

Parkinson's Disease

This leaflet tells you a little about the conventional drug treatments used for Parkinson's disease and how to get the best from them. It also discusses other approaches.

Drugs can be useful but can be difficult to manage. Levodopa is the most commonly used drug. With this drug you can quickly go from having too little (when the Parkinson's returns) to having too much, when side-effects (usually jerky movements) occur.

Drugs for Parkinson's Disease

In Parkinson's disease the brain doesn't produce enough of a key chemical messenger (neurotransmitter) called **dopamine**. This substance is important for movement and lack of it can cause muscle rigidity, slow movement and tremor. Most drugs for Parkinson's disease today use L dopa, also called levodopa. This substance is converted into dopamine in the brain. Unfortunately there is a snag. Levodopa can't easily get into the brain. Therefore it is often combined with another type of drug, a dopa decarboxylase inhibitor (carbidopa or benserazide), which helps it into the brain. **Combinations of these two drugs include Sinemet and Madopar.**

To make things more complicated combining levodopa with carbidopa lead to overproduction of another brain chemical which competes with levodopa which means less levodopa gets into the brain. This can be blocked by another type of drug called a COMT inhibitor. Entacapone (Comtess) is an example. Stalevo contains all three: entacapone, carbidopa and levodopa.

Another approach is to use a synthetic dopamine-like chemical. These drugs include cabergoline (Cabaser), ropinerole (Requip), pergolide (Celance) and pramipexole (Mirapexin). Side-effects are quite common with 25% of people unable to tolerate these. They often cause nausea and are best taken at the end of a meal. Fatigue, including suddenly falling asleep is another side-effect.

Another approach is to use a drug that blocks the breakdown of dopamine using an MAO-B inhibitor. Examples of these drugs are selegiline (Zelepar) and rasagilene (Azilect). These drugs can cause high blood pressure in some.

An Important Tip

Proteins in the diet can compete with levodopa for absorption so if you eat the wrong food at the wrong time then the drugs won't work properly. This is important because

if the level of dopamine drops suddenly in the brain then the symptoms of Parkinson's can come back rapidly. This phenomenon is known as the **on-off syndrome** – one moment you're on and moving about and then you're off and you're not.

The type of foods which can cause problems are proteins and include meat, fish, milk products (not butter) eggs, nuts, seeds, wheat, rye, oats and barley.

What to Do

Take the levodopa and then wait until the drug kicks in and you start to feel better before taking food. Also don't take any further levodopa until at least 2 hours after eating. After a while you should be able to tell when you will need the next dose. **You will normally need to take the drug about half to three-quarters of an hour before you need it** –so you give it enough time to kick in. This problem doesn't occur with the synthetic levodopa drugs (Requip, Cabaser, Mirapexin, Celance).

Other Approaches to Parkinson's Disease

Using levodopa and related drugs is not entirely satisfactory. One of the reasons is that it seems to speed up progression in the disease. **Because of this it is common policy to hold back treatment until symptoms get bad.** Certain vitamins and related substances, called anti-oxidants, can help here. For instance one study showed that a group of patients with Parkinson's disease postponed the time before levodopa was needed by over 2 years by taking high doses of Vitamins C and E (3 grams of vitamin C and 3200iu vitamin E).

Four additional approaches can be helpful. The first is a unique substance called Mucuna Pruriens, also known as the velvet bean. The second is to support the brain cells that make dopamine. The third is to use anti-oxidants that protect brain function by neutralising harmful chemicals called free radicals. A fourth approach is to support the liver (see below). We will discuss these in turn:-

Mucuna Pruriens

This is an Ayurvedic drug which has been used for centuries. It has also been formulated for the Western market in powder form called HP-200.. It has been tested at the Institute of Neurology at Queens Square, London. A dose of 15-30g of Mucuna was compared against a standard levodopa/carbidopa preparation. It was found that Mucuna worked faster and lasted longer than the standard drug with fewer side-effects. It appears to stimulate the brain's natural

production of levodopa and the plant also contains levodopa, serotonin, niacin, NADH and co-enzyme Q10. The dosage needed will vary from person to person. It is best to start low and then increase.

Nutrient that help Brain Cells

Co-enzyme Q10

Research has shown that patients with Parkinson's disease have low levels of this vital nutrient. ***A known cause of low levels of Q10 are statin drugs used to treat high cholesterol. These drugs should be avoided in Parkinson's disease.*** Supplements of about 100mg daily can be used but sometimes much higher doses are needed.

NADH (Nicotinamide Adenine Dinucleotide)

One study found that 80 of patients given this supplement had a moderate to excellent improvement. This substance is known to help with other neurological conditions. Take 5mg twice daily.

Phospatidylserine

This is a key component of neurological membranes and has been shown to help with memory and brain performance. Take 100mg daily.

Anti-Oxidants

Alpha Lipoic Acid

This is a very interesting substance as it is not only an anti-oxidant but removes heavy metals from the brain. Heavy metals have been found in higher concentration in the brain of people with Parkinson's. Take 80mg daily.

Vitamin E

This is a fat soluble vitamin so it is particularly important for protecting the brain. The synthetic version of Vitamin E known as dl-alpha tocopherol is far less active than the natural form d alpha tocopherol. Take 400 -1200iu/daily

N Acetyl Cysteine

This is converted into glutathione in the brain which is known to be reduced in those with Parkinson's disease. Take 500mg daily. It is best taken between meals.

Acetyl L Carnitine

This could be put in either category as it is a cellular energiser and anti-oxidant. A fascinating study showed that it protected animals from MPTP, a brain toxin called MPTP, that normally causes Parkinson's. Take 400mg daily.

