

# Exploring Nocturnal Epilepsy: Causes, Symptoms, Diagnosis and Treatment

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## Abstract

Epilepsy is a neurological disorder that affects the central nervous system and causes seizures. There are different types of epilepsy, and one of the less well-known ones is nocturnal epilepsy. Nocturnal epilepsy is a type of epilepsy that occurs during sleep. It is characterized by seizures that happen at night, and it affects both children and adults. In this article, we will explore nocturnal epilepsy, its symptoms, causes, diagnosis, and treatment.

**Keywords:** Neurology • Epilepsy • Diseases

## Introduction

Nocturnal epilepsy, also known as nighttime seizures, is a condition where seizures occur during sleep. Epilepsy is a neurological disorder characterized by recurring seizures, which can range from mild to severe. Seizures can be triggered by various factors, including genetic predisposition, brain injury, infection, or brain tumors. Nocturnal epilepsy is a less common form of epilepsy, but it can still significantly impact a person's quality of life. In this article, we will explore the causes, symptoms, and treatment options for nocturnal epilepsy.

## Description

Nocturnal epilepsy is characterized by seizures that happen during sleep. Seizures can be of different types, and the symptoms can vary depending on the type of seizure. Common symptoms of nocturnal epilepsy include:

- Uncontrollable jerking movements of arms and legs
- Sudden loss of muscle tone
- Stiffening of the body
- Confusion or disorientation upon waking up
- Difficulty speaking or understanding speech
- Incontinence

These symptoms can be frightening and can cause sleep disturbances, fatigue, and difficulty functioning during the day.

The exact causes of nocturnal epilepsy are not well understood, but it is believed to be related to abnormal brain activity during sleep. The following factors may contribute to the development of nocturnal epilepsy:

**Genetics:** Epilepsy can be inherited, and people with a family history of epilepsy are more likely to develop it.

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**Received:** 02 January, 2023; Manuscript No: elj-23-95008; **Editor assigned:** 04 January, 2023, PreQC No: P-95008; **Reviewed:** 17 January, 2023, QC No: Q-95008; **Revised:** 23 January, 2023, Manuscript No: R-95008; **Published:** 30 January, 2023, DOI: 10.37421/2472-0895.2023.9.184

**Brain injury:** Traumatic brain injury can cause changes in brain function that can lead to seizures.

**Infections:** Infections that affect the brain, such as encephalitis, can cause seizures.

**Stroke:** Stroke can cause changes in brain function that can lead to seizures.

**Sleep disorders:** Sleep disorders such as sleep apnea can increase the risk of seizures during sleep.

Nocturnal epilepsy can be caused by a variety of factors, including genetics, brain injuries, infections, and brain tumors. In some cases, the exact cause of nocturnal epilepsy may be unknown. Some people may also have other types of seizures during the day, while others may only experience seizures during sleep.

## Genetic factors

Nocturnal epilepsy can be caused by genetic factors. In some cases, a family history of epilepsy can increase the likelihood of developing nocturnal seizures. Some genetic disorders, such as Dravet syndrome and Lennox-Gastaut syndrome, can also increase the risk of seizures.

## Brain injuries

Brain injuries, such as traumatic brain injuries or strokes, can increase the risk of seizures, including nocturnal epilepsy. The severity of the injury and the location of the injury in the brain can impact the likelihood of seizures.

## Infections

Infections of the brain, such as meningitis or encephalitis, can damage the brain and increase the risk of seizures. Some infections may also cause inflammation in the brain, which can trigger seizures.

## Brain tumors

Brain tumors can cause seizures by disrupting the normal activity of the brain. Tumors can interfere with the brain's electrical signals and cause seizures, including nocturnal seizures.

## Diagnosis of nocturnal epilepsy

Diagnosing nocturnal epilepsy can be challenging because the seizures occur during sleep, and the person may not be aware of them. If you suspect that you or a loved one has nocturnal epilepsy, the following steps can help with diagnosis:

**Keep a seizure diary:** Keeping a record of seizure activity can help your doctor make an accurate diagnosis.

**Sleep study:** A sleep study can monitor brain activity during sleep and detect any abnormal activity that may be causing seizures.

**EEG:** An electroencephalogram (EEG) can record brain activity and detect any abnormal activity that may be causing seizures.

**MRI:** Magnetic resonance imaging (MRI) can detect any structural abnormalities in the brain that may be causing seizures.

If a person experiences symptoms of nocturnal epilepsy, they should seek medical attention. A doctor will likely perform a physical exam and ask about the person's medical history. They may also order tests, such as an electroencephalogram (EEG), to measure the electrical activity in the brain. An EEG can detect abnormal brain activity, which can indicate the presence of seizures.

## Treatment of nocturnal epilepsy

The goal of treatment for nocturnal epilepsy is to reduce the frequency and severity of seizures. Treatment options may include:

**Anti-seizure medication:** Medications such as valproic acid, carbamazepine, and lamotrigine can help control seizures.

**Surgery:** In some cases, surgery may be an option to remove the part of the brain that is causing seizures.

**Lifestyle changes:** Making lifestyle changes such as getting enough sleep, reducing stress, and avoiding alcohol and drugs can help reduce the frequency of seizures.

**Vagus nerve stimulation:** Vagus nerve stimulation involves implanting a device that sends electrical impulses to the brain and can help control seizures.

The treatment for nocturnal epilepsy will depend on the severity of the seizures and the underlying cause. In some cases, medication may be prescribed to help control the seizures. Common medications used to treat epilepsy include:

- Carbamazepine
- Phenytoin
- Valproic acid
- Lamotrigine
- Levetiracetam

If medications are not effective in controlling seizures, other treatment options may be considered, such as surgery to remove a brain tumor or implantation of a device to help control seizures.

In addition to medication and other medical interventions, lifestyle changes can also help manage seizures. Some lifestyle changes that may be beneficial include:

- Maintaining a regular sleep schedule
- Avoiding alcohol and drugs
- Managing stress
- Eating a healthy diet

## Symptoms of nocturnal epilepsy

Nocturnal epilepsy can present with a variety of symptoms, including:

- Jerking movements or convulsions during sleep
- Unusual sounds during sleep, such as moaning or shouting
- Waking up feeling tired or irritable
- Waking up with a headache
- Loss of bladder or bowel control
- Biting the tongue or cheek during sleep
- Confusion upon waking up

Some people may not even realize they are having seizures during sleep unless they have a partner or family member who observes the seizures. In some cases, a person may only experience nocturnal seizures and may not have seizures during the day.

## Conclusion

Nocturnal epilepsy can be a challenging condition to live with, but there are steps you can take to manage the condition: Take your medication as prescribed: Anti-seizure medication can be highly effective in controlling seizures, but it only works if taken regularly as prescribed. Getting enough sleep is crucial for people with nocturnal epilepsy [1-6].

## Conflict of Interest

None.

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**How to cite this article:** Gupta, Priya. "Exploring Nocturnal Epilepsy: Causes, Symptoms, Diagnosis and Treatment." *Epilepsy J* 9 (2023): 184.