



Committed to trials of LDN as a treatment for Autoimmune Disease

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Low-dose Naltrexone (LDN) Fact Sheet 2016

Naltrexone is in a class of drug known as an opiate antagonists. Its normal use is in treating addiction to opiate drugs such as heroin or morphine. The dose used for this purpose is usually between 50 and 300mg daily.

Low-dose Naltrexone (LDN) has been used in the treatment of autoimmune diseases in the USA since 1985, but is relatively new in the United Kingdom and Europe. Despite the fact that the drug is used at a very low dose, the occurrence of significant introductory or long term side effects cannot be excluded.

This method was devised and subsequently developed by the late Dr Bernard Bihari, M.D., a physician from New York, USA who passed away May 16, 2010. Dr Bihari was qualified in Internal Medicine, Psychiatry and Neurology, and we hope to honor him by continuing his pioneering work.

Suggested Method of Therapy:

Your doctor will usually start treatment at an ultra-low dose and increase this gradually over a period of weeks – until you are stable and side effect free.

The starting dose can vary from 0.5mg to 1.5mg – and is usually increased over 4 - 8 weeks to 4.5mg or higher. Some doctors increase this to twice daily, for certain medical conditions.

For Autoimmune Diseases, patients typically start at 1mg and increase to 4.5mg daily over a period of 4 weeks.

However, for Hashimoto's Thyroiditis, Chronic Fatigue Syndrome or Fibromyalgia, the starting dose is usually 0.5mg and is increased by 0.5mg a week until a daily dose of 4.5mg is reached.

For Cancer, LDN can be taken at similar doses, but must be avoided the week before and the week after cancer chemotherapy. This does not include a drug called tamoxifen or daily medications for prostate cancer.

How Naltrexone Works

In Autoimmune disease:

The mechanism of action of naltrexone, in autoimmune diseases and cancer, is poorly understood.

The benefits of the drug are possibly due to the temporary inhibition of endorphins. This results in a reactive increase in the production of endorphins, which should result in a reduction of painful symptoms and an increased sense of well-being.

Increased levels of endorphins should be expected to stimulate the immune system, promoting an increase in the number of T lymphocytes. This effect was observed in Dr. Bihari's research. This increase in T-cell numbers apparently restores a more normal balance of the T-cells such that the effects of the disease progress are significantly reduced.

It may also act directly on these immune cells to stimulate or restore normal function.

There is research currently underway, to prove the hypothesis that naltrexone improves or modulates the immune system - by acting on a receptor called TLR4. Several published papers have shown that naltrexone binds to the TLR4 receptor, and has a clinically measurable effect. This is evident in Chron's disease and Ulcerative Colitis.

REF:

<http://www.ncbi.nlm.nih.gov/pubmed/22850250>

<http://www.ncbi.nlm.nih.gov/pubmed/22826216>

<http://www.ncbi.nlm.nih.gov/pubmed/23188075>

<http://www.ncbi.nlm.nih.gov/pubmed/17222320>

In Cancer:

Recent research by Dr. Ian Zagon in Multiple Resistant Breast Cancer, has shown that it can stop breast cancer cells growing by acting on a new pathway "p21 cyclin-dependent inhibitory kinase pathway".

REF:

<http://www.sciencedaily.com/releases/2013/08/130810063639.htm>

This is yet to be confirmed by a second study, but is likely to be researched further in the future. This pathway is present in many solid tumors – as well as a large proportion of breast cancers. The article seems to offer some hope for people with Multiple Resistant Breast Cancer.

Multiple centers around the UK are quietly using LDN for all types of cancer. Prof. Angus George Dalglish (Bsc, MD FRACPath FRACP FRCP FMedSci), professor of oncology at University College London is extremely experienced in using LDN for cancer. Recent examples where it has been beneficial in anecdotal cases include lung,

bowel and malignant melanoma. Dr. Zagons study points to a mechanism of action in these, and other solid tumor types.

There is also a combination therapy called the Berkson Method – using Alpha-Lipoic Acid and LDN. Dr Berkson talks about it here:

<http://www.anticancer.org.uk/2011/10/q-with-dr-burt-berkson-low-dose.html>

In Autism:

LDN has been used by many physicians, usually after expert assessment – in children with Autism.

This has been widely discussed and the mechanism is probably a mixture of inflammation and direct neurological effects.

More information can be found: <http://www.autismtreatmenttrust.org/>

Interestingly, dosage does not seem to be weight related. Transdermal (cream) doses are the same for children as for adults when given orally, but often a cream of LDN is prescribed for ease of application.

In Hayfever / Severe Allergy:

Many patients who experience severe hayfever have noticed that their hayfever symptoms resolve after LDN treatment is given for another autoimmune disease. This has led to many patients with severe allergies trying LDN as an adjunct to their existing treatments, such as anti-histamines.

The mechanism of action is likely via TLR-4 – but no research has specifically been published on this yet.

In Thyroid Disease:

Patients with thyroid disease often have a strong auto-immune component.

