WHAT IS AUTISM?

Autism Spectrum Disorder (autism) is a developmental disorder of the brain that makes it difficult for a person to communicate and socialize with others. People with autism often engage in repetitive behaviors or have extreme interests. The term "spectrum" refers to the wide span of symptoms individuals can display.

There is a range of severity, with some individuals being mildly affected and others being severely impaired. Some people with autism have intellectual disability, while others can be very bright and have special talents.

There are other psychological conditions associated with autism, including difficulties with behavior, activity level and attention, as well as medical conditions including gastrointestinal issues, sleep disturbances, and motor coordination difficulties.

WHAT CAUSES AUTISM?

Today, we are learning more about the causes of autism, whereas in the not-so-distant past, we knew very little. Researchers are investigating how both genetic and environmental factors interact to lead to autism.

Geneticists now know there is no one genetic explanation for autism, but that there are a number of rare gene changes, called mutations, that are associated with autism. More than a hundred autism risk genes have been identified, but in most cases, a specific genetic cause for a patient's autism cannot be identified. Family studies have been most helpful in understanding how genes contribute to autism. The rates of autism and associated disorders are higher in families who already have one member or a few distant relatives with an autism spectrum disorder. Studies have shown that among identical twins, if one child has autism, then the other will be affected about 36-95% of the time. In non-identical twins, if one child has autism, then the other is affected about 0-31% of the time. Parents who have a child with autism have a 2%–18% chance of having a second child who is also affected. These studies suggest that genetics play a factor in the cause.

Environmental risk factors are still being investigated. Many factors are thought to occur before birth, including a mother and/or father's age at time of conception, maternal illness during pregnancy, and extreme prematurity and very low birth weight. Other environmental factors include maternal exposure to pesticides and air pollution. Many individuals with these risk factors, however, have children without autism, therefore it is a complex interplay between these factors and genes that increase the risk of having a child with autism.

IS THERE A CURE FOR AUTISM?

Currently, there is no cure for autism. It is considered a lifelong disability, however there is a lot that can be done to improve the functioning and quality of life of individuals with autism. Research suggests that early intervention can have significant benefits to individuals with autism and their families. Many treatments and supports can help improve the lives of individuals at any age. Some individuals and supporters of the Autism Rights Movement do not advocate finding a cure for autism or eradicating autistic traits, but rather supporting individuals for who they are and helping them develop coping skills.

WHY ARE THERE SO MANY DIFFERENT NAMES FOR AUTISM?

There are many different terms associated with Autism Spectrum Disorder, including Autism, High Functioning Autism, Asperger's Syndrome, and Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS). The differences between these terms can be confusing. In May 2013 a new diagnostic criteria for autism released in the United States specified a new label, Autism Spectrum Disorder, to encompass several of the previous diagnostic categories including Autistic Disorder, Asperger's Disorder and Pervasive Developmental Disorder Not Otherwise Specified. The term Autism Spectrum Disorder is now used by many professionals in the US to describe any person with autism. Some people choose to retain older diagnostic labels such as Asperger's syndrome because they feel it better describes themselves or their child, or because it is less stigmatizing. International standards also vary in their terms for autism.

Some people distinguish between more severe and more mildly effected individualize by using the term *high functioning autism* to describe individuals who are fully verbal, express more social interest, and have fewer repetitive behaviors. Their symptoms tend to be subtler than others with autism.

Asperger's Syndrome is often used synonymously with high functioning autism. The technical difference between Asperger's Syndrome and high functioning autism was outlined in previous diagnostic systems as individuals who did not have a significant delay in language or cognitive skills. Asperger's Syndrome is often conceptualized as the highest functioning disorder along the autism spectrum. The most recent DSM definition dropped the Asperger's term.

Pervasive Developmental Disorder – Not Otherwise Specified (PDD-NOS) is no longer in the new US diagnostic manual. PDD-NOS was previously used to describe children who exhibited some characteristics of autism in the areas of communication, socialization, or restricted interests/behaviors, but did not meet full criteria for a diagnosis of autism.

WHAT ARE THE MAIN FEATURES OF AUTISM?

