

# What tests do we need to do to find the cause of ataxia?

INFORMATION FROM PATIENTS AND FAMILIES  
A NATIONAL ATAXIA NETWORK INITIATIVE  
MOVEMENT DISORDERS SOCIETY OF INDIA

- Your doctor first determines **the type of ataxia you have**—whether it is **cerebellar, sensory, or vestibular**—based on your symptoms and examination findings.
- After identifying the likely type, the appropriate tests are ordered.
- The tests described below do not represent a comprehensive list- your doctor will determine which tests are required for you.
- **Blood tests:**
- **Blood sugar, liver, kidney, and thyroid function tests** – to check for metabolic or hormonal causes.
- **Vitamin levels** (B1, B12 and E)– to detect nutritional deficiencies.
- **Copper and ceruloplasmin levels** – to rule out Wilson’s disease, especially in younger patients.
- **Autoimmune and paraneoplastic antibodies** – such as anti-GAD, anti-Yo, or gluten antibodies, if autoimmune ataxia is suspected.
- **Tests for Infection** – for HIV, syphilis, or post-infectious causes when relevant.
- **Imaging and electrophysiological studies:**
- **MRI brain and spine or CT scan** – to look for findings that suggest damage to the cerebellum (balance center), and also to identify any abnormalities in the rest of the brain or spinal cord
- **Nerve conduction studies** – to assess nerve functions, especially if the doctor suspects sensory ataxia.
- **Vestibular function testing** –if the doctor suspects ataxia is caused by inner ear or vestibular nerve problems.

## Specialised tests:

- **Metabolic Tests: Including lactate, pyruvate, amino acids, and CoQ10 levels** – to identify metabolic or mitochondrial disorders.
- **Cerebrospinal fluid (CSF) analysis** –When infection or inflammation is suspected as the cause of ataxia.

If no acquired or reversible cause is identified, or if there is a family history of ataxia or other neurological disorders, your doctor may recommend genetic testing.

**Please see the following leaflets for more details on**

**-“What are the causes of genetic ataxia”**

**-“When is genetic testing done for ataxia and what are the tests available?”**

**-“Genetic counselling in ataxia”**

Genetic testing is recommended when:

- Symptoms develop gradually and progressively without any apparent acquired cause
- There is a **family history** of ataxia or other neurological problems
- MRI shows cerebellar shrinkage (atrophy) without an acquired cause identified.
- The person is young or has additional features, such as neuropathy, vision problems, or movement disorders.

Genetic testing not only confirms the diagnosis but also identifies **treatable forms** (e.g., CoQ10 or vitamin E deficiency-related ataxias), assists with family planning and **genetic counselling**, and guides treatment decisions.