

FEBRILE CONVULSIONS

Definition

Convulsions occurring in association with fever in children between 3 months and 6 years of age, in whom there is no evidence of intracranial pathology or metabolic derangement.

There is no comprehensive local epidemiological data. Studies in Western Europe quote a figure of 3-4% of children < 5 years experiencing febrile convulsions.

Table 1. Classification of febrile convulsions

Simple Febrile Convulsions	Complex Febrile Convulsions
<ul style="list-style-type: none">• duration < 15 minutes• generalised seizure.• does not recur during the febrile episode	<ul style="list-style-type: none">• duration > 15 minutes• focal features• > 1 seizure during the febrile episode• residual neurological deficit post-ictally, such as Todd's paralysis

Management

- not all children need to be admitted. The main reasons for admission are: -
 - to exclude intracranial pathology especially infection
 - fear of recurrent fits
 - to investigate and treat the cause of fever besides meningitis or encephalitis
 - to allay parental anxiety, especially if they are staying far from the hospital
- investigations
 - the need for blood counts, blood sugar, lumbar puncture, urinalysis, chest X-ray, blood culture etc, will depend on clinical assessment of the individual case.
 - lumbar puncture
 - *must be done if* (unless contraindicated – see chapter on “Meningitis”)
 - any signs of intracranial infection
 - prior antibiotic therapy
 - persistent lethargy and not fully interactive 6 hours after the seizure
 - *strongly recommended if*
 - age < 12 months old
 - first complex febrile convulsion
 - in district hospital without paediatrician
 - parents have a problem bringing the child in again if deterioration at home
 - serum calcium and electrolytes are rarely necessary
 - EEG is not indicated even if multiple recurrences or complex febrile convulsions
- parents should be counselled on the benign nature of the condition (Table 2).

Table 2. Prognosis in febrile seizures

Febrile convulsions are benign events with excellent prognosis

- 3–4% of population have febrile convulsions
- 30% recurrence after 1st attack
- 48% recurrence after 2nd attack
- 2–7% develop subsequent afebrile seizure or epilepsy
- no evidence of permanent neurological deficits following febrile convulsions or even febrile status epilepticus
- no deaths were reported from simple febrile convulsions

- control fever
 - take off clothing and tepid sponging.
 - antipyretic e.g. syrup or rectal Paracetamol 15 mg/kg 6 hourly.
 - antipyretic is indicated for patient's comfort, but has not been shown to reduce the recurrence rate of febrile convulsion.
- parents should also be advised on first aid measures during a convulsion:
 - do not panic, remain calm. Note time of onset of the fit
 - loosen the child's clothing especially around the neck
 - place the child in the left lateral position with the head lower than the body.
 - wipe any vomitus or secretion from the mouth
 - do not insert any object into the mouth even if the teeth are clenched.
 - do not give any fluids or drugs orally
 - stay near the child until the convulsion is over and comfort the child as he/she is recovering
- rectal Diazepam
 - parents of children with high risk of recurrent febrile convulsion should be supplied with rectal diazepam (dose : 0.5 mg / kg)
 - they should be advised on how to administer it in case the convulsion lasts more than 5 minutes
- prevention of *recurrent* febrile convulsions
 - anticonvulsants are no longer recommended for prevention of recurrent febrile convulsions because:
 - the risks and potential side effects of medications outweigh the benefits
 - no medication has been shown to prevent the future onset of epilepsy.
 - febrile convulsions have an excellent outcome with no neurological deficit nor any effect on intelligence.

Table 3. Risk factors for *recurrent* febrile convulsions

- family history of febrile convulsion
- age < 18 months
- low degree of fever (< 40 °C) during first febrile convulsion
- brief duration (< 1 hr) between onset of fever and convulsion

* No risk factor < 15 % recurrence
 ≥ 2 risk factors > 30 % recurrence
 ≥ 3 risk factors > 60 % recurrence

Table 4. Risk factors for subsequent *epilepsy*

- neurodevelopmental abnormality
- complex febrile convulsion
- family history of epilepsy