



# Recognizing and Referring Children with Developmental Coordination Disorder

## The role of the psychologist

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*For your convenience, this flyer for parents can be easily photocopied.*

Children who are experiencing learning difficulties at school are frequently referred for psychoeducational assessment. Through the assessment process, the psychologist may note that motor difficulties are present that may be causing or contributing to the child's performance issues.

Recently, increased attention is being given to the motor difficulties of children who used to be labeled "clumsy" or "physically awkward" and who are now recognized as having Developmental Coordination Disorder (DCD). In the past, these children received little attention because many believed that they would overcome their difficulties with time. We now know that children's motor coordination difficulties affect their ability to participate in everyday activities at home, at school and in the community, and may impact significantly on their physical, social and emotional well-being.

Research has demonstrated that approximately half of the children who have attention and/or learning difficulties also have DCD. There are strong theoretical reasons to believe that the underlying mechanism of these disorders may be shared. It is important for psychologists to recognize the characteristic signs and behaviors of children with DCD in order to enable early identification and appropriate intervention.

Teachers and parents may report (or you may observe) that children look awkward, they squirm around because they have trouble maintaining a stable position, their hands don't seem to work together efficiently or they have trouble holding their pencil. More often, however, you may notice that you are "helping" children with coordination problems more than is necessary for their age. Do you find yourself pushing in the child's chair, stabilizing paper or objects for them, cueing and assisting them to complete what should be a very basic task? Specific tests that children with DCD typically perform poorly on are the Coding subtest of the WISC-IV and the Block Design subtest (manipulation of test materials is required). Tests of written expression (e.g., TOWL, WIAT-II) are also difficult due to the handwriting demands. If a child demonstrates motor abilities below those expected for their age, or exhibits performance that is discrepant from other intellectual abilities or adaptive behaviours, they may have DCD. This flyer will help you recognize children at risk for DCD and determine the need for referral to other service providers for further evaluation.



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## Recognizing Children with Developmental Coordination Disorder (DCD)

Often described by those around them as clumsy, children presenting with the characteristics of DCD may be referred to as “motor delayed.” You may hear from parents or teachers that these children have difficulty learning new motor tasks such as skipping, hopping, or jumping. Printing, copying, cutting and other fine motor tasks usually present challenges. Children with DCD also have difficulty with zippers, snaps, buttons, tying shoelaces, throwing and catching balls, and other tasks that require two hands to work together co-operatively. Motor skills require effort so children with DCD are often slow to complete tasks and may appear inattentive. Children have low tone and have difficulty maintaining a stable position, even in sitting. They may have a slouched posture and fatigue easily, often appearing to lean on the desk or table, walls or furniture. Children with DCD usually begin to withdraw from and avoid physical activities or sports at an early age.

### Definition:

Developmental Coordination Disorder is a “marked impairment in the development of motor coordination...only if this impairment significantly interferes with academic achievement or activities of daily living.” Developmental Coordination Disorder may exist in isolation OR may co-occur with other conditions such as learning disabilities or attention deficit disorder.

### DSM IV-TR Diagnostic Criteria:

- A) Performance in daily activities that require motor coordination is substantially below that expected, given the person’s chronological age and measured intelligence. This may be manifested by marked delays in achieving motor milestones (e.g., walking, crawling, sitting), dropping things, “clumsiness”, poor performance in sports, or poor handwriting.
- B) The disturbance in Criterion A significantly interferes with academic achievement or activities of daily living.
- C) The disturbance is not due to a general medical condition (e.g., cerebral palsy, hemiplegia, or muscular dystrophy) and does not meet criteria for Pervasive Developmental Disorder.
- D) If Mental Retardation is present, the motor difficulties are in excess of those usually associated with it.

