

Apomorphine

A pomorphine is a drug used to manage the symptoms of Parkinson's. This information looks at the types of apomorphine available, how it is taken and the advantages and disadvantages of this treatment.

What is apomorphine?

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

Although there's currently no cure for Parkinson's, a range of drugs, treatments and therapies are available to manage the symptoms.

Apomorphine is a strong type of dopamine agonist. Dopamine agonist drugs act like dopamine to stimulate nerve cells. These nerve cells then control movement and other body functions, to help reduce the symptoms of Parkinson's. Despite its name, apomorphine does not contain morphine.

Unlike other dopamine agonist drugs, which are taken as tablets or patches, apomorphine is given by injection or continuous infusion, using a pump. Continuous infusion is when medication is delivered, via a small pump, non-stop into your body. This uses a fine tubing with a small needle at the end, which is inserted under the skin.

When is apomorphine prescribed?

Every person with Parkinson's has a different experience of the condition. Your specialist or Parkinson's nurse will try to find the treatment that is best for you. Because the symptoms of Parkinson's change over time, your medication regime will sometimes have to change as well.

Find out more: see our booklet *Drug treatments for Parkinson's*.

Apomorphine is usually used for more advanced Parkinson's, when a person's symptoms no longer respond well to oral drug treatments.

Apomorphine doesn't help everyone manage their Parkinson's symptoms, and it may not replace oral medication entirely. But your specialist or Parkinson's nurse may suggest trying it if you:

- have sudden and unpredictable changes in your symptoms
- have severe 'off' periods that aren't controlled by other Parkinson's medications, or
- have severe swallowing difficulties that mean you cannot take medication orally

'On/off' refers to movement fluctuations, usually caused by levodopa medication 'wearing off' before the next dose is due. 'On' is when your symptoms are controlled and when you feel at your most capable. Being 'off' is when your Parkinson's symptoms recur and affect you the most. Some people have described this as like a light switch being turned on and off, or going up and down like a yo-yo.

Find out more: see our booklet *Wearing off and involuntary movements (dyskinesia)*.

How is apomorphine taken?

Apomorphine can be taken in three different ways:

- a pre-filled disposable pen you can use to give injections as needed (APO-go PEN)
- infusion over a period of several hours (usually during the day) via a portable, battery-driven pump (a syringe driver) using a pre-filled syringe (APO-go PFS)
- infusion over a period of several hours (as above) using a portable, battery-driven pump (a syringe driver) and a syringe (APO-go), using apomorphine stored in glass vials called ampoules

For each option, the dose can be adjusted to suit you. All methods give the drug through a fine needle inserted into the fatty layer under the skin (a subcutaneous injection). It is not an injection given into a vein (intravenously).

Injection

Injections can be effective if you have five or six 'off' periods a day. The APO-go PEN is a ready-loaded, multi-dose, disposable pen. It holds 30mg apomorphine, and the individual dose can be set by turning the dial.

The pen injects apomorphine just under the skin. The injection can be repeated several times a day, whenever you need it. One advantage of this method is that it is less likely to irritate your skin than continuous infusion using a pump with a syringe driver. This is because you can change where you inject each time.

Infusion

If you have so many 'off' periods that you need more than seven to 10 injections a day, you may be given a syringe driver. This is a small, battery-driven pump that delivers a continuous dose of medication from a syringe. This change can greatly improve your quality of life.

The syringe has a fine needle that will be inserted under your skin, either in your lower stomach or on the outside of your thighs. This can be secured with some clear dressing to hold it in place.

You will be taught how to set up an infusion, but if you're unable to do it, a district nurse may be trained to set it up in the morning, before taking it out in the evening. The nurse may also set up the device so it can be left in to be removed the next day. The infusion is only used when you are awake.

“ I, or a friend, give my sister her apomorphine. We have to insert the needle every morning and take it out at night before she goes to bed. She was admitted to hospital when the apomorphine was started, and this is where I was taught the technique. For her, the treatment is effective. ”

Lily, whose sister has Parkinson's

If you have severe symptoms at night-time then it may be left in place for 24 hours.

You may need to give yourself boosters of apomorphine using the pump. This can help control your symptoms. You should discuss this with your specialist or Parkinson's nurse.

