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Neurology Care 7 days a Week. Because Your Brain Matters.

Spinocerebellar Ataxia (Hereditary Ataxias)

Patient education guide · Movement Disorders · Madison Neurology LLC

What is it?

The spinocerebellar ataxias are a group of inherited disorders that progressively damage the cerebellum — the brain's coordination center — causing worsening balance problems, slurred speech, clumsy hands, and coordination loss. Dozens of genetic types exist (SCA1, SCA2, SCA3, SCA6, and others), usually beginning in adulthood. Some ataxias are sporadic or caused by treatable conditions.

How does it happen?

Most hereditary ataxias are autosomal dominant — a parent with the gene passes it to 50% of children — caused by expanded DNA repeats or other mutations (SCA types, Friedreich ataxia which is recessive). Acquired ataxia has different causes: alcohol, vitamin deficiencies (E, B12, B1), thyroid disease, gluten sensitivity, autoimmune cerebellar degeneration, and medications. Genetic testing identifies the type in many families.

Common symptoms

- Progressive imbalance and unsteady, wide-based walking; falls
- Slurred, scanning speech
- Clumsy hand movements — poor coordination of fine tasks
- Jumpy or inaccurate eye movements (nystagmus), double vision
- Depending on type: neuropathy, stiffness, tremor, or cognitive changes

How is it diagnosed?

Genetic testing identifies the specific SCA type in most familial cases. MRI shows cerebellar shrinkage. Blood tests and history exclude treatable acquired causes (vitamin levels, thyroid, alcohol, celiac antibodies, medications) — an essential step, because those ataxias can improve. Genetic counseling accompanies testing.

How is it treated?

No medication yet stops hereditary ataxia, but targeted therapies for specific types are in advanced clinical trials. What works now: regular physical therapy focused on balance and coordination (measurably slows functional decline), speech and swallowing therapy, occupational therapy and adaptive equipment, treatment of specific symptoms (spasticity, tremor, cramps), and fall prevention. Treatable acquired causes are corrected. Annual follow-up at an ataxia center keeps care current.

What does the future hold?

Progression is slow and varies by type — many people remain active for decades, though mobility gradually declines and assistive devices may be needed over time. Research is genuinely active: antisense and gene-targeting trials for several SCA types are underway, and the National Ataxia Foundation connects families with registries and studies.

Questions patients commonly ask

Q: Will my children get it?

A: For dominant SCAs, each child has a 50% chance of inheriting the gene; genetic counseling helps with family planning options including IVF with embryo testing.

Q: Can anything slow it down?

A: Regular targeted exercise and balance training have real evidence for slowing functional decline; trials of gene-silencing drugs for specific types are in progress.

Q: Why did you test my vitamins and thyroid?

A: Because some ataxias are acquired and treatable — deficiencies, thyroid disease, and celiac disease can all cause cerebellar degeneration.

National support groups & resources

- **National Ataxia Foundation** — ataxia.org
- **National Organization for Rare Disorders** — rarediseases.org — 1-800-999-6673
- **American Academy of Neurology — Brain & Life patient resources** — brainandlife.org

(Organization contact details were current at the time of compilation; please verify online.)

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