A WALK THROUGH THE DSM 5: MOTOR DISORDERS

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Disclosures

• Dr. Hill has a contract with IHS for neuropsychological assessment of children through her private practice.

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Overview of Neurodevelopmental Series

• **Session 1:** Intellectual Disabilities

• **Session 2:** Communication Disorders

• **Session 3:** ADHD/Externalizing Disorders

• **Session 4:** Specific Learning Disorders

• **Session 5:** Motor Disorders

• **Session 6:** Special Topics: Neurodevelopmental Disorders & Trauma
Session 5: Motor Disorders

Goals/Objectives

• Assess children with motor disorders, while considering differential and co-morbid diagnoses.

• Assist families with resources and intervention strategies to cope with motor disorders.

• Examine the impact on culture/language/race in identifying and treating individuals with motor disorders.
DSM V Motor Disorders

• Developmental Coordination Disorder
• Stereotypic Movement Disorder
• Tic Disorders
  • Tourette’s Disorder
  • Persistent Motor or Vocal Tic Disorder
  • Provisional Tic Disorder
Motor Disorders:
Differences DSM-IV and DSM-5

• Criteria for motor disorders are largely unchanged. *DSM-5* criteria for Tourette’s syndrome and chronic motor or vocal tic disorder state that tics may “wax and wane in frequency but have persisted for more than a year.” *DSM-IV* criteria had stated that “tics occur many times a day nearly every day.”
Developmental Coordination Disorder: Diagnostic Criteria

• Acquisition & execution of coordinated motor skills is substantially below expectations (fine & gross motor delays/impairments)

• Motor deficits significantly impact functioning

• Onset during developmental period

• Not better explained by ID, visual impairment, or neurological condition
Developmental Coordination Disorder: Demographics

- Prevalence: 5-6% of children between ages 5-11 years; more common in boys than girls (between 2:1 and 7:1)
- Occurs across cultures, races, SES
- Risk Factors:
  - Environmental
  - Genetic/Physiological
Developmental Coordination Disorder: Differential/Comorbid Diagnosis

• Differential Diagnosis
  • Motor impairments due to another condition
  • Intellectual Disability (ID)
  • Attention-Deficit/Hyperactivity Disorder Autism Spectrum Disorder
  • Joint Hypermobility Syndrome

Comorbid Diagnoses
  • Speech/Language Disorders
  • Specific Learning Disorders
  • Attention Disorders (ADHD)
  • Autism Spectrum Disorder
Developmental Coordination Disorder: Screening/Evaluation

• Screening
  • The Developmental Coordination Disorder Questionnaire 2007

• Evaluation
  • Occupational therapist
  • Physical therapist
  • Measures
Developmental Coordination Disorder: Interventions

• Home-Based Interventions

• School-Based Interventions
  • Classroom
  • PE classes

• Clinic-Based Interventions
  • Empirically-Validated Interventions

• Functional consequences: academic impairments, reduced sports/music participation, poor self-esteem, obesity
Stereotypic Movement Disorder: Diagnostic Criteria

• Repetitive, seemingly driven and apparently purposeless motor behaviors

• Repetitive motor behaviors interferes with social, academic, or other activities, may result in self-injury

• Onset in early developmental period

• Not attributable to physiological effects of substance or neurologic condition or better explained by another neurodevelopmental disorder or mental condition
VIDEO

• https://www.youtube.com/watch?v=nvkCpOBtn2M
Stereotypic Movement Disorder: Demographics

• Simple stereotypic movements common in young, typically developing children

• Complex stereotypic movements between 3%-4%

• Between 4%-16% of individuals with ID engage in stereotypy and self-injury
Stereotypic Movement Disorder: Etiology/Risk Factors

• Environmental
  • Social isolation
  • Environmental stress

• Genetic/Physiological
  • Lower cognitive functioning
  • Neurogenetic syndromes
  • Painful medical conditions
Stereotypic Movement Disorder: Differential & Co-Morbid Diagnosis

- Normal development
- Autism Spectrum Disorder
- Tic Disorders
- Obsessive-Compulsive Disorder
- Neurological/Medical Conditions

- Co-Morbid Diagnosis
  - Primary versus Secondary
Stereotypic Movement Disorder: Evaluation & Interventions

