

DRUG TREATMENTS FOR PARKINSON'S

PARKINSON'S^{UK} CHANGE ATTITUDES. FIND A CURE. JOIN US.



There is no cure yet for Parkinson's but there are many different drugs that can help manage the symptoms.

This booklet is for people with Parkinson's and their family, friends and carers. It provides information about the drugs most commonly used to help manage the condition.

This booklet starts with some key practical points about the drugs used for treating Parkinson's, then gives further details about categories of drugs and individual drugs. There is also a summary that gives an overview list of Parkinson's drugs.

Choosing the right medication is always a decision you should make with your specialist or Parkinson's nurse. You can show this booklet to your specialist or Parkinson's nurse and ask them questions about the information here. You may also find it a useful starting point when you are talking about the next steps in your treatment.

The content in this booklet is designed to be dipped in and out of – don't feel like you need to read everything in one go. This is particularly true because what works for you when starting treatment for Parkinson's may change later on.

Reading the bits of this information that you need will also make this booklet more manageable and relevant for you.

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Disclaimer

We’ve made every effort to make sure the information in this booklet is correct at the time of printing. But Parkinson’s UK cannot take responsibility for the correctness, sufficiency or completeness of this information or any recommendation.

You should speak to a medical professional about your individual healthcare needs. Because everyone with Parkinson’s is different, Parkinson’s UK cannot advise on ideal combinations or provide details about the strengths or duration of action for each medication. Your specialist or Parkinson’s nurse will be able to give advice or information that’s relevant to your particular circumstances. You can also speak to a pharmacist for more information about how to take the medication you are prescribed.

Please remember that information about drugs can change. Also, this booklet does not list all the uses and side effects of different drugs. For full details, please see the drug information leaflet that comes with your medication.

PARKINSON'S DRUGS: AN INTRODUCTION

How Parkinson's drugs work

Dopamine is a chemical messenger made in the brain. The symptoms of Parkinson's appear when dopamine levels become too low.

This is because many of the cells in your brain that produce dopamine have died or are dying. Taking dopamine as a drug doesn't work because it cannot cross the blood brain barrier. To get around this, doctors use other medication that can act in a similar way.

Most drug treatments work by doing one or more of the following things:

- increasing the amount of dopamine in the brain
- acting as a substitute for dopamine by stimulating the parts of the brain where dopamine works
- blocking the action of other factors (enzymes) that break down dopamine

Names of Parkinson's drugs

Drugs for Parkinson's can be divided into three categories.

In this information, we have listed drugs in the following order to help you see each category clearly.

- The class or type of drug, for example levodopa.
- The generic (unbranded) name, such as co-beneldopa, which will include the active ingredients of the drug. For example, co-beneldopa is a combination of levodopa and benserazide.
- The brand name. For example, Madopar is the name that the pharmaceutical company, Roche, uses to sell co-beneldopa.

Your specialist will decide whether to prescribe you branded or generic versions of your medication. It usually depends on which area of the country you are in or what is most common to prescribe in that area.

Once there are no longer any legal rights to the brand name any company can make generic (unbranded) versions of a drug.

The active ingredient of a generic drug is always the same as the branded version and lots of people won't have any problems using the generic medication.

In the UK, a generic or branded medicine needs a licence and there is a strict process for this. This means that the quality of a generic or branded version of the same medicine will be the same, and they will also act in the same way.

If you find that you respond a bit differently to generic medication, discuss this with your specialist or Parkinson's nurse.

The brand name will usually be the most visible name on your packet of medication. The generic name is usually written in small print.

It is useful to keep the packaging for your medication. This will help you to remember what you are taking. You can also record the name and strength of your medication and carry this list with you for when you need it. This will be particularly useful in an emergency as it will help

medical professionals to understand what medication you take.

Modified release, controlled release and prolonged release medication

You may see that your medication is written as modified release. It can also be written as controlled release (CR) or prolonged release (PR). All of these labels mean the same thing but drug companies can choose which one to use with their drug.

These types of medication are made to release your treatment slowly to help you have more even control of your symptoms throughout the day.

What treatment will I take and when?

At diagnosis, you and your specialist will make a decision about whether to start treatment straight away or wait until your symptoms cause you more problems. Usually you will be advised to start medication. You will be given specific times to take it which you should stick to.

You will be prescribed levodopa, a dopamine agonist or a MOA-B inhibitor. Which medication you take depends on how much your symptoms affect you and other factors such as your age and your lifestyle.

Most people find they tolerate their treatment well and will return to clinic after six to eight weeks to review their response. This is when your specialist or Parkinson's nurse will increase or decrease the doses, the frequency, or add new drugs until your symptoms are as controlled as possible.

Before leaving the clinic you should get the contact details of your Parkinson's nurse or the number of the clinic in case you have any problems with side effects. See the section on side effects further on in this information.

Medication is specific to you

Every person with Parkinson's has a different experience of the condition so your specialist,

Parkinson's nurse or pharmacist will work with you to find the best combination of treatment that is best for you as an individual.

Finding the best drug, dose and timing won't happen straight away. Your treatment regime will usually need adapting as your Parkinson's symptoms change over time.

Planning a medication routine is something that should be a joint decision between you and your healthcare professionals. If you are prescribed medication, make sure you ask about what you are taking, when to take it, and any side effects.

Your specialist or Parkinson's nurse should explain things clearly and write down anything important.



OTHER WAYS TO MANAGE YOUR PARKINSON'S

Drug treatments are the main way to manage Parkinson's symptoms but other things can help.

Exercise

Exercise is good for everyone and it is especially good for you if you have Parkinson's. It can be as important as your medication in managing symptoms.

Emerging evidence suggests that increasing exercise to 2.5 hours per week can slow the progression of your symptoms.

There is something for everyone so go for it.

Find out more about exercise and the styles to focus on at parkinsons.org.uk/exercise

Therapies

Therapies can complement your treatment regime by focusing on a specific issue you may have.

The three main types of therapy are physiotherapy, speech and language therapy and occupational therapy.

Find out more: see our information on [physiotherapy](#), [speech and language therapy](#) and [occupational therapy](#).



SIDE EFFECTS OF PARKINSON'S DRUGS

Like any drugs, Parkinson's drugs can have side effects. This means that some things you may think are Parkinson's symptoms could be side effects of your medication.

Below we have listed some side effects that are important to be aware of. We have also included specific side effects information within each drugs class section.

Impulsive and compulsive behaviours

People who experience impulsive and compulsive behaviours can't resist the temptation to carry out an activity – often one that gives immediate reward or pleasure.

Behaviours may involve gambling, becoming a 'shopaholic', binge eating or focusing on sexual feelings and thoughts. This can have a huge impact on people's lives including family and friends.

Not everyone who takes Parkinson's medication will experience impulsive and compulsive behaviours, so these

side effects should not put you off taking your medication to control your symptoms.

If you have a history of behaving impulsively you should mention this to your GP, specialist or Parkinson's nurse.

Asking your specialist to make changes to your medication regime or adjusting the doses that you take is the easiest way to control impulsive and compulsive behaviours. So, if you or the person you care for is experiencing this side effect, tell your healthcare professional as soon as possible before it creates large problems.

If you are not able to get through to your healthcare professional straight away, you can call our Parkinson's UK helpline on **0808 800 0303**.

We have advice that can help you manage impulsive and compulsive behaviours as well as information on what behaviours to look out for.

Find out more: see our information on impulsive and compulsive behaviours.

Hallucinations and delusions

Hallucinations and delusions can also have a huge impact on daily life.

A hallucination is when you see, hear or feel things that aren't there. Delusions are unusual thoughts, beliefs or worries that aren't based on reality.

They can happen with any Parkinson's medication but are more common with dopamine agonists. Not everyone will experience this side effect and it is more common in the later stages of Parkinson's.

It's natural to be worried about them but ask your doctor for clear information about hallucinations and delusions before starting your medication if you have any concerns. Talking about hallucinations and delusions with your healthcare professional will mean they can adjust your medication regime to help reduce their impact.

Find out more: see our information on hallucinations and delusions.

