Neurodevelopmental Disorders

Intellectual Disability Disorder

Autism Spectrum Disorder (ASD)

Attention-Deficit Hyperactivity Disorder (ADD/ADHD)

Motor Disorders/Tourette’s Disorder

Intellectual Disability

Formerly called mental retardation

Intellectual Disability (ID)

- Intellectual Disability (ID), once called mental retardation, is characterized by below-average intelligence or mental ability and difficulty adapting to the demands of independent living.
- People with intellectual disabilities can and do learn new skills, but they learn them more slowly.
- There are varying degrees of intellectual disability, from mild to profound.

Intellectual Disability (ID)

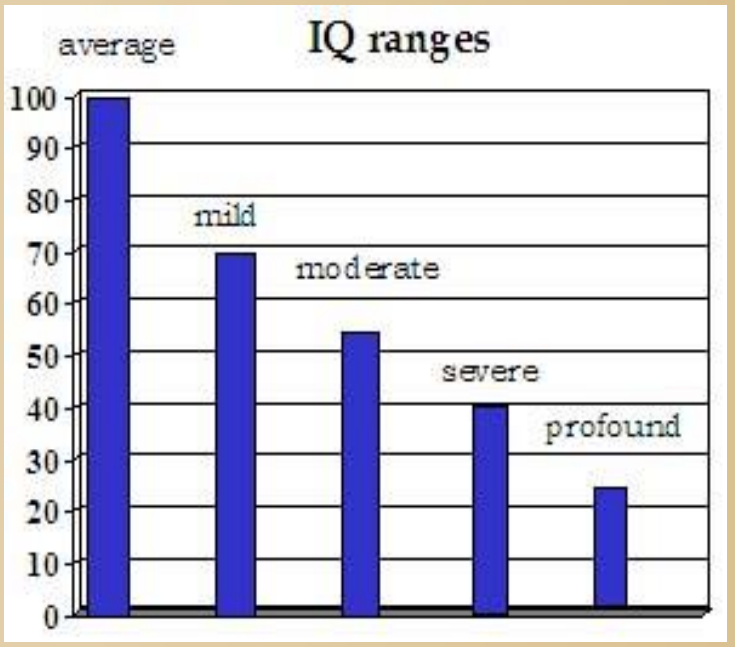
- About 2% of the population has an IQ below 70.
- According to the APA about half (1%) qualify as intellectually disabled.
- Those with an ID are classified as having a mild, moderate, severe, or profound intellectual disability.

What is Intellectual Disability?

- Someone with intellectual disability has limitations in two areas. These areas are:
- **Intellectual functioning.** Also known as IQ, this refers to a person's ability to learn, reason, make decisions, and solve problems.
- **Adaptive behaviors.** These are skills necessary for day-to-day life, such as being able to communicate effectively, interact with others, and take care of oneself.

IQ (Intelligence Quotient)

- IQ (intelligence quotient) is measured by an IQ test. The average IQ is 100. A person is considered intellectually disabled if he or she has an IQ of less than 70 to 75.



Adaptive Behaviors

- To measure a child's adaptive behaviors, a specialist will observe the child's skills and compare them to other children of the same age.
- Things that may be observed include how well the child can feed or dress himself or herself; how well the child is able to communicate with and understand others; and how the child interacts with family, friends, and other children of the same age.

1% of the Population

- Intellectual disability is thought to affect about 1% of the population.
- Of those affected, 85% have mild intellectual disability. This means they are just a little slower than average to learn new information or skills. With the right support, most will be able to live independently as adults.

Degrees of Intellectual Disability

- Mild
  - IQ between 50 – 69
  - 85% of people with ID
  - Up to 6th grade level.
  - Can live independently with assistance.
- Moderate
  - IQ 35-49
  - 10% of people with ID
  - Up to 2nd grade level.
  - Need assistance

More serious cases

Mild	• 85% of ID Population • Can generally learn reading, writing, and math skills between third- and sixth-grade levels. May have jobs and live independently.
Moderate	• 10% of ID Population • May be able to learn some basic reading and writing. Able to learn functional skills such as safety and self-help. Require some type of oversight/supervision.
Severe	• 5% of ID Population • Probably not able to read or write, although they may learn self-help skills and routines. Require supervision in their daily activities and living environment.
Profound	• 1% of ID Population • Require intensive support. May be able to communicate by verbal or other means. May have medical conditions that require ongoing nursing and therapy.

