

UNDERSTANDING PARTIAL SEIZURES

Partial seizures, which involve an electrical discharge in a limited area of the brain, come in a variety of forms. Let's look at some common types.

A partial seizure begins with an electrical discharge in one limited area of the brain. How a partial seizure affects someone depends upon whether it is a simple partial seizure or complex partial seizure, and where in the brain it occurs.



Different parts of the brain control different functions. The cortex or thinking part of the brain is divided into four lobes: frontal, temporal, parietal and occipital. Other deeper brain structures relate to life-support functions, movement and other semi-automatic behaviors. At the back end of the frontal lobe is the motor strip, which signals muscles to move. A seizure in this part of brain will cause uncontrolled movements or twitching lasting for a few seconds to a few minutes.



Towards the top of the motor strip are nerves controlling the leg muscles. Lower down are nerves controlling the trunk, then the arms, fingers, face and mouth. If the seizure spreads along the motor strip, then the seizure can “march” along different parts of the body. Just behind the motor strip is the skin sensation area. A seizure here will cause tingling in the affected part of the body; however, tingling in the skin usually is not due to seizures.

The back lobe of the brain is the occipital lobe. It contains brain cells responsible for vision. Seizures in the occipital lobe can produce flashing lights, shimmering lines or visual hallucinations. The temporal lobe is the part of the brain most prone to develop seizures. It is responsible for many complex activities, including the formation and retrieval of memories and the control of emotional states.

If a temporal lobe seizure spreads to both temporal regions, then the manifestations of the seizure increase, with a pause in ongoing activities, confusion, temporary memory loss and fragmentary automatic "robot-like" behaviors. This type of seizure is called a complex partial seizure. It is the most common type of seizure in adults. In general, when awareness, memory and consciousness are preserved, then the seizure is called "simple partial." However, if any are impaired, then a seizure is called "complex partial."

Someone experiencing a complex partial seizure lives in a moment-to-moment world. During this time, he or she may repeat the same phrase or action over and over in an automatic loop, not recognizing the repetition. This person also may fumble hands, smack the lips, or grab tightly onto things during a seizure. This automatic activity is called an “automatism.” Others just freeze in place and stare blankly, with no automatisms and hardly any movement.

After a complex partial seizure, people don’t remember what was said or even what they did during a seizure. Some don't remember having a seizure at all. Later, the memory starts working again, except for a gap during a seizure.

Understanding what occurs during a seizure begins with the insight that there are different kinds of seizures, each with a different impact. If you, or someone close to you, is suffering from seizures, please see a physician.