Sleep issues

Some Parkinson's drugs can make you very sleepy. Sometimes this happens suddenly and without warning. Make sure you know what safety precautions you need to take – if you can drive, for example.

Sometimes it can be hard to know whether your sleep problems are part of the condition or whether they are a side effect of your Parkinson's medication. It's important to talk to your healthcare professionals to find out the cause of these problems.

Find out more: see our information on driving and Parkinson's and sleep and night-time problems in Parkinson's.

Blood pressure changes

Some Parkinson's drugs can make your blood pressure fall very quickly, causing you to feel dizzy or faint. Increasing the amount of liquid you drink can help. Your specialist or Parkinson's nurse will be able to prescribe medication to ease this side effect and give you other tips, so speak to them for more advice.

Find out more: see our information on low blood pressure and Parkinson's.

YOUR PARKINSON'S DRUGS: KEY POINTS

- Try to take your medication at the same set times every day as advised by your specialist or Parkinson's nurse.
- Tell your specialist or Parkinson's nurse straight away if you experience any side effects from the drugs you take to treat Parkinson's. Don't stop taking or change the dose or timing of your Parkinson's drugs until you have spoken to your health professional as this can increase your symptoms.
- Do not stop taking your Parkinson's medication unless your specialist or Parkinson's nurse tells you to.
- If you forget to take your dose, take it as soon as you remember and then adjust the time of your next dose. For example, if you take doses at 8am, 12pm, 4pm and 8pm and you forget your midday dose until 2pm, your next ones should be at 6pm and 10pm.
- Do not take two doses together to make up for a dose that you forgot to take or take your late dose really close to your next one.
- If you are taking a once daily medication and you forget a dose, you can still take the dose if you remember on the same day. But, if you don't remember until the following day you shouldn't double up your dose.

Tips for managing your Parkinson's medication

- Ask your specialist, Parkinson's nurse or pharmacist questions if there's anything you don't understand or any symptoms you are particularly worried about. They won't mind. You can also ask for written information.
- Keep a diary or chart when your specialist team starts you on a new drug, changes your drugs or adjusts the dose or frequency. Record the dose and time you took the drug and what happened to your symptoms. This can help you decide together on how well the drug is working.

You can cut out, copy and use our medication record at the end of this information.

- You may want to wear MedicAlert jewellery or carry our medication card to help people know in an emergency situation that you have Parkinson's and what medication you take.

Remember to take your medication on time

We hear of many tools that people with Parkinson's use to remind them to take their medication on time. The trick is to find a solution to suit you. You can try using alarms on a digital watch or setting a reminder on a smartphone.

Pill timers

A pill timer is a box that you can store your Parkinson's drugs in to remind you when to take each dose. They are useful if you have to take lots of different tablets or if you have trouble remembering to take your medication.

Some are divided into different times of day, so you can store all of your Parkinson's drugs for one day. Others are big enough to hold your tablets for a whole week, with sections for each day. Some weekly pill timers are also split into times of day.

Pill timers vary in cost, depending on the type and who it is made by. An occupational therapist or pharmacist can help you to choose the right option. The Disabled Living Foundation, an organisation that provides information on a range of equipment, can also advise you on available options. You can call their helpline on **0300 999 0004**.

Help from your pharmacist

Your pharmacist is well placed to help you in your community when you need them. It's useful to go to the same pharmacist each time so they get to know you and your condition. If you have trouble taking your medication, your pharmacist can arrange an assessment to see how they can help. For example, they can offer large-print labels, non-'click top' bottles or a medication reminder chart.

They may also be able to put your medication into a blister pack. This means that each tablet has its own compartment linked to the correct time of day to remind you of your dose and when to take it.

Managing Parkinson's medication while in hospital

Make sure that hospital staff understand you have Parkinson's and that you need your medication on time when you're admitted to

their ward. Getting your medication on time will mean your symptoms are well controlled and that you are likely to experience fewer complications from being in hospital.

Some hospitals will allow you to look after your own medication, so that you can take it yourself outside of the usual drugs round.

Our *Get It On Time* resources can help you to educate and remind staff about the importance of getting medication on time in hospital.

Find out more: see our range of *Get It On Time* resources.



OTHER TYPES OF DRUGS YOU MAY TAKE

People with Parkinson's can have symptoms that aren't connected to movement problems, known as non-motor symptoms. These include anxiety, pain and constipation.

These types of symptoms may be treated with the same drugs used by everyone with that health issue, rather than Parkinson's-specific drugs. For example, you may be prescribed Movicol for constipation. Parkinson's and the drugs used to treat it can interact with the drugs used for other conditions. This means that a particular drug can become weaker or stronger. Your specialist or pharmacist can advise you on this. Always ask them before buying any over the counter medication.

Drugs to avoid

Some drugs can bring on Parkinson's-like symptoms or react badly with Parkinson's drugs and should be avoided unless they're recommended by a specialist.

These are some (but not all) of the drugs to avoid in Parkinson's:

- chlorpromazine (Largactil)
- fluphenazine (Modecate)
- perphenazine (Fentazin/Triptafen)
- trifluoperazine (Stelazine)
- flupentixol (Fluanxol/Depixol)
- haloperidol (Serenace/Haldol)
- metoclopramide (Maxalon)
- prochlorperazine (Stemetil)

Complementary therapies

Herbal or complementary treatments may also affect your Parkinson's drugs. For example, St John's Wort is not recommended for people with Parkinson's. It is made up of many elements which can interact with your Parkinson's medication and cause side effects. So always check with your specialist, Parkinson's nurse or pharmacist before taking alternative medicines.

Cold remedies

Many decongestants and cold remedies can stop your Parkinson's medication working properly. This is especially important to remember if you are taking selegiline, rasagiline and safinamide. They can also increase the risk of side effects. Always check with your pharmacist before taking cold remedies.

Anti-sickness drugs

Parkinson's medication can cause nausea and vomiting. Doctors will usually prescribe domperidone (Motilium) to prevent and treat this side effect.

Domperidone can cause heart rhythm problems (arrhythmia).

If you are prescribed this medication, your specialist, Parkinson's nurse or pharmacist should talk to you about how to recognise signs of irregular heart rhythms. A test of your pulse or another examination is often routinely performed to check for irregular heart rhythms before you are prescribed domperidone or ondansetron (see below).

Other anti-sickness drugs that are generally considered useful include cyclizine (Valoid) and 5-HT₃ receptor antagonists like ondansetron.



LEVODOPA

Levodopa is the name used to describe one of the main classes of Parkinson's drugs.

Below are the types of levodopa drugs. The generic names are written in bold and the brand names are written underneath in bullet points. See the section on the names of Parkinson's drugs to find out more.

Types of levodopa

Co-beneldopa

- Madopar (capsules, dispersible tablets)
- Madopar CR (controlled release capsules)

Co-careldopa

- Apodespan PR (prolonged release tablets)
- Caramet CR (controlled released tablets)
- Lecado (modified release tablets)
- Half Sinemet CR (controlled release tablets)

- Sinemet (tablets)
- Sinemet Plus (tablets)
- Sinemet CR (controlled release tablets)
- Duodopa (intestinal gel)

Co-careldopa and entacapone

(See COMT inhibitors section)

- Stalevo (tablets)
- Sastravi (tablets)
- Stanek (tablets)

Entacapone

- Comtess (tablets)

How do Levodopa drugs work?

Levodopa is a chemical building block that your body converts into dopamine in the brain. Levodopa already occurs naturally in your body and taking a levodopa drug treatment boosts the supply, meaning the nerve cells can make more dopamine.

When are levodopa drugs used?

Levodopa drugs are sometimes one of the first types of medication that people with Parkinson's are prescribed. However, this will not be the same for everyone.

Your levodopa treatment will usually start with a low dose. This will gradually be increased until your symptoms are under control.

Benefits of levodopa

Levodopa can help treat Parkinson's symptoms because it helps to top up dopamine levels in the brain.

You may experience a big improvement in your symptoms when taking it, especially with stiffness and slowness of movement.

Risks and side effects of levodopa

Levodopa becomes less effective over time. This is because it cannot stop the dopamine producing cells from being lost so you will continue to get symptoms. This means that more frequent doses are needed.