- Severe
  - IQ 20-34
  - 3 – 4 % of cases
  - Can learn to talk and perform simple work but extremely limited
- Profound
  - IQ below 20
  - 1-2% of cases
  - Require constant aid and supervision

What are the signs of intellectual disability in children?

- There are many different signs of intellectual disability in children. Signs may appear during infancy, or they may not be noticeable until a child reaches school age. It often depends on the severity of the disability. Some of the most common signs of intellectual disability are:

- Rolling over, sitting up, crawling, or walking late
- Talking late or having trouble with talking
- Slow to master things like potty training, dressing, and feeding himself or herself
- Difficulty remembering things

Other Signs/Symptoms

- Inability to connect actions with consequences
- Behavior problems such as explosive tantrums
- Difficulty with problem-solving or logical thinking
- In children with severe or profound intellectual disability, there may be other health problems as well. These problems may include seizures, coexisting disorders (anxiety, autism, etc.), motor skills impairment, vision or hearing problems.

What causes Intellectual Disability?

- Anytime something interferes with normal brain development, intellectual disability can result. However, a specific cause for intellectual disability can only be pinpointed about a third of the time.
- The most common causes of intellectual disability are:
- **Genetic conditions.** These include things like Down syndrome (caused by an extra chromosome)
- **Problems during** pregnancy**.** Things that can interfere with fetal brain development include alcohol or drug use, malnutrition, or certain infections.
- **Problems during childbirth.** Intellectual disability may result if a baby is deprived of oxygen during childbirth or born extremely premature.
- **Illness or injury.** Infections like meningitis, whooping cough, or the measles can lead to intellectual disability. Severe head injury, near-drowning, extreme malnutrition, exposure to toxic substances such as lead, and severe neglect or abuse can also cause it.
- **None of the above**. In two-thirds of all children who have intellectual disability, the cause is **unknown**.

Can intellectual disability be prevented?

- Certain causes of intellectual disability are preventable. The most common of these is **fetal alcohol syndrome**. Pregnant women shouldn't drink alcohol. Getting proper prenatal care, taking a prenatal vitamin, and getting vaccinated against certain infectious diseases can also lower the risk that your child will be born with intellectual disabilities.
- In families with a history of genetic disorders, genetic testing may be recommended before conception.
- Certain tests, such as ultrasound and amniocentesis, can also be performed during pregnancy to look for problems associated with intellectual disability. Although these tests may identify problems before birth, they cannot correct them.

How is intellectual disability diagnosed?

- Three things factor into the diagnosis of intellectual disability: interviews with the parents, observation of the child, and testing of intelligence and adaptive behaviors.
- A child is considered intellectually disabled if he or she has deficits in both IQ *and* adaptive behaviors.
- If only one or the other is present, the child is not considered intellectually disabled.

Treatment

- After a diagnosis of intellectual disability is made, a team of professionals will assess the child’s particular strengths and weaknesses.
- This helps them determine how much and what kind of support the child will need to succeed at home, in school, and in the community.

What services are available for children with ID?

- For babies and toddlers, early intervention programs are available. A team of professionals works with parents. Early intervention may include speech therapy, occupational therapy, physical therapy, family counseling, training with special assistive devices, or nutrition services.
- School-age children with intellectual disabilities (including preschoolers) are eligible for special education for free through the public school system. This is mandated by the Individuals With Disabilities Education Act (IDEA).

What is an IEP?

- Students may have an IEP (Individualized Education Plan) or receive special education services for many different reasons. These are not just for students with a diagnosis of intellectual disability.
- Parents and educators work together to create an IEP, which outlines the child's needs and the services the child will receive at school. The point of special education is to make adaptations, accommodations, and modifications that allow a child with an intellectual disability to succeed in the classroom.

Sources

- WebMd.com
- Thinking About Psychology, 2nd Edit.

