CPNG
Canadian Pediatric Neuromuscular Group

November 10th 2026

Important Information for Families After Zolgensma® Treatment: Tumour Risk and Follow-Up

Dear Families,

Your child received Zolgensma® (onasemnogene abeparvovec), a one-time gene therapy for spinal muscular atrophy (SMA). You may have seen recent news about tumours in some children treated with it. This letter explains what is currently known about the risk of tumours after gene therapy, why we believe the benefits outweigh this risk, and how we plan to follow your child. There is no action needed from you today unless your child is unwell.

What is the concern about tumours?

Zolgensma uses a harmless, emptied out virus shell (called AAV) to carry a working copy of the *SMN1* gene into your child's cells. In most cells, this new gene stays separate from your child's own DNA. We now know that, rarely, pieces of it do insert into a person's DNA. Most such insertions do no harm. If this occurs in the wrong place, such as a place that controls cell growth, in addition to other factors, the new DNA pieces may contribute to a tumour developing, sometimes years later. When Zolgensma was first approved in 2019, its official product information did not mention tumours. A warning about this theoretical risk was added in October 2023 in the United States and in January 2024 in Canada.

What do we know so far?

- In early November 2026, Novartis, the maker of Zolgensma, informed doctors and health authorities that it has received 9 reports of tumours in children treated with Zolgensma since it was first approved in 2019.
- More than 6,000 children around the world have been treated with this gene therapy, some followed for up to 10 years.
- The tumours are all different types and have occurred in different parts of the body. Laboratory testing of the tumour has been completed in only 3 of the 9 cases so far. The reported tumours include:
    - Tumours of the central nervous system and peripheral nervous systems
    - Tumours in the spinal and paraspinal region
    - Tumours in the kidney
- In 2 of those 3 cases, the gene therapy's genetic material was found inserted into the child's own DNA within the tumour. This is called "vector integration". These two

tumours are likely, in combination with other factors, related to Zolgensma. Both children were treated and continue to be monitored. The remaining cases are still being investigated and a link with Zolgensma has not been established.
- No risk factors have been found that predict which children might develop a tumour.
- In 2026, rare tumours were also reported after other AAV gene therapies, where the gene therapy inserting into the patient's DNA appears to have played a role. This is a known risk with any gene therapy and is not unique to SMA.
- This risk is thought to apply to Itvisma® (intrathecal onasemnogene abeparvovec) as well, since it delivers the same gene using a similar AAV approach. If your child received Itvisma, this letter applies to them too.
- Some animal studies have raised concern, mainly about liver tumours in mice. It is not known whether these findings apply to humans.
- Tumours can take many years to appear, so this question is still being studied. Novartis has shared this information with health authorities and is working with them on next steps and guidance.

Putting this in perspective

The number of confirmed cases is very small, with only two out of more than 6000 treated children (or 1 in 3000). This figure may change as the other cases are investigated and as children are followed for longer.

Zolgensma was given to your child because without treatment SMA causes severe and progressive loss of strength, breathing and swallowing abilities. The benefit your child has gained is real and remains. These benefits have lasted for many years.

How we will follow your child

- Health authorities, such as Health Canada and the U.S. FDA, have not yet recommended any screening for tumours after gene therapy.
- For now, we will follow your child with **regular visits and a careful physical examination,** as we have done to date.
- We are **not recommending routine whole-body MRI** at this time. In young children, this long scan usually requires general anesthesia. Children with SMA have a higher risk of breathing and airway problems with anesthesia. With what we know today, we believe the risk of repeated anesthesia for screening is likely higher than the risk of a tumour caused by the gene transfer therapy. Additionally, whole body MRI can miss small tumours and potentially identify unrelated inconsequential findings causing undue stress and further investigations.

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- If your child has symptoms or exam findings that concern you or your medical team, we will order the appropriate tests, including imaging when needed.
- We will update this plan as new information or guidance become available.

What this means for your child now

Continue your child's usual care. Please contact your child's care team if your child has any of the following, especially if they persist for more than a week:

- A new lump or swelling anywhere on the body
- A swollen or firm belly, or yellowing of the skin or eyes
- Unexplained weight loss, ongoing tiredness, or fevers without a clear cause
- New weakness, new or persistent back pain, loss of skills, pain with walking or vomiting

We know this news creates new worries. The risk remains very small. We will share more information as it becomes available. Please don't hesitate to reach out to your child's care team if you have any questions.

We encourage you to share this letter with your child's primary care provider and other members of your child's health care team, so that everyone caring for your child is aware of this information.

Sincerely,

The Canadian Pediatric Neuromuscular Group