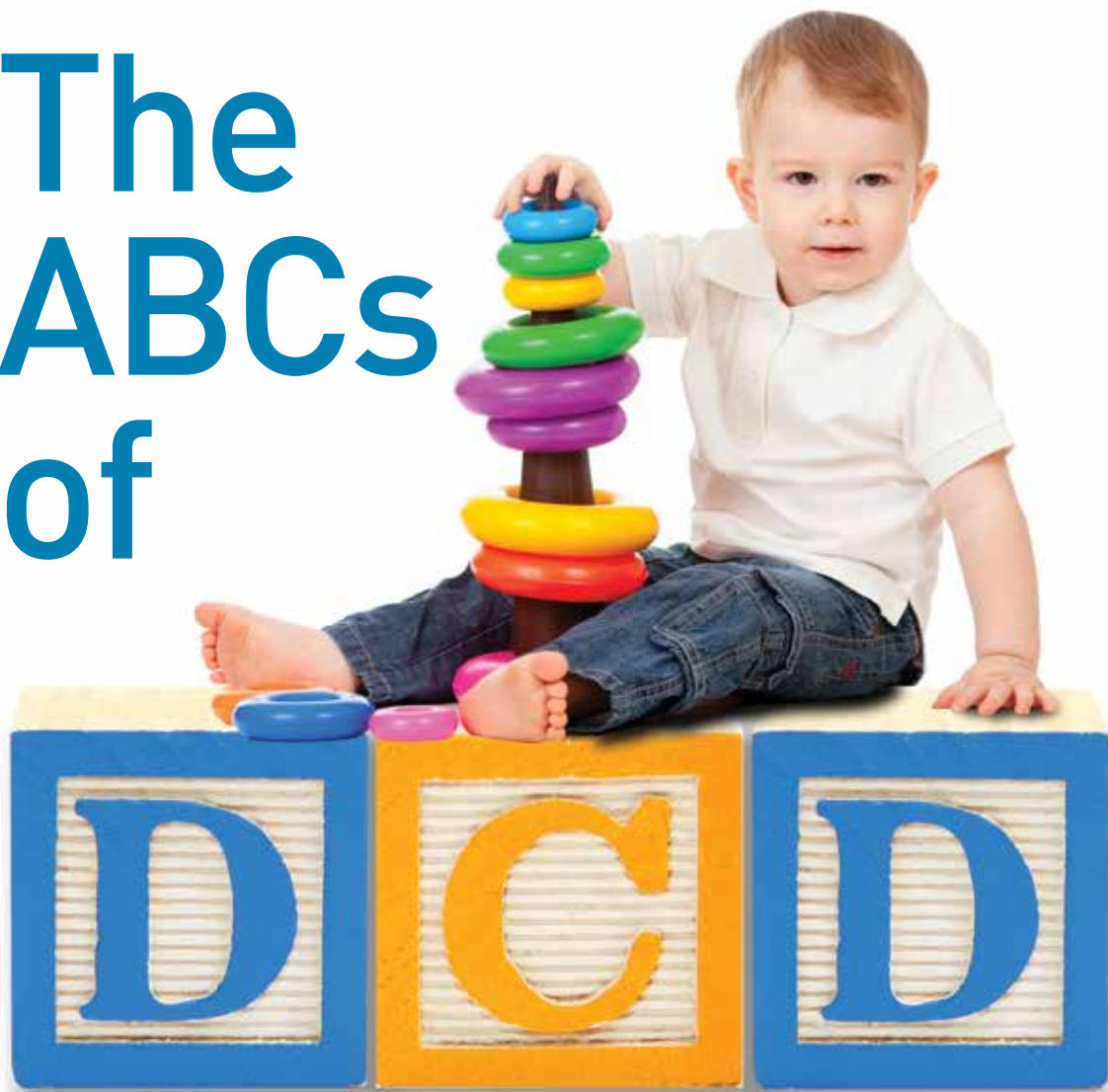


# The ABCs of



## Physiotherapists have much to offer children with this little-known motor disorder

ABBY RANKIN\* FIRST REALIZED there was something different about her second child, Andrew,\* when he had trouble breastfeeding. As a toddler, he took a long time to learn to hold a bottle. At age three, he couldn't catch a ball, do up Velcro shoes, use a fork or eat an ice cream cone.

