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Seizures

Certain types of cancer and cancer treatments can increase your risk of **seizures**. This is rare, but it does happen. You, your family, and your caregivers should know the signs and symptoms of a seizure and what to do if you have one.

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What is a seizure?

A **seizure** is a glitch in your nervous system caused by an uncontrollable surge of electrical activity.

- **Focal seizures** happen in one specific area or side of the brain.
- **Generalized seizures** happen in both sides of the brain at the same time.

You might also hear the term epilepsy. **Epilepsy** is the medical name used if a person has 2 or more seizures at least 24 hours apart without a known cause.

Why do some people with cancer have seizures?

There are several reasons why a person with cancer might have seizures.

- Tumors in the brain or spine
- Brain injuries, including those caused by a stroke, head trauma, lack of oxygen, or [brain surgery](#)¹
- Certain types of chemotherapy, especially when given into the spinal fluid ([intrathecal or IT chemo](#)²)
- Certain types of immunotherapy, such as [checkpoint inhibitors](#)³ and [CAR T-cell therapy](#)⁴.
- Hormone changes due to any cause, especially [hormone therapy](#)⁵ or when sex hormones are affected
- High fevers and certain infections
- Blood sugar levels that are too high or too low
- Electrolyte levels (such as potassium or sodium) that are too high or too low
- Paraneoplastic syndromes (a group of side effects that develop in some people with cancer; these usually affect the nervous system and sometimes cause seizures)

What are the signs and symptoms of a seizure?

Some people report that they can sense a seizure right before it starts. This is commonly called an **aura**. People who have auras often describe them as a strange or unusual feeling, emotion, or sensation.

If you see someone having a seizure

There are six important steps you should take if you are with someone when they have a seizure.

- 1. Check safety first.** Make sure the person having the seizure is safe. Remove any sharp objects or hazards that could hurt them. Loosen any clothing around their neck.
- 2. Position carefully.** Gently guide the person to lie down on their side. This helps prevent choking and allows any fluids to drain from their mouth.
- 3. Don't restrain.** Restraining a person during a seizure increases the chances one or both of you will get hurt. Avoid holding them or trying to control their movements.
- 4. Watch the clock.** Note the time when the seizure starts and ends. Most seizures last a few minutes or less. Seizures lasting more than 5 minutes are known as grand mal seizures and can cause serious problems.
- 5. Comfort and support.** Speak to the person calmly and reassure them. After the seizure ends, they might be confused or afraid.
- 6. Write it down.** Pay attention to what happens during the seizure. Write down any signs or symptoms you notice. Keep this information to give to the person's health care team.

When to call 911 or go to the emergency room

Call 911 right away if:

- This is the person's first seizure.
- The seizure lasts longer than 5 minutes.
- They hit their head.
- They have any trouble breathing.

How seizures are treated

Medicines such as steroids, benzodiazepines, or antiseizure medications are sometimes used to prevent, treat, or manage seizures. The treatment depends on what is causing the seizure.

Repeated seizures

For repeated seizures, some people take antiseizure medicines, but many of these medicines can cause unpleasant side effects.

If you start antiseizure medicine, you and your health care team usually work together to find the best dose for you. The goal is to find a dose that prevents your seizures while causing the least amount of side effects.

Seizures caused by brain tumors

For seizures caused by brain tumors, sometimes treating the tumor (with chemo, radiation, or surgery) is an option. It depends on where the tumor is in your brain, and what other problems it's causing.

Seizures caused by injury

For seizures caused by an injury, steroids might be used to help with swelling while your brain has time to rest and heal.

Seizures caused by electrolyte or blood sugar imbalances

If electrolyte or blood sugar imbalances are causing your seizures, you might get treatments to correct your levels.

Other seizure treatments

Treatments such as vagal nerve stimulation and deep brain stimulation aren't usually used for people with cancer. They are typically used for people who have epilepsy or another chronic seizure disorder and haven't responded well to other treatments and medicines.