Your brain can't become resistant to levodopa. People with Parkinson's will benefit from medications containing levodopa throughout their lifetime.

The patient information leaflet that comes with your drugs will tell you the full range of side effects that you may experience but some possible ones include:

Wearing off

When you take levodopa for a long time you may experience wearing off. This is when your drugs wear off before you take the next dose so you have times when you're stiff and slow.

Involuntary movements (dyskinesia)

With long-term use of levodopa you may experience involuntary movements (dyskinesia). These are muscle movements that you can't control. They can include twitches, jerks, twisting or writhing movements.

Impulsive and compulsive behaviours

Impulsive and compulsive behaviours can happen with any Parkinson's drugs. See the section on side effects of Parkinson's drugs to find out more.

Withdrawal syndrome with levodopa

Research has shown that withdrawal symptoms can happen when someone stops taking levodopa medication

very suddenly, perhaps because they are experiencing impulsive and compulsive behaviour.

It can lead to symptoms including depression, anxiety or pain, and in the most serious cases, effects can lead to hospitalisation.

Any withdrawal from Parkinson's drugs needs to be done gradually, under the supervision of a health professional, to avoid the risk of developing this syndrome.

Iron

When you take your levodopa medication it may help to avoid any medicines or vitamin supplements with iron in them. Iron can mean that less levodopa gets into the parts of the body where it is needed. Talk to your healthcare professional for more information about this.

Other side effects

Other common side effects include:

- nausea and vomiting
- low blood pressure (hypotension)
- loss of appetite
- anxiety and depression
- sleep problems

- hallucinations (seeing, hearing, feeling and smelling things that aren't there)

Levodopa and protein

For some people with Parkinson's, protein (which is found mainly in meat, fish, eggs, cheese, beans and pulses) seems to interfere with how well levodopa medications are absorbed by the body. Because of this, you may benefit from taking your medication 30 to 60 minutes before you eat a meal.

However, levodopa drugs can sometimes make people feel sick. Eating a low protein snack (such as crackers) when you take your dose may help to reduce this side effect. You may also benefit from a protein redistribution diet, where you take most of your daily protein in the evening. This can help the levodopa treatment to be more effective in the daytime, when you are likely to need it more.

Protein is essential for a healthy diet so you should not reduce your overall intake. Talk to your specialist or Parkinson's nurse before you make any changes to what you eat.

Find out more: [see our information on diet.](#)



Co-beneldopa (Madopar)

Co-beneldopa is a type of generic (unbranded) levodopa medication. Madopar is the brand name for co-beneldopa.

It contains two ingredients, levodopa and benserazide. The benserazide ingredient helps levodopa get into the brain where it can be converted to dopamine.

The dose of co-beneldopa (Madopar) is expressed with the levodopa content first and then the benserazide content. For example, Madopar 50/12.5 contains 50 mg levodopa and 12.5 mg of benserazide.

Taking co-beneldopa (Madopar)

Below we have included the different forms of co-beneldopa (Madopar) medication and some key points on taking them.

The most recent and complete information on your specific drug will be on your patient information leaflet that comes with your medication packet. Always read it carefully before you start your treatment.

For detailed information you should follow the advice of your specialist or Parkinson's nurse about how to take co-beneldopa (Madopar) so that it works well for your Parkinson's.

Immediate-release co-beneldopa capsules (Madopar capsules)

Taking this medication with a meal, or shortly after it, will mean you are less likely to experience any nausea. If you don't experience nausea it may be beneficial to take your capsules 30 – 40 minutes before a meal to help your medication work.

Controlled release co-beneldopa capsules (Madopar CR capsules)

Controlled release co-beneldopa capsules (Madopar CR) let the levodopa enter your body slowly instead of all at once. They are particularly helpful if they are taken before going to bed to reduce stiffness during the night.

Controlled release co-beneldopa capsules (Madopar CR capsules) can also help to reduce one of the side effects of levodopa medication – involuntary movements (dyskinesia).

You should take the capsules with a good drink of water. Don't break, crush or chew them.

Drugs for indigestion, heartburn, or an upset stomach can make it more difficult for your body to absorb your controlled-release capsules. So avoid this type of medication in the two hours before and after you take co-beneldopa (Madopar) capsules.

Co-beneldopa dispersible tablets (Madopar tablets)

These dispersible tablets can be mixed with water to make a drink. It takes effect more quickly than capsules because it doesn't need to be broken down in your stomach to release the active ingredient. It can also be used if you have trouble swallowing tablets or capsules.

You should take these tablets with water or fruit squash.

Taking this medication with a meal or after it will mean you are less likely to experience any nausea.

Co-beneldopa dispersible tablets (Madopar tablets) are useful if you experience slowness of movement or the 'on/off' effect. See the section on side effects of Parkinson's drugs to find out more.



Co-careldopa (Sinemet, Caramet, Lecado and Apodespan)

Co-careldopa is a type of generic (unbranded) levodopa medication. Sinemet, Caramet, Lecado and Apodespan are the branded versions of co-careldopa.

Co-careldopa contains two ingredients, levodopa and carbidopa. The carbidopa ingredient helps levodopa get in to the brain where it can become dopamine. Carbidopa also helps to make sure you experience fewer side effects.

The dose of co-careldopa (Sinemet) is expressed with the carbidopa content first and then the levodopa content. For example, Sinemet 12.5/50 contains carbidopa 12.5 mg and levodopa 50 mg.

Taking co-careldopa (Sinemet, Caramet, Lecado, Apodespan)

Below we have included the different forms of co-careldopa medication and some key points on taking them.

The most recent and complete information on your specific drug will be on your patient information leaflet that comes with your medication packet.

Always read it carefully before you start your treatment.

For detailed advice you should speak to your GP, specialist or Parkinson's nurse about how to take co-careldopa so that it works well for your Parkinson's.

Co-careldopa (Sinemet, Sinemet Plus tablets)

You will usually take Sinemet or Sinemet Plus three or four times a day. But this will vary and your healthcare professional will be best placed to advise you on what dose is best for your Parkinson's.

Co-careldopa (Sinemet controlled release tablets)

Co-careldopa controlled release lets the levodopa enter your body slowly instead of all at once. This is particularly helpful if taken before going to bed to reduce stiffness during the night.

Co-careldopa controlled release tablets mean that your medication takes effect slowly during the day. Your dose can be adjusted by your specialist or Parkinson's nurse so that your symptoms are well controlled.

You should take these tablets whole. Don't break, crush or chew them because they have been made to release your medication slowly.

Benefits and risks of taking co-beneldopa and co-careldopa

Co-beneldopa (Madopar) and Co-careldopa (Sinemet, Caramet, Lecado and Apodespan) are common drugs used to treat Parkinson's and most people will experience an improvement in their symptoms.

See our levodopa section for an overview of the side effects you may experience.

Co-careldopa (Duodopa)

Duodopa is a gel form of levodopa (co-careldopa) medication used for advanced and complex Parkinson's.

It is pumped through a tube that is surgically inserted into the intestine. This means your dose of medication acts more quickly.

Duodopa gel can help reduce:

- involuntary movements as a side effect of your medication
- motor fluctuations from your drugs wearing off
- problems with your symptoms at night

When is Duodopa used?

It is only suitable for a small number of people whose symptoms can't be controlled with more common drug treatments, such as levodopa tablets.

It is most often used when Parkinson's symptoms have progressed.

Find out more at parkinsons.org.uk/levodopa



DOPAMINE AGONISTS

Dopamine agonists is the name used to describe a class of Parkinson's drugs.

Below are the types of dopamine agonist drugs. The generic names are written in bold and the brand names are written underneath in bullet points. See the section on names of Parkinson's drugs to find out more.

