LDN Fact Sheet

LDN Research Trust - Fact Sheet
Telephone: 0871 989 9666

Low-dose Naltrexone in the Treatment of Multiple Sclerosis
Dr Bob Lawrence MRCS; LRCP

Naltrexone is a class of drug known as an opiate antagonist. 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 150 mg each day.

Low-dose Naltrexone (LDN) has been used in the treatment of MS in the USA since 1985, but is relatively new in the United

Kingdom. 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 Dr Bernard Bihari, a neurophysician in New York, USA. Dr Bihari

is qualified in Internal Medicine, Psychiatry and Neurology, but has recently retired from practice.

The Main LDN Website

The introductory dose is just 3 mg for the first month of treatment. It has been reported that those receiving this drug in the

treatment of MS experience a range of benefits, including reduced spasm and fatigue, and improvements in bladder

control, heat-tolerance, mobility, sleep, pain, tremor and others. After this period (in the absence of any introductory side

effects), and for greater therapeutic response, the dose can be increased to the current maximum recommended dose of

4.5 mg per day, to be taken between 9 at night and 3 in the morning.

For those unable to tolerate even the 3 mg dose, lower doses of 1 or 2 mg are available. Such doses are intended to

introduce the therapy more slowly, allowing more time for the necessary endorphin

response to develop.

How Naltrexone Works: The benefits of the drug are apparently due to the temporary inhibition of endorphins (a natural

pain-killer, produced in the brain). 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 wellbeing.

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 process are significantly reduced. It has been

observed that in those suffering the relapsing-remitting form of MS the number of relapses is reduced, and the rate of

progression of the disease is diminished. In chronic progressive MS (either primary or secondary) there seems to be a

similar reduction in the progression of disease symptoms

Dr Bihari's research suggested that no one receiving this treatment as a regular therapy has experienced a relapse while

actually on the treatment. Occasionally however, there may be a short-term increase in symptoms during, for example,

periods of infection or stress. This arises from previously active lesions already present in the brain or spinal cord.

Despite these promising findings it must be emphasized that a positive beneficial response to this treatment cannot be

assured or guaranteed.

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

Introductory Symptoms
When starting LDN there might be a temporary increase in MS symptoms such as weakness, changes in sensation, muscle

spasm, pain, fatigue or tiredness. These initial symptoms may also include

changes due directly to the altered level of brain

endorphins, such as disturbed sleep, occasionally with vivid, bizarre and disturbing dreams. These symptoms usually

disappear within the first week of treatment, and are replaced by improvements in specific symptoms.

The initial increase in symptoms can also be explained when we consider the manner in which the drug works. Contrary to

the common belief that MS is due to over-activity of the immune system, MS actually occurs due to a reduction in immune

system activity. Specifically, it is the reduction in the number of the suppressor T-cells within the immune system that

allows CD4 helper T-cells to do damage. Thus, during an acute relapse the overall number of T-cells is reduced, the normal

balance of helper and suppressor T-cells is disrupted, and helper T-cells tend to predominate. This is most pronounced

during an acute relapse, but a similar situation occurs although perhaps to a lesser extent, in chronic progressive MS.

It has been demonstrated that in the presence of LDN, the numbers of T-cells may increase by more than 300%. Therefore,

when the number of T-cells is initially increased, the predominance of CD4 helper T-cells may increase the intensity of the

MS, temporarily increasing some symptoms. However, as the number of T-cells continues to increase the normal balance

of suppressor to helper T-cells is restored, the activity and intensity of the disease process is reduced, and symptoms once

again diminish.

In less than five 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. In this situation, an ultra-low dose may be introduced to provide a gentler introduction to

the drug.

Symptoms Related to the Endorphin Response
If the endorphin response is rapid and significant, there may also be some additional symptoms related to the increased

level of endorphins, including nausea and constipation. The nausea usually fades within a few days, and can be minimized

by taking a lower dose of the drug until the symptoms lessen. The constipation may take two or three weeks to resolve,

during which time additional supportive measures may be required.

If constipation has been a symptom prior to LDN treatment, this might be related to the MS itself, or it could be due to the

consumption of foods known to cause sensitivities, such as cow's milk or wheat. Such food sensitivities are known to

promote a range of symptoms collectively referred to as irritable bowel syndrome (IBS). IBS symptoms can include

abdominal bloating, flatulence, gastric or abdominal pain, diarrhoea or constipation, or a condition alternating between the

two. IBS can also increase urinary symptoms of frequency or urgency.

