

# Developmental Coordination Disorder

## What is Developmental Coordination Disorder (DCD)?

Developmental Coordination Disorder (DCD) is a term used to describe children who demonstrate substantial difficulty in coordinating movements such as those needed to climb the playground, catch balls, complete handwriting tasks or get dressed. As a result these movement difficulties interfere with a child's ability to perform everyday tasks and have an impact on academic achievement. Children described using the term DCD cannot have their difficulties with movement explained by a general medical condition (Cerebral Palsy, Hemiplegia or Muscular Dystrophy) and the criteria are not met for Pervasive Developmental Disorder – not otherwise specified (PDD-NOS).

## What are the common features of Developmental Coordination Disorder (DCD)?

Children with DCD may experience difficulties in a variety of areas, while others may only have difficulties in specific areas. If your child demonstrates a number of the below features and has not been formally diagnosed as having DCD by a medical doctor, it is important that your child also see a Paediatrician to rule out any other general medical conditions.

- Appears clumsy or awkward in movements compared to friends of similar age (e.g. running awkwardly or holding scissors awkwardly).
- Poor body awareness: Trouble determining the distance between themselves and objects and hence bumping into objects or knocking things over and invading other people's personal space without recognising this.
- Difficulty with or delayed in developing gross motor (physical) skills (e.g. running, jumping, hopping, catching balls, climbing), fine motor skills (e.g. handwriting, doing up buttons, threading beads, tying shoe laces), or both.

- May show a discrepancy between motor abilities and abilities in other areas. For example, intellectual and language skills may be quite strong while motor skills are delayed.
- Movement planning difficulties: Difficulty planning physical movements into a controlled sequence to complete a task, or difficulty remembering the next movement in a sequence despite being shown or told how.
- Movement learning difficulties: Difficulty learning new movement skills and once learned in one environment (e.g. school) may continue to have difficulty performing the task in another environment (e.g. home). Consequently, the child needs to be taught the task again in each new environment.
- Difficulty with activities that require constant changes (e.g. baseball, tennis).
- Difficulty with activities that require the coordinated use of both sides of the body (e.g. cutting with scissors, running, swinging a bat).
- Reduced balance and postural control (e.g. unsteady when stepping over a height or when standing while dressing).
- Reduced strength and endurance, requiring significantly more effort to complete the same task as their friends, resulting in rapid fatigue.
- Rushing through tasks as completing them slowly is difficult due to reduced control or balance.
- Taking extra time to do tasks to ensure accuracy.
- Difficulty with printing or handwriting.
- Difficulty with academic subjects such as mathematics, spelling or written language which require handwriting to be accurate and organised on the page.

- Difficulties organising their school desk, school bag, homework or even the space on a page.

**Common difficulties often (but not always) experienced by the child with Developmental Coordination Disorder (DCD):**

- May lack interest/motivation in physical activity or be hard to engage in activities they find difficult or in which they have experienced failure.
- May avoid socialising with peers, or not be included by peers, in physical games (e.g. on the playground) for fear of failure or experience with repeated failure.
- Frustrated easily when completing tasks.
- Easily distracted
- Reduced self-esteem
- Anxiety when asked to participate in difficult activities.
- Tends to seek out younger children to play with as their skills are of a similar level and they feel more confident playing with them.
- May complain that 'this is too hard' or 'I can't do it' when presented with motor activities.
- May be resistant to changes in how or when tasks are done as changes present new situations/tasks that require planning and new learning.

**Management strategies that support the child with Developmental Coordination Disorder (DCD) (at preschool, school and/or home):**

- Encouragement to persist and attempt tasks.
- Provide opportunities to succeed by simplifying activities.

- Teach new skills in a step by step manner and keep the environment as predictable as possible during teaching.
- Introduce new skills or environments on an individual basis before introducing peers.
- Use simple language and instructions.
- Provide visual as well as verbal cues.
- Provide extra time to complete tasks.
- Recognise and reinforce the child's strengths.
- Appropriate set up for school desk.
- Set realistic and achievable goals for all task performance and completion.
- Make participation, not competition, the goal.

**Occupational Therapy approaches and activities that can support the child with Developmental Coordination Disorder (DCD) and/or their carers include:**

- **Observing** the child during play and formal assessment to determine the child's abilities with gross motor (whole body) tasks and then making recommendations for management.
- **Devise goals:** Setting functional goals in collaboration with the child, parents and teachers so that therapy has a common focus beneficial to everyone involved.
- **Educating** parents, carers and teachers about DCD, age appropriate skills a child should be demonstrating and providing management strategies/ideas to assist the child in the home, at school and in the community.
- **Physical skills:** Providing ways/ideas to promote physical activity and participation in team/group activities.

- **Underlying skills:** Developing the underlying skills necessary to support whole body (gross motor) and hand dexterity (fine motor) skills, such as providing activities to support:
  - balance and coordination
  - strength and endurance
  - attention and alertness
  - body awareness
  - movement planning
- **Direct skill teaching** through a task based approach.
- **Confidence:** Building self-confidence to enable a child to willingly participate (it is common for these children to shut down when they perceive the task to be too hard) in activities by:
  - Providing the child with education about why they may be experiencing difficulties with movement, their strengths as well as their weaknesses and providing them with and teaching them strategies to overcome obstacles they may face.
  - Breaking down specific physical skills into one or two step components to teach the skill and then gradually adding in new components until the skill is doable in its entirety (e.g. skipping – start with a step, then a hop).
  - Providing opportunities and strategies to master the same skill in differing environments (e.g. home versus school versus. therapy session).
  - Presenting the activities at the ‘just right challenge’ level to provide success and then gradually increasing the demands of a mastered skill.

- **Educating** parents and carers on ways to simplify tasks to the smallest possible components and use simple and concise language.
- **Non-verbal cues:** Using physical and visual models or instructions, wherever possible, not just verbal.
- **Sensory processing:** Improving sensory processing to ensure appropriate attention and arousal to attempt the tasks as well as ensuring the body is receiving and interpreting the correct messages from the muscles in terms of their position and relationship to each other.
- **Multi-sensory approach:** Using a multi-sensory approach to learning new skills.
- **Modelling tasks visually** and using hands-on adjustment techniques to aid body awareness for the child.

**If left untreated the child with Developmental Coordination Disorder (DCD) may have difficulties with:**

- Following instructions within the home, kindergarten or school environment.
- Managing a full school day due to poor strength and endurance.
- Participating in sporting activities leading to an inactive lifestyle, increasing the risks of other health related issues such as obesity, diabetes, cardiovascular disease or similar conditions.
- Self esteem and confidence when they realise their skills do not match their peers.
- Bullying when others become more aware of the child's difficulties.

- Fine motor skills (e.g. writing, drawing and cutting) due to poor core stability, meaning they do not have a strong base to support the use of their arms and hands.
- Completing self-care tasks (e.g. doing up shoelaces, buttons, zips, using cutlery).
- Anxiety and stress in a variety of situations leading to difficulty reaching their academic potential.
- Academic performance: Developing literacy skills such as reading and writing and coping in the academic environment.
- Academic assessment: Completing tests, exams and academic tasks in higher education.