When he started junior kindergarten, Andrew had trouble keeping his balance while wearing a backpack. He couldn't hold a crayon. At the end of his two-and-a-half hour school day, he was so tired he would fall out of his chair.

### The long journey to diagnosis

Spurred on by her mother's intuition, Rankin consulted a string of professionals. "I talked to

the teacher, the doctor, the dietitian, the dentist, anyone who would listen, saying there's something not quite right here." They told her to relax. He's a boy, they said. He's a bit delayed but he'll blossom. "We can't all be athletes," was how one specialist dismissed her concerns.

An occupational therapist finally introduced the label of developmental coordination disorder (DCD), a motor skills disorder that negatively affects a child's ability to perform everyday tasks.

By definition, children with DCD do not have an identifiable medical or neurological condition that explains their coordination

problems. In fact, the primary cause of DCD is unknown. Diagnosis is made by a physician or psychologist. Armed with information on DCD from the website of the CanChild Centre for Childhood Disability Research, Rankin talked to her child's pediatrician about the condition and secured a diagnosis for her son.

### An under-recognized condition

"Very few children have a formal diagnosis of DCD and their difficulties are often not acknowledged," says physiotherapist Lisa Rivard, whose Master's and PhD research focuses on children with DCD.



## YOUR CHILD IS ALWAYS PICKED LAST FOR THE TEAM... BUT IS IT DCD?

Developmental coordination disorder (DCD) is an often-overlooked chronic motor skills disorder that affects five to six per cent of school-age children and can have lifetime consequences for physical and mental health. Children with DCD aren't simply of lower athletic ability; their challenges significantly impair everyday functioning, including school performance.

A child with DCD may...

- Be clumsy or awkward
- Trip or bump into things
- Have trouble getting dressed, especially tying shoelaces and managing zippers
- Avoid sports and other physical activities
- Have difficulty printing or writing
- Find learning new motor skills, such as riding a bike, a big challenge
- Have motor abilities that are inconsistent with cognitive and/or verbal abilities

## TOP TIPS FOR THERAPISTS

Research and clinical experience has confirmed that these strategies, when combined with a cognitive approach, offer the most benefit to children with DCD and their families:

**FACILITATE A DIAGNOSIS.** If the family is seeking a diagnosis to access supports, a therapist can complete an appropriate screening questionnaire or conduct a standardized assessment, such as the Movement Assessment Battery for Children, and share the results with the family doctor, pediatrician or psychologist. Directing parents to the CanChild website and offering general recommendations can help the family cope better with their child's challenges.

**MEET THE NEEDS OF THE FAMILY AND CHILD.** It's unlikely that we'll change the underlying motor coordination difficulty, so we need to focus on outcomes that fit with the goals of the child and family, says Rivard. Children want to be able to participate in recess games, gym class and school-based fundraisers such as Jump Rope for Heart, so help them learn these skills.

**EDUCATE THOSE AROUND THE CHILD.** "The intervention needs to be with the people in the child's environment who can make a difference on a 24/7 basis," says Rivard. Parents need to become knowledgeable advocates for their children and well-versed in cognitive approaches to learning. Teachers need to understand that children with DCD aren't lazy, says Pollock, and that small changes in lesson plans, such as having a child with DCD use a stamp to complete a task instead of scissors, will help the child experience success. "Education is power," says Rankin. "Once we were able to get some knowledge about this and put a label on it, it was like, okay, now we can get somewhere."

**HELP CHILDREN LEARN IN REAL-LIFE CONTEXTS.** A child who learns how to shoot a basketball may appear to have mastered the skill, says Rivard, until he or she returns to gym class and has to perform the task in a game setting. "Motor learning has to be right in the moment," says Pollock. "We have to figure out different ways to deliver our services that are contextually relevant."

