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interesting, why not
attend an LDN
Conference, via
livestream, in person or
watch the recordings?

Conferences are held
every 12-18 months and
are streamed gobally.



contact@ldnresearchtrust.org

(The LDN AIIC conference 2017 in
Portland Oregon) ldn2017.com

Low Dose Naltrexone

2018—US Information Pack



LDN Research Trust

Who are we and what do we do?

The LDN Research Trust is a UK registered Charity, founded in 2004, with the primary purpose of promoting research into the unlicensed use of Naltrexone at a low dose—to treat diseases.

Naltrexone at low dose is called LDN.

FORMAL DISCLAIMER

This leaflet is designed to guide patients, carers and prescribers in the safe use of LDN and enable patients to make an informed choice about their treatment. It does not replace the need for clinical involvement and the Trust will not support patients who obtain LDN without a doctors prescription.

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Background Information

Naltrexone has been commonly used at daily doses of 50-300mg since it was first licensed in 1984.

Naltrexone has been used in lower doses to treat multiple diseases since 1988.

Naltrexone is considered “standard dose” when given in daily amounts of 25mg or more and low dose when the daily dose is less than 25mg

When prescribed in standard dose, Naltrexone acts primarily to block opiate receptors and as such is used mainly in addictions .

When used in low dose, it is now widely understood to act as an Immunomodulator and multiple Phase I and II



trials have shown efficacy.

- Since 2010 at least 15,000 patients have been treated with LDN in the UK with no significant side effects
- Almost 10% of all registered General Practitioners in the UK have prescribed LDN
- Although originally mainly used in Multiple Sclerosis, the immunomodulatory effect has been seen to be useful in a widely expanding patient group.

Mechanism of action

Naltrexone when used in a lower dose has Immunomodulatory, opiate blocking and anti-tumour effects.

Opiate Blockade for short period (4-6 hours)

Levo Naltrexone molecule binds to opiate receptors

- Causes rebound increased endorphin release.
- Increases sensitivity of existing opiate/endorphin receptors.
- More Opiate receptors are formed to capture endorphins.



- Increased endorphin release causes a potent whole body anti-inflammatory effect.
- Down regulating inflammatory cytokines, whilst increasing T cells and Natural Killer cells.
- Stimulating mucosal and tissue healing .
- Directly inhibiting tumour growth
- Reducing death of neurons (oligodendrocytes) that produce myelin in the brain.

Mechanism of action

Antagonism at TLR receptors

Dextro Naltrexone molecule binds to Toll Like Receptors

- TLR Receptors are implicated in almost all causes of inflammation and form part of the immune system
- TLR receptors are often activated by foreign bodies, setting off an immune cascade
- In autoimmunity the TLR system can be recognising natural body components as foreign, and starting an immune cascade.
- Blocking TLR receptors with LDN dampens down the immune system.



- Naltrexone can offer neuroprotection through Glial cell activation. This is though to be mediated via TLR receptors.
- Glial cell active activation can improve the symptoms of nerve pain centrally and peripherally.
- The widespread use of LDN for Multiple Sclerosis, ALS, Parkinsons, CFS, M.E, and similar diseases—all comes from a common disease state—inflammation.

Mechanism of action

Cancer

Intermittent Dosing with LDN causes increased cell death and increases cell sensitivity to chemotherapy agents.

- Cells treated with LDN up regulate genes that are responsible for cell death. (BAD and BIK1)
- Tumour cells pre-treated with intermittent LDN dosing are far more likely to be killed by chemotherapy drugs.
- LDN seems to have a direct cytotoxic effect on cancer cells, via a P13 kinase, cyclin P21 and downstream G-Protein coupled receptor routes.



- 3 days on, 3 days off LDN continuously seems to be the most appropriate cancer dosing.
- In cancer, combining a cannabinoid (CBD) or Sativex (THC/CBD) on the 3 days off, seems to enhance the anti-tumour effect.
- The 3 days off should be directly before chemotherapy.
- No chemotherapy agents are currently contraindicated assuming standard tests are done, however LDN should not be taken during treatment with Opdivo or Keytruda (or PD1 inhibitors)

Which diseases are being treated with LDN?

