

► **Beyond Spasticity: My Seven Years of Experience and Outcomes
Using Pediatric & Adult Neuromodulation in Private Practice and In SpineX
Clinical Trials Part-2**
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Neuromodulation Effects

● **Rapid improvements observed in multiple domains:**

- Vision changes (within minutes)
- Motor control and coordination
- Sensory awareness
- Cognitive function (memory, attention, problem-solving)
- Speech and communication
- Sleep quality
- Pain reduction

Assessment Techniques

● **Evaluate multiple systems beyond just motor function:**

- Visual changes (including peripheral vision)
- Cognitive abilities (memory, executive function)
- Speech and communication skills
- Sleep patterns
- Pain levels



Clinical Pearls

- Avoid static postures; promote dynamic stability
- Ensure center of mass is properly aligned in activities
- Minimize external forces/handling; allow self-initiated movement
- Pay attention to skin sensory input during interventions
- Combine neuromodulation with skilled therapy guidance for optimal results

Surprising Observations

- Spontaneous emergence of novel motor skills (e.g., drawing, handwriting)
- Rapid improvements in mathematical concept manipulation
- Increased endurance and energy for daily activities
- Development of sense of humor and improved social interaction

Case Studies

1. Dylan (Left Hemiplegia):

- Immediate sensory changes in affected hand
- Improved fine motor control and drawing skills
- Enhanced postural control and functional abilities

2. Saul (Right Hemiplegia):

- Improved balance and coordination on balance board
- Enhanced dual-tasking abilities
- Increased affect and engagement in activities

3. Casey (Unspecified Diagnosis):

- Reduced knee pain
- Improved gait pattern
- Enhanced verbal fluency and communication



Clinical Implications

- Effects of neuromodulation may persist beyond treatment sessions
- Combine neuromodulation with targeted activities for optimal results
- Monitor progress across multiple domains, not just motor function
- Be prepared for rapid and sometimes unexpected improvements
- Consistent use and proper application are crucial for long-term benefits

Cautions

- Improper use or lack of guidance may lead to extinction of newly emerged skills
- Avoid reinforcing abnormal movement patterns during neuromodulation
- Consider long-term consequences of intervention choices

[Link to Video](#)

NOTES

