FEBRILE SEIZURE, PEDIATRIC, ED AND INPATIENT

Updated: December 6, 2023

Clinical Algorithm:

Criteria for febrile seizure:
• 6 months to 5 years old
• Associated with temperature >100.4°F/38.0°C
• No history of previously afebrile seizures
• No meningeal signs
• No prior history of epilepsy or metabolic condition associated with epilepsy

Meets criteria for febrile seizure
• Generalized seizure
  • Lasting <15 minutes
  • Single seizure event

Simple febrile seizure

If >5 minutes, advise family to discuss rectal Diastat abortive therapy with PCP

Outpatient Pediatric Neurology referral not needed

Outpatient follow up with PCP

Consider imaging if:
• New onset abnormally large head
• Persistently abnormal focal neurologic exam
• Signs/symptoms of increased intracranial pressure

• CT head if focal neurologic findings
• Urgent/emergent MRI if persistent acute or subacute neurologic changes from baseline
• Outpatient MRI if focal seizure, but no focal exam findings and is back to baseline – Neurology to order and determine timing

Complex febrile seizure

• Focal seizure OR
  • Lasting >15 minutes and now resolved OR
  • Recurrence within 24 hours

Bifocal seizure

Yes

• Ongoing seizure >15 minutes
• Intermittent seizures over the course of >30 minutes without return to baseline between seizures

Febrile status epilepticus

If seizure is ongoing, refer to status epilepticus guideline

No

Page Pediatric Neurology on call and consider further workup as below

Consider LP if:
• Seizure lasting >15 min OR focal seizure OR no return to baseline
• Exam findings concerning for meningitis or intracranial infection
• 6-12 months old, especially if immunization status for Hib or S. pneumoniae is not up to date or is unknown
• Already on antibiotics for alternative infection
• Presentation on day of illness 3 or greater

Consider EEG if:
• Seizure lasting >15 minutes
• Concern for ongoing subclinical seizures
• Focal findings on neurologic examination

Yes

May discharge – instruct family to request outpatient Pediatric Neurology referral from PCP
Clinical Pathway Summary

CLINICAL PATHWAY NAME: Febrile Seizure, Pediatric, ED and Inpatient

PATIENT POPULATION AND DIAGNOSIS: Patients 6 months to 5 years old who present with seizures or seizure like activity in the setting of an elevated temperature >100.4 °F or >38.0 °C

APPLICABLE TO: Corewell Health West Emergency Departments and Hospitals

BRIEF DESCRIPTION: The goal of this pathway is to provide an evidence-based approach to the diagnosis and management of febrile seizure in children 6 months to 5 years of age. This pathway does not apply to patients who have a history of unprovoked seizure, underlying epilepsy diagnosis, or genetic condition associated with epilepsy or seizures. It provides standardization in the evaluation and management of febrile seizures. Febrile seizures are the most common neurological diagnosis in children 6 months to 5 years of age. They are caused most often by non-neurologic viral infections, and immunizations, but have been attributed to bacterial infections as well. They have been reported more frequently after infection with specific viruses (HHV-6 and influenza) and are more common in patients who have a family history of febrile seizures.

OPTIMIZED EPIC ELEMENTS (if applicable): N/A

IMPLEMENTATION DATE:

LAST REVISED: October 23, 2023

Clinical Pathways Clinical Approach

TREATMENT AND MANAGEMENT:

Additional considerations:

If lumbar puncture is completed, or any history of vomiting, diarrhea, poor oral intake, or physical exam findings of dehydration or edema, consider additional laboratory work up including complete blood count, comprehensive metabolic panel, blood culture, and urinalysis.

Recommended dosing for antipyretics:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Route</th>
<th>Recommended dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>Oral, intravenous, or per rectum</td>
<td>15 mg/kg q6 hours</td>
</tr>
<tr>
<td>Ibuprofen (if &gt;6 months of age)</td>
<td>Oral</td>
<td>10 mg/kg q6 hours</td>
</tr>
</tbody>
</table>

Recommended dosing for abortive seizure medications:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Route</th>
<th>Recommended dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lorazepam</td>
<td>Intravenous or intraosseous</td>
<td>0.1 mg/kg, max 4 mg</td>
</tr>
<tr>
<td>Midazolam</td>
<td>Intranasal</td>
<td>0.2 mg/kg, max 10 mg</td>
</tr>
<tr>
<td>Midazolam</td>
<td>Intramuscular</td>
<td>0.2 mg/kg, max 10 mg</td>
</tr>
</tbody>
</table>
Rectal diazepam dosing recommendations for discharge medication:

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>Dose (mg)</th>
<th>Weight (kg)</th>
<th>Dose (mg)</th>
<th>Weight (kg)</th>
<th>Dose (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 to 10</td>
<td>5</td>
<td>10 to 16</td>
<td>5</td>
<td>14 to 25</td>
<td>5</td>
</tr>
<tr>
<td>11 to 15</td>
<td>7.5</td>
<td>17 to 25</td>
<td>7.5</td>
<td>26 to 37</td>
<td>7.5</td>
</tr>
<tr>
<td>16 to 20</td>
<td>10</td>
<td>26 to 33</td>
<td>10</td>
<td>38 to 50</td>
<td>10</td>
</tr>
<tr>
<td>21 to 25</td>
<td>12.5</td>
<td>34 to 41</td>
<td>12.5</td>
<td>51 to 62</td>
<td>12.5</td>
</tr>
<tr>
<td>26 to 30</td>
<td>15</td>
<td>42 to 50</td>
<td>15</td>
<td>63 to 75</td>
<td>15</td>
</tr>
<tr>
<td>31 to 35</td>
<td>17.5</td>
<td>51 to 58</td>
<td>17.5</td>
<td>76 to 87</td>
<td>17.5</td>
</tr>
<tr>
<td>36 to 44</td>
<td>20</td>
<td>59 to 74</td>
<td>20</td>
<td>88 to 111</td>
<td>20</td>
</tr>
</tbody>
</table>

Recommended counseling to provide to families:
- Return precautions:
  - Seizure lasting >5 minutes if rectal diazepam is not prescribed
  - Seizure that does not abort 2-3 minutes after administration of rectal diazepam
  - Greater than 3 separate seizures within a 24 hour period
  - Lack of return to baseline neurologic status
- Scheduled acetaminophen and ibuprofen (if >6 months of age) for 1-2 days after initial febrile seizure may prevent additional seizures during the same illness
- Scheduled acetaminophen and ibuprofen (if >6 months of age) starting at fever onset may not prevent febrile seizures in subsequent illnesses, but may be used for comfort

Pathway Information

OWNER(S): Dr. Sonia Gentile, Dr. David Synhorst

CONTRIBUTOR(S): Dr. Angel Hernandez, Dr. Robin Cook, Dr. Kristina Kern, Dr. Bhawana Arora

EXPERT IMPROVEMENT TEAM (EIT): N/A

CLINICAL PRACTICE COUNCIL (CPC): Children’s

CPC APPROVAL DATE: 10/31/2023

OTHER TEAM(S) IMPACTED: Pediatric Neurology

References


