

## Music and Developmental Coordination Disorder (DCD) / dyspraxia.

The term 'dyspraxia' has traditionally been used in the UK to describe difficulties in motor coordination that are not due to illnesses or other medical conditions. Dyspraxia is a specific learning difficulty (SpLD).<sup>1</sup>

The term 'Developmental Coordination Disorder' (DCD) is used internationally by health, educational and research professionals and this can cause confusion. Further details about the two terms can be seen at Appendix 1, p.11. This document uses the term '**DCD/dyspraxia**' throughout.<sup>2</sup>

A working definition was created in the UK in 2011. See p.2 & Appendix 2, p.11. Music references are in blue text boxes, **bold blue font** & pp.7-11.

### Table of Contents

Developmental Coordination Disorder/ dyspraxia pre-16 years.....	3
Developmental Coordination Disorder/ dyspraxia in adults (post 16 years).....	4
If you think an individual has DCD/ dyspraxia what can you do? Pre-16 years .....	5
What can you do? Post 16 years and adults.....	6
Some general points about DCD/dyspraxia and music.....	7
DCD/dyspraxia and music: a personal perspective.....	7
Appendix 1. The terms 'dyspraxia' and 'Developmental Coordination Disorder'.....	12
Appendix 2. Working definition of DCD .....	12
References .....	13

<sup>1</sup> Named as such within the Special Educational Needs Code of Practice 0-25 years (2014) in England

<sup>2</sup> In keeping with the terminology used in the SpLD Assessment Standards Committee (SASC) guidance for the assessment and identification of DCD/dyspraxia (SASC, 2020). The SASC guidance was updated in March 2020, following consultation with Professors Amanda Kirby, Anna Barnett and Elisabeth Hill (original members of Movement Matters UK) who also contributed to the 2019 international DCD recommendations.

### **Movement Matters: working definition recognised by the NHS**

“Developmental Coordination Disorder (DCD) also known, in the UK, as dyspraxia, is a common but serious disorder affecting movement and coordination in children, young people and adults, with symptoms present since childhood.

DCD is distinct from other motor disorders such as cerebral palsy and stroke and occurs across the range of intellectual abilities.

The lifelong condition is formally recognised by international organisations including the World Health Organisation.

The person’s coordination difficulties will affect their functioning in everyday activities, including in the classroom, at work and in leisure activities.

Difficulties may vary in presentation and will also change depending on environmental demands, life experience and the support provided.

There can be a range of co-occurring non-motor difficulties which can have a substantial adverse impact on daily life.

These may include social and emotional difficulties as well as problems with time management, planning and personal organisation, and these may also affect a person’s education or employment experiences.

Many of the movement and coordination difficulties will continue into adolescence and adulthood. Although the motor difficulties persist through life, non-motor difficulties may become more prominent as expectation and demands change over time.

With appropriate recognition, reasonable adjustments and support, people with DCD can be very successful in their lives.

DCD can co-occur with other developmental and specific difficulties.”

(SASC, 2020, p.3)

## Developmental Coordination Disorder/ dyspraxia pre-16 years

Children and young people with DCD/dyspraxia are likely to experience substantial difficulties in the following areas

- Fine or gross motor coordination skills including
  - Reaching developmental motor milestones in postural control and balance, such as jumping, hopping and skipping.
  - Hand and eye coordination, such as throwing and catching a ball.
  - Sequencing movements such as when running or riding a bike.
  - Manipulating objects and tools, such as drawing, handwriting, using scissors and typing.
  - Self-dressing such as fastening buttons or buckles and tying shoelaces.
  - Using cutlery and self-feeding.

These difficulties are likely to impact upon everyday activities at home and in school, including self-care, games, sport & physical education.

In music, they may affect the coordination and sequencing of finger movements and speed of playing.

Some or all of the following difficulties may also be apparent but they are not core features of DCD/ dyspraxia and can also be associated with other SpLDs or developmental conditions:

- Organisational skills, such as organising the school bag, games kit, **music bag** and other belongings.
- Visual perception and visual-spatial awareness, such as problems with following directions and orientation.
- Difficulties in social communication and interaction.

- Temporal awareness, such as telling the time from an analogue clock, time management, sense of time and forward planning.
- Sensory sensitivities to sound, touch, food, texture etc.
- Low self-esteem.
- Fatigue, lowered levels of physical activity and problems with sleep (SASC, 2020).

## **Developmental Coordination Disorder/ dyspraxia in adults (post 16 years)**

DCD/dyspraxia can impact upon performance in education and employment.

