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# A Pathway for the Assessment of Adults for Developmental Coordination Disorder (DCD / Dyspraxia)

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1



## Plan for Presentation

- The 'Why'
- The 'Request'
  - The How
  - The What
- The 'what's next'

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2



## The 'Why'

*"Knowing my diagnosis was profoundly important in enabling self-knowledge and self-compassion. Holding myself to a reasonable standard has always been difficult for me, and knowing that I am the way that I am allows me to acknowledge both my strengths and my limitations, and treat myself with the kindness which every person deserves."* A - Adult with DCD/Dyspraxia.

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3

## European Academy of Childhood Disability (EACD) International clinical practice recommendations 2019

- Made recommendations addressing Developmental Coordination Disorder (DCD) in relation to definition, diagnosis, assessment and intervention in childhood and adulthood.
- It was concluded that there is sufficient evidence that DCD is a life-long condition and thus continues to impact self-care, productivity and leisure throughout adulthood.

(Blank et al 2019).



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4

## The Request

- Devise a course in relation to the assessment of Developmental Coordination Disorder (Dyspraxia) in adults
  - Pilot the course
  - Refine the Course
- Produce a final product

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5



## The Problem

There is no existing assessment protocol for assessing adults for DCD  
(Mayes *et al.*, 2024)

Thus if a person has not been diagnosed in childhood it can be very difficult to get a diagnosis in adulthood.

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6

However The EACD produced criteria for a diagnosis of DCD in adults which are based on the DSM-5 (American Psychiatric Association 2013) criteria with some amendments:

1. "The acquisition and execution of coordinated motor skills is substantially below that expected given the individual's chronological age and sufficient opportunities to acquire age-appropriate motor skills.
2. The motor skills deficit described in criterion 1 significantly and persistently interferes with activities of daily living appropriate to chronological age (e.g. self-care, self-maintenance and mobility) and affects upon academic productivity, prevocational and vocational activities, leisure, and work.
3. The motor skills deficits are not better accounted for by any other medical, neurodevelopmental, psychological, social condition or cultural background.
4. Onset of symptoms is in childhood." (Blank et al 2019 p. 274).

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7



And ....

The Royal College of Occupational Therapists UK (2021) recommends that occupational therapists should contribute to the design and promotion of local pathways for the diagnosis of DCD in both children and adults.

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8

## And there were the adults themselves

“It mattered a lot on a personal level that my Dyspraxia was diagnosed. It has helped me make sense of how I do things, how I learn and really feel like I found my missing jigsaw piece. Making sense of who I am as a person”

B – Adult with DCD/Dyspraxia”

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9



## And So.....

The Scope of the project had to change

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10



## Now 'What'?

1. Assessment of Developmental Coordination Disorder in Adulthood: A Scoping Review. Irish Journal of Occupational Therapy IJOT-08-2024-0033.R1
2. A pathway to the Assessment of Adults for Developmental Coordination Disorder
3. Course with learning pack on the assessment of adults.

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11



## The 'How' – Scoping Review 2008-2024

Review Question: Which assessments are used in studies involving adults with DCD to determine whether those adults have DCD or probable DCD?

### Research Objectives

To determine which assessments are being used to determine if an adult meets the following EACD criteria (Blank et al 2019) for DCD:

- Acquisition and execution of coordinated motor skills is substantially below that expected given the individual's chronological age and sufficient opportunities to acquire age-appropriate motor skills;
- Motor skills deficits significantly and persistently interfere with activities of daily living appropriate to chronological age and affects upon academic productivity, prevocational and vocational activities, leisure, and work;
- Onset of symptoms is in childhood.

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12

## Reminder - Criteria

1. The acquisition and execution of coordinated motor skills is substantially below that expected given the individual's chronological age and sufficient opportunities to acquire age-appropriate motor skills.
2. The motor skills deficit described in criterion 1 significantly and persistently interferes with activities of daily living appropriate to chronological age (e.g. self-care, self-maintenance and mobility) and affects upon academic productivity, prevocational and vocational activities, leisure, and work.
3. The motor skills deficits are not better accounted for by any other medical, neurodevelopmental, psychological, social condition or cultural background.
4. Onset of symptoms is in childhood." (Blank et al 2019 p. 274).

