Neurodevelopmental Disorders

Attention-Deficit/Hyperactivity Disorder, Specific Learning Disorder, Intellectual Disabilities, Autism Spectrum Disorders, Communication Disorders, and Motor Disorders

Special Factors Associated with Treatment of Children and Adolescents

Special factors associated with treatment for children and adolescents

- Child's inability to seek assistance
- Vulnerabilities that place children at risk
- Need for treating parents as well as children
- Using parents as change agents
- Problems with placement outside family
- Intervening before problems become acute

ADHD

Prevalence 5% of children & 2.5 of adults

Two times as likely in males than females in children

Key Criteria

- 6 (5 if 17 or older) symptoms from one of two domains (inattentive or hyperactive) must be present
- Duration 6 months, occurs before age 12
- Across settings (more than one symptom in at least two settings)
- Clear evidence that it interferes with or reduces quality of social, academic, or occupational functioning

ADHD – A rule out disorder?

- Just because a child/ adult meets all the criteria does not mean he or she should get the diagnosis
- The person meets the diagnosis after an entire series of other possible explanations have been ruled out first
- A long list of medical and mental health possibilities can lead to inattentive, impulsive, hyperactive presentations:

Psychotic disorders, mood disorders, anxiety disorders, dissociative disorders, personality disorders, substance intoxication are those listed in the DSM 5. Others that should be considered include trauma, food allergies, head injuries, thyroid problems, and lead poisoning.

Improper diagnosis can lead to treatment with stimulants, which are contraindicated for many of these disorders.

http://newideas.net/adhd/diagnosis/what-to-rule-out-first

Changes From DSM-IV-TR to DSM 5

- Examples are given to understand the disorder developmentally
- The across settings requirement has been strengthened to several symptoms in each setting
- The onset criteria is changed from 7 to several symptoms before 12
- Subtypes have been replaced with specifiers
- A symptom threshold has been made for adults

APA, 2013

Attention-Deficit/ Hyperactivity Disorder

Treatment methods

- Medications
- Behavior therapy
- Parent guidance/ Family therapy

Parent Training

- Parent psychoeducation CHADD parent fact sheets
- Give your child more immediate feedback and consequences
- Frequent positive feedback (5-1 ratio)
- Incentives more than punishment
- Time minding and bridging Time Tools
- Externalize problem solving
- Consistency
- Act, don't yak
- Plan ahead for problem settings

Barkley, R. (2013). Taking charge of ADHD: The complete, authoritative guide for parents, third edition (Rev. ed.). New York: Guilford Press.

Behavior Program (2 to 10)

1. Special play time (20 minutes)
2. Use attention strategy to gain compliance
3. Give effective commands
4. Teach child not to interrupt your activities
5. Set up home token systems (chips or points)
6. Constructive discipline
   1. Fine in token system
   2. Time out

Barkley, R. (2013). Taking charge of ADHD: The complete, authoritative guide for parents, third edition (Rev. ed.). New York: Guilford Press.

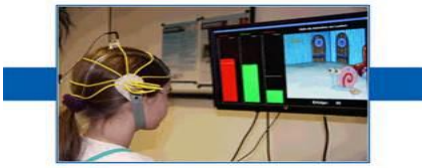
ADHD

- Consumers are often oversold on claims that are not scientifically based
- Neurofeedback programs are particularly promising for ADHD in regards to attentional and behavioral control
- Cogmed has been used to repeatedly demonstrate improvements in working memory in both children and adults with ADHD (5 days a week, 5-6 weeks)
- Most outcomes for cognitive training programs are not as promising

(Rabipour & Raz, 2012; Rapport et al, 2013)

Neurofeedback

- Neurofeedback



Cultural Considerations

- Clinical identification rates in the United States for African American and Latino populations tend to be lower than Caucasian populations (APA, 2014)
- Latino populations tend be polychronic (doing many things in one unit of time) – there is concern that this may increase raters outside this culture to see this behavior at inattention or inability to sustain attention
- One should be aware that Asian American may nod and smile as a sign of respect. This may be misinterpreted as endorsing a symptom.

Starr, H. (2007). The impact of culture on ADHD. *Contemporary Pediatrics*, *24*(12), 38-38-40, 42, 45-6 passim.

