



# Conditions that often Co-Occur with ASP



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## SEIZURES OR EPILEPSY

To understand what a seizure is, you must first understand how the brain works. Your brain is comprised of thousands of neurons – cells that process and transmit information by interacting with each other. These interactions can be observed and assessed through an electroencephalogram (EEG).

In most brains, neuron interactions occur in a chaotic but balanced, orderly fashion with few disruptions. Occasionally, small disruptions (neuron misfires) may occur with little consequence. When multiple cells misfire at the same time – depending on the severity and location in the brain – it may cause muscle twitches and spasms.

This is a seizure. A seizure is defined as a sudden, electrical discharge in the brain causing alterations in behavior, sensation, or consciousness.

Many believe that having a seizure equates to having epilepsy. Although the two terms are often used simultaneously, a seizure (which is a single occurrence) is different than epilepsy (which is defined as two or more unprovoked seizures).

Seizures that appear to begin everywhere in the brain at once are classified as generalized seizures, while those beginning in one location of the brain are classified as partial seizures.

## ADHD

Attention deficit hyperactivity disorder (ADHD, similar to hyperkinetic disorder in the ICD-10) is a neurodevelopmental psychiatric disorder in which there are significant problems with executive functions (e.g., attentional control and inhibitory control) that cause attention deficits, hyperactivity, or impulsiveness which is not appropriate for a person's age. These symptoms must begin by age six to twelve and persist for more than six months for a diagnosis to be made. In school-aged individuals, inattention symptoms often result in poor school performance. Although it causes impairment, particularly in modern society, many children with ADHD have a good attention span for tasks they find interesting.

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# ANXIETY, DEPRESSION, AND OCD

## OCD

People with obsessive-compulsive disorder (OCD) feel the need to check things repeatedly, or have certain thoughts or perform routines and rituals over and over. The thoughts and rituals associated with OCD cause distress and get in the way of daily life.

The frequent upsetting thoughts are called obsessions. To try to control them, a person will feel an overwhelming urge to repeat certain rituals or behaviors called compulsions. People with OCD can't control these obsessions and compulsions. Most of the time, the rituals end up controlling them.

## Depression

Everyone occasionally feels blue or sad. But these feelings are usually short-lived and pass within a couple of days. When you have depression, it interferes with daily life and causes pain for both you and those who care about you. Depression is a common but serious illness.

## Anxiety

Occasional anxiety is a normal part of life. You might feel anxious when faced with a problem at work, before taking a test, or making an important decision. Anxiety disorders involve more than temporary worry or fear. For a person with an anxiety disorder, the anxiety does not go away and can get worse over time. These feelings can interfere with daily activities such as job performance, school work, and relationships.

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# INTELLECTUAL DISABILITY

Intellectual disability is a condition diagnosed before age 18 that includes below-average intellectual function and a lack of skills necessary for daily living. In the past, the term mental retardation was used to describe this condition. This term is no longer used

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# HYPERACTIVITY & HYPOACTIVITY

## Hyperactivity

Hyperactivity means having increased movement, impulsive actions, and a shorter attention span, and being easily distracted.

Hyperactive behavior usually refers to constant activity, being easily distracted, impulsiveness, inability to concentrate, aggressiveness, and similar behaviors.

Typical behaviors may include fidgeting or constant moving, wandering, talking too much, and difficulty participating in quiet activities (such as reading).

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# HYPERACTIVITY & HYPOACTIVITY

## Hypoactivity

Hypoactivity is an inhibition of behavioral or locomotor activity. It is a characteristic effect of sedative agents and many centrally acting anesthetics. Other drugs such as antipsychotics produce this effect, often as a side effect.

# FRAGILE X SYNDROME (FXS)

Fragile X syndrome (FXS) is the most common inherited form of intellectual disability in males with an estimated frequency of 1/4000. It is caused by a chromosomal abnormality. Symptoms include moderate to severe intellectual disability, macroorchidism, elongated face, immature-appearing dendritic spines, hyperactivity, increased sensory sensitivity, autistic behavior, and seizures.

# TOURETTE SYNDROME (TS)

Tourette syndrome (TS) is a neurological disorder characterized by repetitive, stereotyped, involuntary movements and vocalizations called tics. The disorder is named for Dr. Georges Gilles de la Tourette, the pioneering French neurologist who in 1885 first described the condition in an 86-year-old French noblewoman. The early symptoms of TS are typically noticed first in childhood, with the average onset between the ages of 3 and 9 years. TS occurs in people from all ethnic groups; males are affected about three to four times more often than females. It is estimated that 200,000 Americans have the most severe form of TS, and as many as one in 100 exhibit milder and less complex symptoms such as chronic motor or vocal tics.

# TUBEROUS SCLEROSIS (TSC)<sup>1</sup>

Tuberous sclerosis--also called tuberous sclerosis complex (TSC)<sup>1</sup>--is a rare, multi-system genetic disease that causes benign tumors to grow in the brain and on other vital organs such as the kidneys, heart, eyes, lungs, and skin. It usually affects the central nervous system and results in a combination of symptoms including seizures, developmental delay, behavioral problems, skin abnormalities, and kidney disease. Many TSC patients show evidence of the disorder in the first year of life. However, clinical features can be subtle initially, and many signs and symptoms take years to develop. As a result, TSC can be unrecognized or misdiagnosed for years.

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# PRADER-WILLI SYNDROME

Prader-Willi syndrome is a complex genetic condition that affects many parts of the body. In infancy, this condition is characterized by weak muscle tone (hypotonia), feeding difficulties, poor growth, and delayed development. Beginning in childhood, affected individuals develop an insatiable appetite, which leads to chronic overeating (hyperphagia) and obesity. Some people with Prader-Willi syndrome, particularly those with obesity, also develop type 2 diabetes mellitus (the most common form of diabetes). People with Prader-Willi syndrome typically have mild to moderate intellectual impairment and learning disabilities. Behavioral problems are common, including temper outbursts, stubbornness, and compulsive behavior such as picking at the skin. Sleep abnormalities can also occur. Additional features of this condition include distinctive facial features such as a narrow forehead, almond-shaped eyes, and a triangular mouth; short stature; and small hands and feet.

# LANDAU-KLEFFNER SYNDROME (LKS)

Landau-Kleffner syndrome (LKS) is a rare, childhood neurological disorder characterized by the sudden or gradual development of aphasia (the inability to understand or express language) and an abnormal electro-encephalogram (EEG). LKS affects the parts of the brain that control comprehension and speech. The disorder usually occurs in children between the ages of 5 and 7 years. Typically, children with LKS develop normally but then lose their language skills for no apparent reason. While many of the affected individuals have seizures, some do not. The disorder is difficult to diagnose and may be misdiagnosed as autism, pervasive developmental disorder, hearing impairment, learning disability, auditory/verbal processing disorder, attention deficit disorder, childhood schizophrenia, or emotional/behavioral problems.

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