

The sixteen-year-old son of actor John Travolta died suddenly during a family vacation early last year in the Bahamas. Jett Travolta reportedly suffered a seizure before dying.

A seizure is a sudden attack that may affect a person's mind or body for a short period. People who suffer from repeated seizures are said to have epilepsy. Whether Jett Travolta had epilepsy is not clear. But just what is epilepsy and how is it treated?

Epilepsy is a medical condition that produces seizures. A seizure happens when a sudden increase of electrical activity interferes with normal operations in the brain.

Nerve cells use electrical particles to communicate with each other. Millions of electrical particles pass between nerve cells in the brain. When the brain has a sudden burst of electricity, the body experiences physical changes called epileptic seizures. Victims can shake uncontrollably for brief periods. They also can temporarily lose the ability to communicate or think clearly.

New research is helping to explain how cells communicate to cause conditions like epilepsy. Researcher Doug Fields works at America's National Institutes of Health. He showed that a chemical called ATP could have links to brain disorders like epilepsy and chronic pain.

Most seizures can last anywhere between thirty seconds and two minutes. These seizures do not cause permanent damage. However, a seizure is considered a medical emergency if it lasts more than five minutes. One in ten adults will have a seizure during their life.

Different kinds of seizures result when different parts of the brain are affected. If electrical activity increases in only one area of the brain, the person will have what doctors call a partial seizure. Many times, people may suffer a partial seizure and not know it. They might note strange feelings in an arm or leg. They also might hear noises or look straight ahead for a few minutes.

Sometimes the individual will have an uncontrolled movement, like turning the head to one side. Most partial seizures last less than ninety seconds. So it is not always possible for others to recognize them as signs of a disorder.

When people hear the word seizure, they often think of what doctors call a grand mal seizure. A person experiencing this kind of seizure will fall to the ground. His or her body will become firm and start to shake. After a few minutes, the individual will stop moving, appear awake and know what has happened. He or she may move slowly for about thirty minutes. Some grand mal seizures start with partial seizures and become worse.

Experts have reported different reasons why an individual may suffer epileptic seizures. For example, head injuries or a lack of oxygen at birth may damage the electrical system in the brain. Other causes are poisoning and high body temperatures.

Older adults may develop epilepsy because of an infection, stroke or Alzheimer's disease. Yet experts say the cause of the disorder is unknown in more than half of all cases.