

## News from Good Life

At Good Life Pharmacies, we care about our patients and want to provide you with quality information about your health. If you ever have questions or would like more information, please feel free to ask. We look forward to caring for you and your family.



Sincerely,  
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## Oxytocin Therapy

Oxytocin is a hormone produced in the hypothalamus and released by the pituitary gland. The understanding of oxytocin's function has expanded dramatically to reveal a complex neuromodulator with the capacity to modify human social behavior ranging from bonding and sexual activity to autism and addiction. Oxytocin induces a general sense of well-being including calm, improved social interactions, increased trust, and reduced fear as well as endocrine and physiological changes. Therefore, in addition to known uses in childbirth and lactation, oxytocin has the potential to enhance interpersonal relationships and individual well-being, with applications in disorders characterized by persistent fear, repetitive behavior, reduced trust and avoidance of social interactions.<sup>1</sup>



### **Male Sexual Function**

MacDonald and Feifel of the University of California, San Diego Medical Center Department of Psychiatry, published a case report on a male treated with a course of intranasal oxytocin treatment for social anxiety. The patient had significant, broad-spectrum improvements in sexual function, including libido, erection, and orgasm, and oxytocin was well tolerated.<sup>2</sup> Also, another report presented the case of a male with treatment-resistant anorgasmia who was successfully treated with administration of intranasal oxytocin. Oxytocin was effective in restoring ejaculation.<sup>3</sup>

## ***Autism Spectrum Disorder***

The three core deficits of ASD are social communication, repetitive behavior, and fixated or restricted interest.<sup>4</sup> Studies have shown that blood levels of oxytocin are lower in children with ASD. In a randomized, double-blind, placebo-controlled crossover study, a total of 32 individuals, 16 with ASD and 16 matched control participants, were given either intranasal oxytocin or placebo on their first study visit. They were given the alternate solution on a subsequent visit 2 weeks later. The mean age of the study group was 13 years, and all participants were male. Based on the results of this study, intranasal administration of oxytocin appears to normalize the core deficits in ASD.<sup>5</sup>

## ***Migraine***

A single-dose, placebo-controlled, double-blind study found intranasal oxytocin to be highly effective in the management of chronic migraine. Forty patients with chronic migraine received a dose of intranasal oxytocin and were asked to rate their pain, nausea, photophobia, and phonophobia. From 2 to 4 hours, 64% of the patients who received the agent reported a reduction in pain either from "severe to mild or none," or from "moderate to none", compared with only 27% of patients who received a placebo.<sup>6</sup>

The intranasal method of delivery bypasses the blood-brain barrier and directly accesses the trigeminal system that is involved in chronic migraine, accessing and concentrating the oxytocin in receptor-rich areas, thereby decreasing pain-evoked neural activity and head pain.

## ***PTSD***

Posttraumatic stress disorder (PTSD) is a debilitating psychiatric disorder which develops in approximately 10% of trauma-exposed individuals. Currently, there are few early preventive interventions available for PTSD. Intranasal oxytocin administration early posttrauma may prevent PTSD symptom development, as oxytocin administration was previously found to beneficially impact neurobiological (e.g. amygdala reactivity) and socio-emotional PTSD vulnerability factors. A multicenter randomized, double-blind, placebo-controlled clinical trial (BONDS study) included 107 patients and showed that repeated intranasal oxytocin administration early post-trauma reduced subsequent PTSD symptom development in recently trauma-exposed emergency department patients with high acute PTSD symptoms.<sup>7</sup>

## ***Weight Loss***

Oxytocin can be considered an anorexigenic peptide. Lack of oxytocin leads to the development of obesity in humans.<sup>8</sup> Oxytocin treatment is more effective in food intake regulation and fat mass decline for individuals with leptin resistance and higher body weight.<sup>9</sup>

## ***Addiction/Substance Use Disorders***

There is growing interest in the use of oxytocin as a potential treatment for

alcohol and other substance-use disorders. Oxytocin is a neuropeptide that modulates adaptive processes associated with addiction including reward, tolerance, associative learning, memory, and stress responses. oxytocin exerts its effects through interactions with the hypothalamic-pituitary-adrenal (HPA) axis and multiple neurotransmitter systems including the dopamine mesolimbic reward and corticotrophin-releasing factor stress systems. The effects of oxytocin on stress systems are of high interest, given the strong link between stress, drug use and relapse, and known dysregulation of hypothalamic-pituitary-adrenal axis activity associated with substance-use disorders. At the same time, the oxytocin system is itself altered by acute or chronic drug exposure. A review conducted by Johns Hopkins University School of Medicine summarizes the preclinical and clinical literature on the oxytocin system and its relevance to drug and alcohol addiction. In addition, findings from recent clinical trials conducted in participants with cocaine, cannabis, or alcohol use disorder are included. Evidence is summarized, noting that oxytocin may help to normalize blunted stress responses, and attenuate hypercortisolism associated with withdrawal, negative mood, and withdrawal symptoms.<sup>10</sup>

### ***Lack of Adverse Reactions***

A systematic review of 38 randomized controlled trials conducted between 1990 and 2010 investigated the central effects and adverse effects associated with intranasal oxytocin. The trials included 1529 subjects (79% male) who received intranasal oxytocin, in dosages from 18 to 40 IU, mainly given in single doses but ranging up to 182 administrations. Side effects are not different between oxytocin and placebo but three cases of adverse reactions were reported due to misuse and longer-term use of intranasal oxytocin.<sup>11</sup>

Oxytocin is subject to degradation in the gastrointestinal tract and therefore has traditionally been administered by injection instead of orally. Our pharmacy can compound oxytocin by prescription as a nasal spray, troche, sublingual dosage form, or vaginal cream or gel, to facilitate convenient administration.

### ***References***

- <sup>1</sup> **J Affect Disord. 2011 Apr;130(1-2):1-9.**
- <sup>2</sup> **J Sex Med. 2012 May;9(5):1407-10.**
- <sup>3</sup> **J Sex Med. 2008 Apr;5(4):1022-4.**
- <sup>4</sup> **BMC Psychiatry. 2012; 12: 110. Published online 2012 August 13.**
- <sup>5</sup> **12th Annual International Meeting for Autism Research (IMFAR). Abstract 122.007. Presented May 3, 2013.**
- <sup>6</sup> **2013 International Headache Congress. Abstract P59.**
- <sup>7</sup> **Eur J Psychotraumatol. 2017 Apr 11;8(1):1302652.**
- <sup>8</sup> **Front Endocrinol (Lausanne). 2015; 6: 119.**
- <sup>9</sup> **Neuroendocrinology. 2018;107(1):91-104.**
- <sup>10</sup> **Behav Pharmacol. 2016 Dec;27(8):640-648.**
- <sup>11</sup> **Psychoneuroendocrinology. 2011 Sep;36(8):1114-26.**

***Your questions are welcome.***

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