



# NOTES

## NEURODEVELOPMENTAL DISORDERS

### GENERALLY, WHAT ARE THEY?

#### **PATHOLOGY & CAUSES**

- Mental disorders causing difficulties in everyday activities/skills (e.g. communication, learning), occurring over an extended period, beginning during development
- Often causes social isolation/anxiety → depression

#### **CAUSES**

- Genetic, environmental

#### **COMPLICATIONS**

- Reduced success in various areas of life (esp. social, academic)

#### **SIGNS & SYMPTOMS**

- See individual disorders

#### **DIAGNOSIS**

- See individual disorders

#### **TREATMENT**

- Not curative
- See individual disorders

## ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

[osms.it/ADHD](https://osms.it/ADHD)

#### **PATHOLOGY & CAUSES**

- Developmental disorder characterized by inattentiveness/hyperactivity/impulsiveness, lasting for > six months

#### **TYPES**

- Inattentive, hyperactive/impulsive, or both

#### **CAUSES**

- Genetic, environmental
- Associated with neurotransmitter activity (low amounts of dopamine/norepinephrine)

#### **COMPLICATIONS**

- Reduced success in various areas of life (esp. social, academic)

## SIGNS & SYMPTOMS

- Inattentiveness (careless mistakes, not listening, easily distracted)
- Hyperactivity/impulsiveness (restlessness)
- Developmental delay (e.g. in linguistic/ social/ motor skills)

## DIAGNOSIS

- For inattentive diagnosis,  $\geq$  six of following ( $\geq$  five if age  $> 16$ )
  - Makes careless mistakes/overlooks details
  - Struggles to stay focused
  - Doesn't appear to listen
  - Doesn't follow instructions
  - Has poor organizational skills
  - Avoids mentally-engaging tasks
  - Often loses things
  - Is easily distracted
  - Is forgetful
- For a hyperactive/impulsive diagnosis,  $\geq$  six of following ( $\geq$  five if age  $> 16$ )
  - Often fidgets

- Struggles to stay seated
- Restless
- Struggles to keep quiet
- Likes to keep moving
- Talks before others have finished
- Doesn't like waiting
- Interrupts/bothers others

- Symptoms for either category must
  - Persist  $>$  six months
  - Present  $<$  12 years old
  - Present in multiple settings
  - Affect day-to-day functioning
  - Not caused by other condition

## TREATMENT

### MEDICATIONS

- **Stimulants** to slowly release neurotransmitter (e.g. amphetamines = Adderall/ methylphenidate = Ritalin)

### PSYCHOTHERAPY

- **Behavioral therapy** focused on decreasing distractions/improving time management, organizational skills

# AUTISM SPECTRUM DISORDER (ASD)

[osms.it/autism](https://osms.it/autism)

## PATHOLOGY & CAUSES

- Developmental disorder characterized by difficulties with **social interaction/ communication** as well as **restricted/ repetitive behaviors**, interests, activities
- Encompasses autism, Asperger syndrome, childhood disintegrative disorder, and PDD-NOS (pervasive developmental disorder not otherwise specified)

## CAUSES

- Genetic, environmental

## COMPLICATIONS

- Reduced success in various areas of life (esp. social, academic)

## SIGNS & SYMPTOMS

- Difficulties with social interaction, communication (doesn't understand others' emotions/respond to them, struggles to make friends)
- Restricted/repetitive nature regarding particular behaviors/interests/activities

## DIAGNOSIS

- Struggles with social interaction/communication
  - Poor emotional reciprocity (doesn't respond to/communicate emotions, thoughts)
  - Poor non-verbal communication (especially poor understanding thereof)
  - Impaired joint attention (doesn't share interests with others)
  - Difficulty in developing/maintaining relationships

- Restricted/repetitive behaviors, interests, or activities, with  $\geq$  two of following
  - Repetition of particular movements/phrases
  - Specific routines/rituals, resistant to change
  - Restricted interests (e.g. highly specific knowledge in a subject)
  - Highly sensitive to/interested in surroundings
- Symptoms must have been present in development, and affect day-to-day functioning
- Not caused by other condition

## TREATMENT

### PSYCHOTHERAPY

- Educational programs, behavioral therapy tailored to individual

# DISRUPTIVE, IMPULSE CONTROL, AND CONDUCT DISORDERS

[osms.it/conduct-disorder](https://osms.it/conduct-disorder)