- Adults may have developed compensatory coping strategies for their motor coordination difficulties, especially if they have had effective interventions and adjustments during their school years, such as
  - the use of a word processor and/or voice recognition software
  - **long term targeted practice in playing a musical instrument** or a particular sport.
- However, childhood difficulties may persist and become apparent when learning new skills, such as
  - learning to drive a car
  - attempting DIY tasks
  - **learning a new musical instrument.**
- There may also be persisting associated difficulties such as
  - social and emotional difficulties
  - organising self, thoughts and activities
  - planning and prioritising tasks and activities
  - managing time
  - judging distance and speed

- using visual perceptual and spatial skills such as in self-orientation, sense of direction, learning the layout of a building and map reading
  - managing changes to routine and planned sequences
  - working under timed conditions due to slow handwriting or typing speed
  - taking notes and assimilating information from a range of resources
  - creating structure in writing tasks
  - managing practical activities.
- These can all negatively affect an adult's experience in education and employment (SASC, 2020; Blank et al., 2019).

## **If you think an individual has DCD/ dyspraxia what can you do?**

### **Pre-16 years**

Any child or young person with suspected motor coordination difficulties should be referred to a medical practitioner, usually the family's GP, in order to

1. Rule out any other illnesses or medical conditions with similar symptoms.
2. Obtain a referral for a full assessment of motor coordination difficulties, typically with an appropriately qualified practitioner or ideally an inter- or multi-disciplinary team of practitioners (e.g. a paediatrician and occupational therapist and/or physiotherapist).
3. Ensure that the appropriate interventions are put in place and a formal diagnosis may be necessary for reasonable adjustments in academic and **music examinations**.

SpLD assessors who suspect that a child or young person has motor coordination difficulties may use a rating scale, take a detailed

developmental history and describe the characteristics of the motor coordination difficulties reported and/or observed in order to provide evidence for a referral to the GP. However, a formal diagnosis cannot be made without a full motor assessment by a suitably qualified medical professional (SASC, 2020).

DCD cannot be diagnosed by performance on tests of cognitive ability, although some individuals may show difficulties with planning and spatial ability in performance on nonverbal reasoning tests (Sumner *et al.*, 2016). However, an assessment of cognitive ability can be helpful to give the individual an identification of their cognitive profile of strengths and weaknesses for their self-esteem and for future intervention and support.

### **What can you do? Post 16 years and adults**

Individuals aged 16 years and over should be referred to an SpLD assessor with sufficient knowledge and experience of working with individuals with DCD/dyspraxia. This may be either a Health and Care Professions Council registered psychologist or a suitably qualified specialist teacher holding a current Assessment Practising Certificate (APC). To conclude that there is adequate evidence to suggest an identification of DCD/dyspraxia in adults (i.e. post 16 years) the SpLD assessor must provide evidence of a developmental history of motor coordination difficulties with persistence into adulthood. Evidence may be obtained through a detailed case history including childhood difficulties, a DCD/dyspraxia checklist and, if indications are evident, the SASC recommended DCD diagnostic inventory.

If adults report any worsening or deterioration of motor coordination difficulties, or if there has been a recent loss of skills, they should be referred to their GP to eliminate any other illness or medical condition (SASC, 2020).

## Some general points about DCD/dyspraxia and music

- Singing games can be challenging.
- Dalcroze approaches can be challenging.
  - If areas such as these are proving difficult, then do something else!
- It can be useful to think about musical issues in a different way – think outside the box. For example, when learning piano/keyboard the image of the keys being like magnets could be useful.

## DCD/dyspraxia and music: a personal perspective

Stephanie Guidera is a professional classical singer who was diagnosed with DCD/dyspraxia at age 20. She is a Patron of the Dyspraxia Foundation. Stephanie has said “Dyspraxia is like the physical version of dyslexia” (BBC Radio 5 Live, 17.07.17).

The following comments and strategies, which are based on her **personal experience** may be of help to other musicians with DCD/dyspraxia. They are taken from an interview with the Chair of the British Dyslexia Association Music Committee in 2017.

Stephanie suggested that there are some specific strengths and difficulties for musicians with DCD/dyspraxia:

- A musician may be of an extremely high standard on voice or instrument and may, for example, have an extremely good ear, but may not see these aspects as strengths. It can take time (and support from others) for this realisation to take place!
- Musicians with DCD/dyspraxia may be able to (easily) see patterns in music. This can be helpful, unless the particular pattern is muddled –

for example, in sharp key signatures, the final sharp is always the leading note, but if the person suddenly thinks it's the **penultimate** one, they're in trouble!