If constipation has been a problem in the past, it is vital that measures should be taken to minimize this before starting LDN.

You should eat plenty of fresh or dried fruit, and fresh vegetables. In addition, food sensitivities should be avoided by

excluding foods most likely to cause the problem, that is, cow's milk and wheat.

Stool softeners such as Lactulose, Codalax, Docusate sodium (Dioctyl or Docusol) may be used. Bowel stimulants such as

Dulcolax or Senokot may be more effective, but should be used only occasionally or avoided if possible, as there will be a

tendency to become dependent upon them.

Bulking agents such as Celevac, Fybogel, or Normacol may be useful, but tend to be less effective than stool softeners.

Commercial laxatives which can be bought at the chemist's without a prescription often contain the drug phenolphthalein.

These products should be avoided completely, as the substance is highly addictive with a rapidly acquired dependency.

They appear to solve the problem initially, but continued use of such products will make the constipation much worse!

Symptoms Related to the Inclusion of Lactose Filler
It has become apparent that some patients using LDN with lactose filler have experienced increasing muscle stiffness

and/or joint pain after a few weeks of therapy. This delayed increase in symptoms is believed to be due to an increased

sensitivity to the lactose filler used in the LDN supplied by some pharmacies.

Symptoms Related to Prior Use of Opiate Analgesics
Occasionally, other transient symptoms have included severe pain and spasm, headache, diarrhoea or vomiting. These

additional symptoms appear to be associated with previous frequent use of strong analgesics, which create addiction and

dependency, thus increasing the body's sensitivity to pain.

Therefore it is vital that all strong analgesics, including opiates such as codeine, co-hydromol, co-codamol,

dihydrocodeine, tramadol, morphine, pethidine, and diamorphine should be avoided for at least two weeks prior to

treatment with LDN.

Symptoms Related to the Intrinsic Toxicity of the Drug
From toxicity studies of naltrexone in the early 1980's, reversible liver changes were found to occur only in those receiving

doses higher than 300 mg per day. This is on average one hundred times the dose used in LDN; that is, the dose of LDN is

just 1% of that shown to cause even reversible liver changes. The possibility of adverse side effects due to drug toxicity

cannot be entirely excluded, but the likelihood of damaging side-effects is believed to be minimal, as the drug is used at

such a low dose.

Long-term use of LDN has not yet been evaluated by a trial. However a trial is planned, and it is hoped that it will be

conducted in 2007 when adequate funding has been reached.

In the meantime, due to possible toxic effects of long-term use of LDN on the liver and kidneys, it is required that anyone

suffering previous liver or kidney problems should report this condition before starting therapy. The risk is believed to be

minimal, however, as the dose of the drug is extremely low, and it is expected to be metabolized and excreted from the

body within three or four hours of ingestion.

Suggested Method of Therapy:
Take 3 mg daily for the first month, then 4.5 mg daily thereafter. If the 3 mg dose is hard to tolerate, doses of 1 or 2 mg may

be used instead until your body adjusts.

If you notice an increase in symptoms when taking 4.5 mg, it might indicate that this dose is too high for you. In this case

lower the dose, and improvements should become more apparent.

Contraindications and Special Precautions:
LDN stimulates the immune system, whereas many of the drugs routinely used by the NHS in the treatment of MS suppress

the immune system. Therefore, LDN cannot be used whilst taking steroids, beta-interferons, methotrexate, azathioprine,

mitoxantrone or any other immune-suppressant drug. If there is any doubt, please submit a full list of the drugs you are

presently taking so that their compatibility can be assessed.

Dr Bob Lawrence MRCS; LRCP.

Capsules are also available at £27 monthly with Avicel filler.
Further costs are involved if you live outside the UK.

To find out more call Paula on: 0141 647 8032

LDN Dosage update:

We receive some phone calls from people that are experiencing problems adjusting to LDN.
Here are a few guidelines.

Starting dose:
• Normally 3 mg
• If spasms or stiffness are a symptom before starting, then a lower starting dose of 2 mg should be used.
• In severe cases a starting dose of 1 mg should be used.

Increasing dosage:
• LDN can usually be increased from 3 mg to 4.5 mg after a month.
• In the case of side effects or spasms it is best to increase the dosage 0.5 mg at a time, normally in 2-week stages.
• If the higher dose has an adverse effect at any time, it is best to reduce the dose and try again when the side effects have

gone.

Continuing Dose:
With LDN the dosage is subjective. Some people find a dose as low as 2 mg works best for them.
Many men cannot tolerate a dose higher than 3 mg as it worsens symptoms.