## Low Dose Naltrexone (LDN)

#### What is LDN?

LDN is a safe, low adverse side effect drug that helps regulate a dysfunctional immune system, increase endorphins, and reduce pain from chronic inflammation.

For more information on Low Dose Naltrexone: <u>https://ldnresearchtrust.org/</u>

#### What are endorphins?

From LDN trust: "Endorphins are your natural peptides produced in many cells which regulate cell growth, including your immune cells. Many patients who have autoimmune disease tend to have low levels of endorphins, Met-enkephalin, aka opioid growth factor (OGF), an important immunomodulatory. Opioid receptors are in the central and the peripheral nervous system, the GI tract, and on lymphocytes. By using LDN you receive a brief blockade, creating a rebound effect giving you more endorphins, including OGF, and increased production of the OGF receptors."

#### Naltrexone vs Low Dose Naltrexone (LDN):

- Naltrexone is an FDA approved drug that is usually prescribed at 50 mg to 100 mg a day for the treatment of opioid addiction.
- Low Dose Naltrexone (LDN) is used clinically at much lower doses, around 4.5 mg daily, for its anti-inflammatory and pain reducing effects. It is not FDA approved for this type of use, and therefore is not covered by insurance when compounded into low dose capsules or tablets.

#### When to take it:

Ideal time to take it is at bedtime, 2 hours after eating for optimal endorphin production. There are very rare instances where it can affect sleep. If so, you can try taking it in the morning or afternoon, 2 hours after eating.

#### If you ever want to stop taking LDN:

You can stop it anytime.

Ideally, it would be best to take it every other day for two weeks before stopping, but it is up to you.

#### Note:

- This prescription **CANNOT** be taken with other opioids such as painkillers like oxycontin, etc.
- The half-life of naltrexone is 4-6 hours, so it is out of your system after this time frame.
- Be sure that your diet is rich in protein/amino acids so that your body can MAKE the endorphins that the LDN is trying to increase.

How to get LDN: There are two options that are detailed on the following pages.

**Option 1** is to have it compounded and pay out of pocket.

**Option 2** is to have 50 mg naltrexone tablets prescribed, which you would then turn into smaller doses.

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### **OPTION 1:**

## LDN compounded into custom-dosed capsules at Lloyd Central Pharmacy.

Lloyd Central Pharmacy	Starting prescription:
(503) 281-4161	Weeks 1 & 2: (1) 1.5 mg capsule daily
2606 NE Broadway St, Suite B Portland, OR 97232	Weeks 3 & 4: (2) 1.5 mg capsules daily (3.0 mg total)
https://lcrx.com/contact-us/	45 capsules total: 3 extra in case you have any issues.
	Final dosage starting week 5: (1) 4.5 mg capsule daily.

#### Final dosage:

Your final dosage will likely be 4.5 mg daily, if you do well on this starting prescription. If you experience any sleep issues or other adverse effects when you reach 4.5 mg daily, let us know so that we can adjust your final dose. Most patients do best at 4.5 mg daily, but there are rare circumstances where patients feel better with a daily dosage of 3.0 - 4.0mg daily.

#### Next prescription:

Please contact our medical assistant when you have 10 days left of your starting prescription. Refills will usually be sent in for a year's worth at a time. After that, you will call your pharmacy to request additional refills. Please note that Dr. Quinn needs to see you at least once a year to continue prescribing.

#### Cost:

They will be contacting you soon to set up payment and will then process the order. The initial prescription will be ~\$50 for 45 capsules. (1 month quantity). Your final dosage will be ~\$80 for 90 capsules (3 month quantity).

#### LDN has virtually no side effects:

Occasionally, during the first week's use of LDN, patients may complain of some difficulty sleeping or may experience vivid dreams. This rarely persists after the first week. Side effects are less likely to occur when a small starting dose is used and gradually increased. If you notice an increase in symptoms you may want to reduce the dose.

If you would like this prescription sent to Lloyd Central Compounding Pharmacy, please contact our medical assistant at <u>ma@quest-center.org</u> or at (503) 238-5203 Ext 200.

# OPTION 2: LDN made from a 50 mg Naltrexone tablet.

Supplies Needed:	Starting prescription:
<ul> <li>(5) 50 mg tabs of naltrexone.</li> </ul>	Week 1: 1.5 ml daily
• 5 ml syringe or graduated baby medicine dropper	Week 2: 2.0 ml daily
<ul> <li>4 oz amber glass jar with a tight fitting lid</li> </ul>	Week 3: 3.5 ml daily
Distilled water	Week 4: 4.0 ml daily
	Week 5: 4.5 ml daily

You can convert a 50mg tablet into low dose naltrexone (LDN) simply and easily. To do so,

- 1) Fill a graduated cylinder with 50 ml of distilled water (unlike tap or spring water, distilled water contains no impurities that could potentially react with and thus reduce Naltrexone's effectiveness). You can also use whatever measuring device you have to measure out 50 ml.
- 2) Pour the water from the graduate cylinder into a 4 oz glass jar; then drop in one 50mg tablet.
- 3) The tablet will mostly dissolve in about 2 hours. Note that not all of the tablet is soluble in water so instead of yielding a clear solution, the result will be a cloudy suspension.
- 4) 1 ml of the (shaken) suspension will contain 1 mg of Naltrexone. Another way of putting it is that you have created a 1 to 1 ratio of water and tablet.
- 5) You can use a graduated baby medicine dropper or 5-ml syringe to measure out the dose you need.
- 6) Store the rest in the refrigerator.

**Note:** Once a drug passes from a solid to a liquid state, its shelf life can decrease dramatically. Therefore, do not make more than 50 ml of liquid Naltrexone at one time, store it in the refrigerator, and do not keep it for more than 2 months. Be sure to shake the liquid LDN well before using and keep from direct exposure to sunlight.

#### LDN has virtually no side effects:

Occasionally, during the first week's use of LDN, patients may complain of some difficulty sleeping or may experience vivid dreams. This rarely persists after the first week. Side effects are less likely to occur when a small starting dose is used and gradually increased. If you notice an increase in symptoms you may want to reduce the dose.

#### Final dosage:

Your final dosage will likely be 4.5 mg daily. There are rare circumstances where patients feel better with a final daily dosage of 3.0 - 4.0 mg daily.

# If you would like this prescription sent to your pharmacy, please contact our medical assistant at <u>ma@quest-center.org</u> or at (503) 238-5203 Ext 200.

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