

Genetic and Chromosomal Abnormalities - Epilepsy

Epilepsy is a group of neurological diseases, according to Dr. Fisher in his paper, "A practical clinical definition of epilepsy".¹ The World Health Organization (Epilepsy Fact Sheet) says, epilepsy is defined as having different episodes of brief and long periods of uncontrollable shaking or other uncontrolled episodes.² According to the Epilepsy Foundation³, forms of epilepsy (such as generalized epilepsy), can be hereditary. Therefore, there is a slight genetic link⁴ that can be passed on in the family. There are about 150,000³ new cases of epilepsy in the US each year. About 33% or 50,000³ of those new cases are in children or teens. It effects about 2.2 million people² in the USA.

The Epilepsy Foundation defines³ epilepsy as episodes of uncontrollable shaking can result in broken bones and strokes. An epileptic can have a seizure when a burst in the brain goes beyond their

normal limits. The burst spreads and creates an uncontrollable eruption of activity. In addition, epilepsy seizures can also have symptoms of repetitive behavior, lack of movement, and “spacing out”. Because of the aforementioned, people with epilepsy in some cases experience a stigma due to the symptoms^{2,3}. Stigmas can exist in the classroom because teachers and students may not be aware that an epileptic seizure is happening; since it may appear that the person is “spacing out” (absence seizure)³ instead of having an episode. After a seizure, the patient may feel, weak, tired or confused.³ The reason people with epilepsy get so many seizures is they have electrical signals in their brains that temporarily miscommunicate.³ For example, I had a friend in high school that had epilepsy and had a few non-shaking seizures in the class room. Over time teachers began to recognize those “spacing out” seizures and helped him gain treatment.

Treatment for epilepsy can be managed with medication, diet, devices, and/or surgery as referenced by the Epilepsy Foundation³.

Anti-epileptic drugs (AEP) can treat 7 out of 10 people with epilepsy³.

Nerve stimulation devices are also being used to treat the disease^{3,5}.

Additionally, low carbohydrate diets can be successful in some people^{3,5}. Surgery can be an option to reduce seizures if other methods are not successful².

In Summary, epilepsy is a disease that can cause uncontrollable seizures (fierce shaking or prolonged non-movement) that can result in broken bones and stroke. Epilepsy can have some social stigma if bystanders are not aware and educated about the symptoms. However, the disease can be controlled by medication or other means.

References:

1 – “A practical clinical definition of epilepsy” – Dr. Robert S. Fisher

2 – Epilepsy Fact sheet – World Health Organization

3 - Epilepsy Foundation – epilepsy.com

4 - *Thieme Medical Publishers Genetics of Epilepsy* - Massimo Pandolfo

5 - Teens Health – teensheath.org