***What if** an already well-known FDA approved drug, given in much smaller doses, could have a profound effect on multiple chronic conditions?*

Low-Dose Naltrexone "LDN"

Flourish
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CALL OUR PHARMACISTS FOR MORE INFORMATION

Naltrexone is not a new drug, but when used off-label at low doses, trials and studies have shown it to be of therapeutic benefit to a wide range of conditions including: autoimmune diseases, gastrointestinal disorders, chronic pain, mental health challenges and inflammation.

In recent years, there has been a growing amount of evidence that the body's endorphins (naturally occurring opioids) have a critical role in regulating and enhancing the immune system and providing pain relief. LDN's blockade of opioid receptors has been shown to increase endorphin production. Additionally, LDN's blockade of Toll-like receptors is believed to contribute to the anti-inflammatory and immune dampening effects.

Optimal dosing is ultimately patient specific and various dosing protocols exist. Some patients find success quickly, while others need to try a variety of dosing strategies.

LDN is currently only available by prescription from compounding pharmacies such as Flourish Pharmacy.

What is Low Dose Naltrexone (LDN)?

In 1984 Naltrexone was approved in the USA by the FDA for the treatment of opioid and alcohol addiction at the standard dose of 50mg to 100mg per day. LDN utlizes doses typically ranging from 0.5mg to 9mg daily, while most of the research studies for LDN have used 4.5mg per day.

Will my provider know about this?

Most medical professionals are familiar with naltrexone's usage for addictions and have not considered using it for other indications, thus may not be aware of its potential benefit. Also, since LDN is a cost effective medication, drug companies are not funding large studies or sending sales forces to visit providers. You can bring this information to your health care practitioner for them to decide if LDN is right for you.

How Does LDN Work?

- **Increases levels of endogenous endorphin production**
  which promotes healing, regulates cell growth and immunity, and reduces inflammation.
- **Intermittently blocks the opiate receptor**
  which increases production of OGF and OGFr through rebound effect.
- **Blocks Toll-like receptors (TLF) signaling**
  which decreases glial cell activation, cytokines, and neuroinflammation.
- **Blocks release of proinflammatory cytokines**
  including Interleukins IL6, IL12, TNFa and NF-kB

Treatment is constantly evolving, with new conditions and methods of treatment being shared regularly. Potential Clinical Uses & Trials for LDN:

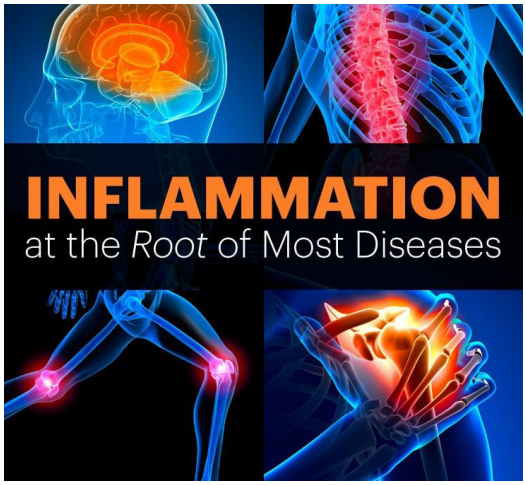
Alopecia areata
Amyotrophic lateral sclerosis (ALS)
Anxiety & depression
Atopic allergy
Atopic dermatitis
Autoimmune disorders
Chronic fatigue syndrome (CFS)
Chronic pain
Complex regional pain syndrome (RSD)
CREST syndrome
Crohn's disease
Diabetic neuropathy
Discoid lupus erythematosus
Eczema
Ehlers-danlos syndrome
Erythrodermic psoriasis
Fibromyalgia
Hailey-hailey disease
Inflammatory bowel disease
Irritable bowel syndrome
Lichen planus
Lupus
Multiple sclerosis (MS)
Obsessive compulsive disorder (OCD)
Parkinson's disease
Pemphigoid
Post-traumatic stress disorder (PTSD)
Psoriasis
Psoriatic arthritis
Restless leg syndrome
Rheumatoid arthritis
Sarcoidosis
Scleroderma
Thyroid disorders
Transverse myelitis
Ulcerative colitis

Starting doses typically range from 0.5mg to 1.5mg and are titrated up to each patient's optimal dose over several weeks.