Attention-Deficit/ Hyperactivity Disorder

True or false?

Research suggests that some children with ADHD go on to have ADHD or other psychological problems later in life.

Video

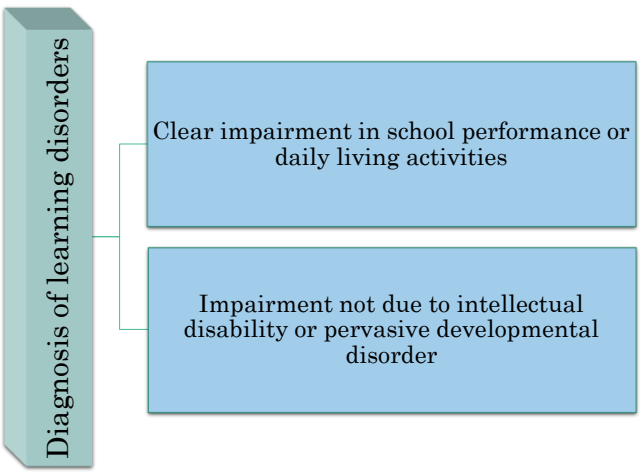
- What symptoms/signs do you notice in this video?
- How do you think his symptoms may be impairing – academically/socially?

Learning Disorders

Prevalence 5-15% of school-age children

Higher in males

Learning Disorders



Key Criteria

- Problems with reading, writing, or math.
- Standardized tests reveal scores markedly less than expected for age (school records can be used for someone older than 17).
- Starts in early school years, although full manifestation may come when demands exceed abilities.

Clues to Dyslexia

Early

Preschool
- Trouble learning nursery rhymes
- Mispronounced words
- Persistent "baby talk"
- Difficulty learning/remembering names of letters

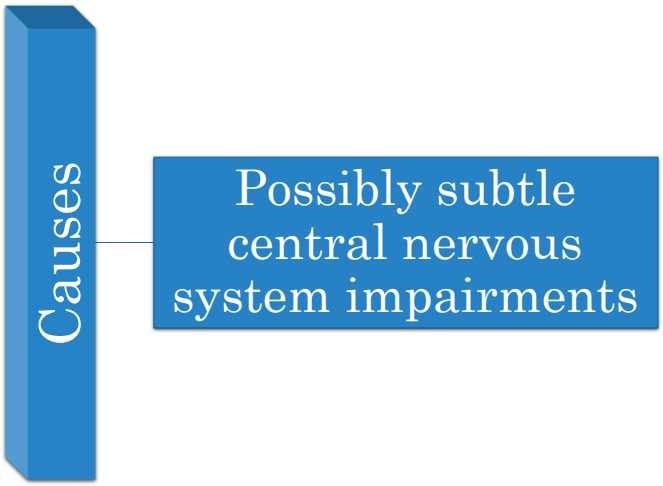
Kindergarten
- Failure to understand words come apart
- Inability to associate the letter symbols with sounds
- Errors with no connection to the presented word (the word small is read as boat)
- Strong avoidance of reading

Second grade on

- Mispronouncing long words or confusing the order (aluminum becomes amulium)
- Speech is not fluent
- Imprecise langauge
- Confusing words that sound alike
- Difficulty remembering verbal information
- Lack of strategies to read new words
- Inability to read small functional words like "a, an" or replacing them
- Omitting parts of words (pieces not decoded)
- Slow to complete academic work (homework is a chore)
- Spelling difficulties
- Messy hand writing

Shaywitz, S. (2003). Overcoming dyslexia: A new and complete science-based program for reading problems at any level. New York: A.A. Knopf :.

Causal Factors in Learning Disorders



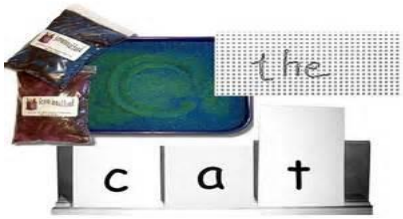
Treatments and Outcomes

True or false?

Because we do not yet have a confident grasp of what is wrong with the average LD child, we have limited success in treating these children.

Treatment

- IEP's
- Accommodations
- Orton Gillingham



Intellectual Disability

(Intellectual Developmental Disorder)\

Prevalence 1%

Intellectual Disability

- Characterized by deficits in general mental abilities, such as reasoning, problem solving, planning, abstract thinking, judgment, academic learning, and learning from experience (APA 2013, p. 31).

