# Frequently Asked Questions

Clear, approachable answers to common questions about genetics and genetic testing in autism

## Genetics and Autism

**What is precision medicine?**
Precision medicine focuses on using our unique genetic and biological characteristics so that healthcare can be personalized based on that information, helping tailor interventions, supports, and monitoring for those who need it.

**Why is genetics relevant to autism?**
Genetic information can help explain why autism occurs, especially when other medical or developmental conditions are present. It can guide care, support early identification of needs, and inform family planning.

**Is autism genetic? Will my child be autistic if I am?**
Autism is strongly influenced by genetics. In fact, if we bring together the many individually rare genetic causes of autism, they can collectively explain up to 30% of cases. In addition, genetic does not mean inherited, and many times, these genetic changes are not present in the biological parents but happen spontaneously, which we call de novo.

**Do environmental factors contribute to autism?**
Research suggests that some environmental factors (for instance, some infections during pregnancy) may slightly increase likelihood but do not determine outcomes on their own. Importantly, within environmental factors, it has been robustly proven that vaccines DO NOT cause autism.

## Genetic Testing in Autism

**Is genetic testing meant to cure autism?**
No. It helps guide care and planning.

**Is genetic risk inevitable?**
No. It increases likelihood, not certainty.

**What does genetic testing involve?**
A blood or saliva sample is used to look for genetic changes. Genetic counselling helps to prepare for and interpret results.

**What is the cost for genetic testing in Alberta?**
It's overed by Alberta Health when eligibility criteria are met and testing is recommended by a physician.

**Will my genetic information be safe?**
There are laws such as the Genetic Non-Discrimination Act to help protect people.

## Genetic Concepts and Interpretation

**What does heritability mean?**
A measure of how strongly genetic a medical or mental health condition is. Interestingly, it does not mean that this condition is inherited from parents to their kids.

**Can environment help reduce genetic risk?**
While environment cannot change someone's genetic makeup, it can influence how people adapt and cope, and their quality of life. Genetic influence does not remove the importance of support and context.

**Does genetic risk mean something is inevitable?**
No. Genetic changes may increase the chances of an outcome; they don't guarantee it. There is wide opportunity to help people achieve their maximum potential based on strengths and challenges in the context of genetic changes.

## Rare Genetics

**What is a copy number variant (CNV)? What is a deletion and duplication?**
A copy number variant is when a small piece of a chromosome is missing (deletion) or duplicated (duplication). If they lead to clinical consequences, they are called pathogenic.

**What can I do if my kid has/I have a pathogenic CNV?**
Monitor development alongside your physician team, seek supports if needed (e.g., speech therapy, occupational therapy, physiotherapy), collaborate with schools and workplaces, and attend regular checkups.

**How can I contribute to the greater understanding of rare genetic conditions?**
Participating in research studies and patient registries helps advance our collective knowledge.

## Want to Learn More?

**Explore the full FAQ on our website or request a copy of our brochure.**

**If you have questions, contact us at prisma@ualberta.ca**
**Visit our web: www.precisionmedicineinautism.org/faq**