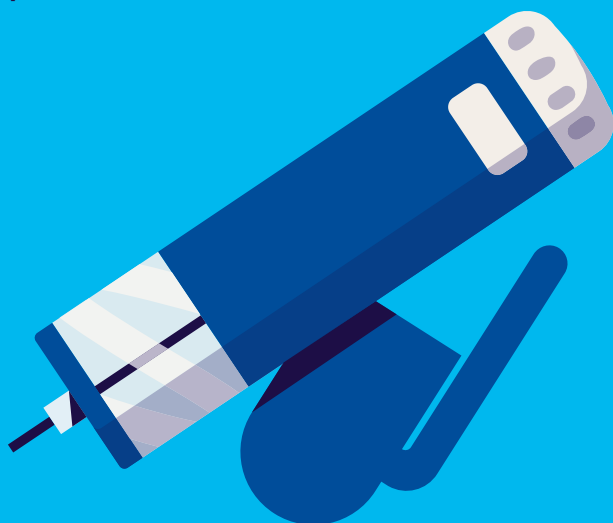


Apomorphine and Parkinson's

Treatments, therapies and side effects

Find out how apomorphine
can help manage
Parkinson's symptoms



Apomorphine is a type of treatment used to manage the symptoms of Parkinson's

This information looks at what apomorphine is, how to take it and the advantages and disadvantages of using it.

How Parkinson's drugs work

People with Parkinson's don't have enough of a chemical called dopamine because some of the nerve cells in the brain that make it have stopped working. This lack of dopamine causes the symptoms of Parkinson's to appear.

Drugs like apomorphine can help you manage your symptoms.

What is apomorphine?

Apomorphine is a type of Parkinson's drug. It comes as a liquid. It is part of the class (category) of drugs called dopamine agonists.

Dopamine agonists work by tricking your brain into thinking they are dopamine. This means they can copy the way dopamine works and can reduce your symptoms.

Apomorphine does not have morphine in it.

In the UK, the brand names of apomorphine are:

- APO-go
- Dacepton.

When is apomorphine prescribed?

Apomorphine can be used when tablets, capsules or patches no longer control Parkinson's symptoms on their own.

It can be used alone but is often prescribed with levodopa or other medication.

Your specialist or Parkinson's nurse may suggest trying apomorphine if you have:

- sudden and unpredictable changes in your movement (motor) symptoms, including dyskinesia
- difficulty swallowing tablets and capsules
- "wearing off" periods that aren't controlled by other Parkinson's medication.

"Wearing off" periods (or "off periods") are times when your symptoms aren't well controlled. During off periods, you might have uncontrolled movements or difficulty moving.

Movement (or motor) symptoms are usually caused by levodopa medication wearing off before your next dose is due. Apomorphine can help reduce your motor symptoms during an “off” period.

Apomorphine may also be useful if the muscles and nerves in your stomach are working more slowly than before. This is known as gastroparesis and can be a symptom of Parkinson’s. Gastroparesis can affect how your body absorbs levodopa and how well it works. Unlike levodopa, which you often take as a tablet or liquid, apomorphine is injected or infused and usually starts working within 12 minutes.

Find out more: see our information on wearing off and involuntary movements.

How is apomorphine taken?

Apomorphine can be taken by injection or infusion.

Both methods deliver the drug through a fine needle. It is inserted into the fatty layer under the skin in one of these places:

- the lower part of your stomach (abdomen)
- the outside of your thigh
- your arm.

This is called a subcutaneous injection. It is different from an injection into a vein.

Taking apomorphine by injection

Apomorphine can be delivered by a pen injector. This gives you a dose of apomorphine just under your skin. There are two types of injector pens in the UK: the APO-go pen and the Dacepton D-mine pen.

Always follow the instructions that come with your pen in the patient information leaflet. You can ask your specialist or Parkinson’s nurse about any of the steps if you’re not sure.

APO-go pen

The APO-go pen is a ready-loaded, disposable pen, supplied by the pharmaceutical company Britannia. It can be used for multiple doses, whenever you start feeling an “off” period starting.

Your specialist will work out the best dose for you. You can ask them any questions you have, such as whether you should leave a certain amount of time between injections with your APO-go pen.

It holds 30mg of apomorphine, and you can turn the dial to adjust it to the dose chosen by your doctor.

You might have up to ten injections each day. If you need this many, your specialist might suggest that an infusion pump could work better for you, to save you carrying out so many self-injections.