Changes From DSM-IV-TR to DSM 5

- Term change from mental retardation to intellectual disability
- Severity is now determined by functioning rather than IQ

Key Criteria

- During the developmental years
- Deficits general (broad) intellectual functioning
  - IQ tests or similar assessments will still be used in the individual's assessment
  - Approximately two standard deviation below the mean (IQ of about 70 or below)
- Deficits in adaptive functioning – at least one domain
  - Three domains considered (conceptual, social, and practical)
  - This will also generally be assessed by standardized tests (Woodcock-Johnson Scales of Independent Behavior, Vineland, The Diagnostic Adaptive Behavior Scale)
- If standardized testing is difficult or impossible, the individual may be diagnosed with unspecified intellectual disability

APA, 2013

How Would you Determine Severity

Causal Factors in Intellectual Disability

Some biological factors:

- Genetic-chromosomal factors
- Infections and toxic agents
- Trauma
- Ionizing radiation
- Malnutrition and other biological factors

Cultural Considerations

- Intellectual disability occurs across cultures.
- Cultural sensitivity and knowledge is critical in assessment
  - IQ tests can not be applied universally
  - Adaption is defined differently within each cultural context

Autism Spectrum Disorder

Prevalence

- 5 times more common in boys than girls (CDC, 2012)
- 1 in 88 children have been identified with an autism spectrum disorder (CDC, 2012)
- The rates of autism has increased 78% from 2002 (NIMH, 2012)

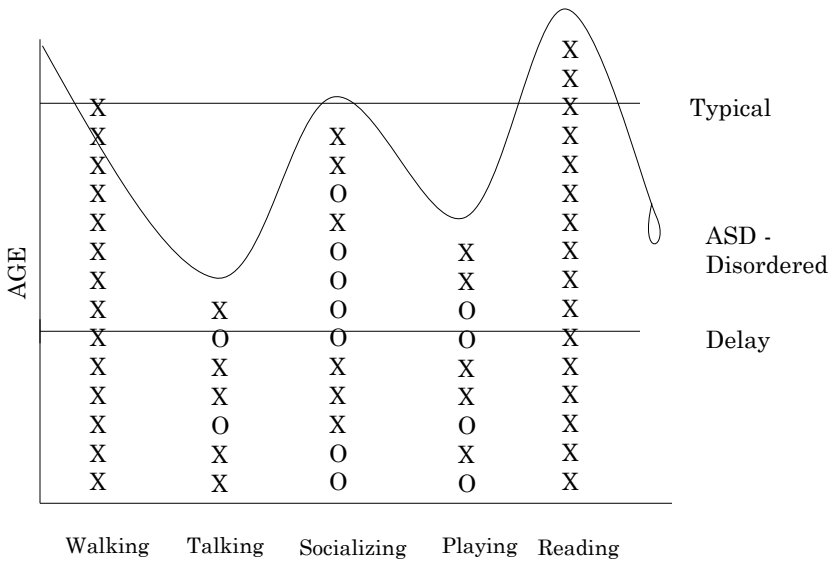
Autism Spectrum Disorder

Autism Spectrum Disorder

- Wide range of problematic behaviors
  - Social deficit
  - Absence of speech
  - Self-stimulation
  - Impaired intellectual ability
  - Preoccupation with maintaining sameness

Development

- Typical
- Delayed
- Disordered



Fraser presentation King, B. (2011)

Key Criteria

- Persistent deficits in social communication and social interaction across multiple contexts, (3 out of 3)
- Restricted, repetitive patterns of behavior, interests, or activities (2 out of 4)
- Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies later in life)
- Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning
- Not better explained by intellectual disability or global developmental delay.

Two Cases

- First video-

Xavier demonstrates deficits in his "social-emotional reciprocity" as described in the DSM-5. Even in this short clip, several examples of this are seen. What is meant by this deficit?

- Second video

Note the social and communication difficulties that David discusses.

