**PGA: VALIDITY STUDIES WITH PEDIATRIC SUBJECTS**

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| RESEARCH STUDY SUBJECTS | COMPARISONS/  LABORATORY MEASURES | RESULTS/  CONCLUSION |
| **Delgado et al. (2016)**  **Randomized controlled trial of AbobotulinumtoxinA for equinus foot deformity in CP.**  **N=241 Children with CP** | **MAS as primary, GAS as secondary, Tardieu Scale as tertiary outcome measurement tool.** | **Predefined hierarchical analysis of MAS and PGA were positive.**  **Significant overall clinical improvement based on PGA were associated with improvements in muscle tone/spasticity by MAS/Tardieu and function by GAS.** |
| **Delgado et al. (2017)**  **Safety and efficacy of repeat open label AbobotulinumtoxinA in CP**  **N=216 Children with CP** | **MAS as primary, GAS as secondary, Tardieu Scale as tertiary outcome measurement tool.** | **Sustained significant improvements in PGA parallel to MAS, Tardieu**  **GAS.** |
| **Dursun et al. (2017)**  **Randomized controlled trial on efficacy of intermittent serial casting**  **N=51 Children with CP** | **PROM, MAS as primary, Tardieu, OGS as secondary outcome measures.** | **Improvement in PGA parallel to improvement in PROM, muscle tone/spasticity and gait function.** |

**PGA: VALIDITY STUDIES WITH ADULT SUBJECTS**

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| RESEARCH STUDY SUBJECTS | COMPARISONS/  LABORATORY MEASURES | RESULTS/  CONCLUSION |
| **Gracies et al. (2015)**  **Randomized controlled trial of AbobotulinumtoxinA for upper limb spasticity**  **N=243 Patients with stroke or traumatic brain injury** | **MAS as primary, DAS as secondary outcome measurement tools**  **Tardieu scale, PROM, AROM.** | **Positive results of MAS and PGA.**  **Significant overall clinical improvement based on PGA were parallel to improvements in DAS, PROM, AROM, and Tardieu scale.** |
| **Gracies et al. (2017)**  **Efficacy and safety of AbobotulinumtoxinA for spastic lower limb in adults (Randomized trial and extension).**  **N=388 Patients with chronic hemiparesis** | **MAS as primary, walking speed as secondary outcome measures,**  **Tardieu scale, AROM, SF-36, EQ-5D as exploratory end points.** | **Positive results on MAS, no significant effect on PGA and walking speed at week 4 with planned statistical analysis (with post hoc non parametric analysis improvement in PGA reached significance).**  **Progressive improvements on PGA parallel to improvements on Tardieu XV3 angle, AROM, walking speed and quality of life at repeated extension phase.** |
| **Gracies et al. (2018)**  **Repeated AbobotulinumtoxinA injections in upper limb spasticity**  **N=258 Patients with stroke or traumatic brain injury** | **MAS , DAS, MFS,**  **Tardieu scale, PROM, AROM.** | **MAS and PROM remained stable across cycles.**  **Progressive improvement in PGA parallel to DAS, MFS across cycles.** |