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# *Autism Spectrum Disorder*



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# Overview

Upon successful completion of this course, the learner should be able to:

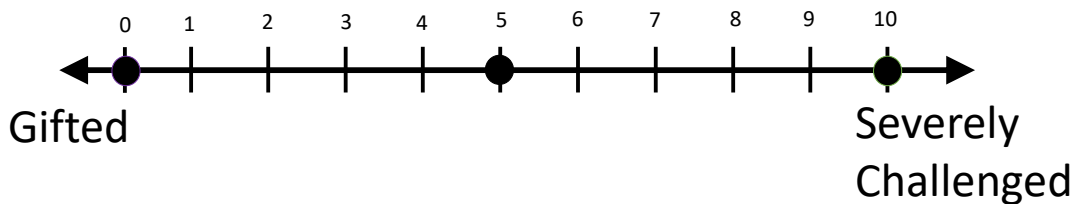
- Define autism spectrum disorder (ASD)
- Identify signs of ASD
- Discuss diagnostic criteria for ASD
- Describe treatment options for ASD
- Discuss resources for individuals with ASD

## Autism Spectrum Disorder (ASD)

- What is ASD?
  - a developmental disability that causes significant social, communication, and behavioral challenges
  - individuals with ASD have problems interacting with others due to communication and social skill challenges
  - individuals with ASD may learn in ways that are different from others

# Autism Spectrum Disorder (ASD)

- What is ASD?
  - the learning, thinking, and problem solving abilities of those with ASD range from gifted to severely challenged



# Autism Spectrum Disorder (ASD)

- What is ASD?
  - a diagnosis of ASD includes several conditions that used to be diagnosed separately including:
    - autistic disorder
    - pervasive developmental disorder not otherwise specified (PDDNOS)
    - Asperger's Syndrome
  - these disorders were labeled under ASD due to having overlapping signs and symptoms

# Autism Spectrum Disorder (ASD)

- What is ASD?
  - those with ASD can be at different places on the spectrum or levels of autism
    - lower functioning autism
    - middle range functioning autism
    - higher functioning autism (e.g. an individual with Asperger's Syndrome)

## Demographics/Statistics

- ASD is reported in all races and ethnic groups
  - blacks, asians, and whites report around the same level of individuals with ASD
  - hispanics report slightly lower amounts of individuals with ASD
    - the CDC believes this number to be wrong due to lower hispanic individuals not being diagnosed

## Demographics/Statistics

- ASD occurs in both genders
  - ASD is four times more common in boys than girls
  - girls are more nurturing and tend to include girls with ASD in friend groups, making it harder to notice ASD signs in girls
- 1 in 54 children or 18.5/1000 eight year olds are diagnosed with ASD

## Demographics/Statistics

- ASD in children
  - 33% of ASD children also have an intellectual disability
  - 75% of ASD children also have a coexisting condition
    - anxiety
    - Attention Deficit/Hyperactivity Disorder
    - depression
    - Bipolar disorder
    - eating disorders
    - Obsessive-compulsive disorder
    - epilepsy
    - Tourette syndrome

## **Demographics/Statistics**

- ASD affects any socioeconomic status; no difference in socioeconomic levels

## **Signs and Symptoms of ASD**

- Signs of ASD can start to show as early as six months old
  - beginning at six months
    - the baby may have limited to no eye contact
    - few or no big smiles or other warm, joyful, and engaging expressions
  - by nine months
    - little or no back and forth sharing of sounds, smiles, or facial expressions

## **Signs and Symptoms of ASD**

- Signs of ASD can start to show as early as six months old
  - by 12 months
    - little to no babbling
    - little to no back and forth gestures such as pointing, reaching, or waving
  - by 16 months
    - baby should be saying a few words

## **Signs and Symptoms of ASD**

- Signs of ASD can start to show as early as six months old
  - by 24 months
    - has very few or no meaningful two-word phrases

## **Signs and Symptoms of ASD**

- Signs of ASD in any age
  - loss of previously acquired speech, babbling, or social skills
  - avoidance of eye contact
  - persistent preference for solitude
  - difficulty understanding other people's feelings
  - delayed language development
  - persistent repetition of words or phrases

## **Signs and Symptoms of ASD**

- Signs of ASD in any age
  - resistance to minor changes to routines or surroundings
  - restricted interests
  - repetitive behaviors (e.g. flapping, rocking, spinning)
  - unusual and intense reactions to sounds, smells, taste, textures, lights, and colors

## Signs and Symptoms of ASD

- Signs of ASD in any age
  - individuals with sensory issues might show behaviors such as
    - jumping, spinning, crashing into objects
    - talking faster, louder, or not talking at all
    - covering ear or eyes
    - difficulty recognizing internal sensations (e.g. hunger, pain, or need to use the restroom)
    - refusing or insisting on certain food items