Differentials

- Social anxiety
  - Fear vs. limited social skills or a lack of interest in social situations
  - Usually has later onset
  - Exposure treatment generally effective for social anxiety
- Selective mutism
  - Typical speech and social skills in select environments
- Stereotypic movement disorder
  - No impairment in social skills or language
- Language disorder
  - No qualitative impairment in social interaction and range of interests not restricted
  - May actually have advanced nonverbal skills
- Schizoid Personality Disorder
  - Later onset
  - Doesn't have--stims, special interests, odd speech, atypical nonverbal communication
  - Takes pleasure in few, if any, activities

Changes From DSM IV TR to DSM 5

DSM IV TR - Pervasive Developmental Disorders

- Autism
- Asperger's Disorder
- PDD-NOS
- Childhood Disintegrative Disorder
- Rett's Disorder

DSM 5 – Autism Spectrum Disorder

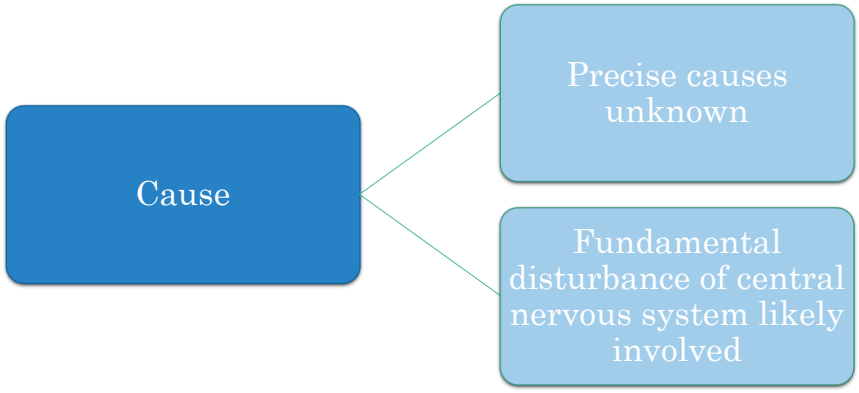
- Autism Spectrum Disorder
- Three domains to two, combining social and communication
- Severity indicted by level of support

Will People be Left Behind with the New Criteria?

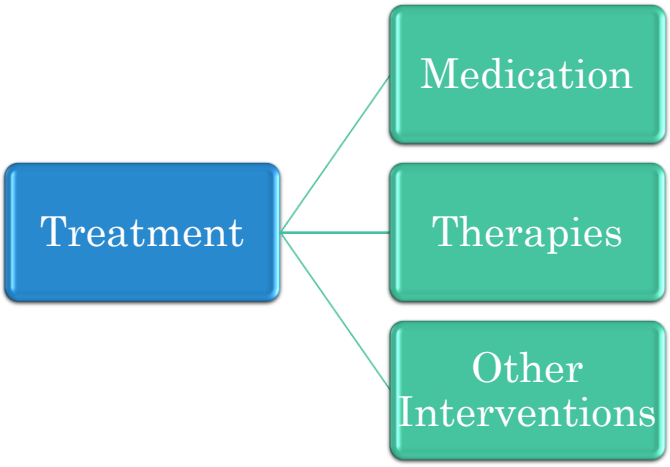
- Recent research is indicating that some people who would fall under pervasive developmental disorders in the DSM IV will no longer fit under Autism Spectrum Disorder (ASD)
- About 40-45 percent of folks in recent studies will not no longer meet ASD criteria
- Most of these were previously diagnosed with Asperger's Syndrome or PDD-NOS
- Implications: The composition of Autism Spectrum Disorder will likely change & this will likely have significant public health ramifications.

McPartland, J.C., Reichow, B., & Volkmar, F.R. (2012). Sensitivity and Specificity of the proposed DSM-5 diagnostic criteria for autism spectrum disorder. Journal of the American Association of Child and Adolescent Psychiatry, 51, 368–383.

