

## DEVELOPMENT

*Developmental Coordination Disorder (DCD) is a motor skill disorder that interferes with children's ability to perform many common, everyday tasks. If unrecognized, children with this condition may experience failure and frustration, be perceived by others to be lazy or unmotivated, and may develop secondary complications such as learning difficulties, emotional, social and behavioural challenges.*



# Does your child have

## Understanding Developmental Coordination Disorder

By Cheryl Missiuna, PhD, OT Reg (Ont)

DCD is usually noticed first by those closest to the child because the motor difficulties interfere with academic achievement or with activities of daily living (e.g., dressing, playground skills, handwriting, gym activities). It can exist on its own or may be present with learning disabilities, speech/language impairments and/or attention deficit disorder

Fortunately, a diagnosis can be made by a medical doctor who will ensure: 1) that the movement problems are not due to any other known physical, neurological or behavioural disorders; and, 2) whether more than one disorder may be present.

### How do coordination difficulties occur?

Motor coordination difficulties may arise for many reasons and can occur at a number of different stages as a child processes information and uses it to perform skilled movement. Children are constantly receiving information from the environment through the various senses.

A child may have difficulty analyzing sensory information from the environment, using this information to choose a desired plan of action, sequencing the individual motor movements of the task, sending the right message to produce a coordinated action, or integrating all of these things in order to control the movement while it is happening.

The result of any of these problems is the same: the child will appear clumsy and awkward and will

have difficulty learning and performing new motor tasks (see *What to look for*).

### What can parents do?

If your child is diagnosed with DCD, you may hear that he or she will 'grow out' of this disorder. However, conclusive studies have shown that most children do not outgrow these problems. While children do learn to perform certain motor tasks well, they will continue to have difficulty with new, age-appropriate ones.

Fortunately, there are many small modifications that can make life easier for a child with DCD. Here are a few useful ideas:

#### At home:

1. Encourage participation in games and sports that are personally interesting and which provide practise in, and exposure to, motor activities.
2. Introduce new activities or a new playground on an individual basis, before he or she is required to manage the activity in a group. Review any rules and routines at a time when he or she is not concentrating on the motor aspects.
3. A child may prefer individual sports (e.g., swimming, running, bicycling) over team sports. If so, encourage him or her to interact with peers through other activities

- (e.g., cubs, music, drama or art).
4. Choose clothing for your child that is easy to get on and off (e.g. sweat pants, sweat shirts, t-shirts, sweaters and Velcro shoes).
5. Encourage practical activities that will improve his or her ability to plan and organize motor tasks. For example, setting the table, making lunch or organizing a knapsack.

- activities such as math, printing, writing a story, practical science tasks and artwork.
4. Provide prepared worksheets that allow the child to focus on the task. For example, prepared math sheets, pages with questions already printed, or 'fill in the blank' pages for reading comprehension questions.
5. Introduce computers as early as possible to reduce the amount of handwriting that will be required in higher grades.

# DCD?

6. Reinforce the child's strengths. Many children with DCD demonstrate strong abilities in other areas such as advanced reading skills, creative imagination and/or strong oral communication skills.
6. Teach specific handwriting strategies that encourage him or her to print or write letters in a consistent manner
7. Use paper that matches the child's handwriting challenges. For example:

*DCD is believed to affect 5–6% of school-aged children and tends to occur more frequently in boys.*

#### At school:

Work with teachers to ensure that the child with DCD is successful at school. You may find it helpful to meet with teachers near the beginning of the school year to discuss your child's specific difficulties and to develop strategies. An Individualized Education Plan may be needed; however, the following modifications may also be sufficient...

#### In the classroom:

1. Ensure proper positioning for table work. The child's feet should be flat on the floor, with the desk at the appropriate height. Forearms should be comfortably supported on the desk.
2. Set realistic short-term goals.
3. Provide extra time to complete fine motor
- Widely spaced lines for a child who writes very large;
- Raised, lined paper for a child who has trouble writing within the lines;
- Graph paper for a child whose writing is too large or improperly spaced;
- Graph paper with large squares for a child who has trouble keeping numbers aligned in mathematics.
8. Focus on the lesson's purpose. If a creative story is the goal, then ignore messy hand-writing, uneven spacing and multiple erasures.
9. Consider alternative presentation methods in order for the child to demonstrate comprehension of a subject. For example, children may present a report orally, use drawings

### What to look for: Common characteristics of DCD

#### PHYSICAL

The child may...