What to expect from LDN?

The main goal of LDN therapy is to slow or halt the progression of disease and provide symptom relief. LDN may take anywhere from a few weeks to many months to elicit a full response. Some users have a rapid improvement in symptoms while others may take months.

Since LDN is reported to increase endorphins (morphine like substances produced by the body) an expected result is a feeling of well being. Human trials have demonstrated improvement in mood and in quality-of-life scores. This feeling helps lower stress, reduce depression, and increase healing. This is especially true for conditions where stress can lead to exacerbations.



Prescribing Information:

A common practice is to prescribe LDN at 1.5mg at bedtime for 7-14 days, then 3mg at bedtime for 7-14 days, then 4.5mg at bedtime Thereafter.

Optimal dosing is patient specific and not every patient will start at or maintain the same dose or dosing titration schedule.

It is recommended that LDN is administered at bedtime on an empty stomach

Studies, Trials, & Articles Supporting the use of LDN

...for Crohn's Disease

Smith et al: Low-Dose Naltrexone Therapy Improves Active Crohn's Disease. Am J Gastroenterol 2007 Apr;102(4):820-8. Penn State Medical School PMID: 17222320

Smith et al: Therapy with the Opioid Antagonist Naltrexone Promotes Mucosal Healing in Active Crohn's Disease: A Randomized Placebo-Controlled Trial. Dig Dis Sci. 2011 Mar 8. Penn State Medical School PMID: 21380937

Smith et al: Safety and Tolerability of Low-dose Naltrexone Therapy in Children With Moderate to Severe Crohn's Disease. J Clin Gastroenterol. 2012 Nov 21. PMID: 23188075

...for Inflammatory Bowel Disease

Mitchell et al: LDN for Induction of Remission in Inflammatory Bowel Disease Patients Journal of Translational Medicine 9 March 2018 16:55. Erasmus University Medical Centre, Rotterdam, The Netherlands PMID: 29523156

Rakness et al: Corrigendum: The Effect of Low-Dose Naltrexone on Medication in Inflammatory Bowel Disease: A Quasi Experimental Before-and-After Prescription Database Study. J Crohns Colitis. 2019 Dec 10;13(12):1588-1589. PMID: 31499520

Kariv et al: Low-dose naltreoxone for the treatment of irritable bowel syndrome: a pilot study. Dig Dis Sci. 2006 Dec;51(12):2128-33. PMID: 17080248

...for Alopecia

Tortelly et al: Low-dose naltrexone: a novel adjunctive treatment in symptomatic alopecias? Dermatol Online J. 2019 Aug 15;25(8):13030/qt6j45h81f. PMID: 31553867.

...for Psoriasis

Monasterio: Low-dose Naltrexone: An Alternative Treatment for Erythrodermic Psoriasis. Cureus. 2019 Jan 23;11(1):e3943. doi: 10.7759/cureus.3943. PMID: 30937241; PMCID: PMC6433456.

Bridgeman et al: Treatment of psoriasis vulgaris using low-dose naltrexone JAAD Case Rep. 2018 Sep; 4(8): 827–829.

...for Pruritus (itching)

Bigliardi et al: Treatment of pruritus with topically applied opiate receptor antagonist. J Am Acad Dermatol. 2007 Jun;56(6):979-88. doi: 10.1016/j.jaad.2007.01.007. PMID: 17320241.

Metze et al: Efficacy and safety of naltrexone, an oral opiate receptor antagonist, in the treatment of pruritus in internal and dermatological diseases. J Am Acad Dermatol. 1999 Oct;41(4):533-9. PMID: 10495371.