Autism Spectrum Disorder



Autism Spectrum Disorder



Medications (AAP, 2011)

- Little evidence of benefit for most medications used to treat Autism
- Medication that focus on behavior have the strongest support for use
- Risperidone and Aripiprazole have randomized controlled studies to support there use with challenging behavior and repetitive behavior

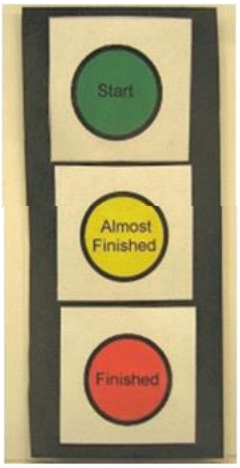
Therapies

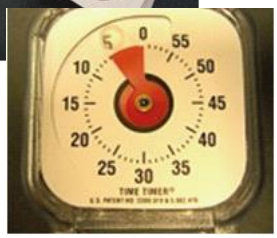
- Behavior therapy (ABA)
- Social Stories
- Social skills groups
- Individual therapy

ABA

- Well established treatment for autism
- Outcomes best when treatment started before age 5
- Often 25-40 hours a week
- Breaks down skills into manageable steps to be taught from simplest (imitating a sound) to most complex (carrying on a conversation)
- Rewarded frequently
- ABA example

Stoplight / Countdown Board/ Pulley/ Timer





HANDS in Autism. Toolkit for Medical Professionals: Tips and Supports for Working with Individuals with Autism Spectrum Disorders, Indianapolis, IN: Christian Sarkine Autism Treatment Center, Riley Child & Adolescent Psychiatry Clinic, Indiana University School of Medicine - Department of Psychiatry; 2008.

First-Then Board

Social Skills Groups

- Check-in, greet
- Review last meeting's skill
- Introduce new skill
- Model and role play new skill
- Activity that allows real-life practice of new skill
- Summary

Social Story

Video Monitoring

- Video version of a social story
- The child watches a video of peer or self doing a desired behavior
- A variety of videos available at http://www.spectrumkeys.com/
- Sharing

Other interventions

- Speech therapy
- Occupational therapy
- Feeding therapy
- Physical therapy

Strategies for Practice?

- Use concrete or visual language and visual cues
- Manage environment for sensory sensitivities
- Limit transitions
- Create predictable appointments
- Limit idioms, abstract language, and slang
- If the child/adolescent is perseverating on a topic, use "If…then" to redirect.
- De-escalation – give time and space, if discussion necessary use a low/slow voice

Cultural Considerations

- Marked impairment in his or her cultural context
- Higher proportions of males, similar in most neurodevelopmental disorders
- In the United States late diagnosis and under-diagnosis occurs in African American populations
- Recent concerns about high rates of Autism diagnoses in Somali refugees in MN.

APA, 2013, "Minnesota studies surge in child autism rates in Somali refugees." *Mental Health Weekly* 23 Mar. 2009: 8. *Expanded Academic ASAP*. Web. 11 May 2014.

Case Study

Case Study

1. Read though once before you do anything.
2. Second time reading may want to underline or take notes of anything that may be a symptom.
3. Open DSM5 and go to category or categories that seem(s) the most likely.
4. Put the criteria numbers/letters next to what you underlined or noted.
5. Go back and consider the other relevant (i.e. age, duration, functioning, other disorders to consider, etc.).
6. Consider specifiers and severity
7. Verify that you have explained all the symptoms with the working disorder(s)

Communication Disorders

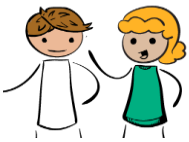
Changes From DSM-IV-TR to DSM 5

DSM IV TR		DSM 5
• Expressive and Mixed Receptive-Expressive Language Disorders	→	• Language Disorders
• Phonological Disorder	→	• Speech Sound Disorder
• Stuttering	→	• Childhood Onset Fluency Disorder
• Some PDD-NOS	→ ?	• Social (pragmatic) Communication Disorder

Social (pragmatic) Communication Disorder

- New to the DSM
- May cover some of the people who no longer fit in Autism Spectrum Disorder
- Key Criteria
  - Difficulty using language for social reasons, adapting communication to fit the context (e.g. adults vs children), following the rules of conversation (e.g. taking turns, using nonverbal, etc.), and understanding implied communication (e.g. metaphors, idioms, & humor)
- Usually occurs before by age 4-5
- Must show impairment

Clinical Implications



- First described in 1983 as a constellation of symptoms: comprehension deficits for connected speech, word finding difficulties, atypical word choices, unimpaired phonology and syntax, inadequate conversation skills, speaking aloud to noone in particular, poor topic maintenance, and answering without hitting the point of a question.
- Diagnosing is challenged by lack of well-validated and reliable assessment measures.
- Diagnosis is also challenging because of continuities between SPCD and other neurodevelopmental disorders.
- Children receiving this diagnosis may not receive the services they need.
- The Children's Communication Checklist is probably the most widely used instrument for pragmatic communication, but it also includes to scales more specific to ASD (social impairment and restricted interests)
- The Social Communication Intervention Project (http://www.psych-sci.manchester.ac.uk/scip/)

