

DEVELOPMENTAL CO-ORDINATION DISORDER (DCD)

In recent decades there has been a growing body of literature in the area of child development which relates to a group of children who have extreme difficulty with the planning, execution and co-ordination of body movement. This group of children have been variously referred to as 'clumsy', 'awkward' or 'dyspraxic'. The term which is normally used now is 'Developmental Co-ordination Disorder' (DCD).

What is DCD?

- DCD is a permanent condition which affects motor skills and co-ordination, and which can significantly interfere with aspects of daily living at home and at school. There is no 'cure'.
- A wide range of difficulties may be displayed including poor motor co-ordination, visual perceptual difficulties (poor eye-hand co-ordination and limited visual tracking), problems learning and remembering new skills, and, at times, emotional and behavioural issues.
- Children with DCD often have average or above average intellectual abilities. However, the difficulties associated with DCD can have an impact on academic progress.
- Given that motor skills do not become automatic for children with DCD, they have to devote extra effort and attention to complete tasks - even those which they have previously learned. Children with DCD struggle to recognise the similarities of particular motor tasks and have difficulty transferring their motor learning from one activity to another.
- Reading, writing, speech and language difficulties have been associated with DCD as they all have a cognitive component involving motor planning.
- DCD is thought to affect between 6%-10% of children in the UK. As with other developmental disorders, there is a continuum of difficulty with up to 2% having severe difficulties. Boys are up to 4 times more likely to be affected than girls.
- DCD may also co-exist with other conditions such as ADHD and dyslexia and may run in families
- There is no known cause for the majority of those children who have DCD although it is thought to be caused by an immaturity in the way the brain processes information. The brain is not sufficiently mature to enable the speedy processing of information and / or motor responses

What does DCD look like?

Characteristics of DCD are often evident from an early stage. The table below highlights some behaviours which children with DCD may demonstrate at different stages:-

STAGE	TYPES OF DIFFICULTY
Pre-School years) (0-5	<ul style="list-style-type: none"> • Irritability and difficult to comfort • Feeding and sleeping problems • High levels of motor activity (<i>e.g. feet swinging when seated, hand flapping or twisting, unable to stay still</i>) • Slow to achieve developmental milestones • Frequent falling and knocking things over. May constantly bump into objects • Associated mirror movements (<i>e.g hand flapping when running or jumping</i>) • Difficulty riding a bike or tricycle. • Problems with throwing, kicking catching • Avoiding tasks which require good manual dexterity (<i>e.g. such as drawing, jigsaws or building blocks</i>) • Poor concentration • Lack of awareness of danger (<i>e.g. jumping from heights</i>) • Poor fine motor skills (<i>e.g. difficulty holding pencil or using scissors, immature drawings/ artwork</i>) • Laterality (left or right handedness not established) • May be easily distressed and prone to temper tantrums • Often anxious or easily distracted • Appears not able to learn anything instinctively • Sensitive to sensory stimulation, including high levels of noise • Limited imaginative, creative play • Persistent language difficulties • Limited response to verbal instructions
Primary (5-7 years)	<ul style="list-style-type: none"> • Difficulty with ball and team games and with gym and sport activities • Slow at dressing, difficulty tying shoelaces. • Immature handwriting and drawing skills • Poor listening and limited concentration skills • Literal use of language • Inability to remember more than 2-3 instructions at once • Classwork takes longer to complete • Tendency to become easily distressed and emotional • Hand flapping or clapping when excited • Difficulty learning to use cutlery • Sleeping difficulties – including wakefulness at night and nightmares • Reporting of physical symptoms – such as migraine, headaches, feeling sick • Good verbal skills compared with motor skills • Impact on self-esteem – isolation from peers; inability to join in team games, behavioural problems
Primary years) (7-11	<ul style="list-style-type: none"> • Spelling difficulties • Slow and poorly co-ordinated handwriting • Presentation of written work indicates lack of organisational and visual skills • General organisation of work and belongings is limited • Runs with an awkward gait

- Slow at dressing after gym or swimming
- Often still cannot tie or untie shoe laces
- Classwork takes great time and effort
- Continued difficulty in forming relationships with other children
- Continued limited concentration and listening skills
- Continued reporting of physical symptoms
- Language used very literally
- May have trouble with maths and writing structured stories
- Experiences great difficulty copying from the board
- Redrafting neatly takes a great deal of time
- May become disaffected with education

Secondary

- Difficulties in gym and with athletics and sport
- Problems with spatial awareness, leading to difficulties in judging height, speed and distance
- Difficulties with remembering and following instructions
- Organisational problems with books and materials required for the school day
- Following complex school timetables can be difficult
- Mismatch between intellectual ability and written work
- Work rate is slow which affects self-esteem
- Peer group difficulties
- Inattention and behavioural problems.

Classroom Strategies

Although there is no cure for DCD, everyday life for children can be made easier through the implementation of small modifications at school and at home.

It is important to educate children with DCD in a manner that allows them to become aware of their strengths so they can gain an understanding of ways in which they may compensate for any difficulties they experience.

