

FREQUENTLY ASKED QUESTIONS ABOUT... ATAXIA

What is ataxia?

Ataxia means clumsiness of movement or loss of coordination that is not the result of muscle weakness. The word “ataxia” might be used simply to mean poor coordination, or it might be used in a more specific way to denote a degenerative disease of the nervous system. Ataxia may affect the fingers and hands, the arms or legs, the body, speech or eye movements. This loss of coordination may be caused by a number of different medical or neurological conditions. For this reason, it is important that a person with ataxia seek medical attention to determine the underlying cause of the symptom and to receive the appropriate treatment.

What causes ataxia?

Most often ataxia is caused by loss of function in the part of the brain, the cerebellum, which serves as the coordination center. The cerebellum is located toward the back and lower part of the brain. The right side of the cerebellum controls coordination on the right side of the body and the left side controls coordination on the left. The central part of the cerebellum controls the very complex movements of gait or walking, head and trunk stability and eye movements. Other parts of the cerebellum help to coordinate eye movements, speech and swallowing.

Ataxia may also be caused by dysfunction of the pathways leading into and out of the cerebellum. Information comes into the cerebellum from the spinal cord, inner ear and other parts of the brain and signals from the cerebellum go out to the spinal cord and to the brain. Although the cerebellum does not directly control strength, (motor function) or feeling, (sensory function) the motor sensory pathways must work properly to provide the correct input into the cerebellum. Thus, a person with impaired strength

or sensation may notice clumsiness or poor coordination, and the doctor may say that person has ataxia.

How does a physician diagnose ataxia?

The physician will perform a neurological examination which can usually determine whether the ataxia is caused by impairment in the cerebellum, its associated pathways or other parts of the nervous system. Blood tests and x-rays, including an MRI of your brain, can show whether the cerebellum or nearby parts of the brain or spinal cord have been affected by a stroke, tumor, infection or degenerative disease that can cause ataxia. Genetic testing is available for various types of ataxia, although some physicians may feel that it is appropriate to refer a patient to a specialist in genetics, movement disorders, or ataxia before ordering a gene test. You can assist the physician in making a diagnosis by being honest about all of your symptoms, being accurate about the dates and details of your medical history and by collecting information about your family history.

Below is a list of some medical and neurological conditions that can cause ataxia to appear suddenly:

- Head trauma
- Stroke
- Brain hemorrhage
- Brain tumor
- Structural disorders - the cerebellum was not formed properly during development before birth
- Severe viral infection
- Exposure to certain drugs or toxins (alcohol, seizure medicine)
- Cardiac or respiratory arrest

Here is a list of some medical and neurological conditions that can cause ataxia to appear gradually:

- Sensitivity to gluten (wheat, rye and barley)
- Hypothyroidism
- Deficiencies of certain vitamins (Vitamin E, Vitamin B12)
- Exposure to certain drugs or toxins (heavy metals, seizure medicine, chronic alcohol use, some types of cancer drugs that are related to certain kinds of cancers such as ovarian or lung cancer)
- Structural disorders - the cerebellum was not formed properly during development before birth
- Multiple sclerosis
- Syphilis (locomotor ataxia)
- Hereditary disorders
- Idiopathic, unknown cause, cerebellar degeneration
- Other immune system problems or hidden cancers affecting the immune system

The list of conditions that the physicians must think about as causes of ataxia is rather long. Proper diagnosis may require a number of examinations, x-rays, MRIs and other tests.

How is ataxia and its symptoms treated?

There is no medicine which specifically treats ataxia or the symptoms of ataxia. At this time, the goal of treatment is to improve the quality of life through education, timely involvement of other specialists and medical treatment of specific symptoms. The treatment of incoordination involves physical, occupational and speech therapy and the use of adaptive devices to allow the ataxia individual to remain as independent as possible. These may include a cane, crutches, walker, scooter or wheelchair. Devices to assist with writing, eating and self-care as well as communication devices for those with impaired speech may be helpful. If ataxia is due to stroke, a low vitamin level or exposure to a toxic drug

or chemical, the treatment would include treatment of the stroke, vitamin therapy or avoiding the toxic drug or chemical.

Many individuals with hereditary or sporadic forms of ataxia have other symptoms which include tremor, stiffness, depression, spasticity and sleep disorders, in addition to their ataxia. Medication or other therapies such as physical therapy or speech therapy might be appropriate for some of these symptoms.

How can the National Ataxia Foundation help?

The National Ataxia Foundation (NAF) is interested in all forms of hereditary ataxias and sporadic ataxia. The treatment and prognosis of ataxia, due to causes such as stroke or tumor, depends primarily on the treatment of the underlying cause. While little is understood of the underlying cause for the hereditary and sporadic ataxias with no cure currently available, NAF has been in the forefront for over 50 years funding promising worldwide research to find answers. If you are affected by ataxia, you can help researchers find answers by signing up on the National Ataxia Registry at www.NationalAtaxiaRegistry.org.

The National Ataxia Foundation is committed to education about ataxia, service to individuals affected with the various forms of ataxia and promoting research to find the causes, better treatments and a cure for ataxia. NAF can help by providing information for you, your family and your physician about ataxia.

NAF does encourage you to visit our website at www.ataxia.org for additional information on ataxia, a listing of ataxia support groups, online chat groups, and more. For additional questions please contact NAF using the contact information below.