This list is not exhaustive and patients are directed to the LDN Research Trust website

www.ldnresearchtrust.org/conditions

- Multiple Sclerosis
- CFS/ME
- Lyme Disease
- Hashimotos
- Chronic Regional Pain
- Nerve pain
- Parkinsons Disease
- Autoimmune Arthritis
- Crohns Disease
- Inflammatory bowel diseases
- Autoimmune hepatitis
- Diabetes type 1
- Vitiligo
- Scleroderma
- Psoriasis
- Anxiety and depression
- Fertility (Via NAPRO)
- Melanoma
- Glioblastoma
- Oesophageal and oral cancers
- Non small cell Lung cancer
- Breast cancer (primary and secondary)
- Multiple Myeloma
- Lymphoma
- Ovarian Cancer
- Pancreatic Cancer
- Renal cell cancer
- Colorectal Cancer
- Duodenal and stomach cancer
- Uterine cancer
- Hepatic cancer
- PTSD/PMDD
- PCOS

Forms of LDN

LDN is compounded in various forms in the US. The LDN Research Trust works closely with Pharmacies to ensure stable and safe LDN.

Check out the list of LDN Pharmacies [here](#) most pharmacists charge around \$1 per dose and this can vary.

LDN Liquid

Liquid LDN allows for titration of dosing from 0.5mg to 4.5mg and everywhere in between.

LDN Sublingual Drops 0.5mg/drop

For patients with swallowing difficulties, or who do not see any benefit from the liquid, the drops are absorbed through the oral mucosa. This speeds up absorption and can reduce GI side effects.

LDN Capsules

These can be made from 0.5mg upwards as per the prescribers script and filler.

LDN Topical Cream

Normally used for children.

LDN Tablets

LDN can be compound in tablet form in the required doses.

How to obtain LDN

Not all medical professionals are aware of LDN and it's potential benefits and not all are prepared to prescribe LDN. It does help to have a knowledgeable LDN prescriber working with you.

The LDN Research Trust has a list of LDN Prescribers in the US which can be found [here](#) only prescribers who have given their permission are listed, they hold a private list if you can't find a prescriber in your state.

There are several prescribers who are able to offer Telemed/ Skype/FaceTime Consultations.

The LDN Research Trust works hard to maintain a support network for prescribers in the US through the regular conferences and radio shows.



In the US there are hundred's of prescribers ranging from, MD's, DO's, ND's, NMD's, PA-C's and Nurse Prescribers.

Including, Gastroenterologists, Pain Specialists, Physiatrists, Dermatologists, Rheumatologists and Infertility Clinic's.

PATIENT INFORMATION LEAFLET

Active Ingredient: Naltrexone Legal Category: POM Unlicensed

Read this leaflet before you use this medicine, it includes information that might be especially important for you.

- Keep this leaflet you may need it again
- Ask your pharmacist or doctor for more advice if you need it
- If you notice side effects other than listed here, advise your doctor or pharmacist.

WHAT IS THE MEDICINE FOR

LDN is used to treat some autoimmune disease or cancers, and for certain types of neuropathic pain. LDN has general anti-inflammatory and anti-tumour effects demonstrated in published literature.

BEFORE YOU USE THIS MEDICINE

Do not use this medicine if you are taking long acting opiate medicines like codeine, tramadol, morphine, fentanyl or oxycodone without consulting your doctor. Do not use this medicine if you are pregnant, or breastfeeding without informing your doctor. Do not start this medicine if you have advanced renal or hepatic failure without consulting your doctor and arranging for regular tests.