Types of dopamine agonists

Pramipexole

- Mirapexin (tablets)
- Mirapexin (prolonged release tablets)
- Pipexus (modified release tablets)
- Glepark (tablets)
- Oprymeia (tablets)
- Zentiva (prolonged release tablets)

Ropinirole

- Adartrel (tablets)
- Ralnea XL (prolonged release tablets)
- Requip (tablets)
- Requip XL (prolonged release tablets)
- Spiroco XL (prolonged release tablets)
- Ipinnia XL (prolonged release tablets)
- Raponer XL (prolonged release tablets)
- Ropilynz XL (prolonged release tablets)

Rotigotine

- Neupro (skin patch)

Apomorphine

- Apo-go pre-filled pen for intermittent injection
- Dacepton cartridge for intermittent injection (can be used with a re-usable pen)

- Apo-go pre-filled syringe for infusion (can be used with a continuous infusion pump)
- Dacepton vial (can be used with a continuous infusion pump)

How do dopamine agonists work?

Dopamine agonist drugs trick your brain into thinking they are dopamine. This means they can mimic the way dopamine works which can reduce your symptoms.

When are dopamine agonists used?

Dopamine agonists are typically prescribed in the earlier stages of Parkinson's but everyone is different and you could be prescribed them at any time if it is right for you.

Treatment with dopamine agonists has to be started carefully. The dose is gradually increased until you and your specialist team are happy that your symptoms are under control.

Benefits of dopamine agonists

Delaying levodopa treatment

Dopamine agonists may be an effective treatment for several years when used alone or with levodopa. But this won't be true for everyone.

Lowers levodopa medication

Taking dopamine agonists may mean you can take lower doses of levodopa as your condition progresses. This can reduce the risk of involuntary movements (dyskinesia) and how much they affect you.

Helping levodopa work better

Dopamine agonists can be taken with levodopa medication to help when levodopa wears off or doesn't work as well. This is because dopamine agonists work for longer in the body and can reduce the 'on/off' effect you may have with levodopa.

Fewer tablets to take

There are some once-daily preparations that could reduce the number of tablets you take in some cases. But this option may not be suitable for everyone.

Treating restless legs

Dopamine agonist medications can be used for people who have restless legs syndrome, also called Willis-Ekbom disease. Your healthcare professional will decide which specific drug to prescribe.

Restless legs syndrome can be connected to Parkinson's or it can be a separate condition. You may experience tingling in your legs and you may have an urge to move them.

Check with your healthcare professional for specific advice on when to take dopamine agonist medication you are prescribed for restless legs syndrome.

Find out more: see our [information on restless legs](#).

Risks and side effects of dopamine agonists

Heart problems

Some of the older dopamine agonists increase the risk of heart and lung problems. They are known as ‘ergot’ types and include bromocriptine, pergolide and cabergoline. Because of this risk, these Parkinson’s drugs are no longer recommended and we haven’t included them here.

Newer dopamine agonists are known as non-ergot. These are pramipexole, ropinirole, rotigotine and apomorphine. They have not been associated with a risk of heart damage and can be prescribed.

Sleepiness and fainting

Dopamine agonist drugs can make you sleepy, faint or dizzy. This is most likely to happen when you start taking them. Once you reach a stable dose, this effect often wears off.

Some people have experienced a sudden onset of sleep, without any warning. If this happens, it’s important that you tell your specialist or Parkinson’s nurse.

Impulsive and compulsive behaviours and hallucinations and delusions

These side effects can happen with any Parkinson’s drugs but are more common with dopamine agonists.

See the section on side effects of Parkinson’s drugs to find out more.

Other side effects

The patient information leaflet that comes with your medication will tell you the full range of side effects that you may experience.

Some possible side effects include:

- nausea
- constipation
- low blood pressure (hypotension)
- headaches
- anxiety and depression
- movement problems



Taking pramipexole (Mirapexin, Pipexus, Glepark, Opryme, Zentiva)

Below we have included the different forms of pramipexole (Mirapexin, Pipexus, Glepark, Opryme, Zentiva) medication and an overview of how to take them.

The most recent and complete information on your specific drug will be on your patient information leaflet that comes with your medication packet. Always read it carefully before you start your treatment.

For detailed information you should follow the advice of your specialist or Parkinson's nurse about how to take pramipexole so that it works well for your Parkinson's.

Pramipexole drugs are also used to help your symptoms when your levodopa medication causes you

to experience wearing off and dyskinesia. This could be motor fluctuations, or wearing off before your next dose of levodopa is due.

Pramipexole tablets (Mirapexin, Pipexus, Glepark, Opryme or Zentiva)

Swallow the tablets with a drink of water. You can take your doses before or after meals.

Your specialist or Parkinson's nurse will be able to advise you on the best dose. Usually you will be given these tablets on a low dose at first which will be increased roughly every five to seven days until it is right for you and your symptoms.

You will usually take Mirapexin three times a day but your specialist or Parkinson's nurse will be best placed to advise you on this.

Pipexus and Mirapexin (prolonged release tablets)

You should take the capsules with a drink of water. Don't break, crush or chew them. This is because they have been made to release the medicine slowly over the course of the day. You can take them with or without food.

Your healthcare professional will be able to advise you on the best dose. But usually you will be given these tablets on a low dose at first which will be increased roughly every five to seven days until it is right for you and your symptoms.

You will be prescribed Pipexus or Mirapexin (controlled release tablets) once a day. This can make it easier for you to remember your dose.

Ropinirole

Ropinirole is a type of generic (unbranded) dopamine agonist medication.

There are a number of brand names for ropinirole. These are:

- Adartrel (tablets)
- Ralnea XL (prolonged release tablets)
- Requip (tablets)

- Requip XL (prolonged release tablets)
- Spiroco XL (prolonged release tablets)
- Ipinnia XL (prolonged release tablets)
- Raponer XL (prolonged release tablets)
- Ropilynz XL (prolonged release tablets)

Ropinirole medication can be used as a substitute for dopamine because it can have an effect on the same nerve cells where dopamine works. Ropinirole can be used alone or with other medications to treat Parkinson's.

Taking ropinirole (Requip, Adartrel, Requip XL, Ralnea XL, Spiroco XL, Ipinnia XL, Raponer XL or Ropilynz XL)

Below we have included the different forms of ropinirole medication and an overview of how to take them.

The most recent and complete information on your specific drug will be on your patient information leaflet that comes with your medication packet. Always read it carefully before you start your treatment. For detailed information you should

follow the advice of your doctor about how to take ropinirole so that it works well for your Parkinson's.

Ropinirole (Requip, Adartel)

Ropinirole (Requip, Adartel) is taken as one dose per day, usually just before bedtime or around three hours beforehand. Your healthcare professional can then increase your dose during the rest of the first week if you don't experience side effects.

However your specialist or Parkinson's nurse will be best placed to advise you on when to take ropinirole so that it works well for your condition. They can increase your daily dose over time until it is right for you and your symptoms. Taking ropinirole with your meals will help to reduce any stomach issues that you may experience.

Ropinirole prolonged release tablets (Ralnea XL, Requip XL, Spiroco XL, Ipinnia XL, Raponer XL, Ropilynz XL)

Prolonged release tablets release your medication slowly throughout the day. This can give you more control of your symptoms. They can be taken alone to try and delay the need for you to take levodopa. This can be helpful because levodopa becomes less effective over time.

- You should take these tablets once a day.
- These tablets can be taken with or without food.
- It is important that you take these tablets whole. They must not be chewed, crushed or divided into pieces.

At first your specialist will prescribe you a low dose of Ralnea XL, Requip XL, Spiroco XL, Ipinnia XL, Raponer XL or Ropilynz XL. This will usually be once per day for an initial period of one week. Your healthcare professional can then increase your daily dose until it is right for you and your symptoms.

In some cases, a high fat meal may create issues so speak to your specialist if you think that food is creating problems when you take your medication.

Tell your doctor if you experience side effects from any of these prolonged release tablets as other forms of ropinirole medication may be more suitable for you.

Benefits and risks of pramipexole and ropinirole medication

Pramipexole and ropinirole medication is commonly used to treat Parkinson's and most people will experience an improvement in their symptoms.

See the section on risks and side effects of dopamine agonists for an overview of the side effects you may experience.

For the full range of side effects, see the patient information leaflet that comes with your medication.

Rotigotine (Neupro)

The brand name of rotigotine is Neupro. It is a skin patch which is applied to different areas of the skin and releases the drug slowly.

How does the skin patch work?

