

OXYTOCIN: SO MUCH MORE THAN A “LOVE HORMONE”

The top chief complaints from our patients in 2020 were undoubtedly anxiety, depression and insomnia—with all three frequently presenting together. This triad of symptoms remains prevalent through 2021, and it requires immediate attention. Any number of anxiolytics, antidepressants or benzodiazepines will only delay resolution of symptoms. Instead, we must investigate the root cause. As healthcare professionals, we are taught “when we hear hoofbeats to think horses, not zebras,” yet too often we dismiss this principle. For patients presenting with one or all the aforementioned symptoms, the hormone which links the entire system together is oxytocin, and a probable cause to be considered may be oxytocin deficiency.

Multiple Functions of Oxytocin

Oxytocin is a hormone produced in the hypothalamus and secreted by the posterior lobe of the pituitary gland. It is often referred to as the “love hormone” because of its role in physical touch and intimacy, yet it serves many functions. At physiologic levels, oxytocin is important for synchronizing the body and brain to facilitate several behavioral, physiological and psychological responses. When oxytocin drops to sub-physiologic levels, it may potentiate a variety of negative factors in the social-cognitive and neuronal systems, therefore requiring oxytocin supplementation.

The physiological importance of oxytocin should be highly regarded, as its harmony with cortisol and other hormonal players of the Hypothalamic-Pituitary-Adrenal (HPA) axis are crucial to maintaining homeostatic functioning of body and brain alike. Oxytocin levels naturally decline with age, and otherwise healthy individuals may still struggle to maintain appropriate oxytocin levels due to excessive stress, social isolation, widespread exposure to environmental endocrine disruptors and modern diets high in sugar, carbs and fat.¹

Common symptoms in patients presenting with oxytocin deficiency include:

- Depression
- Anxiety
- Insomnia
- Lack of motivation for everyday activities
- Sexual dysfunction or lack of sexual desire
- Erectile dysfunction and vaginal atrophy
- Social isolation
- Inability to appropriately manage stress
- Delayed wound healing

When supplementing oxytocin to relieve symptoms of low mood—including depression, anxiety and insomnia—and to manage stress, intranasal delivery of oxytocin is often preferred as it successfully penetrates the blood-brain barrier.²


Intranasal Oxytocin: How and Why It Works

In the brain, oxytocin is primarily localized within the nerve fibers,³ which supports its role in blocking

HOW TO ORDER

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NEED SUPPLIES?

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Physicians Preference Pharmacy standards are more stringent than those of the United States Pharmacopeia (USP). In addition to onsite weight testing, we send multiple samples per week to an outside laboratory for potency testing. Physicians Preference Pharmacy ranks first in Houston for the number of samples sent for potency testing and in the top 8% of pharmacies nationwide.

Physicians Preference Pharmacy is a Houston-based, PCAB-accredited compounding pharmacy serving physicians and patients since 2001. We are licensed to work with doctors and ship to patients in all 50 states.

fear and anxiety and managing stress. Oxytocin regulates the stress response pathway⁴ by positively impacting serotonin levels to improve mood and by attenuating Corticotropin Releasing Hormone (CRH) to reduce stress. CRH, which acts on the anterior pituitary to release Adrenocorticotrophic Stimulating Hormone (ACTH), and eventually cortisol, may result in unintentionally elevated cortisol and adrenal burnout for a patient under chronic stress.⁵

When cortisol remains elevated for long periods of time, it can negatively impact one's mental and physical health including memory, sleep, mood and the immune system.⁶

Oxytocin works in tandem with cortisol to lower the release of CRH and ACTH, therefore bringing cortisol and the stress response into balance and returning a chronically stressed individual back to homeostasis.

Oxytocin also acts on the sympathetic nervous system (SNS) and the parasympathetic nervous system (PNS). More specifically, it increases PNS activity and decreases SNS activity. In individuals with anxiety, the SNS and HPA Axis are frequently in overdrive, resulting in common symptoms such as increased heart rate, insomnia, shortness of breath, excessive worry and restlessness. Hence, by activating the oxytocin

pathway, the activity of the SNS and the HPA Axis decreases⁷ and the stress response is lowered. This allows the body to shift from "fight or flight" survival mode to a state of rest and repair.

How Do I Dose Intranasal Oxytocin?

More is not always better when it comes to dosing oxytocin, especially for improvement of mood and mental health, as once daily dosing has shown optimal results for several indications.⁹

At Physicians Preference Pharmacy, compounded oxytocin intranasal spray is available in **12 units/spray** and **16 units/spray**.

Similar to other hormones, oxytocin is part of an intricate feedback system and when administered intranasally, it signals further release of oxytocin throughout the brain and body. Oxytocin-rich neurons are in close proximity to the olfactory lobe¹⁰ near the site of administration, making intranasal delivery preferred for social-cognitive¹¹ and neural indications.¹² Because intranasal oxytocin is delivered directly to the site of action, its effects are localized and adverse events minimal—demonstrating an attractive profile for both safety and efficacy.^{13,14}

Physicians Preference Pharmacy compounds oxytocin as an intranasal spray or sublingual tablets depending on the use. To request a prescription for oxytocin intranasal spray or to inquire about any of our other compounded oxytocin products, please call the pharmacy at **281.828.9088**.

DOSING AND ADMINISTRATION:

Use	Dosing
Depression Anxiety Social Isolation	16-24 units IN once to twice daily, alternate nostrils *Once daily dosing shows optimal results
Insomnia	24 units IN once daily at bedtime, alternate nostrils
Stress Management Adrenal Burnout PTSD	24 units IN once daily, alternate nostrils *Use up to 60 units IN daily for PTSD
Chronic Pain	24 units IN one to two times daily, alternate nostrils

IMPORTANT NOTES ON OXYTOCIN INTRANASAL SPRAY

- Oxytocin intranasal spray is dispensed in 8 ml bottles.
- Each 8 ml bottle contains approximately 60 sprays.
- Oxytocin intranasal spray must be stored in the refrigerator upon receipt.
- Due to the beyond-use date of this product, patients will receive one month at a time.

CONTRAINDICATIONS AND PRECAUTIONS (based on common exclusion criteria in oxytocin studies)

- Concurrent use with naltrexone (due to competitive binding at the receptor site)
- Pregnancy
- Hypertonic or hyperactive uterus
- BPH, prostate or uterine cancer (due to upregulation of oxytocin receptors seen in hyperplasia)