



# Recognizing and Referring Children with Developmental Coordination Disorder

## The role of the Optometrist

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Children who present with school-related difficulties that have a visual or visual-motor basis may have a number of things happening. In this flyer, we provide information about school-aged children who have had their vision tested and who do not appear to have significant visual problems. These children may have either a non-verbal learning disability or developmental coordination disorder:

#### Children with Non-Verbal Learning Disabilities (NVLD)

Children with NVLD have difficulty interpreting and using visual information. You may hear that they have trouble understanding non-verbal cues, difficulty finding their way around the school, trouble with tasks requiring background/foreground distinctions, and social problems. These children should be referred to a *psychologist* for further assessment.

#### Children with Developmental Coordination Disorder (DCD)

By far, the largest group of children who you will see with visual-motor problems are children with DCD. Recognized by those around them as being clumsy children or physically awkward, they are often referred to as “fine motor delayed.” These children have difficulty with academic tasks such as printing, copying, handwriting, cutting, and other fine motor tasks that lead to written language, math and spelling problems. Motor skills require effort so children with DCD are often slow to complete tasks at school and may appear inattentive. Less obvious, but equally important to the family, children with DCD usually also have difficulty with zippers, snaps, buttons, tying shoelaces, throwing and catching balls, learning to ride a bicycle, skipping, and other motor activities. Finally, children with DCD usually begin to withdraw from and avoid motor activities at an early age. They often seem verbally advanced but immature socially and may have behavioural or emotional problems. These children should be referred to an *occupational therapist or physiotherapist* for further assessment.



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# Recognizing Children with Developmental Coordination Disorder

## Definition:

Developmental Coordination Disorder is an impairment in the development of motor coordination that significantly interferes with academic achievement and activities of daily living.

Developmental Coordination Disorder may exist in isolation OR may co-occur with other conditions such as verbal or non-verbal learning disabilities or attention deficit disorder.

## Diagnostic Criteria:

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| <p>A) Learning and execution of coordinated motor skills is below expected level for age, given opportunity for skill learning.</p> <p>B) Motor skill difficulties significantly interfere with activities of daily living and impact academic/school productivity, prevocational and vocational activities, leisure and play.</p> <p>C) Onset is in the early developmental period.</p> | <p>D) Motor skill difficulties are not better explained by intellectual delay, visual impairment or other neurological conditions that affect movement.</p> |
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**Note:** Criterion D requires the involvement of a family practitioner or developmental pediatrician to rule out other explanations for the clumsiness. In the province of Ontario, only a medical doctor or a psychologist is permitted to make this diagnosis.

*(American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (DSM-V) (5th ed.). Washington, DC: Author.)*

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

## Characteristic Features of Children with Developmental Coordination Disorder:

- Clumsiness, found across the intellectual spectrum
- Handwriting / printing / copying difficulties
- Difficulty finishing academic tasks on time
- Require extra effort and attention when tasks have a motor component
- Difficulty with activities of daily living (e.g., dressing, feeding, grooming)
- Difficulty with sports and on the playground (last to “get picked” for teams)
- Difficulty learning new motor skills
- Difficulty with, or reduced interest in, physical activities

## Referring Children with Developmental Coordination Disorder

Children with DCD have **motor-based** difficulties that, by definition, impact on academic and self-care activities (see criteria A and B in the DSM V definition of DCD on page 2). It is these problems that occupational therapists assess. Furthermore, with occupational therapy intervention, parents can anticipate improvements in the child's ability to succeed in school, home, playground and community settings.

If you suspect that a child might have DCD, encourage parents to have the child seen by an occupational therapist for further assessment. An occupational therapist will:

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

Occupational therapists who specialize in working with children can be found in a number of different places in Ontario including:

- Children's Treatment Centres
- Community Care Access Centres (School Health Support Program)
- Children's Hospitals
- Occupational Therapy Departments in General Hospitals
- Private Practitioners (children's agencies usually have a list)

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

**[dcd.canchild.ca](http://dcd.canchild.ca)**

**Cheryl Missiuna, PhD, OTReg(Ont)**  
Professor and Scientist  
(905) 525-9140, ext. 27842

**Nancy Pollock, MSc, OTReg(Ont)**  
Associate Clinical Professor and Scientist  
(905) 525-9140, ext. 27812

**School of Rehabilitation Science and *CanChild***  
**McMaster University, Hamilton, Ontario**