Neupro is placed on your skin once at the same time every day. You should hold the patch in place for 30 seconds to allow the drug to start working. It can stay in place for 24 hours before you apply a new one.

If you forget to apply the patch at your usual time or if it falls off, put on a new one for the rest of the day.

How can a skin patch help?

It may be useful if:

- you have trouble swallowing tablets
- you experience wearing off of your levodopa medication
- you experience fluctuations in the way your levodopa medication works
- you experience restless legs syndrome (an uncontrollable urge to move your legs)

Find out more at parkinsons.org.uk/rotigotine

Apomorphine

Apomorphine is a strong dopamine agonist that stimulates the same areas of the brain as dopamine.

Apomorphine is injected or infused through a pump. It also comes in a pen, cartridge or vial. The brand names for apomorphine are Apo-go and Dacepton.

Apomorphine is often used to improve symptoms quickly. It may be helpful if:

- your symptoms are unpredictable because of the 'on-off' effect of your medication

- oral drug treatments have become less effective or stopped working

How does apomorphine work?

Apomorphine injections are taken with a ready-to-use pen that you inject seven to 10 times a day. It works within five to 10 minutes.

Dacepton is a brand of permanent pen with cartridges to refill.

If you need more than 10 injections a day, you may be changed to a continuous infusion.

Continuous infusion is when medication is delivered non-stop into your body via a small battery-driven pump. This uses a fine tubing with a small needle at the end, which is inserted under the skin.

Find out more: [see our information on apomorphine.](#)



MAO-B INHIBITORS

MAO-B inhibitors

MAO-B inhibitors is the name used to describe a class of Parkinson's drugs.

Below are the types of MAO-B inhibitor drugs. The generic names are written in bold and the brand names are written underneath in bullet points. See the section on names of Parkinson's drugs to find out more.

Types of MAO-B inhibitors

Rasagiline

- Azilect (tablets)

Selegiline

- Eldepryl (tablets)
- Zelapar (tablets that dissolve on the tongue)

Safinamide

- Xadago (tablets)

How do MAO-B inhibitors work?

MAO-B inhibitors can help your nerve cells make better use of the dopamine that they have.

Monoamine oxidase type B is an enzyme that wrongly hoovers up dopamine that is not being used by your brain. MAO-B inhibitors stop this enzyme so that more dopamine becomes available to treat your symptoms.

MAO-B inhibitors take two to three weeks to work and when you stop this medication it will be two to three weeks before they stop working.

When are MAO-B inhibitors used?

A MAO-B inhibitor can be used on its own in early Parkinson's when your motor symptoms are controlled and mild. It can also be used with other drugs at any stage. Later on it can help with motor fluctuations.

Benefits of MAO–B inhibitors

You don't need to start gradually

Many drug treatments for Parkinson's have to be started gradually, with the dose slowly being increased over time. This is not the case for most MAO–B inhibitors.

Delaying levodopa treatment

By taking a MAO–B inhibitor at an early stage of Parkinson's, you may be able to delay taking levodopa until your symptoms become more difficult to manage.

Helping levodopa work well

When you have been taking levodopa for a while, you may find that its effects wear off too quickly. A MAO–B inhibitor can help.

Taking a MAO–B inhibitor may also mean you can take less levodopa and leave more time between doses.

Risks and side effects of MAO–B inhibitors

Antidepressants

If you're taking some types of antidepressant, you might not be able to take MAO–B inhibitors. This is because these drugs can interact with each other and raise blood pressure to a dangerous level.

Your specialist should be able to advise you on how to take antidepressants alongside your Parkinson's medication.

Decongestants or cold remedies

These can affect some types of MAO–B inhibitors. If you need to use them, check with your pharmacist to find out which one is safe for you to use.

Worse levodopa side effects

Involuntary movements (dyskinesia) and sickness may get worse because MAO–B inhibitors strengthen the effects of levodopa. If this happens, your specialist or Parkinson's nurse can reduce your dose of levodopa.

Impulsive and compulsive behaviours

Impulsive and compulsive behaviours can happen with any Parkinson's drugs. See the section on side effects of Parkinson's drugs to find out more.

Increased risk of low blood pressure

If you take a high dose of MAO–B inhibitor medication, eating and drinking certain things can increase low blood pressure. Because of the doses used in Parkinson's this is not thought to be a problem, but speak to your specialist or Parkinson's nurse if you have any concerns.

Other side effects

The patient information leaflet that comes with your medication will tell you the full range of side effects that you may experience.

Some of the possible side effects include:

- headaches
- constipation
- dry mouth
- an urgent need to pass urine
- aching joints
- indigestion
- flu-like symptoms
- depression

Rasagiline (Azilect)

Rasagiline is a type of generic (unbranded) MAO-B inhibitor medication. Azilect is the brand name.

Taking rasagiline (Azilect)

Rasagiline can be taken alone. It can also be taken with levodopa to help stop motor fluctuations that happen at the end of your dose or before your next one is due.

You will take rasagiline once per day, which can be helpful if you prefer to take fewer doses. But be aware that this option may not be suitable for everyone. You can take it with or without food.

Selegiline (Eldepryl, Zelapar)

Selegiline is a type of generic (unbranded) MAO-B inhibitor medication. Eldepryl and Zelapar are the branded versions of selegiline.

Selegiline is started at 5 mg and increased after two to four weeks to 10 mg.

Eldepryl tablets

You will usually take Eldepryl tablets once per day. However there is also the option of taking one in the morning and then one at lunchtime. Your specialist team can advise you on the best time to take Eldepryl for your Parkinson's.

Eldepryl tablets can delay the need to take levodopa which is helpful as levodopa can become less effective over time.

Eldepryl can also be taken with levodopa to help stop motor fluctuations that happen at the end of your dose before your next one is due.

Zelapar dissolvable tablets

Selegiline is available as tablets which dissolve on the tongue (Zelapar dissolvable tablets). This can be helpful if you experience problems with swallowing.

To take Zelapar tablets, put one on your tongue before eating breakfast. You should wait five minutes for it to dissolve before eating, drinking, or rinsing your mouth so this medication can work.

Safinamide (Xadago)

Safinamide is a type of generic (unbranded) MAO-B inhibitor medication. Xadago is the branded version of safinamide.

Safinamide medication is taken as an addition to your regular dose of levodopa medication. It can also be taken with other medication if your condition has progressed to help reduce motor fluctuations.

Taking safinamide (Xadago)

You will take safinamide (Xadago) once per day with water and with or without food. This can be helpful if you prefer to take fewer doses. But be aware this option may not be suitable for everyone. Your healthcare professional will be best placed to advise you when to take safinamide (Xadago) medication.

Benefits and risks of rasagiline, selegiline and safinamide

Rasagiline (Azilect), selegiline (Eldepryl, Zelapar) and safinamide (Xadago) are commonly used to treat Parkinson's and most people will experience improvement in their symptoms.

See the section on the risks and side effects of MAO-B inhibitors to find out more.

For the full range of side effects, see the patient information leaflet that comes with your medication.



COMT INHIBITORS

COMT inhibitors is the name used to describe a class of Parkinson's drugs.

Below are the types of COMT inhibitor drugs. The generic names are written in bold and the brand names are written underneath in bullet points. See the section on names of Parkinson's drugs to find out more.

Types of COMT inhibitors

Entacapone

- Comtess (tablets)

Co-careldopa and entacapone

- Stalevo (tablets)
- Sastravi (tablets)
- Stanek (tablets)

Tolcapone

- Tasmar (tablets)

Opicapone

- Ongentys (tablets)

How do COMT inhibitors work?

Levodopa can boost the supply of dopamine in your brain. COMT inhibitors can block an enzyme that breaks down levodopa medication. This helps it to work more effectively.

When are COMT inhibitors used?

COMT inhibitors do not help to manage the symptoms of Parkinson's on their own – they have to be used with levodopa.

Your specialist might prescribe them if your dose of levodopa is not working for long enough.

It will also help your levodopa medication to work more smoothly in controlling your symptoms.

Benefits of COMT inhibitors

Helping levodopa work smoothly

COMT inhibitors can help when levodopa is not working for long enough and starts to wear off

between doses. They can help to reduce your 'off' time, when you have more trouble with your Parkinson's symptoms, and increase the amount of 'on' time, when your symptoms are more controlled.

