## **Autism Spectrum**

The autism spectrum is a neurologic disorder that encompasses several varied diagnoses. These syndromes are characterized by varying degrees of impairment in communication skills, social interactions, and restricted, repetitive and/ or stereotyped patterns of behavior.

# **Down Syndrome**

Down syndrome is a genetic disorder in which chromosome 21 has extra genetic material. This causes physical growth delays, a distinct facial appearance, intellectual disability, and or developmental delays.

# Atlantoaxial Instability (AAI) in Down Syndrome

The atlantoaxial joint is the joint between the first and second vertebrae. As low muscle tone and ligament laxity often come with Down Syndrome, this can create an instability, subluxation, or dislocation of this joint. This can create pressure on the spinal cord, resulting in neurological changes. All participants with Down Syndrome must be tested for AAI annually to ride. This diagnosis has PRECAUTIONS or could be a CONTRAINDICATION depending on neurologic status or physicians recommendation.

#### **Cerebral Palsy**

Cerebral Palsy is generally defined as damage to the brain around the time of birth, and comes in 3 main types. Spasitc CP can cause excessive muscle tension and stiffness, ataxic CP, where the person has difficulty planning movement, or athetoid CP, where erratic and uncontrolled movements occur. CP can interfere with more than one area of the body, resulting in difficulties with mobility, fine and gross motor skills, speech, swallowing, and other functional movement.

#### ADHD/ ADD

Attention Deficit Hyperactive Disorder is a persistent pattern of inattention and/ or hyperactivity and impulsivity that is more frequent and severe than is typically observed in individuals at a comparable level of development. ADD is similar in that is also involves inattention, distractibility, and poor working memory.

#### **Sensory Integrative Disorders**

With a sensory integrative or sensory processing dysfunction, sensations may be registered as too little or too much, the understanding or recognizing of the sensation may be impaired, or the reaction to the sensation may be inappropriate. This can include reactions to all senses, vision, touch, smell, hearing, taste, movement, and position.

#### Seizure Disorders/ Epilepsy

Seizures are a disruption of brain function manifested as impairment by loss of consciousness, abnormal motor activity, or sensory disturbances. Seizures can be a primary or secondary disorder, and can range from being extremely mild and barely noticeable, to moderate or severe with complete loss of control.

#### Learning Disability

Learning disabilities are disorders that affect the ability to understand or use spoken language, written language, do mathematical calculations, coordinate movements, or direct attention. These can also involve processing disorders and sensory integrative disorders.

#### **Developmental Coordination Disorder/ Dyspraxia**

Dyspraxis affects the coordination, balance, and movement of the body. This can affect gross motor skills such as playing sports or driving a car, and fine motor skills, such as writing or sewing.

# **Oppositional Defiance Disorder**

Individuals who tend to defy those in a position of authority more often than is typical for their age or development These are youth who tend to elicit control issues of the "You will, I won't" nature.

# Myopathy/ Muscular Dystrophy/ Spinal Muscular Atrophy

Myopathies or muscular dystrophies are disorders in which there is a progressive loss of muscle, and therefore muscle function, due to a hereditary cause. Myopathies are characterized by progressive muscle weakness, although each condition may have a different distribution of weakness. Onset can begin as an infant or as a juvenile.

## Hypertonia

Hypertonia is marked by an abnormal increase in tightness of muscle tone and a reduced ability of the muscle to stretch. Hypertonia is usually a feature of spasticity in particular muscles.

# Hypotonia

Hypotonia means "low tone" and refers to a physiological state in which a muscle has decreased tone or tension. This can be common with Down Syndrome, myotonic dystrophy, muscular dystrophy, congenital hypothyroidism, and more.

# Other diagnoses you may see in addition to the client's primary diagnosis:

Spina bifida, chromosomal abnormalities (presentations of these can vary greatly depending on the chromosome affected), hearing loss, vision loss, memory loss, behavioral problems.

# Other symptomatic challenges clients may experience:

Migraines, allergies, asthma, depression, anxiety, eating disorders.