## Signs and Symptoms of ASD

- Signs of ASD in any age
  - individuals with sensory issues might show behaviors such as
    - frequent chewing on non-food items
    - frequent touching of others or playing rough
    - difficulty communicating or responding
    - escalating or overwhelming emotions

# Signs and Symptoms of ASD

- Signs of ASD in any age
  - ways to accommodate individuals with sensory issues
    - using light covers or sunglasses
    - ear plugs or headphones
    - avoiding strongly scented products
    - choosing foods that avoid aversions to textures, temperatures, or spices

# Signs and Symptoms of ASD

- Signs of ASD in any age
  - ways to accommodate individuals with sensory issues
    - soft comfortable clothing
    - adjusting schedules to avoid crowds

## **Signs and Symptoms of ASD**

- Examples of accommodations for individuals with hyposensitivity
  - using fidget toys, chewies, or other sensory tools
  - arranging furniture to provide safe open spaces
  - taking frequent movement breaks throughout the day
  - eating foods with strong flavors and textures

## **Signs and Symptoms of ASD**

- Examples of accommodations for individuals with hyposensitivity
  - weighted blankets, lap pads, or clothing that provides deep pressure

## **Risk Factors for ASD**

- Vaccinations do not cause ASD, many reputable sources (e.g. Mayo clinic, Cleveland clinic, CDC, WHO) have done extensive research and no studies have found links between ASD and vaccinations

## **Risk Factors for ASD**

- Gender can be considered a risk factor since boys are four times more likely to develop ASD
  - girls are typically not diagnosed as often as boys
- Family history
  - families who have one child with ASD are at an increased risk for having another with ASD
  - family members of those with ASD might have signs related to ASD but not actually be ASD

## **Risk Factors for ASD**

- Having certain genetic conditions—people with other medical conditions are more likely than others to have ASD, these include:
  - fragile X syndrome
  - tuberous sclerosis
  - Rett syndrome
  - Down syndrome

## **Risk Factors for ASD**

- Extremely preterm babies – babies born before 26 weeks
- Having older parents
  - there is a potential link between ASD and children born to older parents but more research is needed

## Diagnosing ASD

- Diagnosing a young child with ASD requires a two-step process
  - general development screening at well-child check ups
    - depending on results of the check up, the pediatrician might refer the patient to complete a second stage evaluation or assure the parents that the child is developing normally

## Diagnosing ASD

- If referred for second stage evaluation the pediatrician might refer the child to a:
  - developmental pediatrician
  - child psychologist or psychiatrist
  - neuropsychologist
  - speech-language pathologist

## **Diagnosing ASD**

- These specialists will assess cognitive level, language abilities, age-appropriate skills such as
  - eating
  - dressing
  - toileting
- Due to overlapping symptoms with other disorders, blood test and hearing test might also be preformed to rule out other conditions

## **Diagnosing ASD**

- Diagnosis of ASD in older children and adolescents
  - ASD is typically recognized by a teacher
  - a doctor will be able to better recognize ASD symptoms
  - parents may be referred to a specialist by their child's pediatrician

## **Diagnosing ASD**

- Symptoms that might be recognized early include:
  - difficulty understanding tone of voice, facial expressions, or body language
  - older adolescents may have trouble understanding figures of speech, humor, or sarcasm
  - difficulty forming friendships with peers

## **Diagnosing ASD**

- Diagnosing ASD in adults is difficult due to symptoms overlapping with common mental health disorders such as anxiety or ADHD
- When seeing a doctor they might be referred to a psychologist or psychiatrist
- They will be asked about sensory issues, social and communication challenges, restricted interests and repetitive behaviors

## **Diagnosing ASD**

- Prior to the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders) ASD was diagnosed as separate disorders
  - e.g. Asperger's Syndrome (now considered high-functioning ASD) was diagnosed as its own separate condition focusing mostly on poor social skills, and communication problems

## **ASD Diagnostic Criteria in DSM-V**

- A.) Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history:

## **ASD Diagnostic Criteria in DSM-V**

- Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions

## **ASD Diagnostic Criteria in DSM-V**

- Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication

## **ASD Diagnostic Criteria in DSM-V**

- Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers

## **ASD Diagnostic Criteria in DSM-V**

- B.) Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history

## **ASD Diagnostic Criteria in DSM-V**

- Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypes, lining up toys or flipping objects)

## **ASD Diagnostic Criteria in DSM-V**

- Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat same food every day)

## **ASD Diagnostic Criteria in DSM-V**

- Highly restricted, fixated interests that are abnormal in intensity or focus (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests)

## **ASD Diagnostic Criteria in DSM-V**

- Hyper- or hypo reactivity to sensory input or unusual interest in sensory aspects of the environment (e.g. apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement)