Autism Spectrum Disorders ASD

Autism

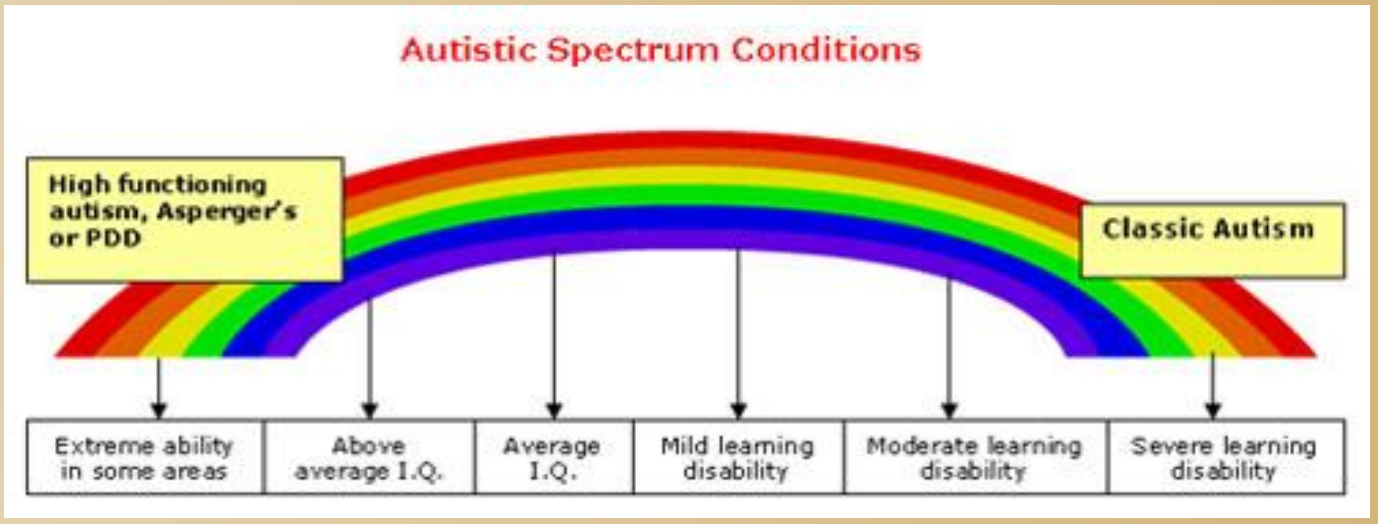
- Most infants and young children are very social creatures who need and want contact with others to thrive and grow. They smile, cuddle, laugh, and respond eagerly to games like “peek-a-boo” or hide-and-seek.

Existing in their “own world”

- Occasionally, however, a child does not interact in this expected manner. Instead, the child seems to exist in his or her *own world*, a place characterized by repetitive routines, odd and peculiar behaviors, problems in communication, and a total lack of social awareness or interest in others. These are characteristics of an *autism spectrum disorder*