If you use a pump, you can carry it in your pocket or a small pouch. The drug company can provide a pouch with an elasticated belt free of charge.

Is injection or infusion right for me?

No one method is right for everyone. The choice will depend on how often you need to take apomorphine, how well you can use your hands, your lifestyle and whether you have anyone to help you if you need it. Talk to your specialist or Parkinson's nurse about what may 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 your carer (if you have one) will learn how to do this. Ideally, apomorphine will be started in hospital, under the guidance of a Parkinson's specialist or Parkinson's nurse. This may mean you will have to stay in hospital for a few days to be trained, or you may be trained at home.

If you or your carer are not able to insert the needle or set up the equipment, a district nurse may come daily to do this.

APO-go nurse advisors can also start you on treatment. They are registered nurses with specialist experience in APO-go injections and infusions, as well as the general management of Parkinson's. APO-go nurse advisors can support you with home visits and telephone contact if you need it.

What are the advantages of apomorphine?

Injections can act as a rescue treatment

Injections using the pen are taken in a similar way to insulin for diabetes. Apomorphine works within five to 10 minutes, much faster than oral medications, and can act as a 'rescue' treatment if your tablets or capsules don't take effect. This is very useful to treat a sudden 'off' period. The effects generally wear off after 40 minutes, but by this time your usual oral medication may have kicked in.

Because of this, injections can sometimes help people with Parkinson's to stay in employment or to continue other activities for longer than may otherwise be possible.

If you are concerned about not being able to give yourself an injection during an 'off' period, speak to your specialist or Parkinson's nurse.

You may experience fewer 'off' periods

You may find that if you use a continuous infusion of apomorphine over several months, you can significantly reduce the number of 'off' periods.

What are the disadvantages of apomorphine?

Only available by injection or infusion

At the moment, apomorphine can only be given in this way. Other methods have been tried but proved to be unsuitable. This may have an impact on your lifestyle. If possible, it is important to involve a partner, close friend or relative who can give injections if you can't move well enough to do it yourself.

Nausea, vomiting and hypotension

Apomorphine can cause severe short-term nausea and sickness, so you may also be given an anti-sickness drug called domperidone (Motilium). You will need to start taking this at least two days before you begin your apomorphine treatment.

Anti-sickness medication may be gradually reduced after a short while. For some people, it can be stopped completely. Speak to your specialist or Parkinson's nurse to find out what is best for you. Apomorphine can cause your blood pressure to drop slightly. If you feel dizzy, you may need to check your blood pressure with your GP or Parkinson's nurse.

In very rare cases, apomorphine can lead to anaemia and other blood disorders. So if you are taking apomorphine you may need regular blood tests.

Cardiac problems

If you have an underlying heart problem, apomorphine may affect this. If you experience fainting or heart palpitations (sudden pounding, fluttering or irregular beating), you should report this to your GP or specialist.

Sleeping problems

Apomorphine can make some people feel sleepy or experience sudden onset of sleep. This may be dangerous if you are driving or operating machinery, so speak with your GP or specialist if you experience this.

Injection sites can become sore and irritated

The areas of skin where the needle goes in can become sore, especially when an apomorphine pump is used. You'll need to change where you put the needle each day to reduce the risk of this happening. Your district nurse or an APO-go nurse can show you where to inject and how to reduce nodules.

Lumps (nodules) may appear under the skin where the needle is inserted, but these can be treated using ultrasound. You can prevent them by making sure the place where the needle is inserted is clean, changing the injection site every day and gently rubbing your skin once you've taken the needle out.

Some people experience an itchy or sore reaction at the injection site, but this is rare. If this does happen, speak to your GP, specialist or Parkinson's nurse.

Hallucinations and delusions

Not everyone who takes Parkinson's drugs will experience hallucinations and delusions, but they can affect people who take apomorphine. They can be disturbing to those who experience them and the people around them. Speak to your GP, specialist or Parkinson's nurse about any hallucinations or delusions that you or the person you care for are experiencing. In general, they can be treated, but in cases where they can't, there may be ways to manage their impact.

Find out more: see our information sheet *Hallucinations and delusions in Parkinson's*.