Dacepton D-mine pen and cartridge

Dacepton is a clear, colourless (or slightly yellow) liquid solution that contains apomorphine.

It is injected only using the D-mine pen, supplied by EVER Pharma.

To use the D-mine pen, you load the cartridge of Dacepton into the pen before each injection. This is different from the APO-go pen, which comes pre-loaded with apomorphine solution.

Each cartridge contains 30mg of apomorphine. You can use each Dacepton D-mine pen cartridge more than once, but you must use a new cartridge after 15 days.

Remove any leftover air in the cartridge before each use. The instructions which come with your D-mine pen will explain this.

Before each injection:

- wash your hands thoroughly
- always use a new needle.

You can have up to ten injections with the D-mine pen each day. The maximum daily dose of apomorphine per day is 100mg and no single dose should be more than 10mg. If you need up to ten injections a day, your specialist might suggest that an apomorphine infusion pump instead. An infusion pump would save you from carrying out so many self-injections.

Your specialist will work out the best dose for you. You can ask them any questions, including if you should leave a certain amount of time between injections with your D-mine pen.

You can take Dacepton by pen injection several times a day, whenever you feel an "off" period starting.

Dacepton cartridges can only be used with the D-mine pen. They can't be transferred to an APO-go pen.

Choosing where to inject apomorphine

When injecting apomorphine, it's very important that you choose a new area of skin in your lower abdomen, or the outside of your thigh for each injection.

This helps give our skin enough time to recover and reduce the risk of irritation or small lumps (nodules) forming on your skin where you have used your injection pen.

It's important to clean the skin where you'll inject your apomorphine with a surgical wipe first. This will reduce your risk of irritation and skin nodules. You can usually buy surgical wipes in your local pharmacy. You can ask your pharmacist or Parkinson's nurse if you're not sure you've got the right type of wipes.

Taking apomorphine by infusion

If you have so many "off" periods that you need around or more than ten injections a day, you might be given a syringe pump to take apomorphine via infusion.

A syringe pump is a small pump that works with batteries.

You can carry it in your pocket or a small pouch as you go about your day.

The pump delivers a continuous dose from a syringe. Your specialist will set your dose for you.

The syringe has a fine needle that is inserted under your skin and covered with a clear dressing. Your specialist or Parkinson's nurse will let you know where on your body to insert the needle. The syringe then stays in place on your body throughout the day.

The infusion is normally only used when you're awake. It should not be left in overnight, unless your symptoms at night are serious. Speak with your specialist if you have severe symptoms at night.

Whether you infuse apomorphine overnight or not, you should choose a new place to place your syringe for infusion every 12 hours. Your specialist or Parkinson's nurse should advise you where on your body to do this.

One-off booster doses of apomorphine

As well as delivering a continuous dose of apomorphine, your device can also give one-off boosters if you need more medicine to control your symptoms. This type of one-off dose is known as a bolus or bolus dose. If this is appropriate for you, your specialist will show you how this works and explain how much a one-off dose should be.

Once you start taking apomorphine by infusion, your specialist may consider reducing your dose of any other dopamine agonists you may be taking.

Always follow the instructions that come with your infusion equipment in the patient information leaflet. You can ask your specialist or Parkinson's nurse about any of the steps if you're not sure.

Apomorphine infusion devices

There are four devices to give apomorphine by infusion.

APO-go pre-filled syringe

The APO-go pre-filled syringe delivers a liquid apomorphine mixture for infusion. It is delivered through a pump.

From April 2025, the APO-go pre-filled syringe will no longer be available. Your healthcare team should talk this through with you and you will decide together the best option for taking apomorphine.

APO-go POD for infusion in cartridge

APO-go POD is liquid apomorphine delivered by infusion with a pump. The pump will come with your medicine. The cartridges are pre-loaded with 20ml of liquid apomorphine. The equipment you need to refill the pump will be included with it.

Dacepton solution for infusion

This is a liquid mixture of apomorphine stored in a glass container called a vial. You can use up the product inside over time until it runs out. Dacepton solution for infusion is delivered through a syringe pump.

EVER Pharma makes their own infusion pump for Dacepton called the D-mine pump. The D-mine pump is not waterproof, so you'll need to take out your pump before showering or swimming.

You can exercise while wearing your pump, just make sure that it's securely attached to your body. There are belts or bags which can help with this.

Speak to your Parkinson's nurse or call the Dacepton helpline on **0800 254 0175** for more information about wearing and looking after your pump.