- They may not be concentrating on the aspects of the music that a teacher imagines. For example, it may be the beauty of the text that is capturing the attention, rather than the rhythm.
- Difficulty seeing ahead in music can also be a problem (when going into the next bar, for example or particularly from one line to another).
- Constant mistakes when learning music can lead to further lack of confidence and giving up.
- Anxiety can be an issue, particularly before meeting new people or in other potentially stressful situations. It can be useful to have an exercise regime as a coping strategy in such situations. Preparation can include doing voice exercises and/or other calming routines and exercises.
- For musicians with DCD/dyspraxia, there are particular problems with organisation:
  - Getting to rehearsals, lessons etc at the right time, on the right day and with the right music/equipment. (Stephanie recalls performing the whole choral part of *Wachet Auf* by memory as she'd forgotten her music.)
  - For performers on tour, remembering to take the right clothes and not leaving a required outfit in the previous hotel!
  - A classical musician, in particular, may have a lot of music. This can get very muddled.
  - Knowing how to practice. It can be so difficult to work out what to do and when to do it, that the practice doesn't get done at all. The individual may believe that the reason is laziness. It's also possible, when practising to go into a state of 'paralysis', partly because of a fear of getting things wrong.
  - It's important to approach a new piece of music logically and get used to a routine – e.g. always looking at the time signature first.



It can be useful to be aware of the other lines of music from one's own part – the accompaniment etc.

- The way in which music is written can help or hinder: if a score is very 'busy' this can create difficulties. The ways in which rhythm is grouped can be off-putting. It's possible to photocopy<sup>1</sup> a score and re-write certain sections.
- Because of difficulties in relating to the individual's surroundings, and possible problems with balance, a static environment works best. Core stability is important. It may be that an individual works better when sitting down. A stable, hard-backed chair may be the best option.

Stephanie also suggested some useful strategies and advice:

- It's really important to find a music teacher who understands (or is prepared to understand) the difficulties and idiosyncrasies of a student with DCD/dyspraxia, including poor organisation.
- For example, the pupil may constantly get fingering wrong (on piano in particular). The teacher needs to understand **why**.
- All-encompassing/**multi-sensory** approaches are ideal.

For example, when learning a new piece of music:

- Record oneself, perhaps with comments ("remember to be *piano* here")
- Say these points out loud (**aural/kinaesthetic**)
- Record key points/moments in music lessons; **listen** to these.
- Video key bits of the lesson (on a phone) and **look** at these, perhaps a number of times.
- When **listening** to examples of music, follow the score with the finger (**kinaesthetic**).
- Take photos (on mobile phone) of the music being studied, even specific bits and **look** at these (**visual**). This also means that the music is less likely to get damaged and messed up! It's also less likely that it will be lost.

- Photocopy<sup>3</sup> a score for rehearsal/performance larger and put cues and other reminders on. Use marker pens and colour.
- Highlight key points in chosen colours.
- When performing, the music can be inside a (black) folder so it won't be obvious that it isn't the same as other people's.
- Perhaps put pages of music inside plastic pockets and add sticky-notes on top of these.
- When learning the piano, for example, play the finger/hand shapes in the air (**kinaesthetic**). This removes the pressure of it sounding wrong!
- During lessons, activities such as catching a ball can be useful (for singers) when trying to sing a high note, because they decrease the amount of concentration on (and anxiety about) the 'difficult' activity.
- **Repetition** is important. However, this may be difficult because of perfectionism and self-doubt so that when the individual makes a mistake they think, "I'm rubbish at this" and stops! Or the thought might be, "I'm doing this wrong, so I can't get through without stopping". Maturity can help to deal with this and, over time, it may be possible to work in a more balanced way.
- **Colour** can help some individuals process information.
- One strategy can be to learn music (and to perform) by ear if reading music is a real obstacle.
- It's important to get to a stage where the individual can laugh at his/her problems and dyspraxic tendencies. This may not be achieved for some years!

---

<sup>3</sup> There are various references to the photocopying of music in this document. It is legal to copy music if a person has "any kind of cognitive impairment or condition (such as, but not limited to, dyslexia)... resulting in a diminished or limited ability to read music or text as conventionally printed". However, the original copy must be in that person's possession and "each copy must be marked... 'Copy made with permission'" (Music Publishers' Association, Code of Fair Practice, p.11, Point 11.) See [https://mpaonline.org.uk/wp-content/uploads/2017/09/The\\_Code\\_of\\_Fair\\_Practice\\_Revised\\_Apr\\_2016.pdf](https://mpaonline.org.uk/wp-content/uploads/2017/09/The_Code_of_Fair_Practice_Revised_Apr_2016.pdf) visited 06.07.20 17.45.