“ We've found that it's essential to pay attention to the sites where the needle enters the skin, as this is where 'nodules' can form. We treat the sites by massaging an antiseptic cream in immediately after the needle is removed. We also use a massaging tool and an ultrasound device. For any areas of inflammation, we also massage the site with tea tree lotion, which is very soothing. We find that this routine is essential and we do this every day without fail. ”

Joan, whose husband has Parkinson's

Impulsive and compulsive behaviour

Some people who take dopamine agonists, including apomorphine, may experience impulsive and compulsive behaviour.

Impulsive behaviour is when a person can't resist the temptation to carry out certain activities.

Compulsive behaviour is when a person has an overwhelming drive or urge to act in a certain way, often repetitively, to reduce the worry or tension they get from their urge.

Some examples of this behaviour include gambling, binge eating, becoming a 'shopaholic' or thinking about sex so much that it gets in the way of everyday life. This behaviour can have a significant impact on the person affected and those around them. If you think this is happening to you or someone close to you, tell your specialist or Parkinson's nurse right away. You may feel that some of this behaviour is embarrassing or uncomfortable to talk about. But remember it won't reflect badly on you – your healthcare professional will have spoken to others with similar problems, and won't tell anyone else what you tell them.

Find out more: see our information sheet *Impulsive and compulsive behaviour in Parkinson's*.

Practical issues

Apomorphine breaks down when it comes into contact with light and air, so it should be used as soon as it is opened. You should always check the solution before you use it – it should be clear, colourless and without any specks. If the solution has turned green, do not use it. Only use it if it is a clear, colourless or pale yellow solution.

Also, try not to spill the drug as it can leave a blue or green stain on clothing, furniture and carpets.

Is apomorphine available on the NHS?

The APO-go PEN can be prescribed by your GP, and the needles are included free of charge with the prescription. Speak to your GP, specialist, Parkinson's nurse or pharmacist about how you can get the equipment you need.

The battery-driven pumps are loaned free of charge from the drug companies that make them.

You can get dressings and the fine infusion tubes that are used with syringe drivers from your local district nurse or GP.

How may apomorphine affect other medications I take?

In general, apomorphine does not affect other drugs that are used to treat Parkinson's. However, when you start taking apomorphine, your specialist team may reduce some of your other treatments, as they may no longer be needed.

More information and support

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 make contact with other health and social care professionals to make sure your needs are met.

The role of the Parkinson's nurse varies. Each will offer different services, aiming to meet local needs. Some nurses are based in the community, whereas others are based in hospital settings.

Many Parkinson's nurses are independent prescribers. This means they can prescribe and make adjustments to medication, so someone with Parkinson's doesn't always need to see their specialist for changes to or queries about their Parkinson's drugs.

Parkinson's nurses may not be available in every area, but your GP or specialist can give you more details on local services.

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

For information about apomorphine, you can also contact the medical information line of the pharmaceutical company that provides apomorphine:

Genus Pharmaceuticals (APO-go)
APO-go helpline **0844 880 1327**
www.apo-go.co.uk

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.

We run a peer support service if you'd like to talk on the phone with someone affected by Parkinson's who has faced similar issues to you. The service is free and confidential – ring the helpline to talk to someone about being matched with a volunteer.

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

We have a self-management programme for people with Parkinson's, partners and carers. It is an opportunity to reflect on life with the condition, learn about self-management and think about the future. To find out if there is a group near you, visit parkinsons.org.uk/selfmanagement

Our website parkinsons.org.uk has a lot of information about Parkinson's and everyday life with the condition. You can also find details of your local support team and your nearest local group meeting at parkinsons.org.uk/localtoyou

Visit parkinsons.org.uk/forum to chat to other people with similar experiences on our online discussion forum.

Thank you

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

Uzma Chaudhry, Clinical Pharmacist, Oxford University Hospitals NHS Trust

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

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

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-support**

If you'd prefer to read one of our printed leaflets or booklets, find out how to place an order at **parkinsons.org.uk/ordering-resources** 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**

Apomorphine (FS26/2017)

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 Yes, mostly Not sure Partly Not at all

4. How easy was it to understand?

- Very easy Easy Not sure Quite difficult Very difficult

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

- It helped a lot It helped a little No change It didn't help It made things worse

6. What is your ethnic background?*

- Asian or Asian British Black or Black British Chinese Mixed White British White other
 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](https://www.parkinsons.org.uk/termsandconditions)

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

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



Last updated November 2017. 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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