**HELP FAMILIES IDENTIFY PHYSICAL ACTIVITIES BEST SUITED FOR KIDS WITH DCD.** Sports is the currency for social interaction, especially for young boys, says Pollock. Team sports where the player has to adapt to changing environmental conditions, such as hockey and soccer, are often a challenge for those with DCD. Individual lifestyle sports, such as swimming, cycling, and skiing are a better fit. Andrew, for example, is learning to rock climb. "Coming out of the gym he walks taller," says Rankin. "He's not going to be a top athlete but he's found something he can call his own."

**COLLABORATE WHENEVER THE OPPORTUNITY ARISES.** An interdisciplinary team approach is key, especially given that DCD often occurs with related conditions such as attention deficit hyperactivity disorder, learning disabilities and speech and language difficulties. Membership on the team should be driven by the child's needs, says Rivard, and could include a teacher, psychologist, family physician, occupational therapist, physiotherapist and speech therapist. Occupational therapists are often the first to see a child with DCD, and should be encouraged to refer to physiotherapists for help with gross motor skills and physical education curriculum. "We share a lot of the same knowledge and skills," says Rivard, "but we have our unique skills as well."

**ACCESS RESOURCES WHEREVER YOU CAN.** A recording of a clinical teleconference on DCD can be purchased from the association's e-store. Workshops on the cognitive approach are offered across Canada by the University of Toronto (see [www.ot.utoronto.ca/coop/about.htm](http://www.ot.utoronto.ca/coop/about.htm)). CanChild's DCD microsite offers a wealth of information for parents and therapists alike (see [dcd.canchild.ca](http://dcd.canchild.ca)).

ANGIE SIDLES



Physiotherapist Lisa Rivard (left) and occupational therapist Nancy Pollock are working to help raise awareness of DCD as a formal disorder

TIM FRASER

It's estimated that one child in every classroom has the condition, says Nancy Pollock, an occupational therapist and researcher at CanChild. Boys are recognized at two- to five-times the rate of girls, although there is evidence that the condition is spread almost equally across genders. The condition keeps school-based therapists busy: 80 to 85 per cent of referrals are for kids with DCD, most often because of handwriting challenges.

"The motor problem is the primary deficit but our main concern is all the secondary consequences of this motor deficit," says Pollock. These include decreased strength, poor cardio-respiratory fitness, obesity, anxiety, depression, poor self esteem, social isolation and a sedentary lifestyle. These are the reasons that physiotherapists must get involved with these children, says Rivard.

### Taking a cognitive approach gets the best results

With limited physiotherapy-based research on interventions for children with DCD, physiotherapists have also looked to non-discipline-specific approaches for evidence-based best practice, says Rivard.

One approach that's showing a lot of promise uses a child's problem-solving skills to tackle motor-based tasks. Called a "cognitive approach," it is based on a principle that a child who can think through the steps required to learn a motor-based skill will then be able to generalize that learning to new skills and new contexts. "You're trying to get them to see there's some core strategies that will help them learn," says Pollock.

Occupational therapists use the cognitive approach to teach children with DCD how to tie shoes. Physiotherapists, says Rivard, can use

it to address gross motor tasks such as ball catching, jumping rope and riding a bike.

Andrew began working with a physiotherapist in Grade 2, first through limited sessions offered through the school board and then privately. The physiotherapist used a cognitive approach—which he called the "goal, plan, do, check strategy"—to help Andrew learn tasks such as serving a volleyball. Tape on the ground was a visual cue. Verbal reminders helped Andrew think through the steps. Having Andrew feel the movement by putting his hands on his therapist's hands increased his sensation of his own body in space.

"The cognitive approach may not be intuitive to physiotherapists," cautions Rivard. It requires thinking of DCD as a motor learning disability as well as a motor problem—and requires specific training to use well. ■