Testing first the dominant hand in the Jebsen Taylor Test of Hand Function (JTTHF): proposition of a modified protocol and normative values

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Introduction: The JTTHF is frequently used to assess dexterity of children with unilateral cerebral palsy (UCP). The original protocol, developed with healthy subjects, recommend testing first the non-dominant (NDOM) and then the dominant hand (DOM). In children with UCP, due to the lack of motor experience on the more-affected hand (NDOM) this procedure may underestimate their performance. This study aimed to investigate in typically developing children (TD): 1) the trial effect of beginning each JTTHF subtest with the dominant hand, 2) normative values using this procedure.

Methods: 169 TD children aged 3-16 years participated. The JTTHF original protocol was followed, but the dominant-hand was used first (DOM1), followed by the non-dominant hand (NDOM) and then by the dominant-hand again (DOM2).

Results: A learning effect of DOM2 outperforming DOM1 was found for most subtests and for the total score (all p<0.045). The time to complete subtests decreased with age as expected (all p<0.001). No significant gender or handedness (right or left-handed) effect was observed (all p>0.083).

Conclusion: This study showed a learning effect that could be beneficial in children with UCP when beginning the test with the less-affected hand (DOM). Moreover, using DOM hand first could be more representative of the child’s performance when compared to TD children (in the original protocol TD children may benefit of the NDOM trial). Conversely, we propose for children with UCP a modified JTTHF protocol (beginning with DOM hand and then NDOM hand) and the comparison with normative values provided in this study.