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Title
Standardized Test, Unstandardized Practice: 6-Minute Walk Test Use in Pediatric Neuromuscular Disorders

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Objectives
Valued for its practicality and sensitivity to change, the 6-Minute Walk Test (6MWT) is a widely-accepted measure for assessing functional ability in children with neuromuscular disorders (NMDs). Despite its broad implementation in children, standardized 6MWT guidelines were initially designed for adults and later adapted for children with Duchenne Muscular Dystrophy (DMD) by McDonald et al. (2013). However, because pediatric NMDs encompass a diverse range of functional abilities, it remains uncertain whether NMD studies—even those in DMD—are consistently following McDonald's guidelines. To address this gap, we conducted a pediatric-focused sub-analysis of our narrative review to evaluate which 6MWT guidelines are applied and what methods are used in their administration.

Design
Following SANRA guidelines, 3 databases were searched for original research published in English between 1982–2022 reporting 6MWT use in NMDs. Extracted variables included NMD type, sample size, age, and 6MWT methods (e.g., guidelines, course length, shape). A pediatric-only subsample was extracted for analysis.

Results
Of the 199 studies in the parent review, 71 (36%) consisted of pediatric-only cohorts. The mean sample size was 49.6 (SD=51.6), with 38 studies (54%) enrolling fewer than 30 participants, highlighting predominantly small-scale samples. Seven unique NMDs were studied, with DMD being the most prevalent (n=58 studies). 43 (61%) studies reported using McDonald's guidelines, with 17 (24%) and 15 (21%) using the recommended course length (25 m) and shape (linear path), respectively. Majority of the studies lacked normative data comparison or systematic reporting of falls.

Conclusions
Although pediatric-specific guidelines exist, 6MWT protocol adherence and reporting remain inconsistent, limiting replicability and meaningful comparison across pediatric NMDs. Our findings highlight the need to clarify whether existing guidelines are sufficient across NMDs or if condition-specific standards are needed. Standardization is essential to ensure the 6MWT is a reliable, interpretable, and clinically meaningful outcome measure for children with NMDs.