

Seizures, Febrile

What are febrile seizures?

- Febrile seizures are described as generalized (whole brain and body-involved) tonic-clonic (shaking) movements of a child's body in response to a fever. Febrile seizures often occur as the temperature is rising quickly in the first few hours of a fever. They represent abnormal brain electrical activity triggered by a fever. They can last less than a minute but can sometimes last up to 15 minutes. Seizures that last longer than 15 minutes and those that affect only one part of the body are not typical febrile seizures. Frequently, there is a family history of febrile seizures.
- Seizures often scare people who do not know about them, but febrile seizures will usually not harm the child who has one. A febrile seizure does not cause brain damage.

How common are they?

Febrile seizures are very common, occurring in up to 2% to 4% of all infants and children who are between 6 months and 5 years of age. The most common age is when children are around 1 year (ie, 12 months) to 1½ years (ie, 18 months) of age. Children younger than 12 months at the time of the first simple febrile seizure have approximately a 50% chance of having another, while children older than 12 months when they have the first seizure have about a 30% chance of having a second one. Most children outgrow febrile seizures by the time they get to school age. A very small number of children who have febrile seizures will go on to develop epilepsy.

What are some common characteristics of children who have febrile seizures?

- Typical febrile seizures cause generalized shaking of the body that lasts 1 to 2 minutes, with a rapid return to consciousness. These seizures tend to occur with a rapid rise in body temperature and usually happen only once during any given illness, often with the first fever spike. Often, febrile seizures happen at the start of an illness, sometimes before the fever is even apparent.
- Seizures that are different from typical febrile seizures differ in the following ways:
 - Seizure is prolonged and may last longer than 15 minutes.
 - Seizure is focal, or partial, and involves just part of the body.
 - Child experiences more than one seizure during the same febrile illness.

- Child is younger than 6 months or older than 6 years.
- Child has a strong family history of epilepsy.

- Most children who have febrile seizures are developmentally and intellectually normal. About 25% of these children will have a family history of febrile seizures.

Who might be on the treatment team?

- Febrile seizures are usually managed by the child's pediatrician/primary care provider in the medical home.
- Specialists, such as neurologists and developmental-behavioral pediatricians, are rarely involved in the treatment of these children, which is very different than that of children who have seizures without fever.
- Brain studies such as magnetic resonance imaging and computed tomography scanning and electroencephalography are generally not needed. If they are done, findings are typically normal in children with simple febrile seizures.

What are some elements of a Care Plan for children with febrile seizures?

How to keep a child safe during a seizure—the emergency Care Plan.

- Call emergency medical services (EMS) (911) if this is the child's first seizure.
- Keep calm. You cannot stop a seizure once it starts. Let the seizure run its course. If it is a febrile seizure, it will stop after no more than 15 minutes. If the seizure goes on for longer, the child will need emergency care. Do not try to revive the child.
- Ease the child to the floor, and loosen his or her clothing.
- Try to remove any hard, sharp, or hot objects that might injure the child. You may place a cushion or soft item under his or her head.
- Turn the child to his or her side, so saliva can flow out of the mouth.
- Protect the breathing passages by tilting the head back a bit and adjusting the jaw forward in the sniffing position.
- Do not put anything into the child's mouth. The child may bite his or her tongue, but that will not stop the child from breathing.
- Try to time the seizure and note what parts of the body are involved. This information may be helpful to doctors caring for the child afterward.

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- After the seizure, let the child rest if sleepy.
- Contact the child's parents/guardians.
- If the child wakes after the seizure, he or she may be groggy or irritable and just needs comfort measures.

What adaptations may be needed?

Medications

- The Care Plan should include having fever-reducing medications such as acetaminophen (eg, Tylenol) and ibuprofen (eg, Motrin, Advil) on hand in case the child develops a fever in the child care center or school. This medication can be supplied by the parents/guardians, but instructions for using the medication should be written out for the program staff by a health care professional.
- Unfortunately, fever-reducing medications have not been shown to prevent febrile seizures.
- When a child has a fever, the fever is not an illness. The source of the fever should be identified.
- Some children will have rectal suppositories (eg, rectal diazepam gel) prescribed to be given if the child develops a febrile seizure. These medications can help stop or shorten a seizure, but, in some cases, they can slow breathing. If a seizure medication is to be used by program staff, a plan for using the medication should be discussed with the parents/guardians and prescribing doctor to make sure the plan, including how to monitor and manage any medication side effects, is completely understood.
- All staff who will be administering medication should have medication administration training (see Chapter 6).
- Some child care center or school administrators prefer to hold seizure medication and allow EMS first responders to administer it if necessary.
- Call parents/guardians if the child develops a fever or any other illness symptom.

What should be considered an emergency?

Call EMS (911) if

- The seizure looks as if it will last longer than 15 minutes. Calling after 10 minutes of seizure activity will allow EMS first responders to arrive to help with a prolonged seizure.
- The child has a series of short seizures.
- The child is injured during the seizure.
- This seizure is the child's first seizure.

What types of training or policies are advised?

- Medication administration
- CPR (management of a blocked airway and rescue breathing)
- Emergency preparation

What are some resources?

- American Academy of Pediatrics HealthyChildren.org: "Febrile Seizures" (Web page), www.healthychildren.org/English/health-issues/conditions/head-neck-nervous-system/Pages/Febrile-Seizures.aspx
- Epilepsy Foundation: www.epilepsyfoundation.org, 1-800-332-1000
- National Institute of Neurological Disorders and Stroke: www.ninds.nih.gov, 1-800-352-9424