Environment in the Classroom

- Ensure child is positioned properly for deskwork – make sure the child's feet are flat on floor and that the desk is at an appropriate height
- Minimise distractions
- Remove auditory, visual or tactile distractions
- Seat child where they can see and hear the teacher easily
- Visual representation of structure of the day can be useful (e.g pictures of tasks, break times) – particularly for younger children. A written list may be more appropriate for older children
- Working with a partner in practical lessons to share tasks
- Try and assign tasks that build on the child's strengths and avoid areas of difficulty

Organisation of Learning

- Break down tasks into smaller, achievable steps
- Set realistic short-term goals. This will ensure that the child continues to be motivated.
- Consider using a variety of presentation methods when asking child to demonstrate comprehension of a subject (e.g. report orally, use drawings, or record story on tape.
- Provide extra time for child to complete fine motor tasks such as maths, printing, writing. If speed is necessary, be willing to accept a less accurate product
- Recognise completion of each step in a process - some children need to see instant results or have instant recognition

- Allow the child opportunities to complete tasks even if others have moved on. Provide extra time or start the child a little further into a task where possible
- Organisational techniques to help the child organise and memorise thoughts and coursework such as mnemonics, timetables, flowcharts and mind maps
- Highlighting key points/ notes in coursework in different colours can be helpful
- Find ways of making repetition interesting and keeping confidence high.

Organisation of Materials

- When copying is not the emphasis, provide the child with prepared worksheets that will allow them to focus on the task
- Playing a finding game in the classroom with another child (using verbal or visual prompts) can help young children familiarise themselves with the location of various materials
- Have a box of cards readily available - showing commonly used classroom items. Those required for a particular activity can be attached to a strip of velcro and left on display during the activity. Many children in the class will benefit from this approach.
- For older pupils – agree an organisational system for the care of materials (eg folder, poly pockets for each subject)

Giving Instructions

- The child may often struggle with remembering and following instructions
- Avoid long lists of instructions – check that verbal messages have been understood
- Visual cues may help to assist with instructions
- Develop knowledge of how much language a child can comfortably cope with

Copying

- Do not expect the child to copy large blocks of text
- Use strategies to help copying from the board – such as using different colours of pen or chalk
- Encourage the use of a ruler or marker card placed under the line of text
- Provide the child with extra time to copy work

Homework

- Provide opportunities that allow homework to be recorded in a variety of ways (eg dictate stories or answers to comprehension questions; use computers to type reports)

Micro Technology

- Introduce computers at an early stage – to develop typing skills
- Word processing, photocopying notes or tape recording lessons – can help reduce the amount of written work which the child may find difficult
- Consider allowing the child to use computer for reports, stories and other assignments

Praise and Encouragement

- Take account that a child's slow work rate and difficulties with organisation and planning can impact on their self-esteem

- Build in genuine praise for effort
- Question the value and necessity of an activity for the child – and assess whether they have the skills to accomplish the task. Frequently requiring a child to perform tasks at which they are not competent could subject them to repeated failure – and reduce self-esteem
- Identify the child's strengths – seek opportunities for the child to demonstrate these in classroom

Handwriting

- Provide extra time for fine motor skills/ tasks such as handwriting – take account of slow work pace
- Teach specific handwriting strategies – encourage them to print or write letters in consistent manner
- Use thin magic markers/ pencil grips if they seem to improve pencil grips or reduce pencil pressure
- Encourage child to air trace letter shapes as teacher makes them on the board and talk through formations as you make them
- Encourage to make large patterns/ letter shapes using paint, wet/dry sand and verbalise as doing so
- Encourage fun activities that develop writing skills (eg maze games; dot-to-dot)
- Encourage fun activities that develop wrist, hand & finger strength such as arts/ craft; jigsaws etc
- Use paper that matches the child's handwriting difficulties (e.g widely spaced lines for child with large lettering; raised lined paper for child who has trouble writing within the lines etc)

P.E.

- Differentiation in P.E. may be required
- Break down the physical activity into smaller parts - while keeping each part meaningful & achievable
- Make participation, not competition the major goal
- Reassure the child that they will be able to do what is asked – prepare them before lesson
- Bear in mind that dressing and undressing for P.E. may be difficult and require extra time
- Provide positive feedback and encouragement

A child with DCD is faced everyday with challenges in being able to perform activities and tasks. Having difficulty with motor-based tasks, and organisation and planning can be incredibly frustrating for those with DCD. Teachers can play a crucial role in boosting a child's self-esteem, and they can do so by making adjustments and modifications to everyday activities in class.

Further Information and Useful Resources

Information for this booklet was compiled using a variety of different sources/ resources including:

- www.dyspraxiafoundation.org.uk – Dyspraxia Foundation website
- www.hdcd.org.uk - Highland Developmental Co-ordination Disorder Group website
- www.nhs.co.uk/Conditions/Dyspraxia - useful information on DCD
- DCD Guidelines for Psychologists & Professionals (Glasgow City Council, 2004)