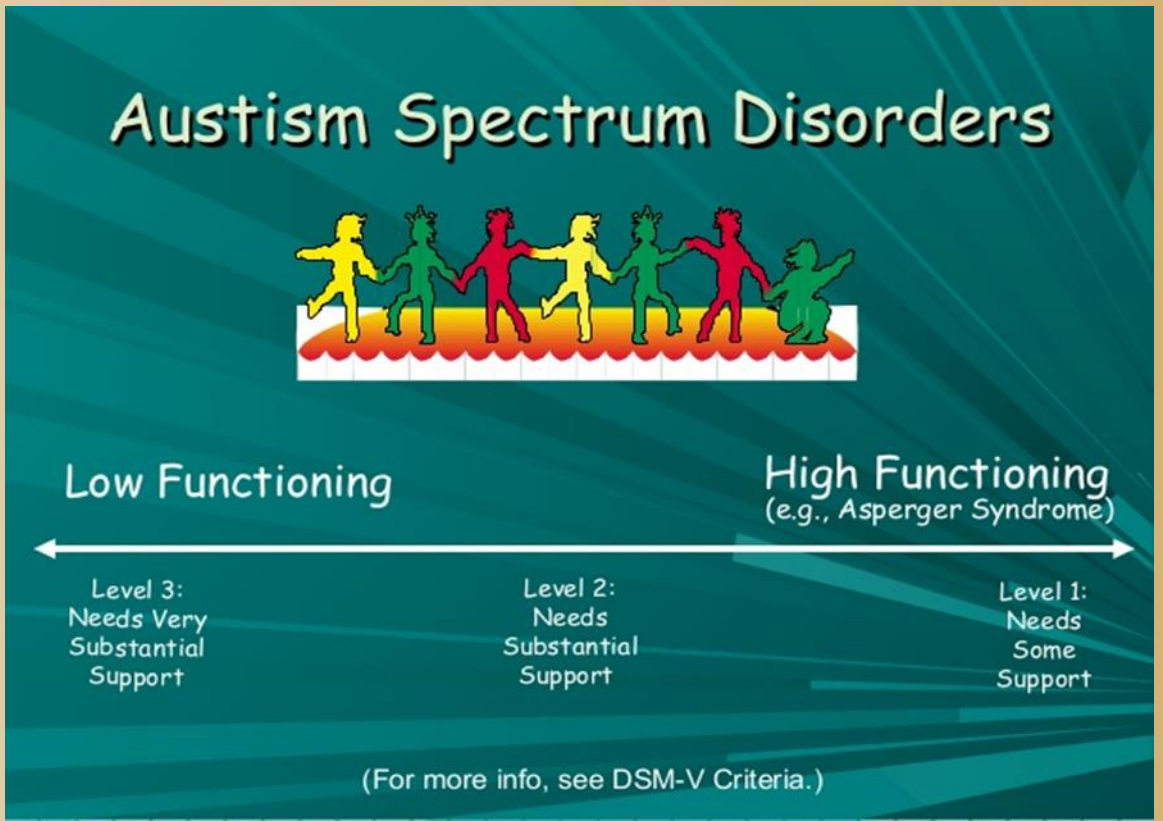
What is a “spectrum” disorder?

- There is considerable overlap among the different forms of autism. The *wide variation* in symptoms among those with autism, however, has led to the concept of autism spectrum disorder, or ASD.



From mild to severe

- Some people have a *very mild*, almost unnoticeable form of autism, and others have *more severe forms of ASD*. The severity of the symptoms determines where someone falls "on the spectrum".



Prevalence of ASD

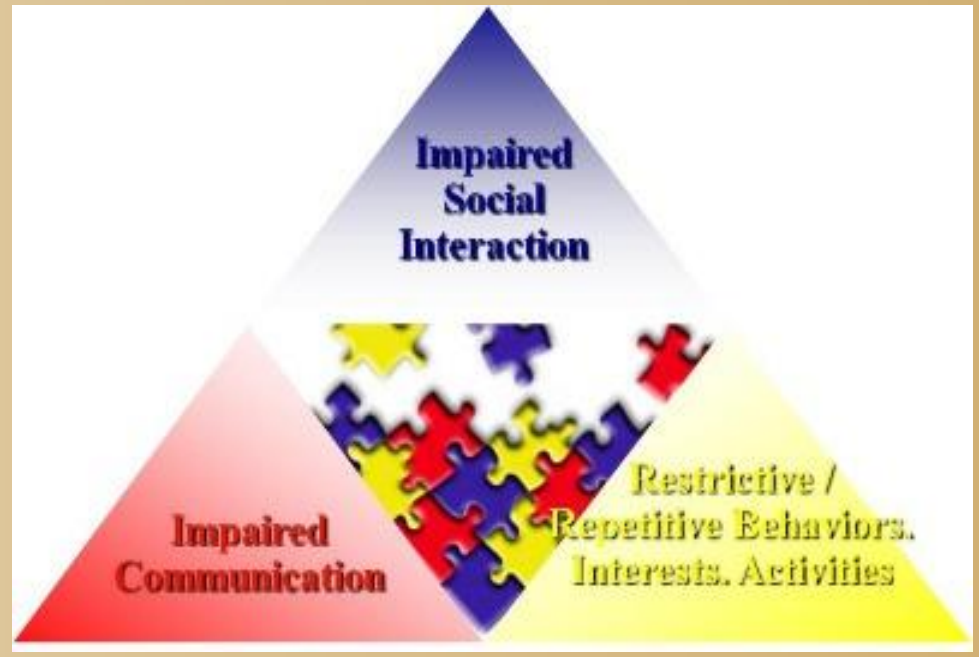
- ASDs affect *1 out of every 88 children* in the US
- They occur more often among boys than girls
- While ASDs appear to be *on the rise*, it's unclear whether the growing number of diagnoses shows a real increase or comes from improved detection

