



[Home](#) → [Medical Encyclopedia](#) → Basal ganglia dysfunction

URL of this page: //medlineplus.gov/ency/article/001069.htm

## Basal ganglia dysfunction

Basal ganglia dysfunction is a problem with the deep brain structures that help start and control movement.

### Causes



Watch this video about:  
Athetosis resulting from basal  
ganglia injury

Any condition that can cause brain injury can damage the basal ganglia. Such conditions include:

- Carbon monoxide poisoning
- Medicine or illegal drug overdose
- Head injury
- Infection
- Liver disease
- Metabolic problems
- Multiple sclerosis (MS)
- Poisoning with copper, manganese, or other heavy metals
- Stroke
- Tumors

A common cause of the symptoms of basal ganglia dysfunction is chronic use of medicines called antipsychotics, used to treat schizophrenia.

Many brain disorders are associated with basal ganglia dysfunction. They include:

- Dystonia (muscle tone problems)
- Huntington disease (nerve cells in certain parts of the brain waste away, or degenerate)
- Multiple system atrophy (widespread nervous system disorder)
- Parkinson disease
- Progressive supranuclear palsy (movement disorder from damage to certain nerve cells in the brain)

- Wilson disease (disorder causing too much copper in the body's tissues)

## Symptoms

Damage to the basal ganglia cells may cause problems controlling speech, movement, and posture. This combination of symptoms is called parkinsonism.

A person with basal ganglia dysfunction may have trouble starting, stopping, or sustaining movement. Depending on which area of the brain is affected, there may also be problems with memory and other thought processes.

In general, symptoms vary and may include:

- Movement changes, such as involuntary or slowed movements
- Increased muscle tone
- Muscle spasms and muscle rigidity
- Problems finding words
- Tremor
- Uncontrollable, repeated movements, speech, or cries (tics)
- Walking difficulty

## Exams and Tests

Your health care provider will perform a physical exam and ask about your symptoms and medical history.

Blood and imaging tests may be needed. These may include:

- CT and MRI of the head
- Genetic testing
- Magnetic resonance angiography (MRA) to look at the blood vessels in the neck and brain
- Positron emission tomography (PET) to look at the metabolism of the brain
- Blood tests to check blood sugar, thyroid function, liver function, and iron and copper levels

## Treatment

Treatment depends on the cause of the disorder. Most people may benefit from physical therapy to reduce the risk of falling. Occupational therapy can help them remain independent. Speech therapy is helpful for those who have trouble swallowing or speaking.

## Outlook (Prognosis)

How well a person does depends on the cause of the dysfunction. Some causes are reversible, while others require lifelong treatment.

## When to Contact a Medical Professional

Contact your provider if you have any:

- Abnormal or involuntary movements

- Falls without known reason
- If you or others notice that you are shaky or slow

## Alternative Names

Extrapyramidal syndrome; Antipsychotics - extrapyramidal

## References

Jankovic J. Parkinson disease and other movement disorders. In: Jankovic J, Mazziotta JC, Pomeroy SL, Newman NJ, eds. *Bradley and Daroff's Neurology in Clinical Practice*. 8th ed. Philadelphia, PA: Elsevier; 2022:chap 96.

Okun MS, Ostrem JL. Other movement disorders. In: Goldman L, Cooney KA, eds. *Goldman-Cecil Medicine*. 27th ed. Philadelphia, PA: Elsevier; 2024:chap 379.

Vestal E, Rusher A, Ikeda K, Melnick M. Disorders of the basal nuclei. In: Lazaro RT, Reina-Guerra SG, Quiben MU, eds. *Umphred's Neurological Rehabilitation*. 7th ed. St Louis, MO: Elsevier; 2020:chap 18.

## Review Date 6/13/2024

Updated by: Joseph V. Campellone, MD, Department of Neurology, Cooper Medical School at Rowan University, Camden, NJ. Review provided by VeriMed Healthcare Network. Also reviewed by David C. Dugdale, MD, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team.

### Learn how to cite this page



Health Content  
Provider  
06/01/2028

A.D.A.M., Inc. is accredited by URAC, for Health Content Provider ([www.urac.org](http://www.urac.org)). URAC's accreditation program is an independent audit to verify that A.D.A.M. follows rigorous standards of quality and accountability. A.D.A.M. is among the first to achieve this important distinction for online health information and services. Learn more about A.D.A.M.'s [editorial policy](#), [editorial process](#), and [privacy policy](#).

The information provided herein should not be used during any medical emergency or for the diagnosis or treatment of any medical condition. A licensed medical professional should be consulted for diagnosis and treatment of any and all medical conditions. Links to other sites are provided for information only – they do not constitute endorsements of those other sites. No warranty of any kind, either expressed or implied, is made as to the accuracy, reliability, timeliness, or correctness of any translations made by a third-party service of the information provided herein into any other language. © 1997-2025 A.D.A.M., a business unit of Ebix, Inc. Any duplication or distribution of the information contained herein is strictly prohibited.

