College of Human Medicine
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Interventions for Male Stress Urinary Incontinence Following Prostate Treatment- A Review

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Introduction

- Male stress urinary incontinence (SUI) is a common complication following prostate treatment, such as the radical prostatectomy.
- This occurs due to damage of the internal sphincter (and sometimes external sphincter) muscle during prostate manipulation or removal.[2,5]
- SUI impacts quality of life, mental health, daily activities, and more.
- Treatment options range from physical therapy techniques to surgical techniques to new innovative therapies such as stem-cell injections.
- The objective of this review is to map the current primary evidence for male SUI treatment, identify the most common study types and outcomes measured, categorize/organize the data into a reference table, and serve as a comprehensive resource for patients, researchers, and providers regarding the breadth of the available evidence.
- Scoping review was chosen to fulfill the increasing need for a comprehensive examination of the literature. Manuscript written according to PRISMA-ScR guidelines.

Methods

Inclusion Criteria:
- Primary research conducted from 2010-2025, male patients only, post-prostate treatment
- Stress urinary incontinence only
- All types of treatments included
- Excluded: reviews, research prior to 2010, mixed-gender populations

Databases and search terms used:
- PubMed, Embase, Cochrane library
- Some examples of search terms include: “male stress urinary incontinence”, “AUS”, “male sling”

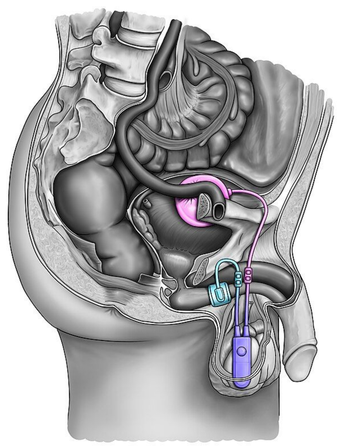
Selection and Screening
- Titles and abstracts were thoroughly read. If it fit the selection criteria, a full-text review was conducted.
- Data charted into a table (see references) based on study type, intervention, outcomes, sample size, and key findings.

Results

Overview:
- 27 studies met the inclusion criteria
- Most common study types: cohort, clinical trials, observational studies, randomized control trials
- Most evidence was found for AUS and male sling

Outcomes Measured:
- Pad tests, patient-reported scores on surveys (ICIQ-UI-SF), number of incontinence episodes, complications, QoL measures

Results/Treatment Breakdown:
- Behavioral Therapy/PFMT: 3 studies, multimodal PFMT improves outcomes [10-12]
- Pharmacologic (Duloxetine): 2 studies, mixed results and limited evidence [13,14]
- Artificial Urinary Sphincter: 3 studies, high satisfaction rates and improved quality of life, considered “gold standard” [15-17]
- Male sling: 12 studies, most evidence, 60-80% cure rate (though some lower), 70-90% satisfaction, mild-moderate SUI [18-29]
- Balloon device: 3 studies, varying success rates, higher complication rates [31-32]
- Stem-cell injections: Adipose or muscle-derived, varying improvements but small samples, short follow-up periods [33-34]
- Bulking agents: 1 study (Macroplastique) ~43% short-term success [35]
- Penile clamp: 1 study, reduced leakage, no QoL improvement [7]



Male Artificial Urinary Sphincter. Image from: “Implanted AMS 800” by Hovhannes Karapetyan, licensed under CC BY-SA 4.0, License: https://creativecommons.org/licenses/by-sa/4.0/

Conclusions

- Bulk of evidence found for the AUS and male sling
  - Also contain the strongest evidence for efficacy and quality of life improvements
- Treatments such as bulking agents, stem cell injections, and duloxetine show potential but would benefit from more studies and larger populations
  - Benefit of alternative treatments lies in their minimally invasive nature and less risk for post-surgical complications (explantation, etc)- preventing secondary operations
- Field would benefit from more standardized outcome measures

Clinical Relevance
- Amount of evidence behind a certain treatment, patient’s SUI severity, patient treatment preference, and risk of complications can guide patient and provider decision making

Limitations:
- Patient populations vary- SUI severity, age, other confounding characteristics that could affect generalizability

References

References and Summary Table can be found using the QR code or direct link:
https://tinyurl.com/yvfxzypp

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