



LDN Low Dose Naltrexone

Naltrexone has been FDA approved for over 30 years for alcohol and opioid dependence and was later proven successful in reducing appetite and cravings in those with obesity. Though this was in regular doses between 50-200 mg.

Low dose naltrexone is typically given doses less than or equal to 10 mg. When naltrexone is used in a lower dose it has shown to improve the immune system response and increased production of endorphins. Increased endorphins can improve a person's sense of well-being, decrease pain, and stimulate the immune system by increasing production of T lymphocytes.

LDN is a pure inhibitor with no narcotic effect. The chemical structure is almost identical to endorphins that we make naturally known as Opioid Growth Factor or OGF.

How It All Began

In the early 1980's Dr. Ian Zagon and Dr. Patricia McLachlan at Penn State University were researching the effects of LDN. By the mid-1980's Dr. Bernard Bihari pioneered the use of LDN in his clinical practice using it to treat HIV in his patients. Dr. Bihari was a Harvard trained physician specializing in psychiatry, neurology, and internal medicine. While running the New York State health department, he was aware of the promising research and began using Low Dose Naltrexone with his patients to address their opioid addictions. Dr. Bihari noticed other positive effects once the patient began weaning off the Naltrexone noting a noticeable improvement in various other conditions and symptoms experienced by these patients.

Immunomodulatory Response

The left-handed version of naltrexone (l-naltrexone) blocks the opiate/endorphin receptors. This causes an increase in endorphin release which modulates the immune response. This reduces the speed of unwanted cells growing. The right-handed version of naltrexone (dextro-naltrexone) blocks receptors on immune cells. LDN blocks Toll-like Receptors (TLR) which suppress cytokines in the immune system. It also reduces NF- κ B in the body which reduces overall inflammation and potentially downregulates oncogenes (cancer promoting genes). Taking naltrexone in doses of 50-300 mg negates the immunomodulatory effect. The recommended range to see the optimal immunomodulatory effects is from 0.5 mg to 4.5 mg.. Therefore, typically LDN is used for immunomodulation.

Less Is More In Dosing

Typically treatment is started at a low dose and increased gradually over a period of weeks until the goal dose is achieved. Doses can start at 0.5 mg to 1.5 mg and increase up to 4.5 mg.

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Contraindications

LDN is compatible with most other medications, supplements, and herbs. It can negate the effect of opioid-based pain killer medications like codeine, tramadol, morphine, fentanyl, or oxycodone. Do not use this

medication if you are pregnant or breastfeeding. No chemotherapy agents are currently contraindicated; however, LDN should not be taken with immune checkpoint inhibitors (Opdivo or Keytruda - PD1 inhibitors).

Side Effects

LDN is typically well tolerated in most patients. It is important to titrate up slowly with dosing to avoid side effects. Common side effects include sleep disturbance, mild headache, and mild nausea/GI effects.

Uncommon side effects include flu-like symptoms, rash, dizziness, increased fatigue, or Herxheimer reactions.

Side effects typically occur when starting the medication and decrease over the next 2-3 weeks.

Low-dose naltrexone is not readily covered by insurance plans but it typically is an affordable prescription obtained through a local compounding pharmacy.

What Conditions Can Benefit From LDN?

- Addison's disease
- Alopecia
- Anxiety/Depression
- Arthritis
- Asthma
- Atopic allergy/dermatitis
- Autoimmune cardiomyopathy
- Autoimmune hepatitis/pancreatitis
- Cancer
- Celiac disease
- CFS/ME
- Chronic low back pain
- Chronic viral infection
- Complex Regional Pain Syndrome/RSD
- Diabetes mellitus type 1
- Discoid lupus erythematosus
- Eczema/Psoriasis
- Fibromyalgia
- Gastritis
- Gluten sensitivity
- Graves' disease
- Gut dysbiosis
- Hashimoto's thyroiditis
- Herpes Hypothalamic
- Dysfunction
- Hypothyroidism
- Inflammatory bowel disease (IBD)
 - Ulcerative colitis, (UC)/Crohn's disease
 - Irritable bowel syndrome (IBS)
- Lyme disease
- Mast Cell Activation Syndrome (MCAS)
- Migraines
- Multiple Sclerosis
- Myasthenia gravis
- Narcolepsy
- Neuropathic Conditions- Neuropathy (Nerve Pain)
- Obsessive Compulsive Disorder (OCD)
- Parkinson's Disease
- Panic Disorders
- Polycystic Ovary Syndrome (PCOS)
- Premenstrual Dysphoric Disorder (PMDD)
- PTSD
- Scleroderma
- Sjögren's syndrome
- Sleep disturbances/Vivid dreaming
- Small intestinal bacterial overgrowth (SIBO)
- Stress
- TBI
- Thyroiditis
- Vitiligo

LDN Helps A Wide Range of Conditions

- *Cardiac disease*
- *Chronic pain*
- *Dermatologic disease*
- *Ears/Nose/Throat*
- *Endocrine Disorders*
- *Gastrointestinal Disease*
- *Hematologic/Bone marrow disease*
- *Hepatology (Liver)*
- *Immunology*
- *Infectious Diseases*
- *Malignancies/Cancers*
- *Ocular (eye) diseases*