Early Diagnosis

- Early diagnosis is important. That's because early treatment can help a child with autism make significant gains in language & social skills

Symptoms of Autism Spectrum Disorder

- ASDs affect 3 different areas of a child's life:
  - Social Interaction
  - Communication – both verbal and non-verbal
  - Behaviors and Interests



Unresponsive and Withdrawn

- The hallmark of ASD is impaired social interaction
- As early as infancy, a baby with ASD may be *unresponsive to people* or *focus intently on one item* to the exclusion of others for long periods
- A child with “classic autism” is generally *withdrawn, aloof*, and fails to respond to other people.

Limited Social Skills

- May respond inappropriately in conversations or misread non-verbal cues (facial expressions or body language)
- Many will *not even make eye contact*
- May show *no interest in others* and have very *limited social skills* which can lead to difficulty interacting with and befriending others.

Don’t pick up on social cues

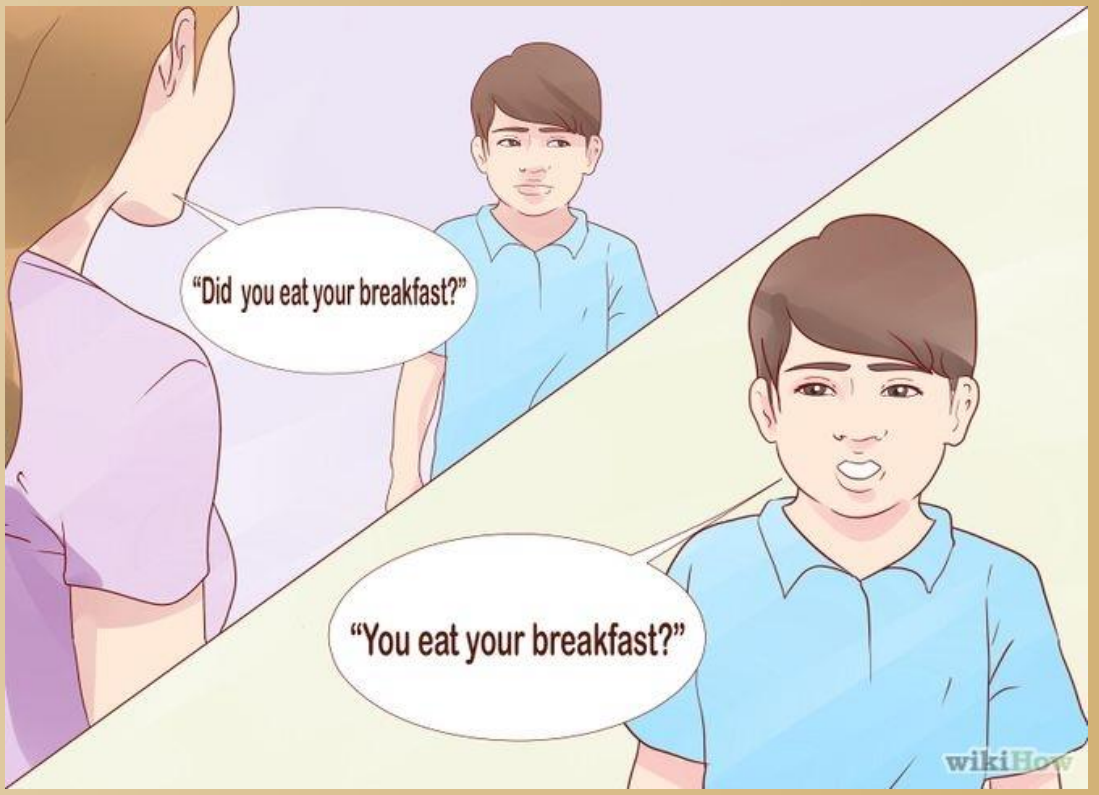
- Those with an ASD have *difficulty interpreting what others are thinking or feeling* because they can’t understand social cues, such as *tone of voice or facial expressions*, and don’t watch other people’s faces for clues about appropriate behavior

- Most people look at someone’s eyes, but they are more likely to watch the mouth of someone they are talking too
- As a result of not picking up on these cues they may *lack empathy*.

