

Developmental Coordination Disorder



FAST FACTS

5–6%

of the population is affected by DCD

5 years

age after which child can be diagnosed with DCD

50%

of children with ADHD have co-occurring DCD

WHEN TO REFER

Refer to Cincinnati Children's Occupational Therapy/Physical Therapy for further evaluation and treatment.

Optional: Have family complete the DCD questionnaire (available free at www.DCDQ.ca) to screen for the functional impact of coordination difficulties.

Developmental coordination disorder (DCD) is a prevalent, widely underdiagnosed condition that starts in childhood and persists into adulthood. Frequently described as “clumsy” or “awkward” by parents and teachers, children with DCD have a history of difficulties mastering simple motor activities, such as tying shoes, handwriting neatly, or riding a bike.

ASSESSMENT

Perform a standard health history and physical exam, with probing questions for developmental history and coordination. Rule out neurologic, musculoskeletal or visual disorders that would otherwise explain coordination deficits. Early diagnosis is key to future success.

Patients must meet ALL of the following DSM-5 criteria for a DCD diagnosis:

- Acquisition and execution of coordinated motor skills are substantially below what is expected for child's age and opportunity to learn these skills
- Motor skill deficiency persistently interferes with activities of daily living (ADLs), schoolwork, vocational activities, leisure and play
- Symptom onset during early developmental period
- Deficits are not attributable to a neurologic condition affecting movement and are not better explained by intellectual disability or visual impairment

HPE (HISTORY AND PHYSICAL EXAM) RED FLAGS

Developmental History

- Difficulties with motor planning and learning new skills
- Gross motor and/or fine motor delay, particularly with tying shoes, riding a bike, handwriting or other ADLs
- Avoidance of or decreased participation in sports/extracurricular activities

Physical Exam

- Appears clumsy, uncoordinated
- Limited body awareness and control
- Decreased fitness, increased body-mass index (BMI)
- Joint laxity/hypermobility

Psychosocial History

- Depression, withdrawal, isolation
- Anxiety, poor self-image, decreased confidence
- Behavioral outbursts, activity refusal

Medical History

- Prematurity, low birth weight (those born <32 weeks gestation are 2x as likely to have DCD)
- Onset of symptoms early in developmental period, unrelated to accident/injury
- Commonly co-occurs with: ADHD, autism spectrum disorder (ASD), learning disabilities, sensory processing difficulties
- Absence of any other neurologic or medical condition that could explain chronic motor coordination problems

MANAGEMENT/TREATMENT

Referral to appropriate specialties will ensure the best outcomes. Occupational Therapy and Physical Therapy intervention can target underlying cognitive and motor deficits associated with DCD and co-occurring conditions to improve task performance and participation in important activities.

If you would like additional copies of this tool, or would like more information, please contact the Physician Outreach and Engagement team at Cincinnati Children's.

If you have questions about a patient with coordination deficits, email OTPT_TRACK_DCD@cchmc.org.

Developmental Coordination Disorder

Inclusion Criteria

Your patient must meet ALL of the following DSM-5 criteria to qualify for a DCD diagnosis:

- A. Given the child's age and opportunity for skill learning and use, acquisition and execution of coordinated motor skills are substantially below what is expected
- B. Deficient motor skills in A significantly and persistently interfere with activities of daily living (ADL) appropriate to age, and affect schoolwork, prevocational and vocational activities, leisure and play
- C. Onset of symptoms is during the early developmental period
- D. Motor skills deficits are not attributable to a neurologic condition affecting movement (such as cerebral palsy, muscular dystrophy or degenerative disorder) and are not better explained as an intellectual disability or visual impairment

Patient Presents

Standard Workup

- Developmental History
- Medical History
- Psychosocial History
- Physical Exam

HPE (HISTORY AND PHYSICAL EXAM) RED FLAGS

Developmental History

- Difficulties with motor planning and learning new skills
- Gross motor and/or fine motor delay, particularly with tying shoes, riding a bike, handwriting or other ADLs
- Avoidance of or decreased participation in sports/extracurricular activities

Medical History

- Prematurity, low birth weight (those born <32 weeks gestation are 2x as likely to have DCD)
- Onset of symptoms early in developmental period, unrelated to accident/injury
- Commonly co-occurs with: ADHD, ASD, learning disabilities, sensory processing difficulties
- Absence of any other neurologic or medical condition that could explain chronic motor coordination problems

Psychosocial History

- Depression, withdrawal, isolation
- Anxiety, poor self-image, decreased confidence
- Behavioral outbursts, activity refusal

Physical History

- Appears clumsy, uncoordinated
- Limited body awareness and control
- Decreased fitness, increased BMI
- Joint laxity/hypermobility

Evaluate for DCD as follows:

- Perform developmental, social, and medical history and physical exam as listed above.
- Have caregivers complete the DCD Questionnaire (available free at www.DCDQ.ca) to screen for the functional impact of coordination difficulties.
- Early diagnosis (age 5 and up) is key and referral to appropriate specialties to address gross and fine motor deficits (PT and OT), co-existing conditions (psychologists, behavior specialists), or rule out other diagnoses if necessary (neurology, genetics, ophthalmologists, etc.) is important for overall care.

Positive DCDQ and history, plus sufficient evidence of motor skill deficits identified by standardized testing from OT/PT

Provide DCD diagnosis and recommend continue follow-up with OT/PT to improve motor skills

Positive DCDQ and history, though unsure if motor skill deficits are present

Refer to OT and/or PT to obtain standardized testing to assess motor skills

Positive DCDQ and evidence of motor skill deficits, but negative DCD history

Refer to specialists to rule out differential diagnoses (neurology, genetics, ophthalmology, etc.)

Positive or negative history with co-existing conditions that are not managed

Refer to appropriate specialists (psychology, behaviorists, etc.) and monitor need for OT/PT to address functional motor difficulties

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link® at 1-888-987-7997.