Physiology of Penile Erection

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The physiological process of penile erection is known as tumescence. This process involves the penis becoming engorged with blood. While typically occurring in response to sexual arousal, it can also happen spontaneously. Understanding this bodily function can be helpful for various reasons, including general health education or specific discussions.

There is crucial importance of understanding the physiology of erections for clinicians and fertility experts. This knowledge is fundamental in effectively aiding patients undergoing therapy for erectile dysfunction (ED).

A comprehensive grasp of erectile physiology directly informs the development and application of appropriate medical interventions. Therefore, it stands as an essential foundational topic for anyone involved in the treatment of ED.

This article focuses on the fundamental physiology of erections, emphasizing its importance in understanding and addressing ED.

Issues of Concern

ED is a common issue that can significantly impact the quality of life for both men and their partners. The involvement of partners in the treatment of ED may be beneficial for both parties.

Our review suggests that engaging partners from the initial stages of ED treatment, particularly during treatment selection, can be highly beneficial. This approach may help foster an erotic association between the treatment and the partner, conceptually linking the aid to the sexual pleasure the partner provides. As part of this, we propose an exercise called Penis Push Down (PPD).

The primary focus of this review is on non-pharmacological and non-surgical options for maintaining sexual activity in men with ED. While these are not considered ED treatments in themselves, anecdotal evidence suggests that such options can be effective for some patients and their partners in achieving a satisfying sex life.

Anatomy
The penis is comprised of three cylindrical chambers: the paired corpora cavernosa and the corpus spongiosum. These chambers contain smooth muscle trabeculae, which play a crucial role in regulating blood flow to and from the sinusoids within these structures. This architectural arrangement is fundamental to achieving and maintaining an erection, as it allows for the sinusoids of the corpora cavernosa to fill with blood, thereby ensuring rigidity.

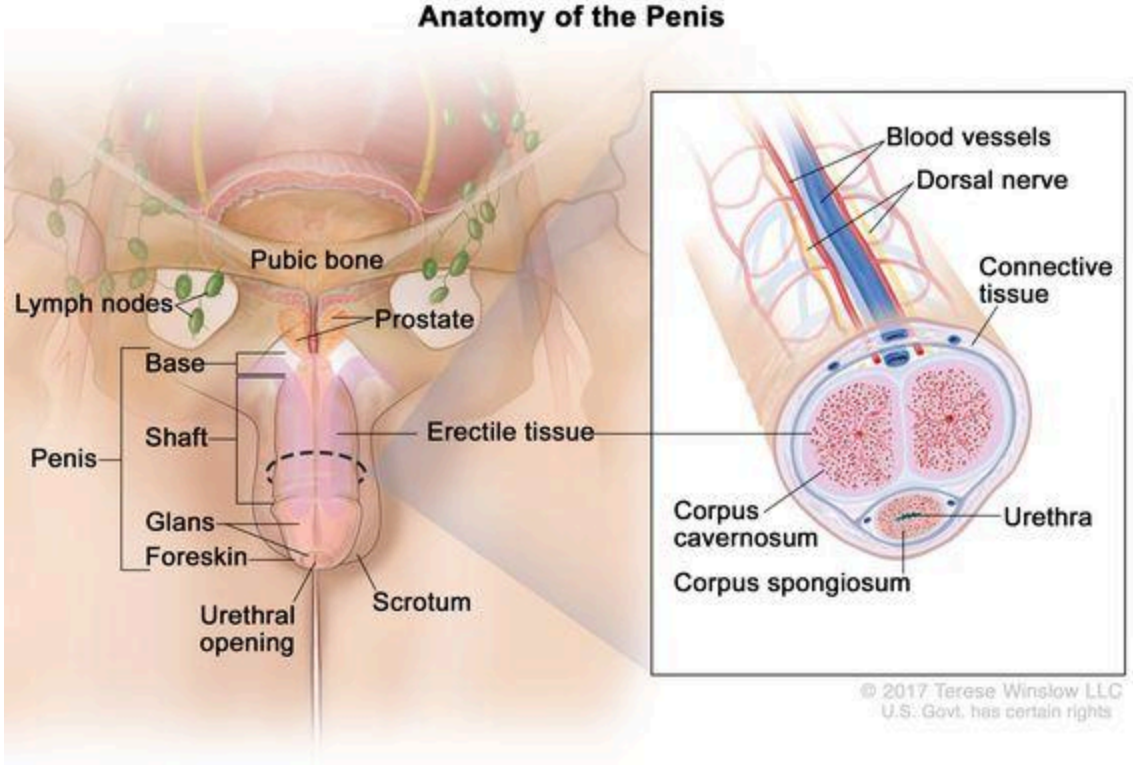
The corpora cavernosa originate proximally as two distinct crura, each enveloped by the ischiocavernosus muscle. The contraction of this muscle is significant during an erection, as it actively propels blood distally from the cavernous spaces within the crura into the main corpora cavernosa, which contributes to increased rigidity during the rigid erection phase. Similarly, the bulbospongiosus muscle, which surrounds the bulb of the penis, also enhances penile rigidity during the rigid erection phase by forcing additional blood into the penis. Beyond its role in erection, the bulbospongiosus muscle also serves to compress the urethra, facilitating the expulsion of semen during ejaculation.