EVER Pharma has a list of frequently asked questions about the D-mine pump at d-minecare.com/gbr.

If you're using a different kind of pump, check with your specialist or Parkinson's nurse whether:

- your pump is waterproof
- you can exercise while it is in place

APO-go Ampoules for injection or infusion

APO-go Ampoules contain liquid mixtures of apomorphine that can be used for injection or infusion. Ampoules are containers like vials but smaller. They are often made of glass and usually only contain one dose of medicine. If you take APO-go Ampoules by infusion, you'll have a minipump. For injections, a syringe and a needle will be used to inject your medicine.

Injection or infusion: which is right for me?

This will be different for everyone. Your choice will depend on:

- how often you need to take apomorphine
- how well you can use your hands
- your lifestyle and preferences
- whether anyone can help you set up your apomorphine equipment

For each option, the dose can be adjusted to suit you. Talk to your specialist or Parkinson's nurse about what might be best for you.

Will I be trained how to use apomorphine?

Yes. Because apomorphine has to be taken by injection or infusion, you and, if possible, a family member, friend or carer will learn how to use your apomorphine injection or infusion equipment.

You usually start taking apomorphine in a specialist clinic. This means a Parkinson's nurse or specialist will check you're not having any problems. It can take one day or a few days to do this, but you will not usually need to stay overnight at hospital. You can also be trained at home in some cases.

For apomorphine taken by infusion, if you don't have anyone to insert the needle or set up your equipment, a district nurse may be able to come daily to do this. They can set up an infusion in the morning and then come back in the evening to take it out. Or the nurse can set the device up one day and remove it the next. This service may not be available in every area.

If you don't live with or near someone who can help regularly, speak to your specialist for further advice. There may be further support available in your area. If there isn't, apomorphine may not be recommended for you.

If you change apomorphine products, you will need to be trained again by your specialist or Parkinson's nurse to use your new method.

What other support is available?

APO-go apomorphine products

Britannia, the company which makes APO-go products, has specially trained APO-go nurses, who can also start you on your treatment once your specialist prescribes it. They are registered nurses with specialist experience in APO-go injections and infusions, as well as Parkinson's generally.

APO-go nurses can support you with home visits and over the phone if you need it.

Once your specialist prescribes an APO-go apomorphine product to you, they will also refer you to your nearest APO-go nurse service.

Britannia will also provide written information which explains how their products work and contact details for further support, including the APO-go nurse helpline.

Dacepton apomorphine products

EVER Pharma also provides apomorphine trained nurses to support patients with their Dacepton therapy. These nurses are available to all patients who have been prescribed Dacepton in the UK. You will be allocated a named nurse for follow-up appointments, who can answer questions about Dacepton and how to use EVER Pharma products.

You can arrange appointments with them in person or online. Once you've been prescribed Dacepton,

you will automatically be referred to this support service and they will contact you to arrange a first appointment.

Contact details for Britannia and EVER Pharma can be found on page 21.

Practical issues

There are some practical issues to consider when taking apomorphine. It's important to:

- use apomorphine as soon as it's opened, because it stops working when it comes into contact with light and air
- always check that the solution is clear, colourless or almost colourless and without specks
- try not to spill the solution, as it can leave a green stain on your clothes or furniture
- always wash your hands before your injection or setting up your infusion pump.

Never use any apomorphine product if the solution has turned green or has visible specks in it.

Problems with injection sites

The areas of skin where the needle goes in for injection can become sore or bruised.

This can happen when a pump for infusion is used too. Changing where you put the needle each day can reduce the risk of this happening.

Lumps (nodules) might appear under your skin where you've injected or infused apomorphine.

You can prevent them by making sure your skin is clean, particularly the area where the needle is inserted. You should change the area on your body where you have the injection each time you inject. Always make sure to use a new needle for every injection. You could also try gently massaging your skin for about five minutes after you've taken the needle out.

One advantage of injecting apomorphine with a pen rather than a continuous infusion pump is that you can choose where you inject each time. This way, if you notice your skin becoming irritated, you can place your next injection somewhere else.

Equipment

Speak to your specialist, Parkinson's nurse or pharmacist about how you can get the equipment you need to take apomorphine. The battery-driven pumps are loaned free of charge from the drug companies that make them. Your specialist will choose the type of pump which is right for you.

Free infusion tubes should come with your infusion pumps.

