

Carpe Diem – Seize the Day Blog

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Many people control epilepsy seizures with treatment. Still, some triggers may cause a breakthrough seizure after previously controlling epilepsy. This article explains breakthrough seizures, including their symptoms, causes, and treatment. It also discusses the prevention of breakthrough seizures and the outlook for people who experience them.

A breakthrough seizure occurs after being seizure-free for at least 12 months while taking treatment. The breakthrough seizure is also known as a “relapse,” when symptoms or illness return after remission, or a symptom-free period.

Breakthrough seizures can consist of an epileptic seizure and occur when taking antiepileptic drugs (AEDs) that previously prevented seizures.

A 2017 study says breakthrough seizures could be more dangerous than non-breakthrough seizures because people may not expect or be prepared for them.

People who have not had a seizure in several months or years may not take precautions to prevent injuries that might occur when a person falls during a seizure, such as:

- head injuries
- broken teeth
- lacerations
- bone fractures
- burns

Breakthrough seizures can include any epileptic seizure that does not have specific symptoms. Breakthrough seizures may cause similar symptoms previously experienced.

Symptoms depend on the part of the brain involved and vary from person to person.

Seizures can occur suddenly or present an aura or feeling that a seizure is coming on. Aura symptoms can include:

- a general feeling of strangeness, anticipation, or déjà vu
- unusual tastes or smells
- intense emotions, such as joy or fear
- tingling in the legs or arms
- stiffness or twitching

Many seizures can be brief, lasting a few seconds to minutes. They may cause symptoms such as:

- brief loss of consciousness or responsiveness
- confusion
- drooling
- irregular eye movements or staring spells
- teeth clenching

- uncontrollable muscle spasms or whole body shaking
- sudden muscle relaxation or falling
- bladder or bowel control loss
- difficulty breathing
- repetitive or random motions such as chewing or picking at clothing
- making uncontrolled or random noises

Talk with a doctor immediately if you believe you may have had a breakthrough seizure.

There are several reasons breakthrough seizures might occur. Missed doses of medication may be the most common cause of breakthrough seizures. The International League against Epilepsy suggests that breakthrough seizures indicate improper control of epilepsy with treatment.

Other factors that may impact the effectiveness of treatment and medication include:

- taking a dosage of anti-seizure medication (ASM) treatment that is too low
- taking other medications that affect ASMs
- missing medication doses or forgetting prescriptions
- purposefully not taking ASM medications as prescribed due to side effects

Other factors may contribute to the onset of a breakthrough seizure, including:

- head injury
- infection
- illness or fever
- vomiting
- emotional stress
- exertion
- sleep deprivation or fatigue
- withdrawal from alcohol
- substance misuse
- TV or video games
- flashing lights
- menstrual period

Sometimes, the cause of a breakthrough seizure is unknown.

The likelihood of a breakthrough seizure depends on several factors, such as treatment and other personal and lifestyle factors. Research in a 2017 study estimates that 60–70% of people with epilepsy will experience remission from seizures. Of those people, up to 37% may later have a breakthrough seizure. However, the study's research is from 1995 and may not accurately reflect the current likelihood. If you or someone you care for has epilepsy, talk with a doctor about the likelihood of seizure remission and recurrence.

While it is not always possible to prevent seizures, there are ways to support seizure prevention if you have epilepsy, including:

- taking ASM medication and following your treatment plan as prescribed
- getting enough good quality sleep if you can
- wearing a helmet during sports activities

- learning your seizure triggers and trying to avoid them
- contacting your doctor as soon as you notice any symptom changes, or if you feel your treatment is not effective
- having regular checkups with your doctor
- learn more about how to prevent seizures.

Your treatment plan may depend slightly on the circumstances that led to a breakthrough seizure. For example, some people experience a breakthrough seizure due to not taking ASMs because of side effects. In such a case, a doctor may help you find an ASM that is effective against your seizures but may cause more manageable side effects.

Other treatment and support approaches may include:

- different ASMs or ASMs with a corrected dosage level
- regularly tracking seizures and symptoms to monitor your condition
- vagus nerve stimulation
- deep brain stimulation
- surgery
- specific diets, such as a ketogenic diet

The outlook after experiencing a breakthrough seizure can vary. Some people may be able to live seizure-free with treatment. Others may continue to experience seizures. Some people may experience remission again after a breakthrough seizure. A 2017 trial suggests that the risk of relapsing and having a second breakthrough seizure after a 12-month remission following the first breakthrough seizure may be lower than 20%.

However, researchers also suggest that the risk of relapsing a second time may increase if it takes longer for a person to complete 12 months of remission following the first breakthrough seizure. For example, a person may have a breakthrough seizure and then start to experience seizures more regularly again. If controlling seizures again or reaching remission takes longer, the risk of a second breakthrough seizure may increase.

Talk with your doctor about what you can expect regarding your outlook, remission, and treatment effectiveness.

Editor's Note: The Carpe Diem – Seize the Day Blog will be distributed and posted weekly.
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