*Note: Criteria C and D require the involvement of a family practitioner or developmental pediatrician to rule out other explanations for the clumsiness. In many states and provinces, only a medical doctor or a psychologist is permitted to make this diagnosis.*

(APA Diagnostic and Statistical Manual, 2000; pp. 58)

**Prevalence:** 5-6% of the school-aged population, more common in boys.

**Common comorbidities:** specific language impairment, attention deficit hyperactivity disorder, language-based and non-verbal learning disabilities.

## Suggested Screening Questions:

If you suspect that a child is demonstrating the characteristics of DCD, it is important to ask more specific questions such as:

- Where are the difficulties encountered (home, school, playground, etc.)?
- Is the child having trouble with buttons, using eating utensils or tying shoelaces?
- Are fine motor activities such as printing, cutting, opening juice boxes or completing puzzles difficult for the child?
- Does the child have to exert a lot of effort to complete motor tasks?
- Are sports or active play activities difficult, or avoided by the child?
- Do parents find themselves assisting the child with self-care activities, more than they believe that they should?
- Does the child fatigue more easily than other children?

## A Diagnostic Puzzle:

If you are seeing an inconsistent profile in a child you are assessing, it may be worth considering whether motor impairment is present. Children with DCD may be misdiagnosed as having attention deficit disorder (because they do not attend well to motor-based tasks), Asperger's Syndrome (because they are socially isolated and have few friends), and non-verbal learning disabilities (due to a verbal-performance discrepancy). It is important to remember that DCD may be present along with ADHD or NLD. If a child has Asperger's, this rules out the diagnosis of DCD. It is not uncommon for children to be identified with clinical depression or anxiety disorders, both of which may be a secondary consequence of the daily struggles that these children experience.

If your observations and parental report are consistent with some of the characteristics outlined above, you may consider making a referral to an occupational therapist. It is probable that a child with DCD will experience delays in fine motor and/or self-care skill acquisition that may not have been previously identified. A child with DCD who has gross motor concerns may also be referred to a physiotherapist. You should also consider encouraging the family to be seen by their family physician. It is important that a medical practitioner rule out other conditions that might explain motor in-coordination.

**For more resources, references and information about children with DCD, visit the *CanChild* Centre for Childhood Disability Research website**

**[www.fhs.mcmaster.ca/canchild](http://www.fhs.mcmaster.ca/canchild)**

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## When Your Child is Having Motor or Self-Care Difficulties.....

Some children who have learning difficulties or attention problems also have trouble performing some motor activities. They may have trouble coordinating their movements to run, skip or jump. They may experience frustration at learning to ride a tricycle or to catch a ball. Others may have difficulty managing to eat neatly with a spoon or fork, learning to print or to use scissors, doing up buttons and zippers or learning to tie their shoelaces.

You may have some concerns about your child's ability to perform some or all of these motor activities. Your child has now been seen by a psychologist and he or she thinks that there is a reason for your child to also be seen by an occupational therapist. Occupational therapists work with children who have a variety of movement and coordination problems that impact on their ability to perform well at school, at home and on the playground. Some children who have the types of motor problems described above may have developmental coordination disorder. If your child is struggling with self-care or early academic tasks, he or she will likely benefit from a referral to an occupational therapist.

### **What can an occupational therapist do?**

An occupational therapist will:

- Provide a thorough assessment of your child's developmental skills
- Determine how different aspects of your child's daily life are affected
- Teach your child ways of thinking his/her way through learning new tasks
- Provide adapted equipment and materials to improve task performance
- Help you and your child to set appropriate expectations
- Modify environmental factors to maximize participation
- Guide you in your selection of leisure and sports activities for success
- Help you, your child and others to maximize his/her strengths

### **How do I find an occupational therapist or physical therapist in my area?**

Your child's psychologist can help you find and make a referral to an occupational therapist. It may also be a good idea for your child to be seen by your family physician or pediatrician. Your doctor will be able to assist the occupational therapist in determining the possible reasons for your child's motor difficulties.

*You can find more information about developmental coordination disorder at:*



[www.fhs.mcmaster.ca/canchild](http://www.fhs.mcmaster.ca/canchild)

(905) 525-9140, ext. 27850