

## Possible Causes of DCD

The process of learning, performing, and coordinating a motor task is complex and breakdown can occur at many different points.

Research has suggested that children with DCD may have difficulties:

- **Planning a motor task:** Children with DCD may have difficulty understanding what type of action is required, such as how high you need to jump when skipping rope.
- **Organizing movements:** Children with DCD may find it difficult to think through the steps involved in a motor task in order to direct their muscles to perform skilled actions. For example, when approaching a set of stairs, children must first shift weight onto one leg before lifting the other and must reach out for the handrail at the same time — this requires organization!
- **Performing a coordinated action:** Children with DCD may have difficulty determining the timing and amount of force needed during a movement. For example, he/she might be late when reaching to catch a ball or use too much force when picking up a glass of milk.
- **Adjusting movements when demands change:** Children with DCD have the most difficulty performing motor tasks when the environment is changing. For instance, when swinging to hit a ball in baseball, the speed and position of the ball is different with each pitch. A child with DCD will have a hard time responding to these changes.

We do not know what causes these difficulties, but recent research suggests that DCD is a neurodevelopmental disorder. It is still unclear exactly which part(s) of the brain may be involved. New findings suggest that, compared to their typically developing peers, children with DCD exhibit different brain activation patterns when completing a motor task. In addition, they appear to activate brain areas related to attention as well as visual and spatial processing rather than those areas associated with motor learning. Research is underway to learn more.