## PATHOLOGY & CAUSES

- Mental disorders characterized by **impulsive behaviors** or a general lack of self-control
- No underlying motives for resulting behaviors
- Tend to start in childhood and persist into adulthood
- Includes
  - Conduct disorders
  - Intermittent explosive disorder
  - Oppositional defiant disorder
  - Pyromania
  - Kleptomania

## CAUSES

- Generally unknown (genetic + environmental); tend to run in families



### MNEMONIC

**C**onduct disorders are seen in **C**hildren

**A**ntisocial personality disorder is seen in **A**dults

## SIGNS & SYMPTOMS

- Persistent, aggressive or harmful behaviors
  - May involve aggression or harm towards other individuals or animals
  - May involve damage to or stealing physical property

## TREATMENT

### PSYCHOTHERAPY

- Focused on therapy, not medications
- Cognitive behavioral therapy, social skills training, anger management, parent management training

## DIAGNOSIS

- Multiple impulsive behaviors observed over an extended period of time

## IMPULSE CONTROL & CONDUCT DISORDERS

	SIGNS & SYMPTOMS	DIAGNOSIS
ATTENTION DEFICIT DISORDER	Inattentiveness, hyperactivity, restlessness, impulsive Social/motor/linguistic developmental delay	Present > 6 months, multiple settings, distresses daily life
OPPOSITIONAL DEFIANT DISORDER	Willful defiance	Present > 6 months; distresses daily life
CONDUCT DISORDER	Willful aggression	Present 12 months (continuous) in individuals < 18 years old; distresses daily life
INTERMITTENT EXPLOSIVE DISORDER	Repeated self-control loss (may involve aggression), otherwise normal daily temperament Feels post-outbreak guilt/remorse	6 years/older, unprovoked, distresses daily life

# LEARNING DISABILITY

[osms.it/learning-disability](https://osms.it/learning-disability)

## **PATHOLOGY & CAUSES**

- Difficulty with learning/developing certain skills

### **TYPES**

- **Dyslexia**: difficulty reading
- **Dysgraphia**: difficulty writing
- **Dyscalculia**: difficulty with mathematics

### **CAUSES**

- Genetic, environmental
- Not due to lack of intelligence/desire to learn/education

### **COMPLICATIONS**

- Reduced success in various areas of life (esp. academic)

## **SIGNS & SYMPTOMS**

- Difficulty with learning/developing certain skills
  - **Dyslexia**: slow, effortful reading/poor understanding
  - **Dysgraphia**: poor spelling, grammar, handwriting
  - **Dyscalculia**: poor arithmetic
- Often comorbid with anxiety, depression

## **DIAGNOSIS**

- $\geq$  one of following for at  $\geq$  six months
  - Poor reading skills
  - Poor reading comprehension
  - Difficulties with spelling
  - Other difficulties with written language
  - Trouble with mathematics
  - Trouble with mathematical reasoning
- Academic skills significantly lower than what would otherwise be expected, as confirmed by testing
  - Learning difficulties must begin during school years but may not be problematic until later
- Not caused by other condition/environmental factor

## **TREATMENT**

### **OTHER INTERVENTIONS**

- Modified approaches to **education** (e.g. one on one tutoring)
- Specific **techniques/workarounds** dependent on symptoms (e.g. using specific fonts to alleviate dyslexia)

# TOURETTE SYNDROME

[osms.it/tourette-syndrome](https://osms.it/tourette-syndrome)

## PATHOLOGY & CAUSES

- Developmental disorder characterized by tics (rapid, repeated, involuntary, often inappropriate movements/vocalizations)
  - **Simple:** short, involving particular body part
  - **Complex:** comprised of multiple simultaneous tics

## TYPES

- **Motor tics:** repeating movements of others (echopraxia), making obscene gestures (copropraxia)
- **Vocal tics:** repeating same words/phrases (echolalia, palilalia), blurting out inappropriate language (coprolalia)

## CAUSES

- Genetic, environmental

## COMPLICATIONS

- Often comorbid with anxiety, depression

## SIGNS & SYMPTOMS

- Simple/complex tics of either/both types

## DIAGNOSIS

- $\geq$  two motor tics,  $\geq$  one vocal tic
- Must last  $\geq$  one year from first tic
- Must start  $<$  18 years old
- Not caused by other condition/substance

## TREATMENT

### MEDICATIONS

- Antipsychotics/epilepsy medications (only in severe cases)
- Botox injections may decrease appearance of facial tics

### PSYCHOTHERAPY

- Cognitive behavioral therapy
- Habit reversal training