Approximately 50 million people around the world have epilepsy.

**What is epilepsy?**
Epilepsy is a condition in which a person has recurrent seizures. Seizures occur when the normal electrical activity in the brain is disrupted. Although people can develop epilepsy at any point in their life, most epilepsy syndromes begin in childhood.

**What causes epilepsy?**
Although the cause of epilepsy is unknown in many cases, seizures may be triggered by a number of factors:

- head trauma or injury
- brain tumor
- loss of oxygen to the brain
- infections that affect the brain
- stroke or heart attack
- genetic factors

**Genetic factors:**
Certain types of epilepsy may be inherited and can be caused by genetic variants (changes in your DNA). In fact, researchers estimate that hundreds of genes in your DNA may play a role in epilepsy syndromes. Your physician may consider genetic testing if you have a personal and/or family history of seizures.

**Types of Seizures**
There are several types of seizures associated with epilepsy (i.e. focal, partial, absence, myoclonic, tonic, clonic, etc.). The differences between them depend upon the region and type of brain activity disruption and by the symptoms a person may have during a seizure, such as:

- loss of consciousness
- muscle spasms
- jerking movements
- staring spells
- unusual sensations and behavior

**Benefits of Genetic Testing**
Genetic testing for epilepsy can:

- Establish or confirm the appropriate diagnosis
- Identify risks for other health concerns that are associated with the condition
- Provide information useful for the best management plan for those with a positive test result
- Allow at-risk family members to undergo genetic testing
- Provide options for family planning

**Quick Facts**

- Results are available in 3 to 5 weeks.
- Fulgent accepts all commercial and private healthcare insurance plans for genetic testing.
- The Genetic Information Nondiscrimination Act (GINA) protects individuals from discrimination based on genetic testing results and genetic information.
Possible Genetic Test Results
There are three possible results from genetic testing:

**⊕ POSITIVE**
A pathogenic mutation was detected. This result indicates that the patient has a disease-causing DNA mutation associated with their clinical condition.

**⊖ NEGATIVE**
No disease-causing mutation was detected. However, a negative result does not rule out all risk of developing epilepsy.

** '?' VARIANT OF UNCERTAIN CLINICAL SIGNIFICANCE**
Variants of uncertain clinical significance (VUS) may be identified. A VUS means that there is not enough evidence to determine if a DNA variant is disease-causing or benign. Clinical management will be based on personal and family medical history.

What does a positive result mean for my family?
If you receive a positive test result, your relatives may be at risk to have the same genetic change and epileptic condition. Parents, siblings, and children of someone with epilepsy caused by a genetic change can have as high as a 50% chance to have that same change. It is important to discuss your test result with your physician or genetic counselor.

Resources

Epilepsy Foundation | www.epilepsy.com/
American Epilepsy Society | www.aesnet.org/
Genetic and Rare Disease Information Center | rarediseases.info.nih.gov/
Citizens United for Research in Epilepsy (CURE) | www.cureepilepsy.org/

References: