Movement Assessment Battery for Children (Movement ABC)

Description

The Movement ABC (Henderson and Sugden 1992) is the most commonly reported norm-ranked assessment used to determine the presence of Developmental Co-ordination Disorder (DCD) in school-aged children. The assessment provides quantitative and qualitative data about a child’s performance of age-appropriate tasks within 3 subsections: Manual Dexterity, Ball Skills, and Static and Dynamic Balance. Performance is compared with established USA norms for children aged 4 to 12 years. The Movement ABC is a minimal task set designed to screen for motor impairment rather than provide a profile of a child’s motor performance. It takes approximately 30 minutes to administer and requires no special training.

Instructions to the client and scoring: The test is administered according to 4 age bands, each with 8 age-appropriate physical test items. Quantitative performance of each item (e.g. time of completion) is scored from 0 (best) to 5 (worst) and qualitative aspects of performance (e.g. body posture) are recorded using standard cues. Item scores are summed producing subsection scores, which are compared to normative tables to determine whether subsection performance is typical, suspect, or definitely impaired. Subsection scores are summed creating a total impairment score, to determine overall performance using the same scales.

Reliability, validity and sensitivity to change: The Movement ABC has been evaluated and found useful for identifying children with DCD in Australia (Mon-Williams et al 1994), Japan (Miyahara et al 1998), Singapore (Wright and Sugden 1996), Sweden (Kadesjo and Gillberg 1999) and The Netherlands (Smits-Engelsman et al 1998). Test-retest reliability is good (Henderson and Sugden 1992). Moderate concurrent validity has been demonstrated with the commonly-used Bruininks-Oseretsky Test of Motor Proficiency (BOMPT, Bruininks 1978) (Crawford et al 2001). However, as the Movement ABC aims to screen for motor impairment and the BOMPT aims to characterise motor performance, complete agreement is not necessarily expected (Henderson and Sugden 1992).

Commentary

The Movement ABC can be used by many professionals including therapists, teachers and nurses. Its testing procedures are straightforward and do not require interpretation. It provides some guidelines as to how to use the findings as a basis for intervention, which may, for example, suggest the therapist targets ‘static and dynamic balance’ or ‘ball skills’. If a cognitive operations approach is used in isolation (i.e. targeting only the actual problem area) then such limited information may be of use for treatment planning.

Unfortunately the Movement ABC only reveals that a child cannot perform, without indicating why this is so. This represents a limitation in view of current clinical practice, so a full neurodevelopmental assessment is still necessary in order to identify underlying deficits and prioritise the intervention plan, if using the eclectic approach to management of motor disorders common in Australia (Williams and Unwin 1997). While useful for its intended purpose of screening populations for motor impairment, the Movement ABC may under-identify children already identified with motor problems (Rodger et al 2003, Smits-Engelsman et al 1998). Further, it (i) is unable to identify children with specific motor co-ordination difficulties such as poor handwriting (Geuze et al 2001) and poor kinaesthetic abilities (Smyth and Mason 1998) and (ii) does not provide information on motor planning, bilateral integration, or sequencing (High et al 2000). Leemrijse et al (2000) found this tool limited because the subtest scores were not sensitive to change (and should not be used to measure change), even though the total score may reflect change. Pless et al (2002) reported that children scoring ≤ 15th percentile on Movement ABC at 5–6 years of age were likely to change group when retested at 7–8 years. Further, the Movement ABC may be less discriminating for 4–8 year old children (Rodger et al 2003), due to issues such as the high variability of performance in these age groups. Clinicians will find it interesting that children are not required to produce sustained or consistent performances during the Movement ABC (unlike typical neurodevelopmental assessment) and thus may score well with a ‘one off’ satisfactory performance. Crawford et al (2001) consider that the Movement ABC does not yet represent the gold standard for measurement.

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References