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13



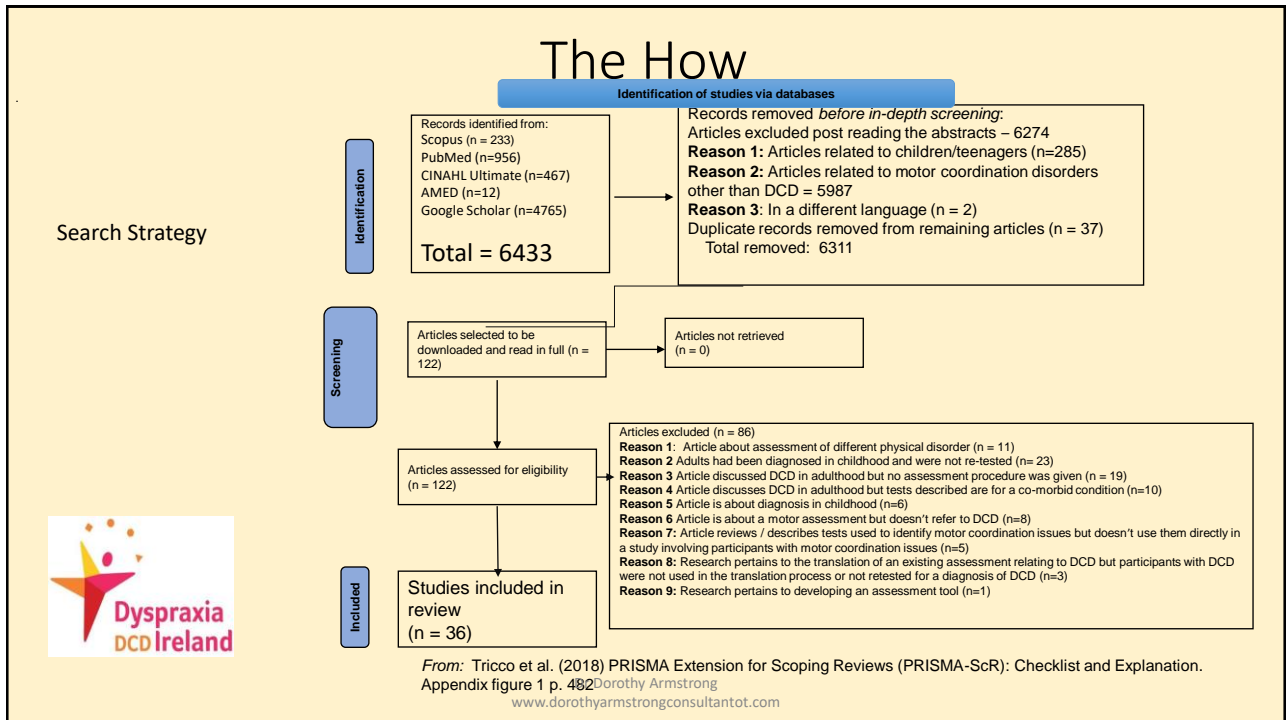
## And what about criteria 3

The motor skills deficits are not better accounted for by any other medical, neurodevelopmental condition


Blank et al. (2019) recommends that this be established by a medical doctor (GP).

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14



15



## Findings from the Scoping Review

Diagnostic Criteria	Assessment most commonly used
Motor skills deficits significantly and persistently interfere with activities of daily living appropriate to chronological age and affects upon academic productivity, prevocational and vocational activities, leisure, and work;	The Adult Developmental Co-ordination Disorders/Dyspraxia Checklist (Kirby et al. 2010).
Onset of symptoms is in childhood.	The Adult Developmental Co-ordination Disorders/Dyspraxia Checklist (Kirby et al. 2010).
Acquisition and execution of coordinated motor skills is substantially below that expected given the individual's chronological age and sufficient opportunities to acquire age-appropriate motor skills;	The Movement Assessment Battery for Children 2. (Henderson et al., 2007)

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16





## And then – Hot off the Press

- The MABC-3 was produced in 2023 (Henderson and Barnett, 2023)
- The age-band now provides norms to the age of 25 years and 11 months.
- Normative data was co-collected between UK, Australia and New Zealand.

