

An evidence-based introduction to Developmental Coordination Disorder

What is DCD?

Developmental Coordination Disorder (DCD), sometimes referred to as dyspraxia, is a neurodevelopmental condition which affects a person's ability to **learn, plan, coordinate and execute motor skills**. DCD impacts a person's ability to perform daily life activities. For example, this could include doing up buttons, writing, catching/kicking a ball, riding a bike or participating in team sports.

DCD does not affect a person's intelligence but impacts their movement abilities which can impact school, social, and everyday life participation (DCD Australia, 2024). It is estimated that around 6% of children have DCD, with up to 70% of these continuing to have motor difficulties into adolescence and adulthood (Blank et al., 2019).

Indicators of possible DCD

Gross Motor Skills -

- **Balance difficulties** - Wobbling, tripping, difficulty standing on one leg
- **Coordination challenges** - Running, jumping, skipping
- **Difficulties with ball skills** - Catching, throwing, kicking
- **Challenges navigating playgrounds** - Climbing, timing movements

A child with DCD may avoid the playground because climbing ladders or stepping across uneven surfaces feels unpredictable and unsafe. During Physical Education, they may struggle to keep up with running games, often appearing "slow" or "off-balance" compared to peers. When playing catch, they may misjudge timing or distance, leading to missed catches or dropped balls.



Fine Motor Skills -

- **Handwriting difficulties** - Slow, messy, tiring quickly
- **Difficulty using scissors**
- **Trouble with fasteners** - buttons, zippers, shoelaces
- **Difficulty using cutlery**
- **Difficulty with fine motor play** - threading, beading, Lego



A child might take significantly longer to complete written work, becoming tired or frustrated because their hand fatigues quickly. They may struggle to zip their jackets or tie their shoes, often needing support from adults. At mealtimes, they may spill food or switch hands frequently because cutlery feels awkward. These difficulties can affect independence and confidence.

Motor Planning (Praxis) challenges -

- Difficulty learning new movements
- Trouble sequencing steps
- Getting "stuck" or being unsure how to start
- Difficulty adapting when things change



A child may know they need to pack their school bag but struggle to work out the order of steps, leading to forgotten items or disorganisation. When learning a new movement, such as hopping or skipping, they may freeze or repeat the same incorrect pattern because they can't figure out how to adjust their body. If a game changes suddenly, they may become overwhelmed or stop participating. These challenges reflect difficulty turning an idea into an organised action.



Daily living skills difficulties -

- Difficulty dressing independently
- Messy or slow mealtime routines
- Trouble organising belongings
- Difficulty following multi-step routines



A child may take a long time to get dressed because they struggle to orient clothing or coordinate both hands to pull on a shirt. Their desk or bag may appear messy because organising materials feels overwhelming. At home, they may forget steps in routines like brushing teeth or packing lunch. These challenges can make daily routines stressful and reduce independence.

Social and Emotional Impacts of DCD

- Reduced confidence
- Avoidance of physical tasks
- Peer difficulties
- Anxiety or frustration



A child may avoid joining games at school because they feel “too slow” or worry about making mistakes. They may become upset when tasks feel too hard, especially if they see peers completing them easily. Over time, repeated challenges can impact self-esteem, leading to reluctance to try new activities. This emotional load of DCD can be just as significant as the motor difficulties (Cleveland Clinic, 2022).



DCD diagnosis and comorbidities

DCD is usually diagnosed by a paediatrician or multidisciplinary team. Assessment includes:

- Standardised motor assessments (Movement ABC or Bruininks-Oseretsky Test of Motor Proficiency) and DCD specific questionnaires
- Developmental history
- Functional observations
- Exclusion of other medical or neurological conditions



DCD is diagnosed more commonly in males than females.

Common comorbidities include Attention-Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorder, learning disabilities and language impairments (Ip et al., 2021).

Occupational therapists contribute essential skills in both the diagnosis of DCD and in therapy due to their focus on **daily functioning, motor planning, and participation.**

How can DCD impact daily life?

DCD can affect a child's ability to participate in everyday activities. DCD can also present individuals with a unique set of challenges moving into adolescence and adulthood; for example by impacting driving, working and independent living skills.

Physical and motor challenges - Difficulties with handwriting, balance, coordination and every day tasks.

Cognitive and Executive functioning challenges - Many children with DCD have difficulties with memory, planning, organisation, and learning new routines. This can affect a child's current schoolwork, assignments, time management, and new responsibilities.

