

# Seizures Are the Main Sign of Epilepsy: Stages of Seizures

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**Abstract:** A common neurological condition known as epilepsy is characterized by recurrent bouts of uncontrollable body movements that affect only a portion of the body (partial) or the full body (generalized), occasionally accompanied by loss of consciousness and control over bowel or bladder function. Uncontrolled seizures are linked to medical and psychological illness, dependent behavior, a low quality of life, and a higher risk of untimely death. Epilepsy affects people of all ages, ethnicities, sexes, levels of education, socioeconomic status, and social classes worldwide. The prodrome phase is a pre-epileptic feeling or experience that might start hours, days, or even weeks in advance of the actual seizure. The most prevalent prodromal phase symptoms include difficulties maintaining focus, tension, exhaustion, sleep disruptions, behavioral changes (differently smelling, tasting, having ringing in the ears, feeling queasy, etc.), restlessness, and others. The ictal phase defined as spans the interval between the start of a seizure and its conclusion. The phrase "interictal" refers to a phase that occurs between seizures or headaches. "Postictal" refers to the period following a seizure. The duration of postictal phase varies from minutes to hours depending on the type of seizure, the frequency and intensity of seizures, and the length of the seizure.

**Keywords:** Ictal, Interictal, Preictal, Postictal, Seizures, Stages

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## 1. Introduction

The term "epilepsy" is derived from the Greek word "epilepsia," which is divided into two parts: "epi" means "upon" and "lepis" means to seize or have a seizure [1]. Epilepsy is a chronic neurologic disorder characterized by recurrent epileptic seizures caused by paroxysmal, uncontrolled neuronal discharges in the central nervous system [2, 3]. Epilepsy is the most common neurological disorder and is characterized by recurrent seizures due to abnormally excessive synchronous neuronal activity in the brain [4, 5]. The seizures can be correlated with characteristic clinical manifestations of abnormal, excessive, or synchronous neuronal activity in the brain [6, 7]. Epileptic seizures usually cause a transient impairment of consciousness, leaving the individual at risk of bodily injury and usually interfering with education and employment [8]. A seizure can cause motor, sensory, or autonomic symptoms, with or without altered consciousness [9]. Uncontrolled seizures are linked to physical and psychological illness, dependency, poor quality of life, and an increased risk of sudden and unexpected death [10]. Childhood, adolescent, and young adult epilepsy are associated

with congenital, developmental, and genetic factors [11]. Seizures are frequently a symptom of an underlying pathology that may be genetic, structural, or metabolic [12, 13]. Epilepsy affects people of all ages, ethnicities, sexes, levels of education, socioeconomic status, and social classes worldwide. It manifests as sporadic, repeated fits or seizures, which can cause loss of consciousness, impaired movement, muscle spasms, and impairment of the autonomic nervous system and brain processes [14, 15]. Among the symptoms associated with epilepsy were motor tingling, numbness, lip-smacking, convulsive jerking incoordination, dystonia, and chewing motions. Aura, auditory, gustatory, olfactory, visual, and vestibular abnormalities are sensory-paresthesia symptoms. Sweating, flushing, dilated pupils, and hallucinations, dysphasia of behavior Cognitive attention, memory impairment, and impaired responsiveness result from forced thinking [16–18]. The main intention of this mini review is to depict stages of seizures alongside their clinical manifestations.

## 2. Stages of Seizures

Based on how long a seizure lasts within the body, distinct phases of seizures have been identified. For measuring the

length of bodily seizures, the prefix "ictal" has been proposed [19, 20]. The following stages of seizures are explained one at a time:

### 2.1. Preictal or Prodrome (Aural) Stage

The prodrome phase is a pre-epileptic feeling or experience that might start hours, days, or even weeks in advance of the actual seizure. The most prevalent prodromal phase symptoms include difficulties maintaining focus, tension, exhaustion, sleep disruptions, behavioral changes (differently smelling, tasting, having ringing in the ears, feeling queasy, etc.), restlessness, and others. Since the prodrome is not a seizure, the aura and prodromal phase are not interchangeable. The preictal phase interval occurs before the body experiences a seizure. The prodromal stage might extend for hours, days, or even weeks depending on the individual's atypical behavior [20, 21–24].

### 2.2. Ictal Stage

The unquestionable durations of seizures are referred to as "ictal." The ictal phase spans the interval between the start of a seizure and its conclusion. The phrase "ictal" refers to a seizure. The typical clinical signs of an ictal phase include difficulty speaking, difficulty filling out sentences, loss of muscle control, hearing loss, irregular breathing, redundant movements, twitching, convulsions, and others. In essence, excessive neurotransmitter discharge in the central nervous system is what causes ictal-phase seizures. The ictal phase frequently results in severe alterations or movements that have a negative impact on life-threatening situations and can be seen in the electroencephalogram, metabolic rate, and cardiovascular system [20, 25–27].

### 2.3. Interictal Stage

The interval between seizures was known as the interictal phase. The phrase "interictal" refers to a phase that occurs between seizures or headaches. Weakness, neck discomfort, food cravings or nausea, sensitivity to light, mood swings, stress, and other symptoms are among the frequent clinical signs of interictal. People with seizures, primarily those with temporal lobe epilepsy, have emotional disturbances during the interictal phase. There are a variety of disturbances during this phase, ranging from mild fear to pathologically distinct anxiety and depression [20, 28, 29].

### 2.4. Postictal Stage

The postictal phase, also known as the end phase of epilepsy, is defined as the time period following a seizure during which the healing process is relaxed. "Postictal" refers to the period following a seizure. The duration of postictal phase varies from minutes to hours depending on the type of seizure, the frequency and intensity of seizures, and the length of the seizure. A postictal seizure can last for hours but typically lasts three to fifteen minutes. Fatigue, vomiting, trouble speaking, painful muscles, polydipsia, stress, headache, bladder loss, confusion, loss of consciousness,

fractured bones, and other symptoms are common clinical indications of the post-ictal period [30–32].

## 3. Conclusion

Any of the following conditions, such as i) at least two unprovoked (or reflex) seizures occurring more than 24 hours apart, ii) one unprovoked (or reflex) seizure, and iii) a probability of further seizures equal to the general recurrence risk, can be used to define epilepsy as a disease of the brain. The most prevalent neurological condition, epilepsy is characterized by recurring seizures brought on by abnormally high levels of synchronized neuronal activity in the brain. The unquestionable durations of seizures are referred to as ictal. The time between the onset and the end of a seizure is known as the ictal phase. The phrase "ictal" refers to a seizure. The typical clinical signs of an ictal phase include trouble speaking, difficulty finishing out sentences, lack of muscle control, hearing loss, irregular breathing, redundant motions, twitching, convulsions, and others. The postictal phase, also known as the end phase of epilepsy, is defined as the time period following a seizure during which the healing process is relaxed. "Postictal" refers to the period following a seizure.

## Data Sources

Sources searched include Google Scholar, Research Gate, PubMed, and Cochrane database. Search terms included: stages of seizures.

## Conflict Interests

The authors declare that they have no competing interests.

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