CONDITION

Febrile seizures

Febrile seizures are seizures triggered by fever in young children.

WHAT IT IS
Fever-triggered seizure in a young child

BODY SYSTEM
Nervous system

MAIN SYMPTOMS
Stiffening, jerking, unresponsiveness, fever

WHAT CAUSES IT
Fever-related brain sensitivity in young children

HOW IT IS DIAGNOSED
Event history, examination, and assessment of fever

MAIN TREATMENT
Seizure first aid and occasional rescue medicine

CAN IT BE CURED?
No - children usually outgrow susceptibility

IS IT AN EMERGENCY?
Sometimes - seizure lasting longer than five minutes

LONG-TERM OUTLOOK
Most children recover fully and outgrow seizures

Overview

A febrile seizure is a seizure that happens when a young child has a fever, usually between 6 months and 5 years old. The fever is often caused by a common viral infection.

During a seizure, abnormal electrical activity in the brain briefly affects movement, awareness, or both. Although frightening to watch, most febrile seizures stop within a few minutes and do not cause lasting harm.

Febrile seizures are not the same as epilepsy, which causes repeated seizures without fever or another immediate trigger. Most children with febrile seizures do not develop epilepsy.

A simple febrile seizure affects the whole body, lasts less than 15 minutes, and happens once within 24 hours. A complex febrile seizure lasts longer, affects one side or part of the body, or happens more than once within 24 hours. This distinction guides assessment but does not

mean every complex seizure has a serious cause.

Symptoms

A seizure may be the first sign that a child has a fever. During a typical febrile seizure, the child may:

Most stop within a few minutes. Time the seizure because it may feel longer than it is.

Afterward, the child may be confused, upset, or sleepy but should gradually become more alert. A seizure affecting one side, repeated seizures during the same illness, weakness afterward, or a seizure lasting more than five minutes needs prompt medical assessment.

- Become stiff and have rhythmic jerking of the arms and legs
- Stop responding or lose awareness
- Roll their eyes upward
- Drool, vomit, or wet themselves
- Have changes in breathing or look pale

Causes and risk factors

A febrile seizure is linked to fever rather than a specific temperature. It may happen early in an illness or before the fever is noticed.

Common causes include respiratory, ear, and other viral infections. A clinician may need to exclude serious infections such as meningitis, which affects the tissues around the brain and spinal cord.

Young children's developing brains are more sensitive to fever. This sensitivity usually decreases as the nervous system matures.

Risk is higher if a parent or sibling had febrile seizures. A child who has had one is also more likely to have another during a later fever, although many never have a second episode.

Vaccination can occasionally cause fever followed by a febrile seizure, but this does not mean the vaccine caused epilepsy or brain damage. Routine vaccination also prevents fever-causing infections. Seizures outside the usual age range of 6 months to 5 years need careful assessment.

Diagnosis

There is no single test for a febrile seizure. Diagnosis is based on the event, the child's age and temperature, their medical history, and an examination.

Tell the clinician how long the seizure lasted, whether the whole body or only one side moved, whether the child responded, and how quickly they recovered. A video may help if recorded safely, but protecting the child comes first.

The clinician will look for the cause of the fever and signs of meningitis, dehydration, breathing problems, or another illness. A well child who has returned to normal after a simple febrile seizure often does not need brain imaging, extensive blood tests, or an electroencephalogram (EEG). An EEG records electrical activity but does not reliably predict another simple febrile seizure.

Tests may be needed if a serious infection is suspected, the seizure was complex, recovery is unusual, or the diagnosis is unclear. A lumbar puncture may be considered when meningitis is suspected.

Treatment and management

During a seizure:

Do not hold the child down. Do not put fingers, medicine, food, or objects in their mouth. A child cannot swallow their tongue, and objects may cause injury or block breathing.

Call emergency services if the seizure lasts longer than five minutes. Follow the call handler's instructions. If prescribed rescue medicine is available, use it only according to the child's written care plan.

Afterward, keep the child on their side and let them rest while monitoring breathing and responsiveness. Do not use a cold bath, ice, or alcohol rubs.

Paracetamol or ibuprofen may improve comfort but do not reliably prevent another seizure. Follow professional advice or product instructions for the child's age and weight. Do not give aspirin to a child.