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17



## Outcome 2: The Training Programme

**Aim:** Participants will conduct assessments with adults for Developmental Coordination Disorder (Dyspraxia) using current best evidence based practice.

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18



## Course Objectives

- Participants will obtain knowledge and understanding of the diagnostic criteria for Developmental Coordination Disorder (DCD/Dyspraxia) in adults.
- Participants will demonstrate ethical practice by having knowledge and understanding of the red flags for conditions that present with similar symptoms to DCD/Dyspraxia so that they know when an assessment is not warranted but rather that person should be referred on to the appropriate specialist.
- Participants will have knowledge and understanding of DCD/Dyspraxia in adulthood.
- Participants will have knowledge of understanding of best practice in relation to the assessment of each of the criteria for the diagnosis of (DCD/Dyspraxia).
- Participants will have skills in writing reports for the adults they assess.
- Participant will have knowledge and understanding of the accommodations that an adult with DCD/Dyspraxia may require in relation to employment, leisure and daily life.

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19



## Course Structure

- Three Sessions – Two Hours per session
- Webinars
- Format – presentations, reflection, small group work, whole group discussions, assigned reading
- Learning outcomes are linked to each of the course objectives.
- Learning Pack to accompany the course.

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20

## What's next – Dependent on funding

- It has been established that DCD continues into adulthood and thus it is hoped to conduct research using the pathway to assess adults who were diagnosed with the condition in childhood so that we can provide more evidence for use of the assessment pathway
- Research into lived experience of adults in Ireland with DCD/Dyspraxia
- It is hoped that we can partner with a university so that ethical approval can be obtained for the research.



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21

## Why is this important?

“I always thought I came out of the factory broken and that's why I was different to everyone else .... It's heartbreaking to look at how different my own life might have been if I'd known I had Dyspraxia, and so many others with whom I have got to know on my journey, each and every one wished that they had known and that society knew and acted accordingly” D – Adult with DCD/Dyspraxia

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22

## References

- Armstrong D. (2024) Assessment of Developmental Coordination Disorder in Adulthood: A Scoping Review. Irish Journal of Occupational IJOT-08-2024-0033.R1 (In Press)
- Blank R, Barnett AL, Cairney J, Green D, Kirby A, Polatajko H, Rosenblum S, Smits-Engelsman 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.
- Henderson SE, Sugden DA, Barnett A (2007) *Movement Assessment Battery for Children-Second Edition (Movement ABC-2)*. London: The Psychological Corporation.
- Henderson SE, Barnett A, (2023) *Movement Assessment Battery for Children-Third Edition (Movement ABC-3)*. London: Pearson Education Inc.
- Kirby A, Edwards L, Sugden D, Rosenblum S (2010) The Development and Standardisation of the Adult Developmental Coordination Disorders/Dyspraxia Checklist (ADC). *Research in Developmental Disabilities* 31(1), 131-139.
- Mayes WP, Gentle J, Ivanova M, Violante IR (2024) Audio-visual multisensory integration and haptic perception are altered in adults with developmental coordination disorder. [Human Movement Science Volume 93](#), 1-14.
- Royal College of Occupational Therapists (2021). A quick guide for occupational therapists: Diagnosis of Developmental Coordination Disorder in children and adults. Royal College of Occupational Therapists rcot.co.uk
- Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, Moher D, Peters MDJ, Horsley T, Weeks L, Hempel S, Akl EA, Chang C, McGowan J, Stewart L, Hartling L, Aldcroft Wilson AMG, Garritty C, Lewin S, Godfrey CM, Macdonald MT, Langlois EV, Soares-Weiser K, Moriarty J, Clifford T, Tunc OA, Straus SE. (2018). PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Annals of Internal Medicine* 169(7), 467-485.