



# Treating Febrile Seizures in Infants and Young Children



**NATIONWIDE  
CHILDREN'S**

*When your child needs a hospital, everything matters.<sup>SM</sup>*

## Febrile Seizures in Infants and Young Children

Children and infants often have illnesses accompanied by fevers. For most children, fevers cause minor discomfort; but for a few children, fevers can cause seizures. These febrile seizures are a common, benign disorder occurring in children between 1 month and 5 years of age. Febrile seizures are the most common form of childhood seizures, affecting 2 to 5 percent of children.

While they are considered benign and self-limiting, a febrile seizure is a terrifying event for most parents and is one of the most common reasons for a trip to the emergency department (ED).

### Classification of Febrile Seizures

Febrile seizures are classified as simple or complex based on duration, physical characteristics and recurrence patterns. Complex febrile seizures are heterogeneous in presentation, and no national practice guidelines are established. Emergency department physicians should be able to differentiate simple from complex febrile seizures with a good patient history and examination.

Febrile seizures that last longer than 30 minutes are considered febrile status epilepticus (FSE). Like the broader category of childhood status epilepticus, febrile status epilepticus is a dangerous condition in which seizures follow one another without recovery of consciousness between them. FSE is a medical emergency and accounts for 5 to 9 percent of all febrile seizures and 25 percent of all episodes of status epilepticus occurring in children. In the second year of life, two-thirds of all cases of status epilepticus are FSE. One third of febrile status epilepticus cases are unrecognized in the ED.

Classification of Febrile Seizures	
Simple febrile seizure (SFS)	A self-limited, short (<15 minutes), generalized, tonic-clonic seizure that does not recur within the same illness and is not associated with postictal pathology
Complex febrile seizures (CFS)	Febrile seizure that does not meet all criteria for SFS
Prolonged febrile seizure (PFS)	Complex seizure that lasts longer than 15 minutes
Febrile status epilepticus (FSE)	A febrile seizure that continues longer than 30 minutes

## Emergency Care and Workup

The first time a child has a fever with seizure, parents should take the child to the ED.

Most patients with simple febrile seizure will not need extensive workups beyond detailed history and examination at the time of the seizure. This examination should include looking for signs of meningitis. According to American Academy of Pediatrics (AAP) clinical practice guideline recommendations, “meningitis should be considered in the differential diagnosis in any child with fever, and a lumbar puncture should be performed if there are any signs or symptoms of concern.” A lumbar puncture is frequently unnecessary unless the patient is under the age of 12 months (limiting confidence in a physical exam), displays signs of central nervous system (CNS) infection or does not return to baseline mental status.

In the case of focal prolonged febrile seizures or febrile status epilepticus, etiologies such as infections and structural abnormalities should be excluded by doing spinal tap and neuroimaging including high resolution brain MRI. An EEG is not usually indicated for evaluations of CFS with the exception of febrile status epilepticus. EEG may be considered in follow-up if there are recurrences without fever or evidence of developmental delay or neurologic deficits.

Once the diagnosis of febrile seizure has been made, parents can be educated about how to respond in the case of future episodes.

## Parental Anxiety

Despite the benign nature and excellent prognosis of febrile seizures, they are a cause of high anxiety among parents. When a seizure is first witnessed, parents may think that the child is dying. Later parental reactions to febrile seizures can include anxiety over recurrence and fear of subsequent development of epilepsy, physical disabilities, mental retardation and learning dysfunction. In light of the high incidence of recurrence, parents need specific information on appropriate first aid techniques and reassurance that febrile seizures are not associated with death, development of neurological deficits or impaired cognitive functioning.

Parent education materials for febrile seizures are available at [NationwideChildrens.org/Febrile-Seizures](http://NationwideChildrens.org/Febrile-Seizures).

## When to Refer to Nationwide Children’s Hospital

Most children with simple febrile seizures can be managed at local EDs. However, it is recommended that patients be referred to Nationwide Children’s Hospital when these common indicators occur:

- Complex febrile seizure
- Febrile status epilepticus
- Lack of return to baseline within normal timeframe (usually an hour after the seizure)
- Parental anxiety

---

## Referrals and Consultations

Online: [NationwideChildrens.org/Neurology](https://www.NationwideChildrens.org/Neurology)

Phone: (614) 722-4625 or (877) 722-6220 | Fax: (614) 722-4633

Physician Direct Connect Line for 24-hour urgent physician consultations:  
(614) 355-0221 or (877) 355-0221.