- Bump into, spill, or knock things over.
- Experience difficulty with gross motor skills (whole body), fine motor skills (using hands), or both.
- Have difficulty learning new motor skills. Once learned, certain skills may be performed quite well while others may continue to be performed poorly.
- Have more difficulty with activities that require constant changes in body position or adaptation to changes in the environment (e.g., baseball, tennis or jumping rope).

#### EMOTIONAL/BEHAVIOURAL

The child may...

- Appear to be uninterested in, or to avoid, particular activities, especially those which require a physical response.
- Experience secondary emotional problems such as low frustration tolerance, decreased self-esteem, and lack of motivation due to problems coping with activities which are required in all aspects of his/her life.
- Avoid socializing with peers, particularly on the playground.
- Seem dissatisfied with his/her performance (e.g., erases written work, complains of performance in motor activities, shows frustration with work product).

#### OTHER

- Have difficulty with academic subjects such as mathematics, spelling, or written language which require accurate, organized handwriting.
- Have difficulty completing work within a normal time frame.
- Have general difficulties organizing his/her desk, locker or homework.



*Try one-on-one activities before your child is expected to manage in a group.*



- to illustrate their thoughts, type a story or report on the computer or record a story or exam on a tape recorder
10. Allow the use of a computer for draft and final copies of homework. If the teacher wants to see the 'non-edited' product, the child can then submit both the draft and final versions.
  11. Allow him or her to dictate stories, book reports or answers to comprehension questions to the teacher, a volunteer or another child.
  12. Provide additional time and/or computer access for tests and exams that require a lot of written output.

#### In physical education:

1. Break down the activity into smaller parts, ensuring that each part is meaningful and achievable.
2. Choose activities that will ensure success at least 50% of the time. Reward effort; not skill.
3. Incorporate activities which require a coordinated response from arms and/or legs (e.g., skipping



*Computers can help with draft or final copies of homework. Save often! Teachers want to see unedited versions.*

- or catching a large ball). Encourage the child to develop skills using his or her hands in a dominant/assistant fashion (e.g., using a baseball bat or a hockey stick).
4. Keep the environment as predictable as possible when teaching a new skill (e.g., place a ball on a T-ball stand). Introduce changes gradually after each step has been mastered.
5. Make participation, not competition, the major goals.
6. Allow the child to take on a leadership role (e.g., captain of the team, umpire).

7. Modify equipment to decrease the risk of injury if a new skill is being learned. For example, Nerf balls in graduated sizes can be used to develop catching and throwing skills.
8. When possible, provide hand-over-hand guidance to help the child get the feel of the movement. For example, ask the child to help the teacher demonstrate a new skill to the class.

9. Focus on understanding the rules of various sports or physical activities. When a child understands clearly what she or he needs

- to do, it is easier to plan the movement.
10. Give positive, encouraging feedback whenever possible.

#### Consider occupational therapy

In addition to your help, your child may benefit from an occupational therapist (OT) who will help him or her learn to perform daily tasks more successfully. The OT may also make recommendations to teachers regarding the child's participation at home, in the classroom and in leisure activities in the community.

The good news is that, with early intervention, children with DCD can learn strategies to compensate for their coordination difficulties and feel better about themselves and their future.

*Cheryl Missiuna, PhD, OT Reg (Ont), is with the CanChild Centre for Childhood Disability Research at McMaster University in Hamilton, ON.*

*Adapted with permission from Children with Developmental Coordination Disorder: At Home and in the Classroom. For more information, visit [www.fhs.mcmaster.ca/canchild](http://www.fhs.mcmaster.ca/canchild)*



*Participation, not competition, is the major goal.*

# Does your child...

*Trip or bump into things?*

*Write or print poorly?*

*Have trouble getting dressed or tying shoes?*

*Have difficulty sitting still in class?*

*Avoid sports or other physical activities?*

*If this sounds familiar, read on ...*

*and talk to your doctor*



*Get the facts and find out how you can help*