Vitamin D

This is a potent anti-oxidant and has been found to be low in the blood of patients with Parkinson's disease. Take 2000 iu daily. *Typically one quarter of an hour in sunshine in a bathing costume will give you 10,000 units of Vitamin D. Less intense daylight, away from the middle of the day in summer, is the best and safest source.*

Ginkgo Biloba

Like Acetyl L Carnitine this protects laboratory animals given MPTP from Parkinson's disease.

Propel

This is an unusual supplement, originally devised for erectile problems. it contains acetyl-L-carnitine, propionyl-L-carnitine and alpha lipoic acid. **However many patients with Parkinson's disease have noticed it helps their illness.**

Melatonin

This is the substance we produce during sleep and it is sometimes used for insomnia. However I recall one case where melatonin stopped shaking in Parkinson's disease. This is anecdotal and it may not help others.

Other Problems that can occur with Parkinson's Disease

TREMOR

This often improves with lecithin. The usual dose is 5 tablespoonfuls daily. But build this up gradually.

PYSCHOSIS AND HALLUCINATIONS

This can occur due to the breakdown of levodopa into a more toxic compound. The levodopa may need reducing but if this is not possible then use niacinamide. Use it at high strength. Start with 500mg three times daily increasing to 2 grams daily if necessary. Niacinamide (also called nicotinamide and a form of Vitamin B3) is usually only found in 250mg tablets but is safe in doses up to 40 grams daily.

The Importance of Glutathione

The mainstay of treatment for Parkinson's disease today is levodopa and related compounds and this is because dopamine is known to be low in Parkinson's disease. **However another brain chemical is known to be profoundly deficient in Parkinson's disease but rarely gets mentioned. This is glutathione.** This is an anti-oxidant that protects brain tissue and it also detoxifies chemicals. Unfortunately it cannot be given by mouth. However work in Italy and the USA has shown dramatic results when it is given intravenously for 30 days. Patients showed a 42% reduction in disability and this benefit lasted 2 to 4 months.

The Causes of Parkinson's Disease

At present the cause is unknown but over a hundred studies have linked Parkinson's disease to pesticide exposure. (including the natural pesticide like derris), and people with Parkinson's disease have been found to have higher levels of pesticides in the brain. In fact pesticides can be used to create Parkinson's disease in animals. In one study those exposed to pesticides were 70% more likely to get Parkinson's disease. Most toxic chemicals are stored in fatty tissue including the brain and can accumulate as we age. Those with a higher than average intake of fruit and fruit juice were found to have more Parkinson's disease in one study, almost certainly related to pesticide exposure rather than due to eating the fruit. Anecdotal evidence suggests the sweetener, aspartame, found in many diet drinks, can take Parkinson's disease worse.

Faults in liver functioning are often found in those with Parkinson's suggesting they cannot easily rid themselves of toxic chemicals. Anything which impairs liver function such as alcohol and paracetamol needs to be used with caution. Many of the substances named above such as N Acetyl Cysteine, Alpha Lipoic Acid and Vitamin E as well as the herb milk thistle (silymarin) help liver detoxification.

The Stress Connection

When people are under stress they put out more adrenaline, the fight and flight chemical. Now adrenaline is made from dopamine. So you can see that under stress the stores of dopamine go down and Parkinson's disease worsens.

What shall I do? There's so many choices

At the moment we don't have all the answers but do have some directions. Certainly it would be wise to use organic food where possible to reduce pesticide exposure. Reduce chemical exposure as much as possible for instance by using filtered water. Don't use aluminium pans as aluminium is another substance linked with Parkinson's disease. Remember to eat a diet rich in fruit, vegetables, seeds and nuts as these contain many anti-oxidants and other nutrients. Drink plenty of water. This type of diet will help avoid another common problem that affects those with Parkinson's disease, namely constipation.

Using supplements is more complex as there are many that help but no clear best choice. Nutrients work synergistically – in other words they work better when combined. For example an American study showed that those who supplemented both Vitamin C and Vitamin E had a quarter of the risk of Alzheimer's disease but those who supplemented had a normal risk.

Some of the supplements such as vitamin C, D and E, N acetyl cysteine and alpha lipoic acid are readily available from health food shops. Omega 3 fats, found in EPA fish oils also enhance brain function. Co-enzyme Q10 is available at health food shops. Others such as NADH may be more difficult to find. A good choice might be an anti-oxidant (with vitamins C and E), Co-enzyme Q10, Vitamin D and N acetyl cysteine. If you can afford it consider Alpha lipoic acid and NADH. Propel is a useful combination. See what works best for you. Many people have found they can reduce their medication when they use this approach.

Prevention

So many studies have linked Parkinson's disease with pesticides so using organic products where possible makes sense.

Strangely smoking has a beneficial effect on Parkinson's and this has shown up in several studies. It is due to nicotine which is neuroprotective. The harmful effects of smoking outweigh its benefits but it is possible to get the same benefits from a group of vegetables called the deadly nightshades (peppers, aubergines,

potatoes and tomatoes) which include nicotine. The most beneficial of these is peppers (having peppers 2-4 times a week reduced Parkinson's by 30%) but they can all help.

A Harvard study of 130,000 people found a significant protective effect from berries (they used blueberries and strawberries in the study). This is thought to be due to flavinoids in the berries. In one study men who ate flavinoid-rich food regularly (berries, apples, red wine) had a 40% reduced risk of Parkinson's.

Nineteen studies have found coffee reduces the risk, overall by a third. Tea is also protective but not decaffeinated products. A study found drinking 2 cups of coffee or 4 cups of tea significantly improved movement in Parkinson's disease in 3 weeks.