

Carpe Diem – Seize the Day Blog

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Epilepsy can cause many possible types of seizures, including atonic seizures. These seizures, also called drop attacks, cause a sudden loss of muscle tone. This can lead to head-drooping or falling. Atonic seizures are usually generalized seizures, meaning they affect both sides of the brain. But they can also be focal seizures, where they affect one side of the brain.

What is an atonic seizure?

An atonic seizure happens when your muscles suddenly relax. It happens involuntary, so you cannot control it. This seizure might affect one muscle group, like the head and neck, causing the body part to droop. In other cases, it can affect all your muscles, causing you to fall if you are standing. You usually stay conscious during atonic seizures. Most atonic seizures last about 15 seconds or less. Sometimes, they can last for several minutes.

Atonic seizures are also called:

- drop attacks.
- astatic seizures.
- drop seizures.

Symptoms include:

- sudden limpness in one or more parts of the body.
- head nodding.
- eyelid drooping.
- dropping items.
- falls.
- staying conscious or briefly losing consciousness.

What are myoclonic atonic seizures?

A myoclonic seizure causes sudden jerking in some or all of your muscles. It typically lasts less than a second, but many myoclonic seizures can happen within a short amount of time. If you experience this with an atonic seizure, it is known as a myoclonic atonic seizure. Your muscles suddenly jerk before falling limp. Myoclonic atonic seizures may occur in Doose syndrome, or myoclonic astatic epilepsy. This is a rare syndrome that appears in early childhood.

Aftereffects of an atonic seizure

Atonic seizures are usually short. But you might feel confused after the seizure, especially if you briefly lose consciousness.

If you were standing or doing something when the seizure happened, you might fall. This could lead to aftereffects like:

- pain.
- soreness.
- bruises.
- cuts.
- serious injury.

If the seizure did not cause pain or injury, you will be able to resume your normal activity.

Possible causes include:

- genetic mutations.
- abnormal brain development.
- stroke.
- severe brain injury.
- low oxygen supply before birth (perinatal hypoxia).
- central nervous system infections.

Sometimes, atonic seizures may be part of a childhood condition, like Doose syndrome or Lennox-Gaustaut syndrome. In other cases, the cause might be unknown.

Who is at risk for atonic seizures? Atonic seizures are more likely to affect babies and children. That is because atonic seizures typically appear in childhood. However, the seizures can last into adulthood. An adult who has these seizures likely had them as a child as well. Adults may also experience atonic seizures if they have learning disabilities or frontal lobe lesions.

Atonic seizures in babies and toddlers

Though atonic seizures are more common in children than adults, they are still rare. About 1 to 3 percent of children with epilepsy get atonic seizures. The seizures typically appear during infancy or early childhood. They may start between 1 and 6 years old, depending on the cause.

An atonic seizure can cause similar symptoms in both children and adults. But in some children, only their head may drop. This is common in babies, who are unable to stand.

What to do if you or someone else is having an atonic seizure

If you think you are having an atonic seizure, try to stay calm. This type of seizure is brief. If you think someone else is having an atonic seizure, stay with them until they regain movement or consciousness. Typically, first aid for atonic seizures is not required unless you or the person get hurt during a fall.

When to see a doctor

Visit a doctor if you suddenly lose muscle tone, even for a few seconds. A doctor can diagnose your symptoms. If you have already been diagnosed with atonic seizures, keep seeing your doctor. Let them know if you develop unusual or additional symptoms.

Get medical help if you have:

- loss of muscle tone that lasts more than 15 seconds.
- loss of consciousness that lasts longer than usual.

- unusual muscle twitching or jerking.
- an injury during a seizure.

Treatment for Atonic Seizures includes Anti-epilepsy drugs. Anti-epilepsy drugs (AEDs) are the most common form of seizure treatment. However, atonic seizures often respond poorly to AEDs. You will likely need another treatment along with AEDs.

Dietary changes

A high-fat, low-carbohydrate diet is used to treat seizures in children. This may include the ketogenic diet or modified Atkins diet. **It is important to work with a dietitian and neurologist when eating a high-fat diet for seizures. They can help you avoid the side effects of these diets.**

Vagus nerve stimulation

If multiple AEDs fail to reduce atonic seizures, vagus nerve stimulation (VNS) might be an option. Your vagus nerve sends information between your brain and rest of your body. VNS uses a device, which is implanted under the skin on your chest, to stimulate the nerve. This reduces the frequency of seizures.

Brain surgery

Brain surgery might be recommended if atonic seizures do not respond to AEDs. This involves a procedure called corpus callosotomy. During the surgery, a surgeon disconnects the two sides of the brain. This stops abnormal electrical discharges from spreading from one side to the other. The procedure is usually more effective than VNS.

How are atonic seizures diagnosed?

To diagnose atonic seizures, your doctor will use:

- **Medical history.** Your symptoms and activities before the seizure will help your doctor determine what caused it.
- **Family history.** Epilepsy can be genetic. Your doctor will ask questions about your family history.
- **Electroencephalogram.** An electroencephalogram (EEG) can show abnormal brain activity.
- **Imaging tests.** Imaging tests can show if a lesion or structural problem is causing your seizures. This includes tests like a magnetic resonance imaging (MRI) or computer tomography (CT) scan.
- **Blood tests.** Your doctor will look for abnormal markers, like electrolytes, that may be causing your seizures.
- **Tests to check your heart.** Abnormal heart rhythms or blood pressure levels can lead to falls. Your doctor can use various tests to rule out these conditions.

Takeaway

Atonic seizures, or drop attacks, are brief seizures that cause sudden muscle limpness. You might fall or drop an item. In babies and children, the head might drop.

These seizures are rare. They are more common in children than adults, as they typically appear in childhood. But they can continue into adulthood.

Often, anti-epilepsy drugs are unable to control atonic seizures. A high-fat diet, vagus nerve stimulation, or brain surgery might be necessary. If you think you or your child has atonic seizures, see a doctor.

Editor's Note: The Carpe Diem – Seize the Day Blog will be distributed and posted weekly.
Always remember – **CARPE DIEM – SEIZE THE DAY!**

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