

Package leaflet: Information for the user

AVONEX 30 micrograms/0.5 ml solution for injection (interferon beta-1a) Pre-filled syringe

Read all of this leaflet carefully before you start using this medicine because it contains important information for you.

Even if you have used Avonex before, some of the information may have changed.

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor or pharmacist.
- This medicine has been prescribed for you only. Do not pass it on to others. It may harm them, even if their signs of illness are the same as yours.
- If you get any side effects talk to your doctor or pharmacist. This includes any possible side effects not listed in this leaflet. See section 4.

(Notes information)

This leaflet is changed from time to time.

Please check every time you get your prescription refilled to see if the leaflet has been updated.

If there's anything you're not sure about, ask your doctor or pharmacist.

What is in this leaflet

1. What AVONEX is and what it is used for
2. What you need to know before you use AVONEX
3. How to use AVONEX
4. Possible side effects
5. How to store AVONEX
6. Contents of the pack and other information
7. How to inject AVONEX

1 What AVONEX is and what it is used for

What AVONEX is

The active substance in Avonex is a protein called *interferon beta-1a*. Interferons are natural substances made in your body to help protect you from infections and diseases. The protein in Avonex is made up of exactly the same ingredients as interferon beta that is found in the human body.

What AVONEX is used for

Avonex is used to treat Multiple Sclerosis (MS). Treatment with Avonex can help to prevent you from getting worse, although it will not cure MS.

Everyone has their own set of MS symptoms. These can include:

- Feeling off-balance or light headed, walking problems, stiffness and muscle spasms, tiredness, numbness in the face, arms or legs
- Acute or chronic pain, bladder and bowel problems, sexual problems and problems seeing things

- Difficulty in thinking and concentrating, depression.
- MS also tends to flare up from time to time: this is called a relapse.

(Notes information)

Avonex works best when you use it:

- **at the same time**
- **once a week**
- **on a regular basis**

Do not stop your Avonex treatment without speaking to your doctor.

Avonex can help to reduce the number of relapses that you have and slow down the disabling effects of MS. Your doctor will advise you for how long you can use Avonex or when to stop.

How AVONEX works

Multiple sclerosis is linked to nerve (brain or spinal cord) damage. In MS, your body's defence system reacts against its own myelin – the 'insulation' that surrounds nerve fibres. When myelin is damaged, the messages between the brain and other parts of the body are disrupted. This is what causes the symptoms of MS. Avonex seems to work by stopping your body's defence system from attacking the myelin.

2. What you need to know before you use AVONEX

Do not use AVONEX

- **If you are allergic** to interferon beta or any of the other ingredients of this medicine (listed in section 6)
- **If you have severe depression** or think about committing suicide.

Talk to a doctor straight away if any of these apply to you.

(Notes information)

Avonex and allergic reactions. Because Avonex is based on a protein, there is a small chance of an allergic reaction.

More about depression. If you have severe depression or thoughts about suicide, you must not use Avonex.

If you have depression, your doctor may still prescribe Avonex for you, but it's important to let your doctor know if you have had depression or any similar problems affecting your moods.

Warnings and precautions

Talk to your doctor before using Avonex if you have or have had in the past:

- **Depression** or problems affecting your moods
- **Thoughts about committing suicide.**

Changes to your mood, thoughts about suicide, feeling unusually sad, anxious or worthless, should be reported to your doctor immediately.

- **Epilepsy** or other seizure disorders not controlled by medication
- **Serious kidney or liver problems**
- **A low number of white blood cells or platelets**, which can cause an increased risk of infection, bleeding or anaemia
- **Heart problems**, which can cause symptoms such as chest pain (*angina*), particularly after any activity; swollen ankles, shortness of breath (*congestive heart failure*); or an irregular heartbeat (*arrhythmias*).
- Irritation at an injection site, which can lead to skin and tissue damage (injection site necrosis). When you are ready to inject, carefully follow the instructions in section 7 “How to inject AVONEX”, at the end of this leaflet. This is to reduce the risk of injection site reactions.

Talk to your doctor if you have any of these conditions, or if they worsen whilst taking Avonex.

