



Easton Bryant, PharmD

LOW-DOSE NALTREXONE

BASIC INFORMATION SHEET

Efficacy Demonstrated In: RA, psoriatic arthritis, MS, Lupus, IBD, CFS, Fibromyalgia, Neuropathic Pain, Osteoarthritis, Thyroid Disorders, RLS, Depression, Autism Spectrum Disorder, Cancer, Asthma, Allergies... More than 180 conditions in all.

Suggested Initiation Regimen for Majority of Indications

- 1.5mg QHS for 14 days, increasing to 3mg as tolerated
 - Many studies have been conducted using a daily maintenance dose of 4.5mg, often considered optimal dosage.

LDN Mechanisms of Action

- Many outward diseases are expressions of inflammation and a malfunctioning immune system.
- It has been confirmed beyond doubt that the endorphin/opioid system is involved in almost every biological system that regulates immune response.
- At these low doses, naltrexone (an opioid antagonist) only binds to opioid receptors for around six hours, leading to up-regulation in endorphins, which can correct immune system malfunctions.
 - Nighttime dosing allows the available endorphins to bind to receptors throughout the day.
- Cell proliferation can be suppressed by a subtype of endorphins. Efficacy has been demonstrated in some cancers including melanoma, lung cancer, pancreatic cancer, renal cell cancer, prostate cancer, and lymphomas, among others.
- Endorphins are not the whole picture, as naltrexone binds to more than just opiate receptors.
 - Levo-Naltrexone antagonizes opiate-binding receptors; Dextro-Naltrexone antagonizes TLR-4-binding receptors
 - These are present as a racemic mixture (50/50 isomers).
- TLRs (toll-like receptors) appear to have the role of recognizing an intruder, then starting the signaling pathway to trigger a response.
 - Generally, activation of a TLR leads to production of pro-inflammatory cytokines which mobilize the immune system to send WBCs to intruder, or instruct cells infected by viruses to die. Naltrexone is a potent antagonist of the TLR pathway.
- LDN can contribute to repair of the gut lining and improve nutrient absorption.

Side Effects

- Nightmares during initial phase - Switch to AM dosing if necessary
- GI disturbances for up to two weeks - Supplement with fiber
- Headache during initial phase - Typically self-resolving
- Flu-like symptoms (most commonly in CFS patients) - Start at lower mg dose and build
- If side effects are troublesome, reducing the dose by 50% for seven days and increasing again is recommended.

FAQs

- *How safe is LDN?* Safety is presumed due to the markedly decreased dosage compared to the previous well-designed studies. Naltrexone is FDA-approved, non-controlled, and available commercially in a 50mg strength.
- *What about clinical trials?* Some trials have been conducted, but double-blind crossover, placebo-controlled studies are very expensive. Naltrexone has been on the market for decades and is relatively inexpensive, so there is no big pharma funding for these trials. Additionally, LDN has demonstrated efficacy for many indications, and executing large trials for every condition is simply not possible.
- *How long does it take to work?* In many conditions, patients will see a positive change in 8-10 weeks. This is dependent on the indication and the mechanism of action by which LDN is exerting its effect, however. Ultimately, the answer to this question is that the range is large, spanning from only a few days to several months. Many practitioners advise their patients to remain on LDN indefinitely because of the favorable risk:benefit ratio.
- *Who should avoid LDN?* Patients taking opiates should only use LDN under close supervision, though ultra-low doses have been used without issue. If an LDN patient is having a procedure, it is advised to be conservative and refrain from LDN for 7 days, and to use tramadol for post-operation pain.
- *How much does it cost?* Once patients reach a maintenance dose, they can expect to invest only \$20/month.
0.5mg-4.5mg Compounded Capsules: #30/\$30; #60/\$45; #90/\$60

Ready for a deeper dive?

- *The LDN Book: How a Little-Known Generic Drug - Low Dose Naltrexone - Could Revolutionize Treatment for Autoimmune Diseases, Cancer, Autism, Depression, and More*
- www.ldnresearchtrust.org
- Call me anytime at 270-380-1230 or reach out via www.northcenturypharmacy.com.