

Low Dose Naltrexone (LDN)

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Recently, there has been some renewed interest in an old drug, Naltrexone. If you look up the original use of Naltrexone you will find that it was first marketed to aid patients suffering from opioid dependence or abuse. Marketed under the trade name, Revia, it is available commercially in 50 mg tablets to be taken on a daily basis.

Naltrexone binds to the same receptors as opioid pain medication such as Hydrocodone, Morphine, or Oxycodone. However, Naltrexone does not provide the same euphoric feeling that patients typically experience with opioids. Instead **Naltrexone is an opioid antagonist, which means it binds to the same receptor and blocks the opioid from binding, and therefore blocks the effect of the opioid.**

However, the benefit of Low Dose Naltrexone is entirely independent of its better known activity on opioid receptors.

What does Low Dose Naltrexone (LDN) treat?

Currently Low Dose Naltrexone is being used for a wide array of disorders and diseases. Many, such as lupus have an autoimmune connection. Although several studies have shown benefit of using Low Dose Naltrexone, more research is needed to assess its potential benefit in other disorders. Here is a non-exhaustive list of disease states that have been treated with Low Dose Naltrexone.

Lupus

Fibromyalgia

Crohn's Disease

Multiple Sclerosis (MS)

Complex Regional Pain Syndrome

Parkinson's Disease

Thyroid Disease

How does Low Dose Naltrexone (LDN) work?

Low dose Naltrexone is being described as a glial cell modulator when used in the management of chronic pain disorders. Glial cells are non-neuron (nerve) cells that help support and protect neurons by forming myelin (protective sheath that covers nerve cells). A specific type of glial cell called microglia act as part of the immune system in the brain and spinal cord, therefore microglia act as the first line of defense against auto-immune disorders.

It is thought that Naltrexone binds to these glial cells and keeps them from becoming activated. Blocking this activation blocks the inflammatory response generated by microglia activation. This theory on the mechanism of Low Dose Naltrexone accounts for the wide variety of disorders that can potentially be treated with LDN.

What dose of Low Dose Naltrexone (LDN) is best?

The most commonly accepted dose is 4.5 mg of Naltrexone taken daily at bedtime. To help decrease the occurrence of side effects, a physician may “step” the patient up to 4.5 mg over the course of several days up to several weeks. This is commonly done by starting the patient on 1.5 mg of Naltrexone daily for 1 to 2 weeks. The patient is then stepped up to 3 mg of Naltrexone for 1 to 2 weeks. Finally, the patient begins taking Naltrexone 4.5 mg daily as a maintenance dose. A patient should be on LDN for at least 2 months to assess its full efficacy.

Why is 4.5 mg of Naltrexone used?

It may seem strange that a medication can have an opposite effect (treating pain instead of blocking pain medicine) when given at a low dose. However, research suggests that opioid analgesics produce opposite effects when given at low doses. This small window of opposite effects is typically seen at 10% of the normal therapeutic dose. Since Naltrexone was originally dosed at 50 mg daily, studies have more commonly used 4.5 mg than other doses.

Certainly more studies and specifically dosing studies need to be performed to find the most ideal dose for patients. Additionally, different disease states may require different dosages for effective treatment.

Where can I get Low Dose Naltrexone (LDN)?

LDN is available with a valid prescription from compounding pharmacies. Since the only dose available commercially is 50 mg, compounding pharmacies are called on to provide accurately made capsules that can easily be taken by a patient.

At Collier Compounding, our staff is very familiar with compounding Low Dose Naltrexone and will be glad to do so for you.

What side effects does Low Dose Naltrexone (LDN) have?

Typically, LDN is well tolerated, especially when a patient is titrated up to the appropriate dose as mentioned above. **The most commonly reported side effect has been vivid dreams occurring in up to 37% of patients.** It was also reported that these vivid dreams reduced over time. Another possible side effect was insomnia, which was believed to be related to the vivid dreams.

Patients stopping therapy suddenly had a slow return of symptoms to baseline levels.

If a patient is in need of opioid pain medications while taking LDN, they may experience a diminished response to the opioid medication. Conservatively, a patient may need 3 to 4 days for the LDN to “wash out” of their system before opioids will be uninhibited.

What is the future of Low Dose Naltrexone (LDN)?

Using Naltrexone in low doses seems to have been more out of convenience than anything else, since the medication was already a part of an FDA approved product. As such, it is unlikely that Naltrexone will prove to be the best option as a glial cell modulator. As we understand the mechanism more clearly, other compounds will likely be discovered that will offer more benefit without the unwanted blocking of opioid receptors.

One such compound that is on the horizon for study is dextro-naltrexone. This compound is certainly related to naltrexone but has a different shape that allows decreases its ability to bind to opioid receptors.

Dextro-naltrexone's mirror image is called levo-naltrexone and is believed to be the compound responsible for blocking opioid receptors. The product currently available to compound with contains a 50:50 mixture of dextro-naltrexone and levo-naltrexone.

References

Researchers at Stanford University published an article in January 2014 explaining the theory behind the mechanisms of action of LDN as well as a summary of some of the studies that showed improvement in various chronic pain conditions. The full article is available here for you to read: [The use of low-dose naltrexone as a novel anti-inflammatory treatment for chronic pain.](#)

www.lowdosenaltrexone.org