Throwing away syringes safely

You should always get rid of used needles and syringes safely. You can throw them away in a "sharps" bin. These are small, often yellow, bins to safely dispose of needles and other clinical waste.

You should be able to get a prescription from your GP for your sharps bin. Your local council should provide information about how to dispose of clinical waste in your area.

Travelling with an apomorphine pump for infusion

You can take an apomorphine pump with you when travelling in the UK and abroad, but there are a few things to remember.

For all apomorphine infusion products and any type of trip away, remember to bring:

- enough medicine to last until you come home
- plug adaptors for the country or countries you're going to if you're travelling abroad
- a hand luggage bag that can safely store your apomorphine equipment
- a letter from the company who makes your apomorphine product explaining what it is and why you need it (more details below).

Both companies that provide apomorphine products can give you a travel letter to explain your apomorphine infusion equipment. Don't forget to request this before your trip, as far in advance as you can.

For APO-go infusion products, call **0330 912 1818** or email Britannia at **customerservices@britannia-pharm.com**

For Dacepton infusion products, contact your D-mine Care nurse advisor or visit the EVER Pharma website at: **d-minecare.com/gbr**.

If you use one of EVER Pharma's D-mine pumps, EVER Pharma lists everything you need to bring with your pump when you go away in their patient booklet. Look for the question "Can I travel with the D-mine Pump" at d-minecare.com/gbr.

The advantages of apomorphine

Injections can act as a rescue treatment

Apomorphine usually works within four to 12 minutes, much faster than tablets or capsules. This means it can act as a "rescue" treatment if your tablets or capsules don't take effect. This is very useful for treating a sudden "off" period.

Your specialist or Parkinson's nurse will show you how to take "rescue" doses of apomorphine if it's appropriate for you.

Apomorphine generally wears off after 45 minutes to an hour. By this time your regular tablets or capsules may have started to work.

Apomorphine can help you manage your Parkinson's symptoms

By helping to control your motor symptoms, apomorphine may help you feel more in control and less worried about the effects of an "off" period.

The disadvantages of apomorphine

Apomorphine is available by injection or infusion

If you aren't able to inject yourself or set up an infusion pump yourself, it's important to involve a partner, friend or carer who can help.

Nausea and vomiting

Apomorphine can cause nausea and sickness. You might be given an anti-sickness drug called domperidone (Motilium) at least two days before you start your apomorphine treatment. Domperidone can be taken as a liquid or a tablet.

Anti-sickness medication will be reduced as you get used to taking apomorphine. For some people, it can be stopped completely.

Sleepiness

Apomorphine can make you feel sleepy. This can be dangerous if you're driving or operating machinery. Speak with your specialist if this happens. Less often, apomorphine can make you fall asleep after taking it.

Hallucinations

More than one in ten people who take apomorphine may experience hallucinations. A hallucination is when you see, hear or feel things that aren't there.

If this happens, speak to your specialist or Parkinson's nurse as soon as possible. They can give you advice on how hallucinations can be treated or managed.

Find out more: see our information on hallucinations and delusions in Parkinson's.

Impulsive and compulsive behaviours

Some people who take dopamine agonists, including apomorphine, may experience impulsive and compulsive behaviours. This includes things such as gambling, binge eating or compulsive shopping.

Some people with Parkinson's may also experience the urge to take more medication, including apomorphine, than they need – this is called dopamine dysregulation syndrome (DDS). We don't know how common DDS is for people taking apomorphine, but your specialist should make you aware of it before you start injecting or infusing the drug. This way, you or your loved ones or carer can know what to look out for.

Find out more: see our information on impulsive and compulsive behaviour in Parkinson's.

If you start experiencing any of these behaviours, speak to your specialist as soon as possible. Your specialist may recommend changing your dose of apomorphine or that you gradually stop taking it.

Dyskinesia and dystonia

Some people experience dyskinesia as a side effect of apomorphine. Dyskinesia causes involuntary muscle movements such as twisting or jerks. If your dyskinesia is serious, your specialist may stop prescribing you apomorphine.

Your specialist may not prescribe you apomorphine if you experience serious dyskinesia during “on periods”, when your levodopa medication is working. The same is true if you experience dystonia – where muscles become tighter and shorter than normal, making them stiff – during your “on” periods.

Find out more: see our information on wearing off and involuntary movements.

Other possible side effects include:

- a drop in blood pressure
- low iron in your blood (anaemia) and other blood disorders
- feeling confused or dizzy.