Brune et al: Antipruritic therapy with the oral opioid receptor antagonist naltrexone. Hautarzt. 2004 Dec;55(12):1130-6. German. doi: 10.1007/s00105-004-0802-8. PMID: 15517116.

Lee et al: Clinical Efficacy and Safety of Naltrexone Combination Therapy in Older Patients with Severe Pruritus Ann Dermatol Vol. 28, No. 2, 2016

Obrocea: Efficacy of low dose naltrexone for patients that suffer from comorbid depressive disease. UCLA Case Report/Series/Retrospective Study October 01, 2012

...for Chronic Pain

Tolijan et al: Low-Dose Naltrexone (LDN)-Review of Therapeutic Utilization Med Sci (Basel) 2018 Sep 21;6(4):82. doi: 10.3390/medsci6040082.

Chopra et al: Treatment of Complex Regional Pain Syndrome (CRPS) using low dose naltrexone (LDN) J Neuroimmune Pharmacol. 2013 Jun;8(3):470-6. doi: 10.1007/s11481-013-9451-y. Epub 2013 Apr 2.

Kim et al: Low-Dose Naltrexone for Chronic Pain: Update and Systemic Review. Curr Pain Headache Rep. 2020 Aug 26;24(10):64. doi: 10.1007/s11916-020-00898-0.

Rakness et al: Low-dose naltrexone and opioid consumption: a drug utilization cohort study based on data from the Norwegian prescription database Pharmacoepidemiol Drug Saf. 2017 Jun;26(6):685-693. doi: 10.1002/pds.4201. Epub 2017 Mar 29.

Hota et al: Off-Label, Low-Dose Naltrexone for Refractory Painful Diabetic Neuropathy Pain Med. 2016 Apr;17(4):790-1. doi: 10.1093/pm/pnv009. Epub 2015 Dec 7.

Ghai et al: Off-Label, Low-Dose Naltrexone for Refractory Chronic Low Back Pain. Pain Medicine, Volume 15, Issue 5, May 2014, Pages 883–884

...for Multiple Sclerosis

Cree et al: Naltrexone and Quality of Life in Multiple Sclerosis. Annals of Neurology. February 2010(1) 1-18.

Gironi et al: A pilot trial of low-dose naltrexone in primary progressive multiple sclerosis. Multiple Sclerosis. 2008 Sep;14(8):1076-83.

...for Fibromyalgia

Younger et al: Fibromyalgia Symptoms are Reduced by Low-Dose Naltrexone: Pain Medicine 2009 (10):663-72.

Younger et al: Low-dose naltrexone for the treatment of fibromyalgia: Findings of a small, randomized, double-blind, placebo-controlled, counterbalanced, crossover trial assessing daily pain levels Arthritis & Rheumatism Volume 65, Issue 2, pages 529–538, February 2013

...for Autoimmune Conditions

Zashin: Sjogren's Syndrome and Clinical Benefits of Low-Dose Naltrexone Therapy: Additional Case Reports Cureus. 2020 Jul 1;12(7):e8948. doi: 10.7759/cureus.8948.

Frech et al: Low-dose naltrexone for pruritus in systemic sclerosis Int J Rheumatol. 2011;2011:804296. doi: 10.1155/2011/804296. Epub 2011 Sep 12.

...for Inflammation and Pain

Younger et al: The Use of Low-Dose Naltrexone (LDN) as a Novel Anti-Inflammatory Treatment for Chronic Pain. Clinical Rheumatology (2014) 33:451-459.

...for Depression & Quality of Life

Mischoulin et al: For Patients with Breakthrough Depression of Major Depressive Disorder (MDD) on Antidepressants. Journal of Affective Disorders 208 (2017) 6-17.
Harvard Medical School

Brown et al: Low-dose naltrexone for disease prevention and quality of life. Med Hypotheses. 2009 Mar;72(3):333-7. doi: 10.1016/j.mehy.2008.06.048. Epub 2008 Nov 28. PMID: 19041189.