HOW TO USE THIS MEDICINE

Once daily oral dosing, gradually titrated from 0.5/1mg to highest tolerated dose max 4.5mg. This is sometimes taken twice daily at 12 hour intervals. Take at the same time every day. In cancer, patients should get to 4.5mg daily for 7 days before starting an on/off cycle.

STORING THIS MEDICINE

LDN Liquid should be stored in the fridge once opened and can last 90 days, or 12 months unopened. Capsules should be stored at room temperature in their original container for up to 6 months. Other forms of LDN will be labelled with a specific expiry date.

PATIENT INFORMATION LEAFLET

POSSIBLE SIDE EFFECTS

LDN is well tolerated in most patients. However, care should be taken to titrate dose up to avoid side effects.

COMMON:

- Sleep disturbances
- Gastro Intestinal effects like nausea
- Mild headache
- Mild agitation
- Hyperthyroidism (In Hashimotos patients)

UNCOMMON

- Flu like symptoms
- Rash
- Herxheimer reactions (High temperature)
- Dizziness
- Increased fatigue or spasticity

These side effects are usually only present in the initial phase and can be stopped by halving the dose for 2-3 days and continuing with titration again. The half life of LDN is about 4-6 hours.

REPORTING UNUSUAL SIDE EFFECTS:

LDN is an unlicensed medicine, so any unusual side effects should be reported to your pharmacy or doctor. You can also report side effects using the MHRA yellow card scheme: www.mhra.gov.uk/yellowcard

FURTHER INFORMATION

Visit www.ldnresearchtrust.org or join the LDN research trust forum.

[REVISED 2018]

Prescribing Information

This section is designed for doctors and prescribers.

PATIENT INCLUSION CRITERIA

Does the patient have a disease listed on the LDN Research Trust website as currently being treated, or is their disease autoimmune in nature.

No blood tests, LFT or Renal Function tests are routinely required due to the low dose. In polypharmacy situations seek advice before www.askaboutldn.co.uk is manned by prescribing advisors.

PATIENT EXCLUSION CRITERIA

Concomitant opiate administration—risk of induced withdrawal. Risk worse in sustained release products or high doses. Switch to alternative pain control and/or leave 4-6 hour gap since last opiate painkiller and LDN.

PATIENT SPECIAL CONSIDERATIONS

Hashimotos patients often develop thyrotoxicity in the first 3 months—test T3/T4 levels monthly during initiation phase.

CFS/ME patients often experience flu like symptoms when titrating the dose. Treat symptomatically and/or reduce dose by 50% for 7 days.

MS patients often experience worsening of MS symptoms in the first 8 weeks. This is normal and is often a sign of good long term response.

LYME patients on multiple antibiotics and DMARD agents should seek careful advice from pharmacy before initiating LDN.

Prescribing Information

This section is designed for doctors and prescribers.

DRUG COMPATIBILITY

Compatible as long as being monitored and stable before LDN initiation

Daclizumab (Zinbryta), Dimethyl fumarate (Tecfidera) Fingolimod (Gilenya), Interferon beta-1a (Avonex, Rebif) Mitoxantrone (Novantrone), Natalizumab (Tysabri) Ocrelizumab (Ocrevus), Peginterferon beta-1a (Plegridy)

Teriflunomide (Aubagio), Glatiramer acetate (Copaxone, Glatopa)

Interferon beta-1b (Betaseron, Extavia), Tetracyclines, Aminoglycosides,

Compatible with caveats

*Steroids (Pred/Methylpred) as long as daily dose is <20mg equivalent prednisolone and not being used for organ replacement anti-rejection therapy.

*Dexamethasone at any dose as long as it is being monitored by oncology

*All other Prescription Only Medications and Prescription medicines depending on patient disease state and general clinical patient stability. Short acting painkillers like co-codamol/tramadol leave 4-6 hour gap before LDN.

Use with caution

Ketamine, Patients on active clinical trials and Anti- Tumour Necrosis Factor

Not compatible

*SR Morphines or analogs: MST, OXYCONTIN, DIPIPANONE, and FENTANYL

*Anti rejection drugs, Anti- Tumour Necrosis Factor, PD1 inhibitors (Opdivo and Keytruda and all in class) Anti cancer vaccines—CAR-T and equivalent plus all in class.

