

Status epilepticus happens when a seizure continues for a long time (more than half an hour), or when a child has several seizures without time to recover between them. It can happen with any seizure type. In some cases, particularly with symptomatic epilepsy, a child's first seizure can be an episode of status epilepticus.

Status epilepticus is a medical emergency that can eventually cause brain damage. Very prolonged seizures can cause organ damage and even death.

While a child is in status epilepticus, she is also at risk for breathing failure, choking or aspiration, pulmonary edema, and even death. If your child is having a prolonged seizure, contact emergency services at once.

### **What does status epilepticus look like?**

Status epilepticus can happen with any seizure type, and looks different with different seizures. Convulsive status epilepticus, the most visible form, is the most common and most dangerous form of status epilepticus. Non-convulsive status epilepticus is not always as easy to see, but it also may have serious effects.

#### **Convulsive status epilepticus**

Convulsive status epilepticus consists of tonic-clonic, tonic, clonic, or myoclonic seizures that continue for 30 minutes or more. The seizures may be continuous, or the child may have seizures that repeat at brief intervals without the child regaining consciousness between seizures.

#### **Non-convulsive status epilepticus**

There are several different forms of status epilepticus in which the child does not go into convulsions, but may just seem confused or sleepy. In some cases it is only possible to diagnose non-convulsive status epilepticus with an EEG.

After prolonged convulsive seizures, children will stop convulsing and enter non-convulsive seizures.

### **How many other children have status epilepticus?**

Status epilepticus is quite common, particularly in children. One study found that over a period of five years from the first diagnosis of epilepsy, 20% of people had at least one episode of convulsive status epilepticus. Another study found that 27% of children had had an episode of status epilepticus. The earlier a child develops epilepsy, the more likely she is to have status epilepticus at some point; among children who develop epilepsy before they are a year old, 70% are expected to have an episode of convulsive status epilepticus.

Convulsive status epilepticus is the first seizure in about one-third of people with epilepsy.

### **What causes status epilepticus?**

It is not entirely clear what happens in the brain when a child has status epilepticus. Researchers know that it is a complex process that seems to be linked to a loss of inhibition mechanisms in the brain, poor blood flow, decreased use of glucose, and decreased oxygen consumption.

Convulsive status epilepticus may result from:

- infection
- sleep deprivation in a seizure-prone individual
- fever
- metabolic disorder
- abruptly discontinuing anti-epileptic drugs
- poorly controlled epilepsy, even without an obvious precipitating factor
- alcohol or street drugs
- some other chronic medical conditions

A child is at higher risk for status epilepticus if:

- she has symptomatic epilepsy
- her neurological examination is abnormal
- she is less than six years old when she develops epilepsy

The risk of status epilepticus is highest when the child has recently developed epilepsy. In one study, 90% of cases of status epilepticus occurred within two years after the child's epilepsy began.

### **What should I do if my child has status epilepticus?**

Status epilepticus is a medical emergency. If you suspect that your child is in status epilepticus, call 911 or emergency services immediately.

First aid for status epilepticus is similar to that for “normal” seizures. If the child is having convulsive status epilepticus, ease her onto the floor or a bed to prevent injury.

If a child often has flurries or clusters of seizures, her doctor may prescribe a medication to stop the seizures from progressing.

### **How is status epilepticus treated?**

A child in status epilepticus should be taken to hospital, where she will usually be treated with intravenous medications such as benzodiazepines, phenobarbital, or phenytoin (depending on the seizure type) to stop the seizures. The medical team will work to maintain her vital functions and body temperature. They will monitor her breathing, her heart rate, her blood pH, and the levels of various substances in her blood, such as glucose, electrolytes, and urea.

There is no evidence that supplemental oxygen is helpful in status epilepticus.

### **What is the outlook for a child with status epilepticus?**

Rapid treatment for status epilepticus is important, since the longer it continues, the harder it is to stop. Most neuron damage during status epilepticus comes from continuing electrical seizure discharges. However, in most cases status epilepticus can be stopped quickly and the child will be fine.

It is rare for status epilepticus to have severe consequences. However, more than half of children with status epilepticus will have at least one other episode of status epilepticus.

A Finnish study that studied children diagnosed with epilepsy over the long term found that having status epilepticus did not increase the risk of death among children with epilepsy, and

had only a small impact on the chances of seizures stopping over the long term. In children without other neurological problems, the social

and educational outcomes were similar in those who did and did not have status epilepticus.

