

READ THIS FOR SAFE AND EFFECTIVE USE OF YOUR MEDICINE

PATIENT MEDICATION INFORMATION

SPINRAZA

nusinersen injection

Read this carefully before you or your child start receiving **SPINRAZA** and before each dose. This leaflet is a summary and will not tell you everything about this drug. Talk to your healthcare professional about you or your child's medical condition and treatment and ask if there is any new information about **SPINRAZA**. Keep this leaflet. You may need to read it again.

What is SPINRAZA used for?

SPINRAZA is used to treat a genetic disease called 5q Spinal Muscular Atrophy (SMA). SMA is caused by a problem with the 5q chromosome. This problem leads to a shortage of a particular protein called survival motor neuron (SMN). The shortage of SMN protein results in the loss of nerve cells in the spine that leads to weakness of the muscles in the shoulders, hips, thighs and upper back. It may also weaken the muscles used for breathing and swallowing.

SPINRAZA may be given to children, adolescents or adults:

- There is limited experience of SPINRAZA in people over 18 years of age.
- There is no experience of SPINRAZA in people over 65 years of age.

How does SPINRAZA work?

SPINRAZA is one of a group of medicines called anti-sense oligonucleotides (ASO). SPINRAZA works by helping the body to produce more of the SMN protein that people with SMA need. This may reduce the loss of nerve cells and improve muscle strength.

What are the ingredients in SPINRAZA?

Medicinal ingredients: nusinersen

Non-medicinal ingredients: calcium chloride dihydrate, disodium phosphate, magnesium chloride hexahydrate, potassium chloride, sodium chloride, sodium dihydrogen phosphate dihydrate, water for injection. Sodium hydroxide and hydrochloric acid may be used for pH adjustment.

SPINRAZA comes in the following dosage forms:

Single-use solution in a vial for intrathecal injection containing 5 mL of a 12 mg / 5 mL (2.4 mg / mL) clear and colorless solution of nusinersen. Pack size: one vial per carton.

Do not use SPINRAZA if:

- You or your child has or may have an allergy or hypersensitivity to nusinersen or to any of the ingredients in the formulation or component of the container.

To help avoid side effects and ensure proper use, talk to your healthcare professional before you are given SPINRAZA. Talk about any health conditions or problems you may have.

Warnings you should know about:

Lumbar puncture

- There are known reasons why you or your child should not have a lumbar puncture. These may include:
 - a skin infection near site of lumbar puncture
 - the possibility that you or your child has a brain tumour and increased pressure in the skull
 - uncontrolled problems with blood clotting
 - injury or damage to the spinal cord (only short duration and not ongoing)

Pregnancy, breastfeeding and fertility

There is no experience of the use of SPINRAZA in pregnant women. Ask your doctor for advice about taking SPINRAZA if you:

- are pregnant
- breast-feeding
- think you may be pregnant or are planning to have a baby.

Blood clotting problems and risk of bleeding

After receiving medicines similar to SPINRAZA, some patients had:

- abnormal blood clotting
- abnormal and/or severely low levels of platelets (blood cells responsible for stopping bleeding).

In a SPINRAZA clinical trial, some patients had lower than normal levels of platelets. The lower levels of platelets came and went and the patients did not have abnormal blood clotting.

You may be at risk of bleeding complications while you are taking SPINRAZA. Your doctor will monitor your blood clotting by testing your blood. You will be tested before starting treatment with SPINRAZA and any other time your doctor thinks is necessary.

Risk of kidney damage

After receiving medicines similar to SPINRAZA, some patients had:

- higher levels of protein in their urine
- an increased risk of toxicity in the kidneys
- inflammation of the kidneys, which has caused death.

In a SPINRAZA clinical trial, some patients had higher levels of protein in their urine. SPINRAZA was also found in high concentrations in the kidneys. SPINRAZA leaves the body (is excreted) through the kidneys. It is important that your kidneys work well while you are taking SPINRAZA.

Your doctor will monitor how your kidneys are working by testing your urine. Your urine will be tested before you start treatment with SPINRAZA and any other time your doctor thinks is necessary.

Tell your healthcare professional about all the medicines you take, including any drugs, vitamins, minerals, natural supplements or alternative medicines.

At this time, there are no known medicines that interact with SPINRAZA. It is unknown if SPINRAZA can be used safely with other drugs that are administered into the spine (intrathecal).

How SPINRAZA is given:

- SPINRAZA is given by injection to the lower back.
- This injection is called a lumbar puncture and is done by inserting a needle in the space around the spinal cord.
- This will be done by a healthcare provider experienced in doing lumbar punctures.
- The injection will take 1 to 3 minutes
- You or your child may also be given a medicine to make you relax or sleep during the injection.
- Ask your health care provider, if you have any questions about how SPINRAZA is given.

Your doctor will tell you how long you or your child needs to keep receiving SPINRAZA. Don't stop treatment with SPINRAZA unless your doctor tells you to.

