior urethral stricture treated with urethroplasty;

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