Taking less levodopa

In many cases, you will be able to take a lower dose of levodopa and less often.

Risks and side effects of COMT inhibitors

Coloured urine and diarrhoea

COMT inhibitors will colour your urine a bright reddish orange colour but this isn't harmful.

You may experience diarrhoea weeks or months after starting co-careldopa and entacapone (Stalevo, Sastravi, Stanek). If this happens contact your specialist or Parkinson's nurse for advice.

Liver damage

With tolcapone (Tasmar), there is a risk of liver damage that can be fatal and you will need regular blood tests to check the health of your liver. It is rare, but for this reason, it is only used if you can't take entacapone, where no risk of liver damage has been seen. Because of this we have not included further information about tolcapone here.

Worse levodopa side effects

Involuntary movements (dyskinesia) and sickness may get worse because COMT inhibitors strengthen the effects of levodopa. If this happens, your specialist or Parkinson's nurse can reduce your dose of levodopa.

Impulsive and compulsive behaviours

Impulsive and compulsive behaviours can happen with any Parkinson's medication. See the section on side effects of Parkinson's drugs to find out more.

Other side effects

The patient information leaflet that comes with your medication will tell you the full range of side effects that you may experience.

Some of these side effects include:

- sleeping problems
- loss of appetite
- dizziness
- fainting
- falls
- hallucinations
- headaches
- confusion

- dry mouth
- chest pain
- sleepiness

If you are allergic to peanuts or soya, make sure you tell your specialist and Parkinson's nurse as you may not be able to take some COMT inhibitors.

Entacapone (Comtess)

Entacapone is a COMT inhibitor drug used to manage the symptoms of Parkinson's. The brand name of entacapone is Comtess.

If you've had Parkinson's for some time and your symptoms get worse between each dose of medication, you may be prescribed entacapone (Comtess). It works to increase the effectiveness of the levodopa medication you are taking and stop it from being broken down in the body.

Taking entacapone (Comtess)

The most recent information on your specific medication will be on your patient information leaflet that comes with your packet. Always read it carefully before you start your treatment.

For detailed advice you should speak to your healthcare professional about how to take entacapone so that it works well for your Parkinson's.

Below we have included an overview of how to take entacapone (Comtess) medication.

- You should take entacapone (Comtess) tablets at the same time as your co-beneldopa, or co-careldopa levodopa medication.
- Entacapone increases the effectiveness of your co-beneldopa, or co-careldopa levodopa medication. But too much levodopa can create side effects. So when you start taking entacapone, your specialist or Parkinson's nurse may need to adjust the amount of levodopa that you take.
- You can take your entacapone medication before you eat a meal.
- When you take your entacapone (Comtess) tablets it may help to avoid any medicines or vitamin supplements with iron in them. Iron can mean that less entacapone gets into the parts of the body where it is needed. Talk to your specialist or Parkinson's nurse for more information about this.

Co-careldopa and entacapone (Stalevo, Sastravi)

Stalevo and Sastravi are branded versions of co-careldopa and entacapone medication. This means they combine the levodopa medication co-careldopa (see the section on co-careldopa) with entacapone (see the section on entacapone).

The entacapone helps to make the levodopa component stronger which can help you control your symptoms.

Using this combination drug also means that it is convenient for people to take.

Taking co-careldopa and entacapone (Stalevo, Sastravi)

You may be prescribed co-careldopa and entacapone (Stalevo and Sastravi) if levodopa medication alone is not able to control motor fluctuations you experience at the end of your dose.

The maximum dose of Stalevo and Sastravi medication is usually seven to 10 tablets, depending on the strength you are prescribed.

Your healthcare professional will be best placed to advise you on when to take your medication and exactly how much to take.

Opicapone (Ongentys)

Opicapone (Ongentys) is a type of COMT inhibitor medication. If you take levodopa for a long time, you may experience end of dose motor fluctuations when your symptoms are poorly controlled before your next dose is due. If this happens you can take opicapone with your levodopa medication to ease this issue.

Opicapone strengthens your levodopa medication to make it work better than when it is taken alone.

Taking opicapone (Ongentys)

The most recent and complete information on your specific drug will be on your patient information leaflet that comes with your medication packet. Always read it carefully before you start your treatment.

For detailed information you should follow the advice of your healthcare professional about how to take opicapone (Ongentys) so that it works well for your Parkinson's.

You should take opicapone once a day at bedtime. You should do this at least one hour before or after your levodopa medication.

Because opicapone is taken with levodopa to make it work well and reduce side effects, your healthcare

professional may need to adjust the amount of levodopa you take. You should discuss this with them.

Benefits and risks of entacapone, co-careldopa and entacapone, and opicapone

Entacapone (Comtess), co-careldopa and entacapone, and opicapone (Ongentys) is commonly used to

treat Parkinson's and most people will experience an improvement in their symptoms.

See the section on the risks and side effects of COMT inhibitors to find out more.

For the full range of side effects, see the patient information leaflet that comes with your Ongentys medication.



AMANTADINE

Amantadine

Amantadine is the only glutamate antagonist drug that is prescribed to treat Parkinson's. It is an unbranded form of Parkinson's medication, which comes in the form of capsules and syrup.

When is amantadine used?

Amantadine isn't used as much as other Parkinson's medication and is not usually prescribed alone.

There isn't much evidence that amantadine can improve tremor and other motor symptoms of Parkinson's. But it can be used to treat involuntary movements (dyskinesia) if other Parkinson's medication has not been effective.

Amantadine is often prescribed when other medication is no longer working as well but it can be used at all stages of Parkinson's.

Amantadine is usually given with other drug treatments. It is started at a lower dose and the amount is stepped up gradually.

Benefits of amantadine

National guidelines say there is not enough scientific evidence to support this drug as a first choice in early Parkinson's.

But for some people, later on, amantadine may reduce involuntary movements (dyskinesia) caused by your other Parkinson's drugs, without making your Parkinson's symptoms worse.

Amantadine can also help to reduce stiffness you may experience in your muscles.

Risks and side effects of amantadine

Limited effect on Parkinson's

Amantadine is not a first choice for the treatment of Parkinson's and it may have only a mild effect.

Over time, people can become used to this medication and amantadine can become less effective.

Impulsive and compulsive behaviours

Impulsive and compulsive behaviours can happen with any Parkinson's drugs. See the section on side effects of Parkinson's drugs to find out more.

Other side effects

People who use amantadine as a treatment for their Parkinson's find that it improves their symptoms, particularly when other Parkinson's drugs are creating issues.

For the full range of side effects, see the patient information leaflet that comes with your amantadine medication.

See the section on side effects of Parkinson's drugs to find out more.

Some of the other possible side effects you may experience with amantadine include:

- feeling nervous or anxious
- blurred vision, fainting, confusion or dizziness. These symptoms may be linked to low blood pressure when changing position

(postural hypotension). Also, If you have these side effects, it is not safe to drive or use machinery.

- headaches, poor concentration
- hallucinations, delusions and paranoia
- movement problems
- sleep problems
- fast or irregular heartbeat (this can be linked to swelling in the feet or ankles, known as oedema)
- loss of appetite and weight loss
- dry mouth
- nausea and vomiting
- sweating
- problems with speech
- skin reactions

ANTICHOLINERGICS

Anticholinergics

Anticholinergics is the name used to describe a class of Parkinson's drugs.

Below are the types of anticholinergic drugs. The generic names are written in bold and the brand names are written underneath in bullet points. See the section on names of Parkinson's drugs to find out more.

Types of anticholinergics

Procyclidine

- Kemadrin (tablets, syrup)
- Kemadrin (solution for injection)

Trihexyphenidyl (benhexol)

- Unbranded (tablets, syrup)

How do anticholinergics work?

Anticholinergics block a chemical messenger called acetylcholine which is found in your brain and body. It helps to send messages in the brain as well as from your nerves to your muscles.

In Parkinson's the effect of acetylcholine is stronger. This can lead to part of the brain becoming overactive and you may experience a tremor. Reducing the effect of acetylcholine can help to treat tremor.