Using LDN to dampen the immune system often leads to a reduction in hypothyroidism and an improvement in symptoms. Patients with Thyroid disease must always be very careful when starting LDN as the results can be very fast – and rapidly cause hyperthyroidism if they do not reduce their levothyroxine intake.

The mechanism is also quite vague – but is most likely central, via modification of opioid growth factor (OGF) / Endorphin pathways.

Ref:

<http://www.stophethyroidmadness.com/ldn/>

Overview:

In layman terms, no-one is really sure how LDN works – there are multiple possible pathways being investigated. Due to the number of biological systems affected by inhibition of receptors that LDN binds to, this is not surprising and research is ongoing in many areas. The most exciting being its apparent ability to block many auto-immune diseases, and even more excitingly being able to stop the growth or spread of some tumor types in animals.

The Use of Low-dose Naltrexone, and the Occurrence of Side Effects

Many patients who start LDN do not experience any severe side effects.

Initially, your symptoms may become worse – in MS, this can be characterized by increased fatigue, or increased spasticity. In CFS/ME, this can be the onset of apparent 'flu-like' symptoms.

LDN can cause sleep disturbances if taken at nighttime – this is most likely because of the increase in endorphin release. These disturbances can take the form of vivid dreams, or insomnia.

Taking LDN at night is often recommended by patients on the internet, but there are many patients who take it in the morning and still get excellent benefits. This is a discussion you should have with your doctor.

In various studies (and anecdotal accounts), the number of T-Lymphocytes has been shown to dramatically increase when a patient starts on LDN. This may account for some of the benefits patients feel when they are being treated for an autoimmune disease, or cancer.

In less than ten percent of cases treated, increased introductory symptoms may be more severe or more prolonged than usual, lasting sometimes for several weeks. Rarely, symptoms may persist for two or three months before the appropriate beneficial response is achieved.

If side effects are troublesome, then reducing your dose by 0.5mg for 7 days, before increasing it again, is a good idea and common practice.

Some patients, very rarely, experience gastro-intestinal side effects. Nausea and or constipation/diarrhea. The reason for this is currently unknown, but may be due to the presence of large numbers of TLR4 receptors in intestines.

Patients experiencing this side effect can request LDN Sublingual Drops, which transfer the LDN directly into the bloodstream – avoiding the stomach area.

Patients who do have these side effects should increase their dose by no more than 0.5mg per week – and should consult with their physician or pharmacist for appropriate treatment for the stomach upset, if necessary. (Omeprazole, Ranitidine, Gaviscon, Fybogel, Mucogel - not available in USA and Pepto Bismol are ok – but not Kaolin & Morphine or Loperamide/Imodium.)

Types of LDN:

Liquid

Oral Liquid Formulation at 1mg/1ml is the most commonly used type of LDN. It is taken daily, and dosed using a baby oral syringe. Cost approx. .50 - \$1per dose.

Capsules

In the USA, capsules or tablets in a variety of strengths are available from compounding pharmacists but it is recommended that these be purchased only from compounders who have a significant level of experience formulating LDN. Prices tend to range from \$0.50-1.50 per dose.

Sublingual Drops

Sublingual drops are designed for patients who are having problems taking the medication orally, or for people who want to guarantee the fastest delivery of the drug into their bloodstream. A number of drops are placed under the tongue from a dropper bottle and dose is increased and decreased by the number of drops taken. Cost about \$1 a dose.

Cream

LDN Cream is most typically available in 0.5mg/ml and is available for application to the skin. This is helpful for children, or for patients allergic to colorings – flavorings or any excipients that may be found in other forms of LDN. It may be more expensive than oral forms.

Intrinsic Toxicity of the Drug:

Naltrexone, in full doses of 50-300mg, has been shown to transiently increase liver enzymes. Patients being prescribed Naltrexone for addictions must have liver function tests performed before initiating therapy.

This is not necessary with LDN – as the dose is much smaller, however, patients with advanced liver failure should consult their clinician before considering treatment.

Patients with renal or liver failure should only start treatment after a consultation with their own clinician or specialist, and should be monitored during the treatment initiation period. It is normal for people with poor renal or liver function to experience a transient elevation – but this usually resolves after a few weeks.

Contraindications and Special Precautions:

LDN is compatible with most other therapies. It does not directly interact with steroids,

however, can negate the effect of opiate based painkillers. Patients should give their doctor a full drug history before starting therapy.

Patients who are taking multiple medications and/or herbal medicines – especially those with cancer or advanced disease, should take careful advice from a qualified doctor or pharmacist before initiating LDN.

Obtaining a prescription for LDN:

*******WARNING*** DO NOT buy LDN on the internet. There is no guarantee that the drug is genuine or safe. On multiple occasions LDN purchased from the internet or from overseas has been proven to be of low quality, completely fake or otherwise dangerous.**

The only way to legally and safely obtain LDN, is via a doctor's prescription.

The information in this factsheet is correct at the time of going to print.

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