Blood clots in the small blood vessels may occur during your treatment. These blood clots could affect your kidneys. This might happen several weeks to several years after starting Avonex.

Your doctor may want to check your blood pressure, blood (platelet count) and the function of your kidneys.

Tell your doctor you are using Avonex:

- **If you are having a blood test.** Avonex may interfere with the results.

(Notes information)

Sometimes you will need to remind other medical staff that you are being treated with Avonex. For example, if you are prescribed other medicines, or if you have a blood test, Avonex may affect the other medicines or the test result.

Paediatric population

Avonex is not recommended for use in children and adolescents because there is limited data on the use of Avonex in this population. Avonex should not be used in children below 10 years of age because it is yet to be established whether it would work for them and whether it would be safe.

Other medicines and AVONEX

Tell your doctor if you are using, have recently used or might use any other medicines, especially those used to treat epilepsy or depression. Avonex may affect other medicines or be affected by them. This includes any other medicines including medicines obtained without a prescription.

Pregnancy and breast-feeding

If you are pregnant, think you may be pregnant or are planning to have a baby, ask your doctor or pharmacist for advice before taking this medicine.

No harmful effects on the breastfed newborn/infant are anticipated. Avonex can be used during breast-feeding.

Driving and using machines

If you feel dizzy, do not drive. Avonex makes some people feel dizzy. If this happens to you, or if you get any other side effects that could affect your ability, do not drive or use machines.

Important information about some of the ingredients of AVONEX

This medicine is essentially 'sodium-free'. It contains less than 23 mg (1 mmol) sodium in each weekly dose.

3. How to use AVONEX

The recommended weekly dose

One injection of Avonex, once a week.

Try to use Avonex at the same time on the same day each week.

If you have decided to start treatment with Avonex, your doctor may provide you with an Avostartclip titration kit. The Avostartclip attaches to the syringe and enables you to gradually increase your dose of Avonex when you first start treatment. This is to limit flu-like symptoms which some people experience when they start using Avonex. Your doctor or nurse will help you use the Avostartclip titration kit.

(Notes information)

Starting Avonex

If you are new to Avonex, your doctor may advise you to gradually increase your dose so that you can adjust to the effects of Avonex before taking the full dose. You will be provided with an Avostartclip titration kit. Avostartclips can be attached onto the syringe enabling a reduced dose of Avonex to be injected at the start of treatment. Each Avostartclip should be used once and then discarded along with any remaining Avonex. For further details on use, speak with your doctor.

Injecting yourself

You can inject Avonex yourself without the help of your doctor, if they have trained you to do this. The instructions on how to inject yourself are at the end of this leaflet (see section 7, *How to inject AVONEX*).

If you have trouble handling the syringe, ask your doctor who may be able to help.

(Notes information)

There are more details on how to inject Avonex at the end of this leaflet.

Alternate needle:

Your pack of Avonex already includes a needle for injection. It may be possible for your doctor to prescribe you a shorter and thinner needle, depending on your body type. Talk to your doctor to see if this is appropriate for you.

If you have problems handling the syringe, talk to your doctor about using a syringe grip. This is a specially designed holder to help you with injecting Avonex.

How long to use AVONEX

Your doctor will tell you how long you need to keep using Avonex. It is important to continue using Avonex regularly. Do not make changes unless your doctor tells you.

If you inject more than you should

You should only have one injection of Avonex, once a week. If you have used more than one injection of Avonex in a three-day period, **contact your doctor or pharmacist straight away for advice.**

If you miss an injection

If you miss your usual weekly dose, inject a dose as soon as you can. Then leave a week before using Avonex again. Continue injecting on this new day every week. If you have a preferred day for using Avonex, talk to your doctor about managing the dose, to get back to your preferred day. Do not use two injections to make up for a missed injection.

4. Possible side effects

Like all medicines, this medicine can cause side effects, although not everybody gets them.

(Notes information)

Although the list of possible side effects can seem worrying, it's possible that you may not have any of them.

