THE NEUROFIBROMATOSIS ASSOCIATION

DEVELOPMENTAL CO-ORDINATION DISORDER (DCD)

Developmental Co-ordination Disorder can affect children in certain areas:

(1) Gross Motor

Late motor milestones The child might not have crawled at all, and/or might have been late walking.

Low muscle tone This can make the child floppier. It also means the child is unstable around the joints, especially at the hips and shoulders, and might seem to slouch when sitting in a chair or seem to shuffle along with the head kept lower and with less eye contact.

Balance problems The child might be unreasonably afraid, or conversely, unaware of danger in precarious situations e g: climbing on a climbing frame, along a wall or on a low beam in PE can make the child very nervous. The child can also be unstable if not sat properly in a chair with feet firmly on the floor. Knocking into the child can upset their balance and it can take a few seconds to correct this.

Poorly integrated primitive reflexes The child might retain some of the early baby reflexes e g: the asymmetrical tonic neck reflex which shows when the head is turned one way, the opposite arm might go out.

Poor bilateral integration The child can find it difficult to co-ordinate both sides of the body. This makes using a knife and fork or handwriting harder to do.

(2) Fine Motor

Immature grasp and poor dexterity — There can be difficulty holding and manipulating small objects e g: doing up buttons, holding and using a pencil or using scissors. The grip can change as the child changes their posture. They can be seen holding a pencil very tightly and almost driving a hole through the paper to gain some control. They can lie across the desk to gain balance and control over their body to do a fine motor task.

Poorly established dominance - The child might not seem to be clearly right or left-handed. They can use whichever hand is nearer to reach.

Poor pencil control, drawing, writing problems— The child might avoid writing tasks and have a poor grip. They often have insight and will realise that their writing is not as good as the peer group. Therefore they might not like it displayed on the wall where others can see it. A variation in quality from the top of the page to the bottom and from time to time might be shown. The child might also function better when less tired.

Eye Movements

Poor visual tracking — The child might find it difficult copying from the blackboard and might need to use a finger to follow print. They might lose their place when reading and listening to a teacher or others at the same time.

Poor relocating — The child cannot look quickly and effectively from one object to another.

Poor eye-hand coordination — The focus from the eye to the hand might be poor as well as vice versa.

Learning Difficulties

Reading— The child might show failure or lack of progress. This can be as a result of an overlap with Dyslexia. It can also be related to the fact that the child is not consistently writing down the shape of the letters and reinforcing the words in the same way that a child with neat writing will do.

Writing This includes problems with presentation, organisation of content, poor letter formation and letter reversals. The writing can vary in size and quality from the top of the page to the bottom and the letters can go above and below lines on the page. The consistency of form can vary as well as the spacing of both letters and words.

Maths The child might show problems with sequencing and remembering times tables and might not be able to understand abstract concepts.

Language and Communication

Delayed acquisition of speech The child might have been slower to acquire clear speech and might still have sloppy speech, which can be less distinct when the child is tired. The teacher or their peers can have a problem understanding what is said when the child speaks fast.

Communication difficulties Odd thought patterns, sentence structure and difficulty in organising content might be seen. This can be because the child has semantic pragmatic problems, seeing the world in a literal fashion, and cannot use language in a flexible and adaptable manner.

Receptive language This can be a problem, even though the expressive language might be very good. This can show up as a child that talks a lot but it might not be in the context of others' conversations. The vocabulary might be very complex but irrelevant. This can be quite subtle to pick up and can make a child appear not to respond to commands or to be rude or sullen.

Hearing The child might have had a history of Glue ear, appear to listen but not understand and have some difficulty following instructions. Sequences of commands can be difficult e g: 'Open the book, now write a story and draw a picture' and the child might only hear and remember the last command. They might then ask the teacher to repeat it and be reprimanded for not listening properly, even though the problem is really to do with sequencing.

Social use of language This means that the child might have difficulty understanding rules of games. The child might not be able to notice and differentiate facial gestures e g sad and frightened, happy and angry. Children sometimes find that they are picked on and bullied because they have not been able to pick up on the expressions of other children who are telling them to go away.

Behaviour and Emotion

Distractible The child can appear to be distractible but this might be because of an inability to filter out unwanted sounds, movement or a visually busy environment.

Low self-esteem Most children will have been bullied either verbally or physically at one time by peers or adults who do not understand why they cannot or will not do some of the things asked of them.

Frustration For the younger child this usually presents with behaviour which is better in school than at home. The older child might start to have disruptive behaviour in school. The child will usually have some insight from the age of six and will realise that the work that they present to others is not as good as they would like.

Variability

Achieving tasks Some children might be able to achieve tasks one day but not another. The child can tire more easily and be less able to write well in the afternoon than in the morning and find concentrating harder to do.

Tension This can affect performance. Previous poor performance can mean that the child will be anxious about attempting a task and they might give up on tasks easily because of failing at a previously similar task.

Outcome

Many teenagers and adults can still experience some difficulties but over the years have adopted coping strategies. They often end up being able to avoid a lot of the motor problems that have held them back at school, e g they no longer need to play football or wear a tie. Individuals will often continue to have problems in the areas of social skills, organisational skills and time management.

The essential feature of Developmental Co-ordination Disorder is a marked impairment in the development of motor co-ordination (Criterion A). The diagnosis is made only if this impairment significantly interferes with academic achievement or activities of daily living (Criterion B). It affects about 6% of the population and 3 times as many boys as girls.

Signs and Symptoms

The diagnosis is made if the co-ordination difficulties are not due to a general medical condition e g cerebral palsy, hemiplegia or muscular dystrophy and the criteria are not met for Pervasive Developmental Disorder (Criterion C). If mental disability is present, the motor difficulties are in excess of those usually associated with it (Criterion D).

The manifestations of this disorder vary with age and development. Younger children might display clumsiness and delays in achieving development motor milestones e g walking, crawling, sitting, tying shoelaces, buttoning shirts and zipping pants. Older children might display difficulties with the motor aspects of assembling puzzles, building models, playing ball, printing or writing. Adults might show difficulties with activities of daily living such as making meals, managing money and doing DIY. They might still have difficulties with organisation, time management and social interaction.

There is an overlap with Asperger's Syndrome and other specific learning difficulties such as ADHD and Dyslexia.

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