**PGA: VALIDITY STUDIES WITH PEDIATRIC SUBJECTS**

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| RESEARCH STUDYSUBJECTS | 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 STUDYSUBJECTS | 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.**  |