Who can benefit from SEEG?

SEEG may help you if you:
• have focal epilepsy and seizures (complex partial seizures) that do not respond to two medications or medical treatment.
• are a potential candidate for epilepsy surgery.
• have seizures of undetermined origin.

Who cannot benefit from SEEG?

If you have generalized epilepsy, SEEG surgery is not an option.

Is there an age limit?

The average age of SEEG patients at Cleveland Clinic is 25 to 30, but children as young as 2 can safely undergo the surgery.

What are the advantages of SEEG?

SEEG is a minimally invasive approach for epilepsy localization:
• to implant the electrodes, the surgeon makes 10 to 20 small incisions in the scalp, with no blood loss.
• while SEEG surgery lasts five to six hours and requires general anesthesia, removal of the electrodes is a simple procedure that takes 10 to 15 minutes under local anesthesia.

Why does it take so long to place the SEEG electrodes?

Electrode placement goes quickly, but it takes time to plan for that placement. Success in identifying seizure source depends on being extremely precise. In approximately 90 percent of SEEG cases, we are successful.

SEEG is a big leap forward in our ability to be precise. It’s the difference between sitting in the back of the stadium, where you can barely see what the players are doing, and having a front-row view. SEEG puts us in the front row.

What other benefits does SEEG offer?

Through SEEG, we can reach areas of the brain that are off limits with subdural grids:
• Grids are placed directly on the surface of the brain and they are good for localizing surface seizures, but they are not effective for seizure sites deep in the brain. SEEG can go deep.
• SEEG can cover larger brain areas and, very importantly, it can be used to monitor both sides of the brain. Until now, when seizures were coming from both hemispheres, we could do nothing to localize them.

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How long must SEEG patients stay in the hospital?

After surgery, patients go to our Epilepsy Monitoring Unit, where they are observed for seizure activity. The Cleveland Clinic Epilepsy Center has dedicated adult and pediatric monitoring units, both staffed around the clock with teams of specialists and equipped with the latest technology.

The average stay is one week, but some patients may remain longer while we watch for seizure onset. The electrodes should be removed as soon as the information is captured to minimize the risk of infection.

What happens next?

Any subsequent epilepsy surgery depends on what is learned from the monitoring. SEEG is a tool that provides more accurate localizing information, which is shared with patients.