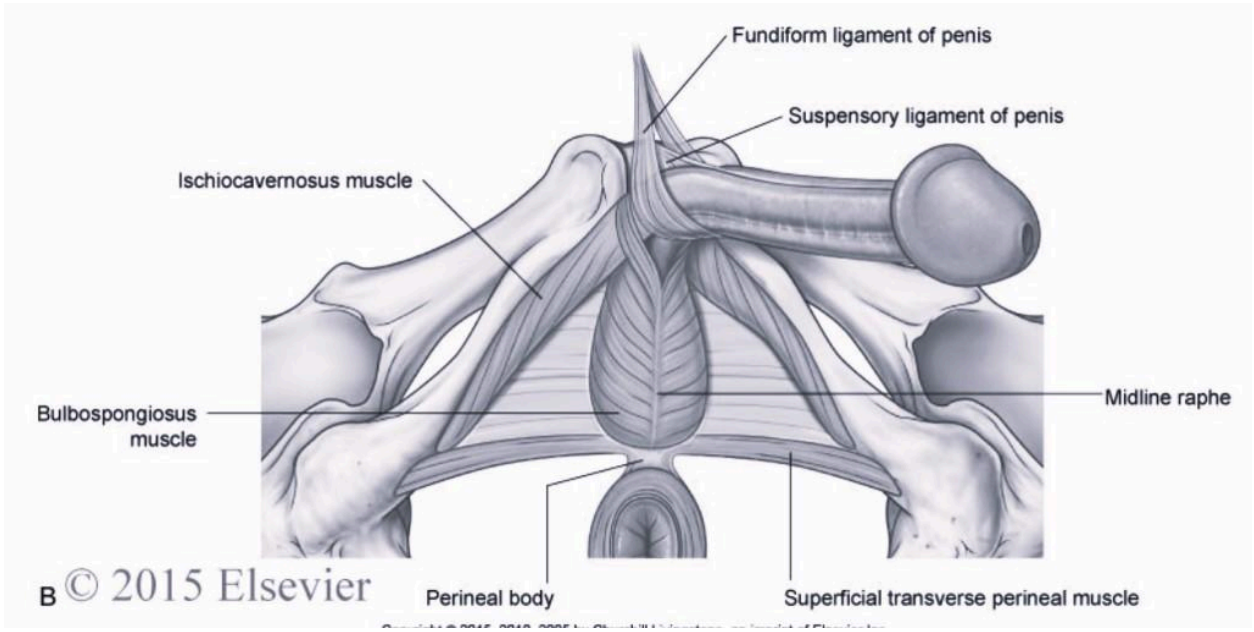
Clinical Significance
The role of specific pelvic floor muscles in male sexual function

The ischiocavernosus and bulbospongiosus muscles are crucial in this regard. The ischiocavernosus muscle is primarily responsible for increasing pressure inside the penis, which contributes to rigidity during an erection. The bulbospongiosus muscle, on the other hand, plays a key role in ejaculation by aiding in the expulsion of semen. Both muscles are located in the urogenital triangle of the perineum and are present in both sexes, although their functions are most prominent in male sexual activity. The exercise PPD, works out these two muscles, enabling harder and longer erections. The penis also is significantly larger when flaccid.

Results
It is worth noting that dysfunction in these muscles can contribute to issues such as erectile dysfunction and premature ejaculation. Research suggests that strengthening these muscles through exercise may lead to increased rigidity during erections. Furthermore, it is important to understand that the corpora cavernosa and the corpus spongiosum, the main erectile tissues of the penis, increase in size during an erection and when flaccid after the implementation of PPD.

Anatomy of the Penis





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