Communication

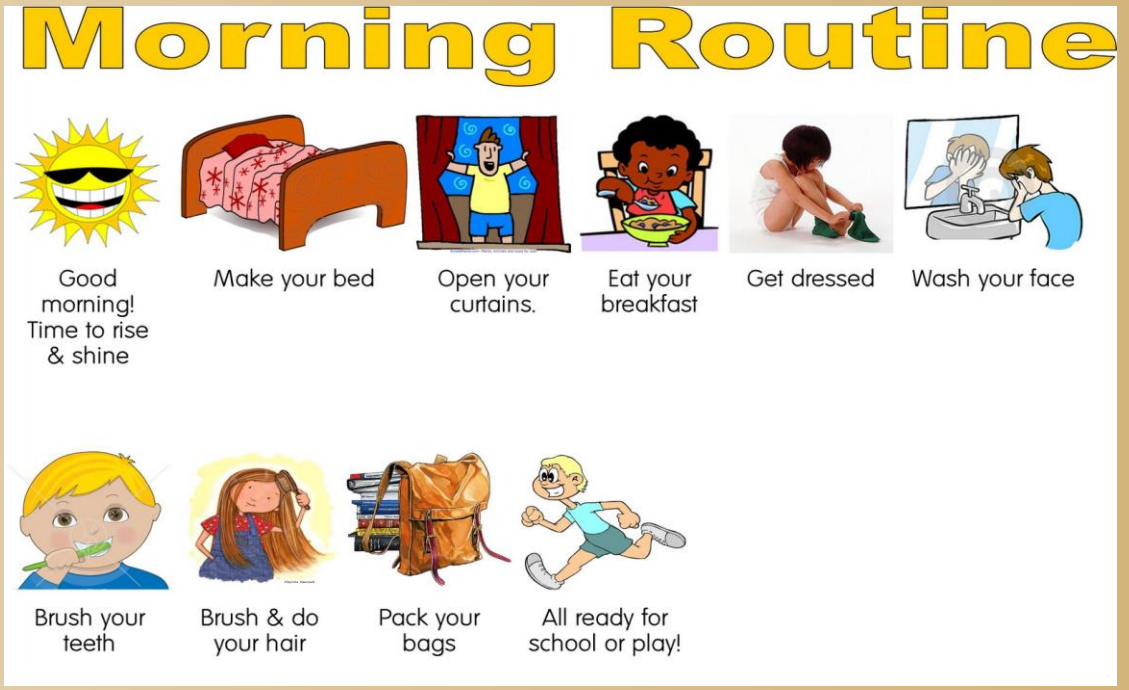
- Babies with autism may *not babble* or *use words* at the developmental stage that others do
- They may show *no response to their name*
- *Poor eye contact, no smiling, and other signs of social responsiveness* may not be apparent

- Some children with ASD initially have, but then *lose, language* and social skills
- Many children with ASD *do not speak at all*
- *Echolalia* (repeating a person's words like an echo), and *unusual use of language*



Behaviors & Interests

- Those with ASD are overly dependent on *routines*
- Unusually *sensitive to changes* in the environment
- Intensely *focused on specific items* (like spending hours lining up toys)



- Odd and *ritualistic behaviors* like rocking, hand flapping, or even self-abusive behavior like biting or head-banging
- Children with an ASD *don't know how to play interactively* with other children and may talk extensively about a *narrow range of favorite topics*, with little regard for the interests of the person to whom they are speaking.

Severity of Autism

- The severity of ASDs varies widely, from mild to severe.
- Some children are very bright, do well in school, and may live independently when they grow up.
- Others function at a much lower level.

