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## Stem Cell Therapy for Erectile Dysfunction

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### Abstract

#### Introduction

The prevalence of erectile dysfunction (ED) is substantial and continues to rise. Current therapeutics for ED consist of oral medications, intracavernosal injections, vacuum erection devices, and penile implants. While such options may manage the disease state, none of these modalities, however, restore function. Stem cell therapy has been evaluated for erectile restoration in animal models. These cells have been derived from multiple tissues, have varied potential, and may function via local engraftment or paracrine signaling. Bone marrow-derived stem cells (BMSC) and adipose-derived stem cells (ASC) have both been used in these models with noteworthy effects.

#### Aim

Herein, we will review the pathophysiology of ED, animal models, current and novel stem-cell based therapeutics, clinical trials and areas for future research.

#### Methods

The relevant literature and contemporary data using keywords, "stem cells and erectile dysfunction" was reviewed.

#### Main outcome measure

Examination of evidence supporting the association between erectile dysfunction and adipose derived stem cells, bone marrow derived stem cells, placental stem cells, urine stem cells and stem cell therapy respectively.

[Penile Traction Therapy and Vacuum Erection Devices in Peyronie's Disease](#)

Avant, Ross A. et al.

Stem cells and urine-derived stem cells possess many similar properties as BMSC and ASC, but the methods of acquisition are favorable. Human clinical trials have already demonstrated successful use of stem cells for improvement of erectile function.

#### Conclusion

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[Role of Androgens in Female Genitourinary Tissue Structure and Function: Implications in the Genitourinary Syndrome of Menopause](#)  
Traish, Abdulmaged M. et al.

The future of stem cell research is constantly being evaluated, although, the evidence suggests a place for stem cells in erectile dysfunction therapeutics.

**Matz EL, Terlecki R, Zhang Y, et al. Stem Cell Therapy for Erectile Dysfunction. Sex Med Rev 2018;XX:XXX-XXX.**

Key Words:

[Impotence](#), [Regenerative Medicine](#), [Stem Cell Therapy](#), [Erectile Dysfunction](#)

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