Tips for preventing and managing seizures

Seizures aren't common, but they can be scary when they do happen. If you have an increased risk of seizures, try to avoid common triggers. This can help lower your risk.

If you are having repeated seizures, there are also certain steps you might need to take to protect yourself and others.

To lower your risk of seizures

Avoiding common triggers could reduce your chance of having a seizure.

- **Get plenty of sleep.** Lack of sleep can increase your risk.
- **Manage your stress.** Distress and intense emotions can sometimes trigger a seizure. No one can avoid stress, but it helps if you have tools to manage it.
- **Take your medicines.** For people taking antiseizure medicines, missing doses is one of the most common triggers.
- **Avoid alcohol, cigarettes, and illicit drugs.** These are all known triggers of seizures. Drug and alcohol withdrawal can also cause seizures.
- **Avoid external triggers.** Bright flashing lights, video games, loud music, and extreme heat can all trigger seizures.

To protect yourself and others

If you have seizures repeatedly, you might also need to take these precautions.

- **Stop driving or operating heavy machinery.** Each state has its own rules around drivers who have seizures with loss of consciousness. Depending on where you live, you might have to stop driving until you've gone a certain amount of time without having another seizure.
- **Avoid being in the water alone.** If you have repeated seizures, it's important to avoid water activities when you are by yourself. Don't swim or go in hot tubs alone. Take showers instead of baths.

How to talk to your health care team about seizures

Ask your health care team if your type of cancer or treatment increases your risk of seizures. If you *are* at an increased risk, ask what you can do to lower that risk.

If you are treated for a seizure, make sure your health care team knows about it. It's also important to ask them what they want you to do if you have another seizure.

For example: When should you go to the emergency room? Should you tell your health care team right away after every seizure? Or is it okay to wait until your next office visit? Your health care team can help you come up with a plan.

Hyperlinks

1. www.cancer.org/cancer/types/brain-spinal-cord-tumors-adults/treating/surgery.html
2. www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy/getting-chemotherapy.html
3. www.cancer.org/cancer/managing-cancer/treatment-types/immunotherapy/immune-checkpoint-inhibitors.html
4. www.cancer.org/cancer/managing-cancer/treatment-types/immunotherapy/car-t-cell1.html
5. www.cancer.org/cancer/managing-cancer/treatment-types/hormone-therapy.html

References

Dalmau J and Rosenfield MR. Overview of paraneoplastic syndromes of the nervous system. *UpToDate*. UpToDate; 2024. Updated September 25, 2023. Accessed June 18th, 2024. <https://www.uptodate.com/contents/overview-of-paraneoplastic-syndromes-of-the-nervous-system>

Drappatz J, Avila EK. Seizures in patients with primary and metastatic brain tumors. *UpToDate*. UpToDate; 2024. Updated March 8th, 2023. Accessed June 18th, 2024. <https://www.uptodate.com/contents/seizures-in-patients-with-primary-and-metastatic-brain-tumors>

Gonzalez Castro LN, Milligan TA. Seizures in patients with cancer. *Cancer*. 2020;126(7):1379-1389. Doi:10.1002/cncr.32708

Karsecki S. Initial treatment of epilepsy in adults. *UpToDate*. UpToDate; 2024. Updated April 30, 2024. Accessed June 18th, 2024. <https://www.uptodate.com/contents/initial-treatment-of-epilepsy-in-adults>

Roth P, Winklhofer S, Muller AM, et al. Neurological complications of cancer immunotherapy. *Cancer Treatment Reviews*. 2021; 97. doi.org/10.1016/j.ctrv.2021.102189

Rudà, R., Mo, F. & Pellerino, A. Epilepsy in brain metastasis: an emerging entity. *Curr*

Treat Options Neurol. 2020; 22(6). doi.org/10.1007/s11940-020-0613-y

Schachter SC. Evaluation and management of the first seizure in adults. *UpToDate*. UpToDate; 2024. Updated May 2, 2024. Accessed June 18th, 2024. <https://www.uptodate.com/contents/evaluation-and-management-of-the-first-seizure-in-adults>

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