## **ASD Diagnostic Criteria in DSM-V**

- C.) Symptoms must be present in the early developmental period (but may not become fully manifested until social demands exceed limited capacities, or may be masked by learned strategies in later life)
- D.) Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning

## **ASD Diagnostic Criteria in DSM-V**

- E.) These disturbances are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay. Intellectual disability and autism spectrum disorder frequently co-occur; to make comorbid diagnoses of ASD and intellectual disability, social communication should be below that expected for general developmental level

## **ASD Diagnostic Criteria in DSM-V**

- Individuals with a well-established DSM-IV diagnosis of autistic disorder, Asperger's disorder, or PDDNOS should be given the diagnosis of ASD

## **ASD Diagnostic Criteria in DSM-V**

- Individuals who have marked deficits in social communication, but whose symptoms do not otherwise meet criteria for ASD, should be evaluated for social (pragmatic) communication disorder

## **Severity Levels for ASD**

- 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

## **Severity Levels for ASD**

- Level 3 – Requiring very substantial support
  - 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

## **Severity Levels for ASD**

- 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

## **Severity Levels for ASD**

- Level 2 – Requiring substantial support
  - for example, a person who speaks simple sentences, whose interaction is limited to narrow special interests, and who has markedly odd nonverbal communication

## **Severity Levels for ASD**

- 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

## **Severity Levels for ASD**

- Level 1 – Requiring support
  - 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

**Visit  
autismspeaks.org**

## **Challenges Faced by Individuals with ASD**

- Bullying
- Sensory
- Unemployment

## **Challenges Faced by Individuals with ASD**

- Employment for ASD individuals is dependent on where the individual is at on the spectrum
- Some individuals may not be able to function enough to hold a job
- Some companies such as Goodwill or local grocery stores will hire employees with disabilities

## **Challenges Faced by Individuals with ASD**

- Holding a job is a big issue for individuals with ASD
- Social and communication challenges can be stressful to overcome in a job setting (e.g. handling crowds, interacting with people)
- Social skills therapy can be a great help when preparing an individual with ASD for a potential job

## **Challenges Faced by Individuals with ASD**

- You can help prepare an individual with ASD for a job by practicing different scenarios seen in a job setting such as
  - handling money
  - dealing with rude customers

## **Challenges Faced by Individuals with ASD**

- Bullying
- Sensory
- Unemployment
- Stress (Individual and Family)

## **Challenges Faced by Individuals with ASD**

- ASD individuals have to deal with many different stressors such as
  - worrying about where to sit in school
    - some ASD individuals have a preferred spot to sit (e.g. a favorite seat in the car or at school)

## **Challenges Faced by Individuals with ASD**

- ASD individuals have to deal with many different stressors such as
  - worrying about where to sit in school
    - some ASD individuals have a preferred spot to sit (e.g. a favorite seat in the car or at school)
  - learning how to drive or taking a route that is different than their usual route home or to work
    - e.g. construction

## **Challenges Faced by Individuals with ASD**

- Individuals with ASD stress about things that individuals without ASD do not normally stress about such as
  - deviating from a normal routine
    - e.g. changing bed sheets on a Friday, when you normally change bed sheets on Sunday

## **Challenges Faced by Individuals with ASD**

- Families also deal with stress due to having an ASD individual to care for
- This can include small worries such as
  - will they remember to put gas in their car
  - will they stop at a stop sign
  - will they be rude to customers at work

## **Challenges Faced by Individuals with ASD**

- Families also deal with stress due to having an ASD individual to care for
- Larger worries such as
  - will they go to college
  - will they be okay if I die
  - will my other children care for their ASD sibling
  - will she be able to live independently (e.g. have a job, be able to pay bills, care for themselves)

## **Challenges Faced by Individuals with ASD**

- Bullying
- Sensory
- Unemployment
- Stress (individual and family)
- Inability to live alone/be independent
- Difficulty in school

## Treatments for Individuals with ASD

- Medications
  - although you can request not to medicate your ASD child it is best to have more than one treatment plan, including one that includes medications. Keep an open mind

## Treatments for Individuals with ASD

- Therapy
  - there are a few different types of therapy that help ASD individuals, including
    - speech therapy – therapy directed to help with communication challenges
    - skills therapy – falls under speech therapy and helps the ASD individual with communication and social skills
      - in skills therapy ASD individuals interact with each other in a group setting to help develop social skills

## **Treatments for Individuals with ASD**

- Social skills therapy can help with issues such as lack of eye contact, teaching individuals that it is disrespectful to not look someone in the eye when they are talking to you

## **Treatments for Individuals with ASD**

- Therapy
  - there are a few different types of therapy that help ASD individuals, including
    - nutritional therapy – develops diet plans to accommodate food challenges and to help incorporate healthy options when necessary