Serious side effects: get medical help

Serious allergic reactions

If you get any of these:

- Swelling of the face, lips or tongue
- Difficulty breathing
- A rash.

Call a doctor immediately. Do not use any more Avonex until you have spoken to a doctor.

Depression

If you get any symptoms of depression:

- Feeling unusually sad, anxious or worthless.

Call a doctor immediately.

Liver problems

If you get any of these symptoms:

- Yellowing of your skin or the whites of your eyes (*jaundice*)
- Itching all over
- Feeling sick, being sick (*nausea and vomiting*)
- Easy bruising of the skin.

Call a doctor immediately as they may be signs of a possible liver problem.

Side effects seen in clinical trials

(Notes information)

Side effects seen in clinical trials. These are the side effects that people reported when Avonex was being tested. The figures are based on how many people said they'd had them. It gives you an idea how likely you are to get similar side effects.

Very common side effects

(*may affect more than 1 in 10 people*)

- Flu-like symptoms – headache, muscle aches, chills or a fever: see *Flu-like symptoms*, below
- Headache.

Common side effects

(*may affect up to 1 in 10 people*)

- Loss of appetite
- Feeling weak and tired
- Difficulty sleeping
- Depression
- Flushing
- Runny nose
- Diarrhoea (*loose stools*)
- Feeling or being sick (*nausea or vomiting*)
- Numbness or tingling of skin
- Rash, bruising of the skin
- Increased sweating, night sweats
- Pain in your muscles, joints, arms, legs or neck
- Muscle cramps, stiffness in the joints and muscles
- Pain, bruising and redness at the injection site
- Changes to blood tests. Symptoms you might notice are tiredness, repeated infection, unexplained bruising or bleeding.

Uncommon side effects

(*may affect up to 1 in 100 people*)

- Hair loss
- Changes to your monthly period
- Burning feeling at the site of injection.

Rare side effects

(may affect up to 1 in 1,000 people)

- Difficulty breathing
- Kidney problems including scarring that may reduce your kidney function

If you get some or all of these symptoms:

- Foamy urine
- Fatigue
- Swelling, particularly in the ankles and eyelids, and weight gain.

Tell your doctor as they may be signs of a possible kidney problem.

- Blood clots in the small blood vessels that can affect your kidneys (thrombotic thrombocytopenic purpura or haemolytic uremic syndrome). Symptoms may include increased bruising, bleeding, fever, extreme weakness, headache, dizziness or light-headedness. Your doctor may find changes in your blood and the function of your kidneys.

If any of the effects trouble you, talk to your doctor.

Other side effects

(Notes information)

These effects have been seen in people using Avonex, but we do not know how likely they are to happen.

If you feel dizzy, do not drive.

- An underactive or overactive thyroid
- Nervousness or anxiety, emotional instability, irrational thoughts or hallucinations (seeing or hearing things that are not real), confusion or suicide
- Numbness, dizziness, seizures or fits and migraines
- An awareness of your heartbeat (*palpitations*), a rapid or irregular heartbeat, or heart problems which would have the following symptoms: a reduced ability to exercise, inability to lie flat in bed, shortness of breath or swollen ankles
- Liver problems as described above
- Nettle rash or blister-like rash, itching, worsening of psoriasis if you have it
- Swelling or bleeding at the site of injection, tissue destruction (necrosis) or chest pain after an injection
- Gaining or losing weight
- Changes to test results, including changes to liver function tests
- Pulmonary arterial hypertension: A disease of severe narrowing of the blood vessels in the lungs resulting in high blood pressure in the blood vessels that carry blood from the heart to the lungs. Pulmonary arterial hypertension has been seen at various time points during treatment, including several years after starting treatment with interferon beta-products.

If any of the effects trouble you, talk to your doctor.

Effects of the injection

- **Feeling faint:** Your first injection of Avonex may be given by your doctor. It may make you feel faint. You may even actually faint. This is unlikely to happen again.

- **Just after an injection, your muscles may feel tense or very weak** – as though you are having a relapse. This is rare. It only happens when you inject and the effects soon pass. They may happen any time after starting on Avonex.
- **If you notice any irritation or skin problems** after an injection, talk to your doctor.