When are anticholinergics used?

Anticholinergics are not commonly used to treat Parkinson's. They might help with some Parkinson's symptoms but can make others worse.

They can be used in younger people with a noticeable tremor. But older people who take anticholinergics are more likely to experience side effects such as confusion and hallucinations.

If you take them for a number of years, they can be quite difficult to stop and some people

experience withdrawal symptoms.

Benefits of anticholinergics

Improving Parkinson's symptoms

Some anticholinergics may help with tremor with some Parkinson's symptoms when other medication is no longer working.

Anticholinergics may help with rigidity, slowness of movement, tremor, speech and writing difficulties, gait, sweating, involuntary movements of the eyes and feeling depressed.

Improving sialorrhoea and drooling

Anticholinergics can reduce the flow of saliva in your mouth which may be helpful if you experience drooling or produce too much saliva (sialorrhoea). However, anticholinergics can also lead to a dry mouth so discuss whether this option is right for you with your health professional.

Risks and side effects of anticholinergics

Limited effect on most Parkinson's symptoms

Anticholinergics are not a first choice for the treatment of

Parkinson's and may have only a mild effect.

Memory problems

Anticholinergics are not often given to people with Parkinson's because they can cause memory problems or make existing problems worse. This can happen at any age, but particularly for older people.

If you're taking anticholinergics, your specialist or Parkinson's nurse must monitor you regularly.

Other side effects

Most of the side effects of anticholinergics are rare, but it is important to know what to look out for.

For the full range of side effects, see the patient information leaflet that comes with your anticholinergics medication. See the section on side effects of Parkinson's drugs to find out more.

Some of the other possible side effects you may experience with anticholinergics include:

- mental health issues
- eye problems
- constipation
- skin reactions

- trouble urinating

Procyclidine (Kemadrin)

Procyclidine (Kemadrin) is a type of anticholinergic medication.

It may be helpful if you experience muscle spasms (dystonia) which cannot be controlled with other medication. It may also help to control more complex Parkinson's symptoms such as delusions (seeing, hearing, feeling, smelling or tasting something that isn't really there).

Taking procyclidine (Kemadrin)

The most recent and complete information on your specific drug will be on your patient information leaflet that comes with your medication packet. Always read it carefully before you start your treatment.

For detailed information you should follow the advice of your healthcare professional about how to take procyclidine (Kemadrin) so that it works well for your Parkinson's.

You will usually take Kemadrin three times a day. Your specialist or Parkinson's nurse can increase your dose until it controls your symptoms.

There is also the option to have procyclidine (Kemadrin) as an injection into your muscles.

Alternatively, it is available as a syrup. These options are useful if you have difficulty swallowing tablets. They can also release your medication more quickly.

Procyclidine (Kemadrin) can be taken with levodopa and amantadine medication. Your specialist will be able to discuss whether this option is right for you.

Trihexyphenidyl (also called benzhexol)

Trihexyphenidyl or benzhexol is a type of anticholinergic medication.

It may be helpful if you experience muscle spasms (dystonia), tremor or excessive saliva production (sialorrhoea) which cannot be controlled with other medication.

Taking trihexyphenidyl medication

You will usually take trihexyphenidyl medication three or four times a day at mealtimes. If you find that it causes you to experience a dry mouth your specialist may recommend you take trihexyphenidyl before your meal.

This can make you feel sick. Instead you can take your medication after you have finished eating. If you do this, you may notice an increased thirst. Water, peppermint or

chewing gum can help this issue. Your specialist will prescribe a small dose of trihexyphenidyl at first and this will be increased until your symptoms are controlled.

You can take trihexyphenidyl with your levodopa medication. Your specialist will be able to discuss whether this option is right for you.

Benefits and risks of procyclidine and trihexyphenidyl medication

Trihexyphenidyl (or benzhexol) and procyclidine (Kemadrin) is sometimes

used to treat Parkinson's and most people will experience a mild improvement in their symptoms.

See the section on the risks and side effects of anticholinergics to find out more.

For the full range of side effects, see the patient information leaflet that comes with your medication.



PARKINSON'S DRUGS AND HOW TO PRONOUNCE THEM

This list shows the class of Parkinson's drug in capital letters, the unbranded name of the drug in bold and the brand name in bullet points. The pronunciation of each drug is written in blue.

This list is correct as of July 2019.

This list doesn't show the order in which medications are prescribed. Everyone with Parkinson's will have a drug regime that is right for them.

LEVODOPA **LE-vo-do-pa**

Co-beneldopa **koh-BEN-el -DOH-puh**

- Madopar (capsules, dispersible tablets) **MAH-doh-par**
- Madopar CR (controlled release capsules)

Co-careldopa **koh-KA-rul-DOH-puh**

- Caramet CR **KA-ra-met**
- Lecado (modified release tablets) **LEH-kah-doh**
- Half Sinemet CR (controlled release tablets) **SIN-nuh-met**
- Sinemet (tablets)
- Sinemet Plus (tablets)
- Sinemet CR (controlled release tablets)
- Duodopa (intestinal gel) **DO-o-doh-puh**

Co-careldopa and entacapone koh-KA-rul-DOH-puh and en-TA-kuh-poné

- Stalevo/Sastravi (tablets) sta-LE-voe / Sa-STRA-ve
- Stanek (tablets) STA-neck

DOPAMINE AGONISTS

DOH-puh-meen-A-gu-nists

Pramipexole PRA-me-PEK-sol

- Mirapexin (tablets) MIH-ruh-pek-sin
- Mirapexin (prolonged release tablets)
- Pipexus (modified release tablets) pi-PEX-us
- Glepark (tablets) GLE-park
- Oprymea (tablets) o-PRY-mea
- Zentiva (prolonged release tablets) zen-TIVA

Ropinirole roh-PIH-nih-roll

- Adartrel (tablets) ad-AR-trul
- Ralnea XL (prolonged release tablets) RAL-nee- a
- Requip (tablets) RE-kwip
- Requip XL (prolonged release tablets)
- Spiroco XL (prolonged release tablets) SPY-roh-koh
- Ipinnia XL (prolonged release tablets) i-PIN-nia
- Raponer XL (prolonged release tablets) ra-PONE-nuh
- Ropilynz XL (prolonged release tablets) RO-pill-ins



Rotigotine ra-TIH-goh-teen

- Neupro (skin patch) **NEW-pro**

Apomorphine A-poh-MOR-feen

- Apo-go pre-filled pen for intermittent injection **A-poh-go**
- Dacepton cartridge for intermittent injection (can be used with a re-usable pen) **DAH-sep-ton**
- Apo-go pre-filled syringe for infusion (can be used with a continuous infusion pump)
- Dacepton vial (can be used with a continuous infusion pump)

Bromocriptine bro-mo-KRIP-teen

We have not included information about bromocriptine because this medication is rarely used.

- Parlodel (tablets, capsules) **PAR-luh-del**

Cabergoline ka-BER-go- leen

We have not included information about cabergoline in this booklet because this medication is rarely used.

- Cabaser (tablets) **ka-BA-suh**
- Dostinex (tablets) **DOS-ti-nex**

Pergolide PER-guh-ried

We have not included information about pergolide in this booklet because this medication is rarely used.

MAO-B INHIBITORS

M-A-O-B-in-HIH-bi-tuz

Rasagiline ra-SAH-ji-leen

- Azilect (tablets) A-zih-lekt

Selegiline seh-LEH-ji-leen

- Eldepryl (tablets) EL-duh-pril
- Zelapar (tablets that dissolve on the tongue) ZEH-luh-par

Safinamide sa-FIN-a-mide

- Xadago (tablets) ZA-DA-go

COMT INHIBITORS

KOMT in-HIH-bit-ers

Entacapone en-TA-kuh-pon

- Comtess (tablets) KOM-tess

Co-careldopa and entacapone koh-KA-rul-DOH-puh and en-TA-kuh-pon

- Stalevo/Sastravi (tablets) sta-LE-voe / Sa-STRA-ve
- Stanek (tablets) st-A-neck



- Tolcapone **TOLL-kuh-pone**

We have not included information about Tolcapone in this booklet because this medication is rarely used.