Treatment for the underlying illness depends on its cause. Viral infections usually do not need antibiotics like amoxicillin or doxycycline . Daily anti-seizure medicine is generally not recommended after simple febrile seizures because side effects usually outweigh the benefit. Children at risk of prolonged or repeated seizures may receive rescue medicine and a seizure plan.

- Note when it started

- Place the child on a safe, flat surface away from hazards
- Protect their head with something soft
- Loosen tight clothing around the neck
- Turn them onto their side when possible
- Stay with them and watch their breathing

Complications

Simple febrile seizures do not usually cause brain damage, learning difficulties, behavioural changes, or developmental problems. The most common concern is another seizure during a later illness.

Children with febrile seizures have a slightly higher chance of developing epilepsy, particularly after complex seizures or when neurological or developmental risk factors are present. However, most do not develop epilepsy.

A prolonged seizure can become status epilepticus and needs urgent treatment. The infection causing the fever may also be serious. Persistent sleepiness, a stiff neck, breathing difficulty, dehydration, or a rash that does not fade under pressure needs urgent assessment.

Prevention

Febrile seizures cannot always be prevented because one may happen before the fever is noticed. Fever medicines improve comfort but do not reliably prevent seizures and should not be given around the clock solely for prevention.

Handwashing and recommended vaccination may prevent some fever-causing infections but cannot prevent every seizure. If a seizure followed vaccination, speak to the child's clinician rather than delaying future vaccines without advice.

For a child who has had a prolonged seizure, preparation may include a written plan explaining first aid, when to call emergency services, and how to use prescribed rescue medicine.

Living with it and what to expect

Children usually recover fully from a simple febrile seizure and can return to nursery, school, play, and other activities once the illness has passed.

Another seizure may occur during a future fever. Caregivers should know to time it, protect the child from injury, put nothing in the mouth, and call emergency services if it lasts longer than five minutes.

Use ordinary age-appropriate supervision around water, heights, and traffic. Long-term activity restrictions are not usually needed after a simple febrile seizure, although advice may differ after a prolonged, focal, or unexplained seizure.

Most children stop having febrile seizures by school age. A seizure without fever, after the usual age range, or alongside new developmental concerns needs medical review.

When to get medical help

Call emergency services now if:

Seek urgent medical care for a stiff neck, severe breathing difficulty, repeated vomiting, marked dehydration, unusual difficulty waking, or a rash that does not fade when pressed. A seizure in a child younger than 6 months or older than 5 years also needs prompt assessment.

After a short seizure that has already been medically assessed, follow the child's care plan. Contact their clinician if recovery is slower than expected, another seizure occurs during the same illness, or you are concerned about the fever's cause.

Follow-up may review the event, recurrence risk, and first aid. Specialist assessment is more likely after complex, prolonged, focal, or fever-free seizures.

- This is the child's first seizure
- The seizure lasts longer than five minutes
- Another seizure starts before the child recovers
- The child has difficulty breathing or remains blue
- Movements affect only one side of the body
- The seizure happens in water or causes serious injury
- The child does not begin to recover afterward

Common questions

Can a febrile seizure cause brain damage?

A short, simple febrile seizure is not known to cause brain damage. Prolonged seizures need emergency treatment.

Is a febrile seizure the same as epilepsy?

No. Febrile seizures are triggered by fever in young children. Epilepsy involves a tendency to have seizures without an immediate trigger. Most children with febrile seizures do not develop epilepsy.

Will my child have another febrile seizure?

They might, but recurrence cannot be predicted with certainty. It is more likely when the first seizure happened at a younger age or close relatives had febrile seizures. Susceptibility usually fades with age.

Should I give fever medicine to prevent another seizure?

Paracetamol or ibuprofen may improve comfort but do not reliably prevent febrile seizures. Use them only when suitable and according to the label or professional advice.

Can my child still have vaccinations?

Usually, yes. Vaccines prevent infections that can cause fever and serious illness. If a seizure followed vaccination, discuss future vaccinations with the child's clinician.

Can a febrile seizure happen with only a mild fever?

Yes. The temperature does not have to be extremely high, and the seizure may be the illness's first sign. Assessment depends on the child's age, symptoms, and recovery.

Sources

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