Flu-like symptoms

(Notes information)

Three simple ways to help reduce the impact of flu-like symptoms:

- 1. Use your Avonex injection just before bedtime.** This may allow you to sleep through the effects.
- 2. Take paracetamol or ibuprofen half an hour** before your Avonex injection and continue taking it for up to a day. Speak to your doctor or pharmacist about a suitable dose.
- 3. If you have a fever, drink plenty of water** to keep you hydrated.

Some people find that after injecting Avonex, they feel like they have flu. Signs are:

- Headache
- Muscle aches
- Chills or a fever.

These symptoms are not really flu

You can't pass it on to anyone else. They are more common when you first start using Avonex. Your doctor may provide you with an Avostartclip titration kit which enables you to gradually increase your dose at the start of treatment to help limit flu-like symptoms. As you keep using your injections, the flu-like symptoms gradually decrease.

Children (10 years of age and above) and adolescents

In clinical trials, some side effects were reported more frequently in children and adolescents than in adults, e.g., muscle pain, pain in extremity, fatigue, and joint pain.

Reporting of side effects

If you get any side effects, talk to your doctor or pharmacist. This includes any possible side effects not listed in this leaflet.

You can also report side effects directly via the Yellow Card Scheme.

Website: www.mhra.gov.uk/yellowcard or search for MHRA Yellow Card in the Google Play or Apple App Store.

By reporting side effects you can help provide more information on the safety of this medicine.

In order to improve the traceability of this medicine, your doctor or pharmacist should record the name and the lot number of the product you have been given in your patient file. You may also wish to make a note of these details in case you are asked for this information in the future.

5. How to store AVONEX

Keep this medicine out of the sight and reach of children.

Do not use this medicine after the expiry date stated on the label.

Store in the original package (sealed plastic tray) in order to protect from light.

Store in a refrigerator (between 2°C and 8°C). Do not freeze.

Avonex can also be stored at room temperature (between 15°C and 30°C) for up to one week.

Do NOT use Avonex if you notice:

- The pre-filled syringe is broken.
- The sealed plastic tray is damaged or opened.
- The solution is coloured or you can see particles floating in it.
- The tamper evident cap has been broken.

Do not throw away any medicines via wastewater or household waste. Ask your pharmacist how to throw away medicines you no longer use. These measures will help protect the environment.

6. Contents of the pack and other information

What AVONEX contains

The active substance is: Interferon beta-1a 30 micrograms/0.5 ml

The other ingredients are: Sodium acetate, trihydrate; acetic acid glacial, arginine hydrochloride, polysorbate 20 and water for injections.

What AVONEX looks like and contents of the pack

Avonex solution for injection comes as a ready to use injection

In a box of Avonex there are four or twelve ready to use (pre-filled) syringes, each with 0.5 ml of a clear, colourless liquid inside. Not all pack sizes may be marketed. Each syringe is packed in a sealed plastic tray. A separate needle to give the injection is also included in the tray.

Marketing Authorisation Holder and Manufacturer

The Marketing Authorisation Holder is:

Biogen Netherlands B.V.
Prins Mauritslaan 13
1171 LP Badhoevedorp
The Netherlands

Avonex is made by:

FUJIFILM Diosynth Biotechnologies Denmark ApS
Biotek Allé 1,
DK-3400 Hillerød,
Denmark

Biogen Netherlands B.V.
Prins Mauritslaan 13
1171 LP Badhoevedorp
The Netherlands

This leaflet was last revised in June 2023

7. How to inject AVONEX

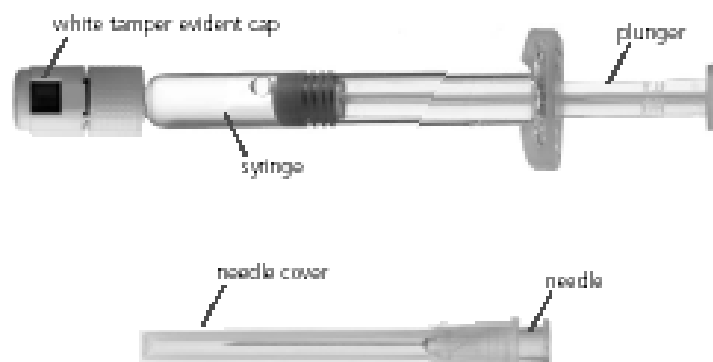
You should have had training in how to inject Avonex

These notes are a reminder. If there's anything you're not sure about, check with your doctor or pharmacist.