- Tasmar (tablets) **TAZ-mar**

Opicapone oh-PEE-kuh-pone

- Ongentys (tablets) **on-GEN-tees**

Amantadine (capsules, syrup) a-MAN-ta-deen

ANTICHOLINERGICS **anti-colin-ER-gics**

Procyclidine

pros-I-claire-deen

- Kemadrin (tablets, syrup) **ka-MAY-drin**
- Kemadrin (solution for injection)

Trihexyphenidyl (benzhexol) (tablets, syrup)

TROX-i-fen-i-dril

BEN-ex-ol

Sometimes, new Parkinson's medication is produced, or stopped. The most recent list of treatments is available at parkinsons.org.uk/drug-treatment



PARKINSON'S^{UK}
CHANGE ATTITUDES.
FIND A CURE.
JOIN US.

MEDICATION RECORD

MY DETAILS	USEFUL CONTACTS
Name	GP name and phone number
Date of birth	Parkinson's nurse name and phone number
Address	Consultant specialist name and phone number
Phone number and email	In case of emergency contact
Email	In case of emergency contact

Apomorphine	DBS
Name and phone number of the person who administers my pump is	I have a DBS unit. The serial number is
Flow rate and start stop time of my pump is	My DBS nurse and phone number is
Apomorphine devices that I use are (Name of syringe, needle pen, vile, cartridge?)	My DBS specialist and phone number is



MY MEDICATION

Date	Medication name	Dose	Times of doses	Notes

MY MEDICATION

Date	Medication name	Dose	Times of doses	Notes



MY MEDICATION

Date	Medication name	Dose	Times of doses	Notes

MY MEDICATION

Date	Medication name	Dose	Times of doses	Notes



MORE INFORMATION AND SUPPORT

Reporting a side effect

The Medicines and Healthcare Products Regulatory Authority (MHRA) is the government body that makes sure that drugs work and are safe. It is keen to receive feedback about medication side effects.

To report a side effect, you should complete a Yellow Card form, available from your pharmacist, GP, specialist or via the Yellow Card information service **0808 100 3352**.

You can also complete this form online, or download and print it from **yellowcard.mhra.gov.uk**. Speak to your pharmacist, GP, specialist or Parkinson's nurse if you need any help filling in this form.

You can also report any side effects from your Parkinson's medication directly to your GP, specialist or Parkinson's nurse.

Parkinson's nurses

Parkinson's nurses provide expert advice and support to people with Parkinson's and those who care for them. They can also act as a liaison between other health and social care professionals to make sure your needs are met.

Parkinson's nurses may not be available in every area, but your GP or specialist can tell you about local services.

You can find out more at **parkinsons.org.uk/nurses**

Information and support from Parkinson's UK

You can call our free confidential helpline for general support and information. Call **0808 800 0303** (calls are free from UK landlines and most mobile networks) or email **hello@parkinsons.org.uk**

Our helpline can also put you in touch with one of our local advisers, who provide one-to-one information and support to anyone affected by Parkinson's. They can

also provide links to local groups and services.

Our website has information about your local support team and how to contact them at **parkinsons.org.uk/localtoyou**

You can find details of our local groups and your nearest meeting at **parkinsons.org.uk/localgroups**

You can also visit **parkinsons.org.uk/forum** to chat to other people with similar experiences on our online discussion forum.

Drug treatments for Parkinson's (PKB013/2019)

Do you have any feedback about this information? Your comments will help us ensure our resources are as useful and easy to understand as possible. Please return to [Information Content team, Parkinson's UK, 215 Vauxhall Bridge Road, London SW1V 1EJ](#), or email publications@parkinsons.org.uk. Thank you!

1. Please choose the option that best fits you.

- I have Parkinson's and was diagnosed in
 - I care for someone with Parkinson's
 - I have a friend or family member with Parkinson's
 - I'm a professional working with people with Parkinson's
 - Other (please specify)
-
-

2. Where did you get this information from?

- GP
 - Specialist
 - Parkinson's nurse
 - Parkinson's UK local group
 - Parkinson's UK local adviser
 - Ordered directly from us
 - Call to the helpline
 - Other (please specify)
-
-

3. Has it answered all your questions?

- Yes, completely
- Not sure
- Yes, mostly
- Not at all
- Partly

4. How easy was it to understand?

- Very easy
- Quite difficult
- Easy
- Very difficult
- Not sure



5. Has it helped you manage your condition better, or make choices that have improved your life in some way?

- | | |
|---|---|
| <input type="checkbox"/> It helped a lot | <input type="checkbox"/> It didn't help |
| <input type="checkbox"/> It helped a little | <input type="checkbox"/> It made things worse |
| <input type="checkbox"/> No change | |

6. What is your ethnic background?*

- | | |
|---|--|
| <input type="checkbox"/> Asian or Asian British | <input type="checkbox"/> Mixed |
| <input type="checkbox"/> Black or Black British | <input type="checkbox"/> White British |
| <input type="checkbox"/> Chinese | <input type="checkbox"/> White other |
| <input type="checkbox"/> Other (please specify) | |
-

*We ask about your ethnicity to ensure our information is reaching a broad range of people. However, this question is optional.

Want to hear more from us?

- I would like a response to my feedback
- I would like to be a member of Parkinson's UK
- I'm interested in joining the Information review group, to offer feedback on Parkinson's UK information

If you've answered yes to any of these options, please complete your details below.

Name

Address

Email

Telephone

How would you prefer us to contact you?

- Email Post Phone

We will not pass on your details to any other organisation or third party. To find out more, read our privacy policy at parkinsons.org.uk/termsandconditions



Thank you to everyone who contributed to or reviewed this booklet:

**Lee Kieft, Parkinson's Nurse,
Lewisham and Greenwich
Hospital NHS Trust**

**Liz Scott, Parkinson's Nurse,
Parkinson's UK Helpline**

**Shelly Jones, Clinical Pharmacy
Teamleader, Neurosciences,
King's College Hospital**

Thanks also to our information review group and other people affected by Parkinson's who provided feedback.

All of the photographs in this booklet feature either people affected by Parkinson's, health and social care professionals involved in caring for people with Parkinson's or Parkinson's UK staff. Thank you to everyone involved for letting us use their photograph.

Can you help?

At Parkinson's UK, we are totally dependent on donations from individuals and organisations to fund the work that we do. There are many ways that you can help us to support people with Parkinson's. If you would like to get involved, please contact our Supporter

Services team on **0800 138 6593** or visit our website at **parkinsons.org.uk/donate**. Thank you.

Our information

All of our most up-to-date information is available at **parkinsons.org.uk/information**

If you'd prefer to read one of our printed leaflets or booklets, find out how to place an order at **parkinsons.org.uk/orderingresources** or by calling **0300 123 3689**.

We make every effort to ensure that our services provide current, unbiased and accurate information. We hope that this will add to any professional advice you receive and help you to make any decisions you may face. Please do continue to talk to your health and social care team if you are worried about any aspect of living with Parkinson's.

If you'd like to find out more about how we put our information together, including references and the sources of evidence we use, please contact us at **publications@parkinsons.org.uk**

Every hour, two people in the UK are told they have Parkinson's – a brain condition that turns lives upside down, leaving a future full of uncertainty.

Parkinson's UK is here to make sure people have whatever they need to take back control – from information to inspiration.

We want everyone to get the best health and social care. So we bring professionals together to drive improvements that enable people to live life to the full.

Ultimately, we want to end Parkinson's. That's why we inspire and support the international research community to develop life-changing treatments, faster. And we won't stop until we find a cure.

**Together we can bring forward the day
when no one fears Parkinson's.**

Parkinson's UK
215 Vauxhall Bridge Road
London SW1V 1EJ

Free confidential helpline **0808 800 0303**
(Monday to Friday 9am–7pm, Saturday 10am–2pm).

Interpreting available.

NGT Relay **18001 0808 800 0303** (for use with smart phones, tablets, PCs and other devices). For more information see **www.ngts.org.uk**

hello@parkinsons.org.uk
parkinsons.org.uk

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Last updated July 2019. We review our information within three years. Please check our website for the most up-to-date versions of all our information.



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