Savant

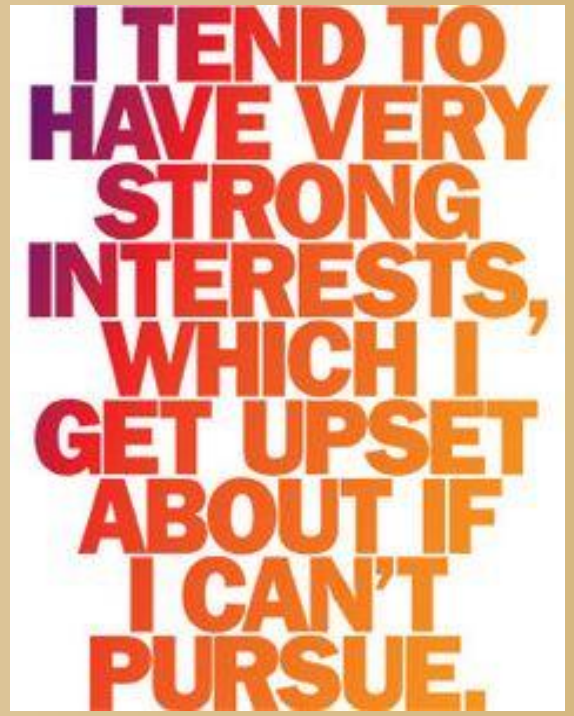
- Occasionally, those with ASD may display an extraordinary talent in art, music, or another specific area (known as a savant)

Asperger's Syndrome (AS)

- Sometimes referred to as "high functioning autism", Asperger's was a term previously used to describe the mildest form of autism.
- While those with AS have some of the same problems with social skills, and unusual or repetitive behaviors, they frequently have normal to above average intelligence.

Obsessive interests

- Children with Asperger's Syndrome often become obsessively interested in a single object or topic, learning all they can about it and discussing it nonstop.



Removed from DSM-5

- The most recent edition of the Diagnostic and Statistical Manual (DSM) no longer lists Asperger's Syndrome as a separate disorder, but instead children previously diagnosed with Asperger's have been combined with Autism and a few other related disorders into Autism Spectrum Disorders (ASD)
- Asperger's shares similar symptoms and is thus considered "on the autism spectrum"

Causes of ASD

- Scientists aren’t certain what causes ASD, but it’s likely that both genetics and environment play a role.
- Researchers have identified a number of genes associated with the disorder.
- Studies of people with ASD have found irregularities in several regions of the brain which could result from the disruption of normal brain development early on

What *doesn't* cause ASD

- While there has been some concern that vaccines may cause ASD there is no evidence to support this.
- What we do know is that *parents do not cause ASD*.
- Much more research needs to be done.

Treatment

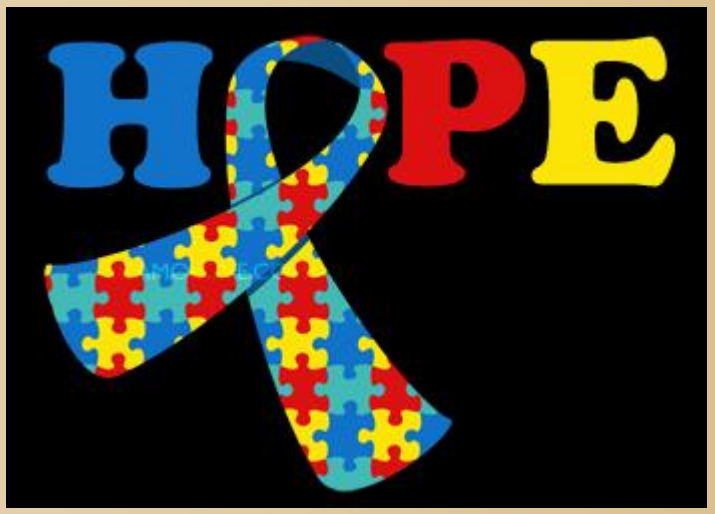
- Although there is no cure for autism, appropriate specialized treatment provided early in life can have a positive impact on the child's development and produce an overall reduction in disruptive behaviors and symptoms.

Medication?

- Medications may be prescribed to treat autism-related symptoms such as anxiety, depression, or hyperactivity
- There are a number of controversial therapies or interventions available, but few, if any, are supported by scientific studies.

Hope

- With greater attention and more research dollars being aimed at Autism Spectrum Disorders in recent years, there is reason to be hopeful about better treatments and someday even a cure for ASD.



Sources

- Autism Spectrum Disorders Health Center – *Webmd*
- American Academy of Child & Adolescent Psychiatry – *Facts for Families* – The Child with Autism and Asperger's Disorder
- National Insititute of Neurological Disorders – *Autism Fact Sheet*