

A Brief Note on Pathophysiology and Treatment of Erectile Dysfunction

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EDITORIAL NOTE

Sexual dysfunction, or erectile dysfunction, is a kind of erectile problems in which the penis fails to become or stay erect during sexual activity. It is the most frequent kind of sexual dysfunction among males. Erectile dysfunction can be harmful to one's mental health because of its connection to body and sexual relationship problems.

Physical factors may be identified in roughly 80% of cases. Cardiovascular illness, diabetes, neurological disorders, such as those caused by prostatectomy, hypogonadism, and pharmacological adverse effects are among them. Psychological dysfunction, which is caused by thoughts or sentiments in around 10% of cases, has a high response to placebo therapy. Other erection disorders, such as priapism, are not categorized as erectile dysfunction.

Treatment includes treating the deeper causes, making changes in lifestyle, and dealing with psychological issues. PDE5 inhibitors (such as sildenafil) enlarge blood vessels, enabling more blood to flow through the spongy tissue of the penis, and are used as a therapy in many circumstances. Prostaglandin of pellets placed into the urethra; smooth-muscle relaxants and vasodilators injected into the penis; penile implants; penis pumps; and vascular reconstructive surgery are some of the less common therapies.

Erectile dysfunction is defined as the inability to acquire or sustain a sufficiently hard erection for sexual intercourse on a regular or repeated basis. Inability to create and sustain a penile erection of sufficient firmness to permit appropriate sexual intercourse for at least 3 months on a constant or recurring basis, according to the definition. Erectile dysfunction may have a negative impact on men's and their partner's mental health. Because of their embarrassment, many men do not seek therapy. Approximately 75% of cases of erectile dysfunction that are identified go untreated.

Pathophysiology

The reflex erection, which is obtained by physically contacting the penile shaft, and the psychogenic erection, which is

produced by sex or sexual stimuli are the two processes that control penile erection. The peripheral nerves and lower sections of the spinal cord are involved in the former, whereas the limbic system of the brain is involved in the latter. An entire neurological system is essential in both circumstances for a successful and complete erection. The neurological system stimulates the penile shaft, causing the release of Nitric Oxide (NO), which causes the smooth muscles of the corpora cavernosa (the major erectile tissue of the penis) to relax, resulting in penile erection.

For the development of a healthy erectile system, appropriate quantities of testosterone (produced by the testes) and an active pituitary gland are also essential. Impotence can develop due to hormone shortage, neurological system diseases, a lack of appropriate penile blood supply, or psychological issues, as can be seen from the processes of a normal erection. Sexual dysfunction, including ED, is caused by spinal cord damage. Blood flow restriction can be produced by reduced endothelial function as a result of the usual causes of coronary artery disease, but it can also be caused by extended exposure to bright light.

Treatment

The fundamental explanation will determine the therapy. In general, exercise, especially aerobic exercise, is useful in avoiding erectile dysfunction in middle age: Counseling can be done if the underlying reason is psychological, such as how to reduce sex-related tension or anxiety. First-line therapies include oral medications and vacuum erection devices, followed by pharmacological injections into the penis and penile implants. Certain types of people benefit from vascular reconstruction surgery. Other than surgery, treatments do not address the underlying physiological issue, although they are administered as needed before intercourse.

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