

# Seizures: General Information

<p><b>What are seizures?</b></p>	<ul style="list-style-type: none"> <li>▶ Seizures are the physical effects of unusual bursts of electrical energy in the brain. This electrical hyperactivity in the brain produces “seizures.”</li> <li>▶ Seizures are not the same in everyone who has them – they can be different in how they appear, how long they last (a few seconds to a few minutes) and how often they occur.</li> <li>▶ Seizures may appear as a brief stare, a change of awareness, or convulsions that include muscle spasms, loss of consciousness, uncontrolled body movement, incontinence and/or vomiting.</li> </ul>
<p><b>What is epilepsy?</b></p>	<ul style="list-style-type: none"> <li>▶ Epilepsy is a condition where an individual has recurrent seizures secondary to unknown or uncorrectable causes.</li> <li>▶ Anyone can develop epilepsy, but it is normally diagnosed in childhood.</li> <li>▶ The most common cause of epilepsy is injury to the brain (e.g., birth trauma, infections, a head injury, low blood sugar, or stroke). However, often no cause can be found.</li> <li>▶ If someone has seizure-like behavior, it does not always mean they have epilepsy.</li> </ul>
<p><b>Can people tell when they are going to have a seizure?</b></p>	<ul style="list-style-type: none"> <li>▶ Some (but not all) people can tell, because they have a strange sensation before a seizure, called an “aura.”</li> <li>▶ Common seizure warning signs to look for are: <ul style="list-style-type: none"> <li>» Periods of forgetfulness or memory lapses</li> <li>» Feeling spacey, ‘fuzzy,’ or confused</li> <li>» Jerking movements of an arm, leg, or body</li> <li>» Tingling, numbness or feelings of electricity in parts of the body</li> <li>» Odd feelings</li> <li>» Unusual smells or tastes</li> <li>» Daydreaming episodes</li> <li>» Headaches</li> <li>» Losing bladder or bowel control unexpectedly</li> </ul> </li> </ul>
<p><b>Are there triggers that might make a person’s seizures more likely to happen?</b></p>	<p>Yes. It is important to know what might trigger a seizure in an individual person, and to help them avoid the triggers, when possible. Some possible triggers to be aware of are:</p> <ul style="list-style-type: none"> <li>▶ Stress: <ul style="list-style-type: none"> <li>» Emotional stress, e.g., overexcitement, emotional upset, being startled.</li> <li>» Physical stress, e.g., illness, lack of sleep, low blood sugar (hypoglycemia), hormone changes, alcohol, or drugs.</li> <li>» Environmental stress, e.g., television or computer screens, flashing lights (including flickering overhead lights), heat and/or humidity.</li> </ul> </li> <li>▶ Change in medication.</li> <li>▶ Missed seizure medication.</li> </ul>
<p><b>Check with the person’s doctor about how to respond when a seizure happens.</b></p>	<ul style="list-style-type: none"> <li>▶ If you are living with or caring for someone with a seizure disorder: <ul style="list-style-type: none"> <li>» <a href="#">Complete a Seizure Action Plan</a>.</li> <li>» Find out whether the clinician wants to be notified every time the person has a seizure, or just in certain specific situations.</li> <li>» Ask if there are any special warning signals that you should look for. Ask whether or when you should call an ambulance.</li> </ul> </li> <li>▶ Ensure the individual has a medical alert device (e.g., MedicAlert bracelet or ID).</li> </ul>
<p><b>How is epilepsy diagnosed?</b></p>	<ul style="list-style-type: none"> <li>▶ The clinician takes a detailed history, takes into account eyewitness reports of events thought to be seizures, usually does an EEG (electroencephalogram – a test that measures electrical activity in the brain), and may do further tests.</li> </ul>
<p><b>Misdiagnosis of seizures/epilepsy</b></p>	<ul style="list-style-type: none"> <li>▶ Epilepsy is difficult to diagnose and may be wrongly diagnosed some of the time, especially in people with IDD – behaviors may be wrongly given the diagnosis of a seizure.</li> <li>▶ Behaviors that are caused by seizure activity may not be recognized, and treatment not provided.</li> <li>▶ The role of families/support persons in accurately recording and describing any event that may be a seizure is extremely important for the clinician’s assessment.</li> </ul>

# Types of Seizures

People with a seizure disorder can have just one type of seizure or more than one type. This makes diagnosis and management more complicated. There are more than 40 types of seizures, but most are grouped into two main types:

- 1) **GENERALIZED** – the seizure (electrical discharge) affects the whole brain.
- 2) **PARTIAL** – the seizure affects only part of the brain.