Prescribing Information

This section is designed for doctors and prescribers.

Prescribing regime: Start low and build up slow

Autoimmune diseases:

1mg daily for 7 days increasing by 0.5/1mg weekly until at 4.5mg or highest tolerated dose at or above 3mg.

Cancer:

1.5mg daily for 7 days increasing by 1.5mg weekly until on 4.5mg for 7 days. Start alternating cannabinoid therapy 3 days on 3 days off if indicated.

Lyme Disease

Make sure patient is stable and has been treated with anti-biotics.

Sero +ve result for borella or similar is useful. Treat as in autoimmune disease above. Herxhimer reactions are not uncommon, treat symptomatically.

Children:

Children under 40kg 0.1mg / kg start at 0.1mg and increase over a period of 4 weeks to calculated dose. Creams have little evidence of efficacy but are available for topical administration.

Children >40kg—treat as adult.

In children take special care that that status as an unlicensed medicine is well known by family members.

Pets:

Doses of up to 15mg daily have been used in dogs.

Time of day: Same time every day. Day or night is irrelevant.

FURTHER INFORMATION

LDN Research Trust

Website

www.ldnresearchtrust.org

Forum

forum.ldnresearchtrust.org

FaceBook Group

www.facebook.com/groups/LDNRT/

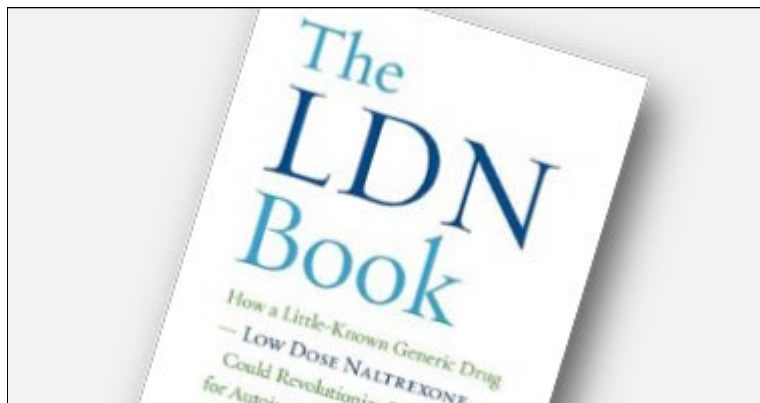
FaceBook Page

www.facebook.com/ldnrt/

Radio Show Achieves

www.mixcloud.com/LDNRT

THE LDN Book is available via AMAZON.



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One of these medicines is fake.
Can you tell which?



LDN is extensively counterfeited all over the world

Do not buy LDN from websites willing to sell it to you without a prescription—it is likely to be fake, or even dangerous plus it is illegal.

Naltrexone 50mg tablets are also widely sold on the black market branded as Revia or similar—these are almost all fake, with no naltrexone or the wrong drug inside them.

Counterfeiting medicines are a huge international business and it is easy to be duped by a flashy website.

Only obtain LDN via a doctors prescription and a reputable pharmacy.

Donations

The LDN Research Trust is a charity, and we gladly accept donations to further research into the use of LDN.

PayPal link can be found at www.ldnresearchtrust.org/donate

Bank Payment / Internet Banking

You can make a payment at any Barclays Bank or online using these details.

Account Name: LDN Research Trust

Sort Code: 20 03 26

Account Number: 60515213

International Payments

IBAN: GB72 BARC 2003 2660 5152 13

SWIFTBIC: BARCGB22

Your bank could make a charge for this outside the UK.

Volunteers

The LDN Research Trust operates with volunteers and no one gets paid.

All volunteers are appreciated, they give their time generously to help and support others.

This flyer was edited by Dr Leonard Weinstock