For more information about side effects, read the patient information leaflet that comes with your apomorphine product.

Apomorphine and pre-existing conditions

Apomorphine is not suitable for people with breathing or liver problems.

Apomorphine is not always suitable for people with dementia or Alzheimer's disease. If you experience symptoms of dementia after you've started taking apomorphine, your specialist will review your apomorphine prescription to check it's still right for you.

If you've had or are having hallucinations or delusions, your specialist will be careful about prescribing you apomorphine. They will make a decision about whether to prescribe apomorphine based on your personal circumstances. Make sure to let your specialist know if you've experienced these symptoms before being prescribed apomorphine, as it may not be suitable for you. This includes hallucinations or delusions that may be caused by your Parkinson's medication or by any other type of medication or condition.

If you have pre-existing heart problems (also called cardiovascular issues), your specialist will be careful about prescribing you apomorphine.

More information and support

We know that apomorphine can improve the symptoms and quality of life of some people with Parkinson's. Giving yourself frequent injections or setting up and wearing an infusion pump can seem overwhelming.

You may also feel worried about the potential side effects of apomorphine.

If apomorphine is not right for you, your specialist will give you information about alternatives.

If your specialist and you do decide on apomorphine, they and your Parkinson's nurse are there to help you.

Don't be afraid to ask them, or the support staff assigned to you by the companies that make apomorphine, for any information or guidance you need.

Your specialist or Parkinson's nurse will aim to find the best treatment for you as an individual, and they are the best people to speak to about your Parkinson's medication, including apomorphine.

You can also speak to a pharmacist if you want to know more about a particular Parkinson's drug. For information about apomorphine, you can contact the pharmaceutical companies that provide apomorphine or visit their websites.

Britannia Pharmaceuticals (APO-go)

APO-go helpline:

0808 196 4242

EVER Pharma (Dacepton)

0800 254 0175

www.d-minecare.com/gbr

Parkinson's UK information and support

Whatever your journey with Parkinson's, you're not alone.

From the moment you or someone you care about is diagnosed, we have information and support for you.

Speak to one of our friendly expert advisers, including specialist Parkinson's nurses, care advisers, and benefits and employment advisers. We've got information and advice on all aspects of living with Parkinson's.

Get help managing your diagnosis. Our information packs, webinars, courses and support groups can help you and your loved ones understand your Parkinson's diagnosis and better manage your symptoms.

Read our up to date, reliable health information. Our website, booklets and magazines can help you better understand Parkinson's. They're full of tips and advice on managing your condition and supporting a loved one.

Find ways to get active, stay active and live well with Parkinson's. Whatever your fitness level, we'll help you find the right activities for you.

Connect with other people with Parkinson's, families, friends and carers. Across the UK, in your local area or online. We'll help you meet others who understand what you're going through, because they're going through it too.

Find out more

- Call our helpline on **0808 800 0303** or email **hello@parkinsons.org.uk** to speak to an expert adviser.
- Visit **parkinsons.org.uk/information-and-support** to read our information or find support that's local to you.
- Call **0330 124 3250** or visit **parkinsons.org.uk/order-print-booklets** to order free printed information.

Thank you

Thank you very much to everyone who contributed to or reviewed this information:

Gillian Aldrich, Lead Parkinson's Nurse Specialist, Queen Margaret Hospital, Dunfermline

Sarah-Jayne Moore, Lead Neurology Nurse, Advanced Clinical Advanced Clinical Practitioner – Parkinson's Disease, West Suffolk Hospital

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

All of our information is checked by experts and other people with Parkinson's, so you know it's information you can trust.

Feedback

If you have any comments or feedback about our information, please call **0800 138 6593**, email **feedback@parkinsons.org.uk**, or write to us at Parkinson's UK, 50 Broadway, London, SW1H 0BL.

If you'd like to find out more about how we put our information together, or be part of the team that reviews our health content, please contact us at **healthcontent@parkinsons.org.uk** or visit our website at **parkinsons.org.uk/health-content**.

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

Thank you.

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We're Parkinson's UK,
the charity that's
here to support every
Parkinson's journey.
Every step of the way.

Free confidential helpline **0808 800 0303**
Monday to Friday 9am to 6pm,
Saturday 10am to 2pm (interpreting available)
Relay UK **18001 0808 800 0303** (for textphone users only)
hello@parkinsons.org.uk | parkinsons.org.uk

Parkinson's UK, 50 Broadway, London SW1H 0DB



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