<b>GENERALIZED OR PARTIAL</b>	<b>Status Epilepticus</b>	<ul style="list-style-type: none"> <li>▶ A state of prolonged seizure activity or repeated seizures without time for recovery.</li> <li>▶ May exist for any seizure type.</li> </ul> <p><i>Status epilepticus is a medical emergency that can lead to severe brain damage and even death. <b>This is a medical emergency. Call 911.</b></i></p>
	<b>Myoclonic</b>	<ul style="list-style-type: none"> <li>▶ Involves a sudden, shocking jerk of the muscles in the arms, legs, neck and trunk.</li> <li>▶ Tends to involve both sides of the body at the same time, and the person may fall over.</li> </ul>
<b>GENERALIZED</b>	<b>Tonic-clonic Seizures</b> “Grand Mal”	<ul style="list-style-type: none"> <li>▶ General convulsions with two phases.               <ul style="list-style-type: none"> <li>» First phase: Tonic. The person may vocalize (e.g., cry or groan), lose consciousness, and then the person’s body grows stiff.</li> <li>» Second phase: Clonic. It involves jerking/twitching, sometimes with the whole body or just the face and arms. The person could have shallow breathing, bluish skin or lips, drooling and/or loss of bladder or bowel control.</li> </ul> </li> <li>▶ Normally lasts one to three minutes.</li> <li>▶ Consciousness returns slowly, and the person may look very tired or want to sleep.</li> </ul>
	<b>Absence</b> “Petit Mal”	<ul style="list-style-type: none"> <li>▶ Brief periods of complete loss of awareness, e.g., staring into space completely unaware of surroundings and unresponsive. Rapid blinking, mouth or arm movement may occur.</li> <li>▶ These seizures start and end suddenly without warning. Lasts only a few seconds but often happens many times a day.</li> </ul>
	<b>Atypical Absence</b>	<ul style="list-style-type: none"> <li>▶ Jerking or automatic movements lasting longer than 20 seconds with partial loss of awareness.</li> </ul>
<b>PARTIAL</b>	<b>Atonic</b>	<ul style="list-style-type: none"> <li>▶ Lasts a few seconds and involves sudden loss of tone in the muscles of the neck, arms, legs, or trunk muscles.</li> <li>▶ The person may fall to the ground suddenly.</li> <li>▶ People with atonic seizures may have to wear a helmet to protect their head from injury during a fall.</li> </ul>
	<b>Simple Partial</b> “Focal”	<ul style="list-style-type: none"> <li>▶ Causes strange and unusual sensations, changing the way things look, sound, taste or smell.</li> <li>▶ The person remains conscious but cannot control sudden, jerky movements or a part of the body.</li> </ul>
	<b>Complex Partial</b> “Psychomotor or Temporal Lobe”	<ul style="list-style-type: none"> <li>▶ Changes the person’s awareness of what is going on during the seizure, so the person may seem dazed, confused or trance-like.</li> <li>▶ The person may repeat simple actions over and over, e.g. head turning, mumbling, pulling at clothing, smacking lips, making random arm or leg movements or walking randomly.</li> <li>▶ Lasts a minute or two.</li> </ul>

## References

Epilepsy Ontario. Types of Seizures. Ontario: Epilepsy Ontario. Retrieved June 10 2019 from <https://www.epilepsy.com/learn/types-seizures>

The Nemours Foundation. United States: Kids Health from Nemours. Retrieved June 10 2019 from [http://kidshealth.org/parent/firstaid\\_safe/emergencies/seizure.html](http://kidshealth.org/parent/firstaid_safe/emergencies/seizure.html).

Schachter S.C., Shafer P.O. Warning Signs of Seizures. United States: epilepsy.com; Retrieved June 10 2019 from [www.epilepsy.com/epilepsy/warning\\_signs](http://www.epilepsy.com/epilepsy/warning_signs).

Chapman M, Iddon P, Atkinson K, Brodie C, Mitchell D, Parvin G, et al. (2011). The misdiagnosis of epilepsy in people with intellectual disabilities: A systematic review. *Seizure*, 20(2), 101-6.

International League Against Epilepsy 2017 New Classification of Seizure Types. Retrieved June 10 2019 from <http://www.canadianepilepsyalliance.org/wp-content/uploads/2019/02/New-Epilepsy-Classification.pdf>

Edmonton Epilepsy Association. Seizures and First Aid. Retrieved June 10 2019 from: <http://www.edmontonepilepsy.org/documents/Epilepsy%20-%20Seizures%20&%20First%20Aid.pdf>

This document complements “Primary care of adults with intellectual and developmental disabilities: 2018 Canadian consensus guidelines”, published in *Canadian Family Physician*, Volume 64(4): April 2018, p254-279.

Modified with permission of the copyright owner, Surrey Place, Toronto, Canada. This tool was reviewed and adapted for U.S. use by Vanderbilt Kennedy Center, Toolkit Advisory Committee, including primary care providers, self-advocates, and family caregivers.

All rights reserved. The content of this tool may not be reproduced or stored in a retrieval system, or transmitted in any form or by any means without the prior written permission of the copyright owner. All content © Surrey Place, 2023. Contact the IDD Toolkit at [iddtoolkit@vumc.org](mailto:iddtoolkit@vumc.org) for permission to adapt information and tools to your local practice setting.