## Treatments for Individuals with ASD

- Medications for co-conditions
  - ADHD – symptoms included hyperactivity
    - Adderall (amphetamine)
    - Concerta (methylphenidate)
    - Focalin (dexmethylphenidate)
    - Ritalin (methylphenidate)

## Treatments for Individuals with ASD

- Medications for co-conditions
  - Epilepsy – individuals with ASD are at a higher risk for seizures
    - Phenytoin (Dilantin)
    - Phenobarbital (Phenobarb)
    - Carbamazepine (Tegretol)

## Treatments for Individuals with ASD

- Medications for co-conditions
  - ASD individuals are at a higher risk for depression and OCD, the following drugs treat both conditions
    - Paroxetine (Paxil)
    - Fluoxetine (Prozac)

## Treatments for Individuals with ASD

- Medications for co-conditions
  - not all medications are safe for children, these medications can only be used by adults
    - Celexa (citalopram) – used to treat depression
    - Sertraline (Zoloft) – used to treat depression
    - Paroxetine (Paxil) – used to treat OCD

## **Treatments for Individuals with ASD**

- When coming up with a treatment plan for ASD, keep an open mind, some treatments like therapy may work for one individual whereas a combination of therapy and medications can work for another

## **Resources for Individuals with ASD**

- For a child aged zero-three, there is Early Childhood Intervention a state-wide program within the Texas Health and Human Services Commission for families and children
- This is for individuals with developmental delays, disabilities, or certain medical diagnoses that impact development

## **Resources for Individuals with ASD**

- The child is evaluated using certain eligibility criteria
- Services provided by the program
  - individualized plans for the child and family
  - family services centered on the needs and concerns of each family and child
  - promotes child development by incorporating activities into daily routines

## **Resources for Individuals with ASD**

- Services provided by the program
  - although most of the early childhood prevention services are provided at home, these services can be provided in places the child normally visits, such as childcare centers, the park, or library
  - service coordinators help families access and receive services, resources, and support they need to support their child's development

## **Resources for Individuals with ASD**

- Services provided by the program
  - provides comprehensive case management for all members of the child's family
  - early childhood intervention services end when the child turns 3 years old, the program helps with preparation for the child's next steps such as preschool or childcare centers

## **Resources for Individuals with ASD**

- Individuals that provide these services include
  - registered nurses
  - psychologist
  - dietitians
  - social workers and counselors
  - early childhood intervention specialists
  - speech and language pathologist
  - physical and occupational therapists

## **Resources for Individuals with ASD**

- For teens and individuals aged 3-22, there are individualized education plans or 504 plans
- These plans are for individuals that have started school
- These plans are mostly used in the public school system

## **Resources for Individuals with ASD**

- 504 plans cover accommodations to help the child succeed in school
- Children can refuse the accommodations
- Accommodations can include
  - extra time for testing
  - stretching during an exam
  - water during an exam
  - private room for testing
  - earplugs for testing
  - verbal testing
  - closed captioning for deaf students

## **Resources for Individuals with ASD**

- Services for adults with ASD include
  - government housing
  - services that help individuals get a job
  - social skill groups and support groups
  - Meals on Wheels
  - Medicare/Medicaid

## **Case Study #1**

- 25-year-old male
- ASD
- Wants to finish high school
- Wants to get a job
- Afraid he cannot work because of his lack of social skills

## **Case Study #1**

- Check options for this individual's ability to finish high school or GED
- Check for resources such as social skill groups
- If there are no in-person social skill groups find an online support group
- Set up mock interview process to prepare him for the job he wants or shadow professionals

## **Case Study #2**

- 24-month-old
- Lack of eye contact
- Not responding when name called
- Not saying words or phrases

## **Case Study #2**

- Be careful not to scare the parents with an ASD diagnosis, provide them with a developmental milestone chart and point out where their child is according to the chart
- Refer them to their pediatrician
- Assure them that all children develop differently
- Pediatrician can refer them to a specialist if needed

## **Case Study #3**

- 12-year-old female
- Difficulty making friends
- Only talks about her choice of topic when talking to peers
- Failing two subjects in school

## **Case Study #3**

- 12-year-old female
- Difficulty making friends
- Only talks about her choice of topic when talking to peers
- Failing two subjects in school
- Difficulty sitting still in class

## **Case Study #3**

- She has signs of ASD
  - her gender is a potential risk factor
  - she has trouble making friends
  - she has focused/restricted interests
  - she also has difficulty with social interactions
- She also has signs of ADHD
  - failing two subjects
  - difficulty sitting still

## Case Study #3

- You can refer the parents to their pediatrician who then might refer them to a psychiatrist or psychologist
- Social skills therapy can help her with social interactions
- Occupational therapy can help her cope with hyperactivity

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## Autism Spectrum Disorder

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