

Nitric Oxide: A Critical Key to Female Sexual Wellness

8 ways NO affects female sexual function and health

-Beth Shirley, RPh CCN

Nitric Oxide, being an important signaling molecule in vasodilation, helps improve circulation throughout the body while also playing a critical role in female sexual response and arousal — most importantly, engorgement and lubrication.

Overview

- Female Sexual Arousal Disorder (FSAD) affects up to 70% of women with at least 25% of women unable to reach an orgasm. In addition, research shows that in the US, between 25–60% of women experience some sort of sexual dysfunction.¹
- Nitric Oxide (NO) plays a critical role in female sexual wellness and in countering FSAD, as it helps ensure sufficient blood flow to the genitals.² It also acts as a neurotransmitter supporting the female arousal response, genital engorgement, lubrication, and more.
- Maintaining healthy levels of NO in the body can lead to better orgasms and overall enhanced sexual wellness.

How does Nitric Oxide impact female sexual behavior and health?

FSAD is a common medical issue that can adversely affect a woman's health, quality of life, and interpersonal relationships. Incidences increase with age — however, FSAD does not have to be an inevitable symptom of aging. Peer-reviewed medical research suggests a powerful way to treat and prevent FSAD is by improving and maintaining Nitric Oxide (NO) production in the body.


Why? Female sexual responsiveness and enjoyment require adequate blood flow to the vagina and clitoris. Nitric Oxide, being an important signaling molecule in vasodilation, helps improve circulation throughout the body while also playing a critical role in female sexual response and arousal — most importantly, engorgement and lubrication.

Although the body naturally produces NO through the Nitric Oxide Synthase (NOS) enzyme system, by the time people reach age 40, their NO production has already dropped by 50%. By age 60, it functions at around only 15%. However, it's possible to improve and maintain NO levels as people age to support their sexual wellness and overall health.

Here are eight vital ways NO influences female sexual function and wellness:

1. NO mediates functions critical for attaining and maintaining sexual excitement

Women suffer from the same type of insufficient blood flow to the genitals that causes impotence (and erectile dysfunction) in men. The female genital arousal response



happens by attaining and maintaining sufficient sexual excitement leading to genital engorgement, swelling and lubrication. All of this is mediated by Nitric Oxide.¹

2. NO controls clitoral and vaginal blood flow during sexual arousal

The endothelial Nitric Oxide synthase (eNOS) and its product, Nitric Oxide (NO), control clitoral blood flow during female sexual arousal.² In addition, the NO/cyclic guanosine monophosphate pathway is believed to have a primary role in the regulation of clitoral and vaginal blood flow, as well as smooth muscle relaxation during sexual arousal.³

3. NO is a neurotransmitter that relaxes smooth muscle, leading to better blood flow and orgasms

NO is a potent vasodilator of clitoral tissue. It functions as a non-adrenergic, non-cholinergic (NANC) neurotransmitter in the clitoral corpus cavernous and is responsible for the relaxation response of the non-vascular smooth muscle. Sexual stimulation leads to NO production and stimulates the release of Guanylate Cyclase (GC) which converts Guanosine Triphosphate (GT) to Cyclic Guanosine Monophosphate (cGMP). cGMP then relaxes smooth muscles in the clitoral corpus cavernous to increase blood flow. Improved blood flow leads to better orgasms.¹

4. NO affects the release of hormones pivotal to sexual function and behavior

Nitric Oxide affects reproductive processes both at the level of the brain and reproductive tract.⁶ NO acts as a neurotransmitter in the brain affecting the release of oxytocin⁴ and luteinizing hormone releasing hormones (LHRH) which are central in the modulation of sexual behavior. The NO released by estrogen-stimulated NO-ergic ventromedial neurons plays a crucial role in the regulation of sexual behavior.⁶

5. NO levels work hand in hand with the "love hormone" oxytocin

Oxytocin is called the "love hormone" or the "cuddle chemical." Oxytocin increases NO production through the Nitric Oxide Synthase (NOS) enzyme system and NO levels are greatly increased after orgasm. However, the NOS enzyme system functions at only 50% by the time we are 40. That's why it's important to maintain NO levels through supporting the nitrate-to-nitrite-to-NO pathway¹ (via intake of dietary nitrates through diet or supplementation).

6. NO leads to increased pleasure-enhancing lubrication

During sexual arousal, nonadrenergic/noncholinergic neurotransmitters (NANC), including NO and vasoactive intestinal peptide (VIP), impact vaginal vascular and nonvascular smooth muscle relaxation and enhancement of genital blood flow.⁷ Following sexual stimulation, NO modulates the release of 3–5 ml of vaginal transudate to enhance lubrication, which is essential for pleasurable coitus.

7. NO helps decrease anxiety, increase sexual pleasure, and enhance memory


NO is an important neurotransmitter in decreasing anxiety — which increases sexual pleasure. NO is involved in the creation of long-term memory, and studies have shown that memory and libido are connected. Other research indicates NO enhances the ability to remember sex scents (pheromones) which are intimately related to libido.¹

6. SSRIs decrease NO production, thus blocking sexual arousal and pleasure

Selective Serotonin Reuptake Inhibitors (SSRIs) inhibit Nitric Oxide Synthase (NOS), thus decreasing NO production and blocking arousal. SSRIs can produce sexual anhedonia — an absence of any feeling of pleasure from sex or even from orgasm.⁵

Conclusion

Peer-reviewed medical research suggests a powerful way to treat and perhaps even prevent FSAD is by improving and maintaining healthy levels of Nitric Oxide in the body. NO promotes



blood flow to the genitals and acts as a neurotransmitter, leading to better orgasms and overall enhanced sexual wellness.

Although NO levels naturally drop with age, supplementing with natural nitrates — such as those found in beet root, leafy greens, and supplements like Berkeley Life — can enhance the production of NO, allowing the body to bypass the dysfunctional NOS enzyme system and support healthy female sexual function as women age.⁸

Berkeley Life is based on a simple premise:

Provide a plant-based equivalency of nitrate that would be found in clinically supported beet juice and leafy greens, allowing the body to convert nitrate — at the appropriate time and at the appropriate place within the body — to NO.

Berkeley Test Strip is a patented salivary Nitric Oxide test strip.

The strips answer the question for individuals:

1. Is my diet or supplementation effective at enhancing my NO status?
2. Is my body converting nitrate to NO as well as ensuring sustained levels throughout the day?

References:

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