

# Classification of Seizures and the Connection between Epilepsy and Autism

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# DESCRIPTION

Uncontrolled electrical activity between brain cells causes seizures. Unusual thoughts or sensations, involuntary muscle stiffening or jerking, confusion, and loss of consciousness are all typical signs of a seizure.

Unpredictable seizure activity may be a sign of epilepsy. If a person experiences at least two unexplained seizures, this common neurological condition may be identified. Thus, unexplained seizures refers to a seizure that wasn't brought on by a well-known occurrence, such as a head injury, pharmaceutical side effect, or high fever.

### Types of seizures

Based on where in the brain they begin and how they affect the body, seizures are classified. The following seizure types are most frequently found in autistic people:

**Generalized tonic-clonic seizures:** Both muscle stiffness (tonic activity), which affects both parts of the brain, and twitching or jerking are symptoms of generalized tonic-clonic seizures (clonic activity). A different name for them is generalized onset motor seizures.

**Partial or focal seizures:** In one part of the brain, partial or focal seizures begin. They may result in a loss of awareness or the person may experience the episode while being completely conscious. These seizures are the most typical kind seen by epileptics. However, generalized tonic-clonic seizures are more common in people with autism and epilepsy.

**Febrile seizures:** Children between the ages of three months and six years old can have febrile seizures. When a child has a high temperature, they happen. They could be both general and focused. Epilepsy can occasionally be preceded by febrile seizures.

#### Link between epilepsy and autism

Autism and epilepsy may have related genetic risk factors. Researchers have discovered specific gene abnormalities that affect both epilepsy and autism. According to studies, siblings of autistic children are more prone to have epilepsy.

According to certain studies, epilepsy and regressive mental functioning in autistic children are related. These results have been validated by additional research, which found that the likelihood of epilepsy fell by 47% for every standard deviation increase in IQ. It is yet unknown how the two states are related causally. The fact that epilepsy is known to be increased by intellectual handicap complicates the situation.

Epilepsy is more common in females with autism, according to studies. However, males were more likely than females to have autism when the sample of people with epilepsy as a whole was included. To determine whether sex is involved in the link between autism and seizures, further study is required.

Researchers have found aberrant Electroencephalogram (EEG) readings even in autistic youngsters who do not have observable seizure activity. The brain's electrical activity is measured by EEG. According to one study, 80% of kids with ASD had abnormal EEGs. Some researchers believe that these electrical activities in the brain may have an effect on how severe the symptoms of autism are.

### Related disorders involving seizures

Seizures are a common symptom of other autism-related disorders. These consist of:

Landau-Kleffner syndrome: A rare type of epilepsy that causes language loss. It typically appears when a youngster is 3 to 7 years old. It is twice as common in men as in women and frequently diagnosed alongside autism. Epilepsy affects about 70% of people with Landau-Kleffner syndrome. Their seizures tend to be infrequent and may occur with or without convulsions.

**Rett syndrome:** A neurological condition that primarily affects women. Even though Rett syndrome has its unique pathology, autistic-like traits are frequently displayed in Rett syndrome children. 80% of people also have epilepsy.

**Angelman syndrome:** A nerve system-affecting genetic disease. The initial signs of this condition usually appear during the first

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year of life. They could include speech and mental impairments, tiny heads, and epilepsy.

**Tuberous sclerosis complex:** An uncommon genetic condition. Autism spectrum disorder affects 40 to 50 percent of those with Tuberous Sclerosis Complex (TSC), according to estimates. An estimated 85% of people with TSC also have seizures.

# CONCLUSION

Seizures in people with autism are now managed in the same way as seizures in those without the condition. Research on particular therapies for people with autism and seizures is scant. Before beginning any treatment regimen, get the opinion of a licensed doctor.

Since autism and epilepsy are frequently comorbid conditions, it's critical to maintain a high index of suspicion for one disorder whenever the other is present. It is necessary to screen Personas with epilepsy for autism. To distinguish possible seizures from other repetitive or stereotyped behaviors, a careful history should be taken. When both the conditions co-occur, careful diagnostic examinations and deliberate use of EEG testing can improve diagnostic accuracy and treatment effectiveness.