• Evaluation

• Behavioral Interventions
  • Differential Reinforcement of Other Behaviors (DRO)
  • Functional Communication Training

• Medications
  • Antidepressants
  • Atypical Antipsychotics
DSM V Tic Disorders

• Tourette’s Disorder
• Persistent (Chronic) Motor or Vocal Tic Disorder
• Provisional Tic Disorder
• Other Specified Tic Disorder
• Unspecified Tic Disorder
Tourette’s Disorder:
Diagnostic Criteria

• Both multiple motor and one or more vocal tics have been present at some time during the illness, although not necessarily concurrently.

• The tics may wax and wane in frequency but have persisted for more than 1 year since first tic onset.
Tourette’s Disorder: Diagnostic Criteria

• Onset is before age 18 years.

• The disturbance is not attributable to the physiological effects of a substance (e.g., cocaine) or another medical condition (e.g., Huntington’s disease, postviral encephalitis).
Tourette’s Syndrome

• [https://www.youtube.com/watch?v=XjglfoSlFqQ&feature=youtu.be](https://www.youtube.com/watch?v=XjglfoSlFqQ&feature=youtu.be)
Tourette’s Disorder: Prevalence

• 3 to 8 per 1,000 in school-age children

• Male to Female ratio 2:1 to 4:1

• 3 per 1,000 prevalence

• Frequency lower among AA and HA
Tourette’s Disorder: Etiology

• Although the cause of TS is unknown, current research points to abnormalities in certain brain regions (including the basal ganglia, frontal lobes, and cortex), the circuits that interconnect these regions, and the neurotransmitters (dopamine, serotonin, and norepinephrine) responsible for communication among nerve cells.

• Probable Genetic/complex inheritance
Tourette’s Disorder: Risk and Prognostic Factors

• Temperament

• Environmental

• Genetic and physiological
Tourette’s Disorder: Comorbidity

- Attention/Deficit/Hyperactivity Disorder (ADHD)
- Obsessive-Compulsive Disorder (OCD)
- Anxiety Disorders
- MDE
Tourette’s Disorder: Differential Diagnosis

• Abnormal movements that may accompany other medical conditions and stereotypic movement disorder.
• Substance-induced and paroxysmal dyskinesias.
• Myoclonus
• Obsessive-compulsive and related disorders.
Tourette’s Disorder: Course

• The first symptoms usually occur in the head and neck area and may progress to include muscles of the trunk and extremities.

• Most patients experience peak tic severity before the mid-teen years with improvement for the majority of patients in the late teen years and early adulthood.
Tourette’s Disorder: Course

- As children get older, they begin to report their tics being associated with a premonitory urge—a somatic sensation that precedes the tic—and a feeling of tension reduction following the expression of the tic.

- Tics associated with a premonitory urge may be experienced as not completely "involuntary" in that the urge and the tic can be resisted.
Tourette’s Disorder: Screening/Diagnosis

• Verify that the patient has had both motor and vocal tics for at least 1 year.

• The existence of other neurological or psychiatric conditions can also help doctors arrive at a diagnosis.
Tourette’s Disorder: Treatment

- Neuroleptics, a number are available but some are more effective than others (for example, haloperidol and pimozide)
- Alpha 2 agonists
- Cognitive Behavioral Intervention for Tics
Persistent (Chronic) Motor or Vocal Tic Disorder: Diagnostic Criteria

- Single or multiple motor or vocal tics have been present during the illness, but not both motor and vocal.
- 1 year, before 18 year old
- Criteria have never been met for Tourette’s disorder.
- Specify if:
  - With motor tics only
  - With vocal tics only
Provisional Tic Disorder: Diagnostic Criteria

• Single or multiple motor and/or vocal tics.
• The tics have been present for less than 1 year since first tic onset.
• Before age 18 years.
• Criteria have never been met for Tourette’s disorder or persistent (chronic) motor or vocal tic disorder.
Cultural Considerations for Diagnosis, Intervention, & Health Information Exchange

• Race, ethnicity, and culture may impact how tic disorders are perceived and managed in the family and community, as well as influencing patterns of help seeking, and choices of treatment.

• Role of Healthcare Providers