Social Challenges and Feeling "different" - Some children feel like they "stand out" or are "left out".

Avoidance and reduced participation - Some children and young people might avoid and limit opportunities for physical activity, social connection and confidence-building experiences (Khairati et al., 2024).

Despite these challenges, a recent study highlights that children with DCD demonstrate high levels of resilience, creativity and determination. With the right strategies, understanding and support they can build confidence, participate in meaningful activities and develop a strong sense of identity (Khairati et al., 2024).

Best-practice strategies and supports for DCD

Task-Oriented Intervention - Practice real life tasks including dressing, handwriting, cutting. Break tasks into smaller steps. Use modelling, visuals and repetition (Patten et al., 2024).

Cognitive Strategies (e.g. CO-OP approach) - Goal-Plan-Do-Check. Self-talk and problem-solving (Patten et al., 2024).

Consistent approaches across environments - (e.g. home, school) to provide opportunities for practice and generalisation (DOT(WA), 2019).

Motor Planning and Coordination Training - Obstacle courses, balance tasks, mirroring games and ball skills (Patten et al., 2024).

Environmental Supports and Adaptations - Visual schedules, pencil grips, sloped writing boards, extra time for tasks and exams, and reduced motor load where possible. Supporting adaptations to tasks - for example teaching keyboarding skills to children who struggle with handwriting (Blank et al., 2019; DOT(WA), 2019).

Emotional and Social support - Celebrate efforts, provide predictable routines and encourage participation without pressure (Patten et al., 2024).



Tips to try at home

Use visuals and task break-downs to support more complex tasks like dressing and packing school bags. Visual checklists, weekly subject calendars and term planners are all great ideas.

Example: Packing a School bag

1. Lay everything out - Books, lunchbox, drink bottle, hat, jumper, homework folder, pencil case
2. Pack big items first - e.g. Laptop, books, folders
3. Add smaller items - e.g. Pencil case, drink bottle, books
4. Use a visual checklist - Provide a visual checklist to support independence - check off the checklist while packing
5. Zip up the bag

Practice one skill at a time -

- Choose one thing to focus on e.g, catching a ball, cutting.
- Practice in short bursts - 5-10 minutes.
- Keep steps consistent - same order each time.
- Celebrate effort.

Children with DCD learn best when tasks are broken down and practised in manageable chunks.

Play movement games -

Movement games strengthen imitation and sequencing skills, and confidence - all essential for motor planning. Examples include:

- Simon says: Great for listening, imitation and body awareness. Increase complexity over time by adding two or more steps e.g. "Simon says "touch your toes then your nose"
- Follow the leader: Encourages copying and sequencing
- Mirror me: Builds motor planning and bilateral coordination
- Obstacle courses: Supports coordination, sequencing, planning, body awareness and balance
- Balloon Keepy Uppy: Builds visual tracking, timing and coordination skills. Change it up by adding rules e.g. "only use your elbows"
- Twister



To do	Done ✓
 Get up and go to toilet	
 Get dressed	
 Eat breakfast	
 Brush teeth	
 Put on socks and shoes	



Heavy-work activities -

Heavy-work activities provide strong proprioceptive input, helping children feel where their body is in space - a key foundation for motor planning and self-regulation.

Activities include:

- Pushing or carrying a laundry basket
- Carrying groceries
- Vacuuming
- Moving cushions or chairs
- Digging
- Push-ups, planks or yoga
- Playing on climbing equipment
- Playing tug-of-war.



Fun fine-motor play -

Fine-motor play strengthens the small muscles needed for handwriting, cutting and self-care tasks.

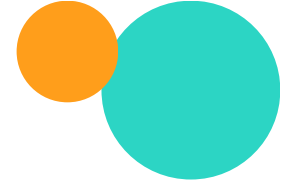
- Playdough: Squeezing, rolling, pinching
- Lego: Builds finger strength and planning
- Threading beads: Supports hand-eye coordination
- Tweezers or tongs: To support pincer grasp.



Allowing extra time -

- Allow for slower processing speed: Children with DCD need more time to plan and organise movements.
- Use visual timers or visual cues: Helps with transitions and pacing.
- Reduce pressure: Rushing increases error and stress.
- Offer reassurance: "take your time, you're doing great".
- Extra time reduces anxiety, improves accuracy and supports independence.
- Praise effort - "You worked so hard on that!"
- Keep routines predictable.





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