Usual dose:

The dose of SPINRAZA is 12 mg. You or your child will receive SPINRAZA based on the schedule below:

- The first 3 doses of SPINRAZA will be administered 14 days apart: on Day 0, Day 14 and Day 28.
- The 4th dose will be administered about a month later, for example on Day 63.
- And then once every 4 months.

Overdose:

There is no experience with overdose with SPINRAZA.

If you think you have been given too much SPINRAZA, contact your healthcare professional immediately, even if there are no symptoms.

Missed Dose:

If you or your child is unable to receive SPINRAZA as planned, speak with your doctor to ensure that SPINRAZA can be given as soon as possible.

What are possible side effects from using SPINRAZA?

Like all medicines, SPINRAZA can cause side effects, although not everybody gets them. Contact your doctor or nurse if you notice any of these side effects. Do not try to treat them yourself.

When SPINRAZA was tested in clinical trials, most side effects seemed to be:

- continued symptoms of the disease (SMA), such as:
 - breathing problems, muscle weakness, joint and bone problems, or digestive problems
 - sinus and/or throat infections, colds
 - lung infections like bronchitis and pneumonia
- side effects of the lumbar puncture:

- experienced during or within a few days after SPINRAZA is given

The side effects reported that were likely continued symptoms of the disease included:

- Chest infections (such as pneumonia)
 - wheezing, shortness of breath, chest pain, feeling tired, coughing - sometimes with mucus
- Constipation
- Cough
- Curving of the back or spine (scoliosis)
- Diarrhea
- Difficulty breathing or being unable to breathe
 - signs may include rapid or shallow breathing, an increase in heart rate, and a bluish-tinge of the skin, fingertips or lips
 - may be caused by a collapsed lung or part of a lung
- Difficulty swallowing or being unable to swallow
- Ear infection leading to pain or loss of balance
- Feeling nauseous or throwing up
- Fever
- Heart-burn
- Infections of the nose, throat or upper airways
 - blocked, stuffy or runny nose, sneezing and coughing, a sore or scratchy throat and watery or itchy eyes
- Nose bleed (epistaxis)
- Pain
- Permanent shortening of a muscle or joint
- Rash on forearms, legs, feet, hands
- Reduction in growth
- Stiffness of muscles or joints
- Stomach flu
- Yeast / fungus infection in mouth (oral thrush)
 - White patches usually on tongue or inner cheeks

The side effects that were likely a result of the lumbar puncture included:

- Back-pain
- Dizziness
- Feeling nauseous or throwing up
- Headache
- Pain during the injection
- Serious infections

Additional side effects included:

- Hydrocephalus (a buildup of too much fluid around the brain)
 - symptoms may include increase in head size or bulging soft spot on top of the head (fontanel) in infants, decreased consciousness, persistent nausea, vomiting or headache

- Aseptic meningitis (meningitis that is not caused by an infection)
 - symptoms may include headache, photophobia, neck stiffness, nausea, vomiting

Tell your doctor if you experience any of the side effects listed above. **Contact your doctor if you or your child has any side effect that bothers you or that does not go away.**

These are not all the possible side effects you may feel when taking SPINRAZA. If you experience any side effects not listed here, or have a troublesome symptom or side effect that is not listed here or becomes bad enough to interfere with your daily activities, contact your healthcare professional.

Reporting Side Effects

You can help improve the safe use of health products for Canadians by reporting serious and unexpected side effects to Health Canada. Your report may help to identify new side effects and change the product safety information.

3 ways to report:

- Online at [MedEffect https://www.canada.ca/en/health-canada/services/drugs-health-products/medeffect-canada.html](https://www.canada.ca/en/health-canada/services/drugs-health-products/medeffect-canada.html);
- By calling 1-866-234-2345 (toll-free);
- By completing a Consumer Side Effect Reporting Form and sending it by:
 - Fax to 1-866-678-6789 (toll-free), or
 - Mail to: Canada Vigilance Program
Health Canada, Postal Locator 1908C
Ottawa, ON
K1A 0K9

Postage paid labels and the Consumer Side Effect Reporting Form are available at [MedEffect](https://www.canada.ca/en/health-canada/services/drugs-health-products/medeffect-canada.html).

NOTE: Contact your health professional if you need information about how to manage your side effects. The Canada Vigilance Program does not provide medical advice.

Storage:

SPINRAZA will be managed and stored by healthcare professionals. Below are some of the guidelines for storing SPINRAZA:

- Refrigerate at 2°C to 8°C.
- May be stored at up to 30°C for up to 14 days.
- Protect from freezing.
- Protect SPINRAZA from light and keep it in the original carton until it is needed.
- Keep out of reach and sight of children.

If you want more information about SPINRAZA:

- Talk to your healthcare professional
- Find the full product monograph that is prepared for healthcare professionals and includes this Patient Medication Information by visiting the [Health Canada website https://www.canada.ca/en/health-canada/services/drugs-health-products/drug-products/drug-product-database.html](https://www.canada.ca/en/health-canada/services/drugs-health-products/drug-products/drug-product-database.html); the manufacturer's website www.biogen.ca.

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