NEURODEVELOPMENTAL DISORDERS

Intellectual Developmental Disorder

IDD

DSM-5-TR 317-318.2 | ICD-10-CM F70-F73, F79

Deficits in intellectual and adaptive functioning with onset in the developmental period; severity is set by adaptive skills, not IQ score.

PREVALENCE	TYPICAL ONSET	SEX RATIO	SEVERITY MIX
~1-2% of the population	Developmental period	~1.5:1 male:female	~85% mild; ~1-2% profound

CLINICAL PICTURE

- Slow attainment of milestones with language delay, late walking, and difficulty with abstract reasoning, planning, and generalization.
- Academic problems appear early in reading, writing, and math, with concrete thinking and heavy reliance on rote learning strategies.
- Adaptive limitations show in money handling, time management, meal preparation, transportation, medication use, and personal care.
- Social vulnerability, gullibility, and difficulty judging intent make exploitation, coercion, and false confession genuine clinical risks.
- Communication and behavior problems frequently express unmet needs, untreated pain, or environmental demands exceeding current capacity.
- Mild forms may go unrecognized until academic or workplace demands rise; profound forms present in infancy with medical comorbidity.

DIAGNOSTIC CRITERIA AT A GLANCE

- Requires deficits in intellectual functions confirmed by clinical assessment and by individually administered standardized intelligence testing.
- Requires adaptive deficits in at least one of the conceptual, social, or practical domains that limit independent daily functioning.
- Onset must occur during the developmental period; loss of previously attained ability instead indicates a neurocognitive disorder.
- Severity as mild, moderate, severe, or profound is graded by adaptive functioning across all three domains, not by the IQ number.
- Global developmental delay is used under age 5 when severity cannot yet be reliably assessed with standardized instruments.

NEUROBIOLOGY & PHYSIOLOGY

- Genetic causes include Down syndrome, fragile X syndrome, 22q11.2 deletion, Prader-Willi, Angelman, and Williams syndrome.
- Chromosomal microarray plus fragile X testing identifies an etiology in roughly 30-40% of cases; exome sequencing raises that yield.
- Prenatal contributors include fetal alcohol spectrum disorders, congenital infections, and untreated maternal phenylketonuria or hypothyroidism.
- Perinatal causes include hypoxic-ischemic injury, extreme prematurity, kernicterus, neonatal hypoglycemia, and intraventricular hemorrhage.
- Postnatal causes include bacterial meningitis, traumatic brain injury, lead exposure, and severe early malnutrition or deprivation.
- Epilepsy, cerebral palsy, sensory impairment, and congenital heart disease cluster with more severe levels of intellectual disability.

PSYCHOLOGICAL MECHANISMS

- Slower processing speed and reduced working memory capacity limit how many steps can be held in mind and executed at one time.
- Weak metacognition and strategy generation mean skills must be taught explicitly and practiced to fluency in real-world settings.
- Poor generalization requires teaching in the actual environment where the skill will be used rather than only in clinic or classroom.
- Outer-directedness, learned helplessness, and expectancy of failure develop after repeated experiences of not succeeding at tasks.
- Diagnostic overshadowing leads clinicians to attribute new psychiatric or medical symptoms to the disability itself and to miss treatable illness.

DIFFERENTIAL & COMORBIDITY

- Rule out uncorrected hearing or vision loss, specific learning disorder, communication disorder, autism, and severe psychosocial deprivation.
- Major neurocognitive disorder involves loss of previously attained abilities rather than never having attained them developmentally.
- Psychiatric disorders occur at three to four times general population rates, including **ADHD**, autism, anxiety, and mood disorders.
- Self-injury, aggression, and pica are more prevalent at severe and profound levels and warrant functional behavioral assessment first.
- Screen for abuse, neglect, and financial exploitation; decisional capacity must be assessed decision by decision, not globally.

Treatment EVIDENCE-BASED MANAGEMENT

PHARMACOLOGIC

- No medication treats the disability itself; treat identified psychiatric comorbidity with standard, diagnosis-specific agents and doses.
- Start low and go slow, since this population shows higher sensitivity to sedation, extrapyramidal effects, and paradoxical activation.
- **Risperidone** and **aripiprazole** reduce severe aggression and self-injury but require metabolic, prolactin, and movement monitoring.
- Avoid long-term antipsychotics used purely for behavior control; document target symptoms, review dose regularly, and attempt tapering.
- Optimize antiseizure regimens and treat constipation, dental pain, reflux, and otitis, which frequently drive apparent behavior change.

PSYCHOTHERAPY

- **Applied behavior analysis** guided by functional behavioral assessment is first line for challenging behavior across all ages.
- **Positive behavior support** reshapes antecedents and environment rather than relying on consequence management alone.
- Adapted **CBT** using simplified language, visuals, and role-play treats anxiety and depression in mild to moderate disability.
- Social skills training and self-determination curricula improve choice making, self-advocacy, and workplace behavior over time.
- Caregiver training and respite reduce parental stress, placement breakdown, and reliance on restrictive interventions.

ADJUNCT & SUPPORTIVE

- **Vineland-3** and **ABAS-3** measure adaptive behavior; **WISC-V**, **WAIS-IV**, or **Stanford-Binet 5** measure intellectual function.
- Early intervention services before age 3 and school-based IEP services from age 3 onward form the core service structure in the US.
- Transition planning beginning by age 16 covers supported employment, guardianship alternatives, and adult waiver service enrollment.
- Annual medical review should address vision, hearing, thyroid, weight, seizures, and syndrome-specific surveillance recommendations.
- Speech-language, occupational, and physical therapy target communication, self-care, and mobility goals across the entire lifespan.

CLINICAL PEARLS

- Severity is graded by adaptive functioning, not by the IQ number.
- New behavior change is medical until proven otherwise; look for pain first.
- Teach the skill where it will be used; generalization does not happen by itself.

References

American Association on Intellectual and Developmental Disabilities. (2021). *Intellectual disability: Definition, diagnosis, classification, and systems of supports* (12th ed.). AAIDD.

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425787

Eunice Kennedy Shriver National Institute of Child Health and Human Development. (n.d.). *Intellectual and developmental disabilities (IDDs)*. U.S. Department of Health and Human Services. https://www.nichd.nih.gov/health/topics/idds

Maulik, P. K., Mascarenhas, M. N., Mathers, C. D., Dua, T., & Saxena, S. (2011). Prevalence of intellectual disability: A meta-analysis of population-based studies. *Research in Developmental Disabilities*, *32*(2), 419-436. https://doi.org/10.1016/j.ridd.2010.12.018

Moeschler, J. B., & Shevell, M. (2014). Comprehensive evaluation of the child with intellectual disability or global developmental delays. *Pediatrics*, *134*(3), e903-e918. https://doi.org/10.1542/peds.2014-1839

National Institute for Health and Care Excellence. (2015). *Challenging behaviour and learning disabilities: Prevention and interventions for people with learning disabilities whose behaviour challenges* (NICE Guideline NG11). https://www.nice.org.uk/guidance/ng11

Sadock, B. J., Sadock, V. A., & Ruiz, P. (2021). *Kaplan & Sadock's synopsis of psychiatry* (12th ed.). Wolters Kluwer.

NOTE

References are formatted in APA 7th edition style with hanging indents. Diagnostic terminology, criteria structure, and coding follow the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed., text rev.; APA, 2022); criteria are paraphrased for instructional use and are not reproduced verbatim. Verify all citations against the original sources before use in academic work, and confirm medication dosing against current prescribing information.