



A seizure is a sudden, uncontrolled burst of electrical activity in the brain

Focal seizures:

Abnormal excitation in a discrete region of the cerebral cortex

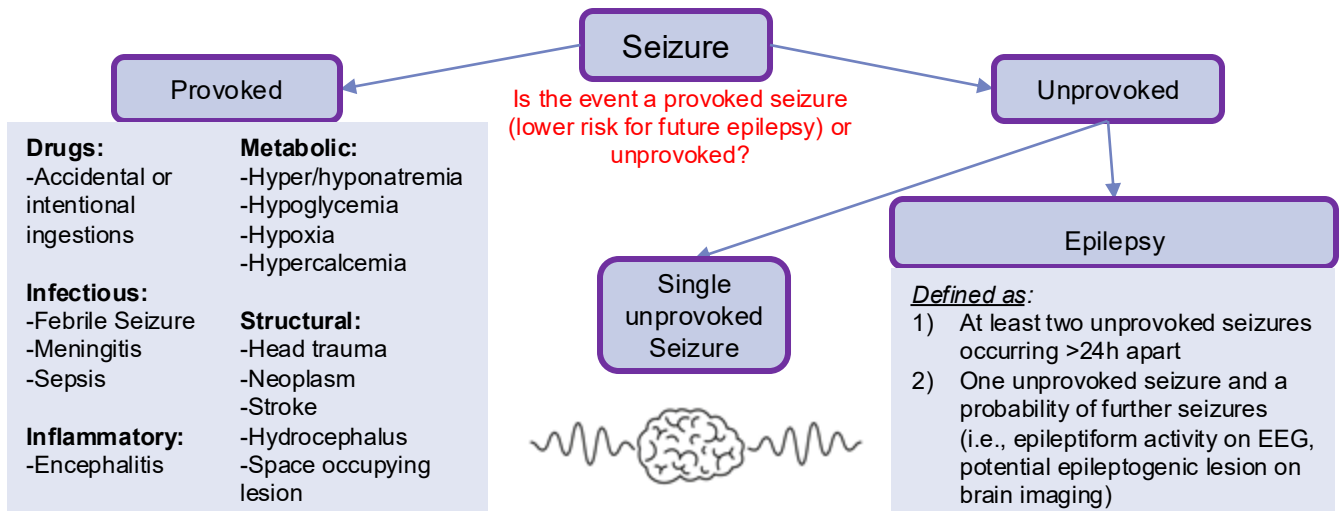
Generalized seizures:

Synchronous excitation of bi-hemispheric thalamocortical pathways

Focal seizures may spread to be Generalized

## Features of Seizures on History

<u>Preictal:</u>	<b>Generalized:</b> often abrupt with no warning <b>Focal:</b> may have ascending epigastric sensation, fear, panic, dizziness, paresthesia, nausea
<u>Ictal:</u>	<b>Motor:</b> Generalized or focal movements, sustained head or eye deviation <b>Automatisms:</b> repetitive purposeless movements <b>Autonomic:</b> pupillary dilation, vitals sign changes, pallor, incontinence, tongue bite <b>Loss of consciousness or inability to understand/speak</b>
<u>Postictal:</u>	Amnesia, confusion, sleepiness over 30 min, nausea/vomiting, headache, transient focal weakness (Todd's paresis)



Initial Laboratory Work-up:	Other Investigations to consider:
<ul style="list-style-type: none"> <li>Point-of-care glucose should be checked in all patients</li> </ul> <div style="border: 1px solid orange; padding: 5px; margin-top: 10px;"> <p>For young children (6 mo - 5 years) with a typical history of <b>simple febrile seizure</b> and nonfocal exam, further diagnostic testing is unnecessary in most cases</p> </div> <p><u>If indicated:</u> Electrolytes, calcium, magnesium, complete blood count with differential, renal and liver function tests, urinalysis, toxicology screen, pregnancy test, partial or full septic workup.</p>	<div style="border: 2px dashed red; padding: 5px; margin-bottom: 10px;"> <p><u>Lumbar Puncture</u> → if concern for CNS infectious/inflammatory process. Always consider in an unwell patient presenting with fever and seizure. </p> </div> <p><u>Urgent Neuroimaging</u> – indicated for focal seizure onset, new focal neurological deficit, or a prolonged altered mental status. CT Head is usually obtained.</p> <p><u>EEG</u> – indicated for every child with an unprovoked seizure or recurrent seizures.</p> <p><u>ECG</u> – if concern for a cardiogenic cause. </p> <p><u>Brain MRI</u> – indicated for known or suspected localization-related epilepsy, associated developmental delay, or focal findings on EEG.</p>
<p><b>Referral to Pediatric Neurology</b> – indicated for a child presenting with first-time unprovoked seizure or complex febrile seizure. Simple febrile seizures may benefit from consultation on a case-by-case basis.</p>	