Febrile Seizure: Acute Management

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Prepared by: Iffat Amin — Reviewed by: Dr. Amir Naghshzan

دانشگاه علوم پزشکی شیراز
دانشکده پزشکی
گروه کودکان

1. Definition

A febrile seizure (FS) is a seizure occurring in a child:

- ✓ **Age 6 months to 5 years**
- ✓ **Fever ≥38°C**
- ✓ **No evidence of CNS infection**
- ✓ **No previous afebrile seizures**

2. Classification (Must Know)

Feature	Simple FS	Complex FS
Seizure type	Generalized	Focal or generalized
Duration	<15 min	>15 min
Frequency	Once in 24 h	Recurrent within 24 h
Neurological deficit	None	May be present
Prognosis	Excellent	Requires further evaluation

Febrile Status Epilepticus (FSE)

Seizure lasting:

- ≥30 min OR
- Recurrent seizures without recovery

⚠ Important: Treatment should start if seizure lasts ≥5 minutes.

3. Initial Assessment (ABCDE)

A – Airway

- Recovery position
- Suction secretions
- Oxygen if SpO_2 <94%

B – Breathing

- Monitor RR and oxygen saturation

C – Circulation

- IV/IO access
- Monitor HR and BP

D – Disability

Check:

- Blood glucose (mandatory)
- GCS
- Focal neurological signs

E – Exposure

Look for:

- Rash
- Neck stiffness
- Source of fever

4. Acute Management Algorithm

Seizure <5 minutes

Most febrile seizures stop spontaneously.

Supportive care:

- **Airway**
- **Oxygen if needed**
- **Check glucose**
- **Monitor vitals**

Seizure ≥5 minutes

First-line: Benzodiazepine

Drug	Dose
Buccal Midazolam	0.5 mg/kg (max 10 mg)
Intranasal Midazolam	0.2 mg/kg (max 10 mg)
IV Lorazepam	0.1 mg/kg (max 4 mg)
Rectal Diazepam	0.5 mg/kg

Remember:

✓ Give immediately	✓ Maximum TWO doses only

Persistent seizure after 2 doses

Second-line AED

Preferred:

Levetiracetam IV

- 60 mg/kg
- Maximum 4500 mg

Alternatives:

- Valproate IV 20–40 mg/kg
- Phenobarbital IV 20 mg/kg
- Fosphenytoin IV 20 mg PE/kg

5. Investigations

Simple Febrile Seizure

No routine investigations are needed if:

- Child is well appearing
- Neurological examination is normal
- Source of fever is identified

No need for:

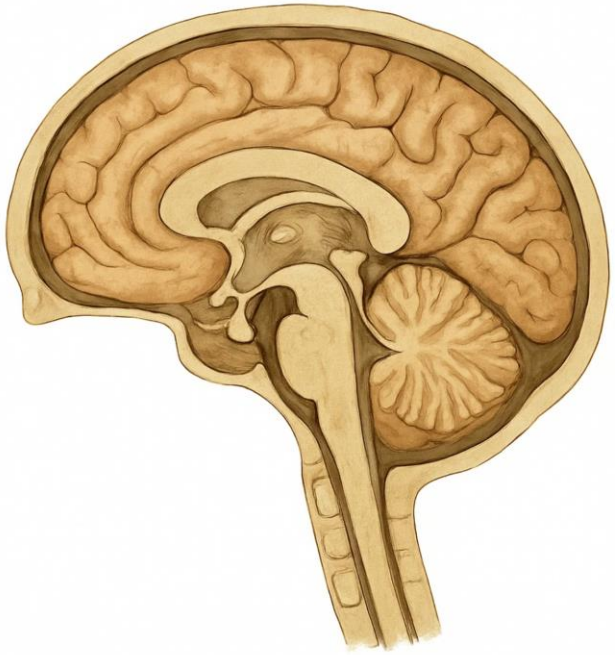
- × EEG
- × Brain CT/MRI
- × Electrolytes routinely
- × Antiepileptic drugs

Lumbar Puncture if:

- ✓ Signs of meningitis
- ✓ Persistent altered consciousness
- ✓ Ill appearance
- ✓ Bulging fontanelle
- ✓ Suspected encephalitis

Neuroimaging if:

- ✓ Focal neurological deficit
- ✓ Raised ICP
- ✓ Complex FS with abnormal examination



6. Fever Management

Treat fever for comfort:

Drug	Dose
Paracetamol	15 mg/kg
Ibuprofen	10 mg/kg

⚠ Antipyretics DO NOT prevent recurrent febrile seizures.

7. Hospital Admission

Admit if:

- ✓ Complex febrile seizure
- ✓ Febrile status epilepticus
- ✓ Suspicion of CNS infection
- ✓ Persistent neurological abnormality
- ✓ Age <12 months with uncertain diagnosis

8. Prevention

Routine prophylactic antiepileptic drugs:

NOT recommended

This includes:

- Phenobarbital
- Valproate

For children with prolonged recurrent seizures:

- Home rescue therapy:
  - Buccal midazolam
  - Rectal diazepam

9. Parent Counseling (Very Important)

Explain that:

- ✓ **Febrile seizures are not epilepsy**
- ✓ **Most children recover completely**
- ✓ **Brain damage is extremely rare**
- ✓ **Risk of epilepsy after simple FS is only 2–3%**
- ✓ **Recurrence occurs in about 30% after the first episode**

Key Take-Home Messages

- 🔹 Febrile seizure = fever + age 6 months–5 years + no CNS infection.
- 🔹 Classify as simple or complex.
- 🔹 Check blood glucose in every seizure.
- 🔹 Treat seizures lasting ≥5 minutes with benzodiazepines immediately.
- 🔹 Do not exceed two benzodiazepine doses.
- 🔹 Levetiracetam IV is the preferred second-line drug for persistent seizures.
- 🔹 Routine EEG, CT, MRI, and AED prophylaxis are not indicated in simple febrile seizure.
- 🔹 Reassurance and parent education are essential parts of management.