- Make notes of what is being done **correctly and well**, not just things that are wrong.
- Music moves on: adopt the approach that 'Tomorrow's a new day'.
- Finally, learn to be patient with yourself.

## Appendix 1. The terms 'dyspraxia' and 'Developmental Coordination Disorder'.

The DCD international clinical practice recommendations for children, young people and (for the first time) adults, published in 2019, states that international consensus does not recommend the use of the term 'dyspraxia' (Blank, Barnett, Cairney, Green *et al.*, 2019). The term 'Dyspraxia/Developmental Coordination Disorder' has now been adopted by the Dyspraxia Foundation UK, which recognises that the term dyspraxia is not recognised beyond the UK. However, some individuals may prefer to use the term 'dyspraxia' because they feel that 'coordination disorder' does not adequately describe the range of difficulties they experience. Some may also be uncomfortable with using the term 'disorder'.

## Appendix 2. Working definition of DCD

In 2011, **Movement Matters** was formed as an umbrella group to bring together the major organisations concerned with developmental motor coordination difficulties in the UK. It organised a series of consensus meetings to discuss and adapt European guidelines for DCD for the UK. It brought together a wide-ranging group of health and educational professionals, professional organisations with expertise in DCD, parents of children with DCD and adults with DCD from across the UK. This resulted in the formulation of a working definition of DCD in children and adults in the UK that was subsequently recognised by the NHS (Barnett *et al.*, 2014).

## References

Barnett, A.L., Hill, E.L., Kirby, A. & Sugden, D.A. (2014). Adaptation and extension of the European Recommendations (EACD) on Developmental Coordination Disorder (DCD) for the UK context. *Physical and Occupational Therapy in Pediatrics*, (35), 103-115.

Blank, R., Barnett, A., Cairney, J., Green, D., Kirby, A., Polatajko, H., Rosenblum, S., Smits-Engelman, B., Sugden, D., Wilson, P. & Vincon, S. (2019). International clinical practice recommendations on the definition, diagnosis, assessment, intervention, and psychosocial aspects of developmental coordination disorder. *Developmental Medicine and Child Neurology*, (61) 242-285.

Department for Education & Department of Health, HM Government (2014). *Special educational needs and disabilities code of practice: 0-25 years*. London: Crown copyright.

Dyspraxia Foundation: <https://dyspraxiafoundation.org.uk>

Guidera, S. (2017, July 7). *In Short*. [Radio programme]. BBC Radio 5 Live available at: <https://www.bbc.co.uk/programmes/p058hpqj> accessed 06.07.20 visited 06.07.20 17.07.

Movement Matters UK: <http://www.movementmattersuk.org>

NHS 2019 *Developmental Coordination Disorder (dyspraxia) in children*. Available at: <https://www.nhs.uk/conditions/developmental-coordination-disorder-dyspraxia/> visited 03.07.20 09.46.

SpLD Assessment Standards Committee (2020). *SASC guidance on the assessment and identification of Developmental Coordination Disorder (DCD) / Dyspraxia March 2020*. Available at: <https://sasc.org.uk/Downloads.aspx> visited 06.07.20 17.26.

Sumner, E.J., Pratt, M.L. & Hill, E.L. (2016). Examining the cognitive profiles of children with Developmental Coordination Disorder. *Research in Developmental Disabilities*, (56) 10-17.

## Other useful resources

Addy, L. (2013). *How to increase the potential of students with DCD (Dyspraxia) in Secondary School*. Cambs: LDA.

Addy, L. & Barnes, R. (2003). *How to understand and support children with DCD (Dyspraxia)*. Cambs: LDA.

Barnett, A.L. & Hill, E.L. (Eds) (2019). *Understanding Motor Behaviour in Developmental Coordination Disorder*. Abingdon, Oxon: Routledge.

Boon, M. (2014). *Can I tell you about dyspraxia? A guide for friends, family and professionals*. London: Jessica Kingsley Publishers.

Kirby, A. (2009). *Dyspraxia/ Developmental Coordination Disorder: A parents' guide from pre-school to adulthood*. London: Souvenir Press.

Pace, K. (2015). 'My Personal Experiences of Dyspraxia: Management strategies and resources for all'. *The AHEAD Journal* No. 2 available at: [https://www.ahead.ie/userfiles/files/Journal/Issue2\\_journal.pdf](https://www.ahead.ie/userfiles/files/Journal/Issue2_journal.pdf) visited 07.07.20 17.14