Every individual with autism is different and may show a different set of symptoms, however all individuals with autism have difficulty interacting and communicating with others and show repetitive behaviors. Socially, they may have little interest in interacting or playing with others or have a lot of interest, but difficulty with the processes of making and keeping friendships, understanding others' perspectives, or following social rules. Some individuals lack or have very delayed language skills, while more verbal individuals have difficulty with the give and take of communication. Nonverbal communication deficits are also present and include lack of appropriate eye contact, delayed use of or response to gestures, or unusual intonation. Repetitive behaviors can take a wide variety of forms, from significant difficulty coping with changes to repetitive speech and body movements and extremely intense interests.

Many individuals with autism also have disabilities acquiring and using language. For example, they might demonstrate vocabulary or grammar skills of much older children, yet still lack basic understanding of more abstract concepts mastered by much younger children. They may have difficulty processing language quickly or fluidly. At times poor language processing can appear behavioral in nature, as if the individual is not listening or that they are refusing to respond. Also, when receptive language skills are weaker than expressive skills, others may overestimate what an individual with autism comprehends by assuming they understand language at the same level that they speak.

Although not designated as central features of autism, there are also a number of cognitive characteristics that are common in individuals with ASD. These include:

Impaired Theory of Mind: Theory of mind refers to the understanding that others have thoughts and feelings that may be different than yours. Theory of mind allows us to modify our behavior based on an understanding of another person's perception. Some people refer to deficits in theory of mind as "mind blindness." Impaired theory of mind can lead to behaviors such as making insensitive comments, misinterpreting others' intentions, and arguing that one's own perspective is always right.

Weak Central Coherence: Central Coherence refers to the ability to see the bigger picture in a situation. Individuals with autism tend to be extremely detail focused and "miss the forest for the trees." Weak Central Coherence can lead to difficulties understanding the main point of a text or conversation, picking out the relevant versus irrelevant, distinguishing minor versus major problems, and generalizing a skill learned from one setting to another setting.

Executive Dysfunction: Executive functioning is a set of abilities that people use to manage themselves in order to achieve a goal. Executive functioning includes skills such as inhibition, shifting, emotional control, initiation, working memory, planning/organizing, organization of materials, and self-monitoring. Problems with executive functioning can lead difficulties focusing, being flexible, organizing materials and schoolwork, and managing emotions appropriately.

Literal/Concrete Thinking: Many individuals with autism tend to take language very literally. They have difficulty with metaphors, sarcasm, idioms, and innuendos. They also have difficulty with abstraction and conceptual thinking. Literal and concrete thinking can lead to behaviors such as misunderstanding sarcastic jokes, not understanding time and money, and having difficulty transferring what is learned in one setting to another.

Processing Deficits: Individuals with autism often process information more slowly than their same-aged peers, even when other skills are very advanced. They also have difficulty focusing on and processing language, as opposed to their very strong visual skills. Individuals with processing deficits show behaviors including failing to pay attention to directions, lack of responding to others, slowness in responding, and aptitude for visually based skills and learning.

Severity levels for Autism Spectrum Disorder

Severity Level	Social Interactions	Other Behaviors
Level 3 "Requiring very substantial support"	Severe deficits in verbal and nonverbal social communication skills cause severe impairments in functioning, very limited initiation of social interactions, and minimal response to social overtures from others. For example, a person with few words of intelligible speech who rarely initiates interaction and, when he or she does, makes unusual approaches to meet needs only and responds to only very direct social approaches.	Inflexibility of behavior, extreme difficulty coping with change, or other restricted/repetitive behaviors markedly interfere with functioning in all spheres. Great distress/difficulty changing focus or action.
Level 2 "Requiring substantial support"	Marked deficits in verbal and nonverbal social communication skills; social impairments apparent even with supports in place; limited initiation of social interactions; and reduced or abnormal responses to social overtures from others. For example, a person who speaks simple sentences, whose interaction is limited to narrow special interests, and who has markedly odd nonverbal communication.	Inflexibility of behavior, difficulty coping with change, or other restricted/repetitive behaviors appear frequently enough to be obvious to the casual observer and interfere with functioning in a variety of contexts. Distress and/or difficulty changing focus or action.
Level 1 "Requiring support"	Without supports in place, deficits in social communication cause noticeable impairments. Difficulty initiating social interactions, and clear examples of atypical or unsuccessful response to social overtures of others. May appear to have decreased interest in social interactions. For example, a person who is able to speak in full sentences and engages in communication but whose to-and-fro conversation with others fails, and whose attempts to make friends are odd and typically unsuccessful.	Inflexibility of behavior causes significant interference with functioning in one or more contexts. Difficulty switching between activities. Problems of organization and planning hamper independence.