5 years and describe the relation between the functional tests and anthropometric variables.

Patients and method: One-hundred and fourteen males (mean age: 4y 3mo, SD: 10mo) were recruited across four age sub-categories (2.5–<3 years; 3–<4 years; 4–<5 years; 5–<6 years) and three height categories (90–<100cm; 100–<110cm; ≥110cm). Differences on the 3MWT (distance [3MWD], velocity) and timed tests between age and height groups were analyzed. Correlations between the functional tests and age, height, and weight were calculated.

Results: 3MWD increased from 158.1±15.0m at 2.5 years to 205.8±21.4m at 5 years of age. Median times (IQR) on timed tests for the total group were 2.6s (2.2–3.4) Gower’s test; 4.1s (3.7–4.7) 10m run; 2.3s (1.9–3.0) climbing four stairs; 2.6s (2.1–3.7) descending four stairs and improved with age and height. Significant differences in 3MWD, velocity, and timed tests were found between age and height groups (p<0.0001). Good to high correlations were found between the 3MWT (3MWD, velocity) (r=0.51–0.63) and timed tests (r=0.56–0.78) with age, height, and weight.

Conclusion: These normative data according to age and height provide a useful tool in the assessment of functional capacity of young ambulant males with DMD.

Poster presentation 37
Early intervention, sensory, motor, attention, and relationship therapy (EI SMART): a transdisciplinary approach to early intervention

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Introduction: There is evidence for the benefits of early intervention and clinical impetus to start intervention as early as possible for infants at high risk of developmental impairments. However, despite several systematic reviews, no one intervention emerges as being superior to another. Multi-faceted interventions may be the best option with the focus of intervention adapted to the individual problems of each infant. Therefore, there is an urgent need for a clinical reasoning framework for practitioners to develop intervention programmes consisting of appropriate evidence-based key ingredients.

Patients and method: A UK based group of multi-disciplinary early intervention practitioners supported by parents and service users used a modified nominal group technique to identify the challenges, themes, and current evidence in early intervention. This is being supported by a literature review.

Results: The need for fresh thinking going beyond traditional models of delivering therapy was identified. Core elements identified are: supporting consistent and responsive parent-infant relationships; decreasing parental stress; challenging the infant with a wide variety of self-produced motor activities in a variety of conditions; scaffolding the infant’s next developmental steps; minimising infant stress; supporting the infant’s self-regulation and promoting parental well-being. A novel clinical reasoning framework called EI SMART emphasising sensory, motor, attentional, and relationship aspects, is being developed.

Conclusion: The evidence for early intervention suggests the need for acquisition by practitioners of a broader skill set, shared across disciplines which includes strategies for active engagement and supporting of the family. We propose EI SMART as a framework for such an approach.

Poster presentation 38
Safety and feasibility of transcranial direct current stimulation (tDCS) in children and young adults with unilateral cerebral palsy: a pilot study

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Introduction: Transcranial direct current stimulation (tDCS) is an emerging approach to improve upper limb functions after adult stroke, while after congenital or early acquired stroke studies are still few and not conclusive. The main aim of this pilot study was the evaluation of the safety and the feasibility of tDCS in children and young people with unilateral cerebral palsy (CP).

Patients and method: Ten participants aged 10 to 28 years with unilateral CP who had no contraindications to non-invasive brain stimulation were recruited. The sample was divided in to two groups according to age: group 1 (n=5) aged 10 to 17 years; group 2 (n=5) aged 18 to 28 years. Each participant underwent, randomly, two sessions of real and sham tDCS. The anode electrode was placed over the primary motor cortex of ipsilesional hemisphere (electroencephalography 10–20 system), while the cathode was placed contralaterally, over the supraorbital region. During real tDCS, weak direct electric currents (1.5mA; 0.06mA/cm²) were delivered for 20 minutes, while during sham tDCS the same montage was used, but the current was ramped up over 30 seconds and then immediately turned off. To monitor and evaluate tDCS safety and feasibility, an ad-hoc questionnaire after each session and in follow-up was administered.

Results: Both real and sham tDCS were well tolerated by participants. Only mild and transient effects in both sessions were reported, which disappeared at follow-up.

Conclusion: This study contributes to increasing our knowledge on tDCS safety in children with unilateral CP. A further study in unilateral CP is planned to verify the effectiveness of tDCS for motor rehabilitation.