Norbury, C. F. (2014). Practitioner Review: Social (pragmatic) communication disorder conceptualization, evidence and clinical implications. *Journal of Child Psychology and Psychiatry 55*(3), pp.204-216

Motor Disorders

Developmental Coordination Disorder, Stereotypic Movement Disorder, & Tic Disorders

Prevalence: Developmental Coordination Disorder about 6% of children 5-10, Stereotypic Movement Disorder about 3% if considered complex, Tics 10% of boys, 5% of girls, Tourettes about 1% of young people,

Developmental Coordination Disorder & Stereotypic Movement

Developmental Coordination Disorder

- Dyspraxia – difficulty in performing skilled movements
- Coordination below what is expected
- General awkwardness
- Problems with balance
- Delayed motor milestones

Stereotypic Movement

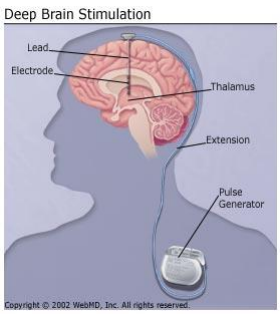
- You can not find another physical or mental cause for the clients repeated movements, such as head banging, swaying, biting, or hand flapping

Tics / Tourettes

- Persistent, intermittent muscle twitches or spasms, usually limited to a localized muscle group
  - Motor tics: classical involve upper part of the face (grimaces and twitching around the eyes), can include abdominal tensing, jerking of shoulders head, shoulders, and other extremities
  - Vocal Tics: barks, coughs, throat clearing, sniffs, and single syllables
  - Only motor or vocal
- Tourette's disorder - Extreme tic disorder involving multiple motor and vocal patterns
  - Tourette Syndrome Awareness Month (May 15- June 15)
  - To be diagnosed both vocal (1+) and motor (2+) must be present
  - Coprolalia – (10-30%): utter obscenities and other language
- Both must occur before the age of 18
- If the symptoms of either disorder are less than a year, it is a Provisional Tic Disorder (keep in mind it still counts as a year even if the tics have waxed and waned)

Treatments

- Medications
- Deep Brain Stimulation



- Comprehensive Behavioral Intervention for Tics (CBIT) – Video

CBIT Video

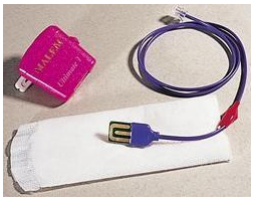
- Analyzed tic and catching
- Competing response

Elimination Disorders

Enuresis, Encopresis, & Other Elimination Disorders

Enuresis

- Without a known physiological/medical cause, repeatedly voiding of urine into bed or clothing
- May be involuntary or voluntary
- At the age of 5 or later
- Primary – never been dry, secondary after a period of established continence
- Strong genetic ties – about 75% have a first degree relative with a history
- Most diurnal issues are resolved by age 9, children with diurnal enuresis become continent by adolescence
- Treatment: fluid restriction, mid-sleep toilet use, bell and pad



Encopresis

- Repeated passing of feces in inappropriate places
- Not due to a medical condition
- Commonly associated to constipation with leaking of feces, may be related to anxiety or attempt for power
- If the child is not constipated it may be related to stress, family psychopathology, or abuse
- Usually the treatment involves fiber, dietary change, and treatment of any comorbid concerns

Comorbidity

- 33% have an ICD-10 diagnosis (Zink et al 2008)
- One study found secondary elimination disorders have comorbidity in up to 75% of cases and require more attention to psychological issues (von Gontard 1999)
- Children with daytime wetting have more psychological problems (Joinson et al, 2006)
- Most common specific co-morbid disorder is ADHD - 9.6% enuretic children had ADHD symptoms compared to 3.4% non-wetting children (von Gontard, 2008)
- The longer a child has incontinence problems, the greater the chance for developing a comorbid psychological disorder(Fergusson 1994)