Where to inject

- **Avonex is injected into a muscle**, for example, the upper thigh muscle. Injection of Avonex into the buttocks is not recommended.
- **Use a different injection site each week.** This means less risk of irritation to your skin and muscle.
- **Do not use** any area of skin that is bruised, sore, or infected, or if there is an open wound.

Contents of the plastic tray



A. Getting Ready

1. **Remove one sealed plastic tray from the refrigerator**
 - Check the expiry date on the lid of the tray. Do not use it if it is out-of-date.

- Peel back the paper lid completely. Check the blister tray contains one pre-filled syringe and one injection needle (see picture “Contents of the plastic tray”).

2. Leave the syringe to warm up

- Leave it at room temperature for half an hour. This makes the injection more comfortable than injecting straight from a refrigerator.

Tip: Do not use external heat sources such as hot water to warm the syringe.

3. Wash your hands thoroughly with soap and water and dry them.

4. Prepare alcohol wipes and sticking plasters (not supplied) if you need them.

Find a clean, hard surface to lay out the items needed for your injection. Lay the tray down on it.

B. Preparing the injection

1



Check the liquid in the syringe

It should be clear and colourless. If the solution is cloudy, coloured or contains any floating particles, do not use the pre-filled syringe.

2



Remove the syringe cap

The syringe has a white tamper-evident cap.

Make sure the cap is intact and has not been opened.

If it looks like it has been opened, do not use that syringe.

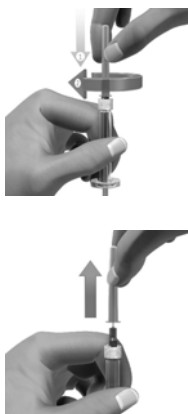
Hold the syringe so that the white cap is facing up.

Bend the cap at a right angle until it snaps off.

Do not touch the connection port.

Do not push on the plunger.

3



Fit the needle

Open needle to expose the connection port. Keep the cover on.

Press the needle onto the syringe.

Turn it clockwise until it locks into place.

Tip: Make sure the injection needle is firmly attached to the syringe.

Otherwise it may leak.

If you have been told to gradually increase your dose of Avonex, you may need to use an Avostartclip titration kit provided by your doctor.

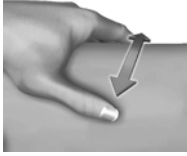
For further details, speak with your doctor

Now pull off the plastic needle cover. Do not twist it.

Tip: If you twist the needle cover to remove it, you may accidentally remove the needle as well.

C. Giving the injection

1



Clean and stretch the injection site

If you need to, use an alcohol wipe to clean the skin at the injection site you've chosen. Allow the skin to dry.

With one hand, stretch the skin around the injection site.

Relax your muscle.

2



Make the injection

Insert the injection needle with a quick dart-like thrust at right angles to the skin, into the muscle.

The needle must go all the way in.

Press the plunger slowly until the syringe is empty.

If you are using a syringe that has an Avostartclip attached, you will receive a lower dose of Avonex.

The syringe will not empty.

3



Pull the needle out

Keep the skin stretched tightly or squeeze the skin around the injection site, and pull out the needle.

If you use alcohol wipes, hold one on the injection site.

Put a plaster over the site of injection if you need to.



Dispose of the rubbish properly

After you have finished each injection, put the needle and syringe into a special container (such as a sharps bin), not in ordinary rubbish.

If you have used the Avostartclip, the syringe (and the Avostartclip) must be thrown away afterwards. The unused portion of Avonex **must not** be used.

Waste paper and used wipes can be put in an ordinary rubbish bin.