

ORTHOTIC SUCCESS STORIES: FOUR CASES IN A SERIES

Addison

Case Study One

Addie was prescribed SMOs (supramalleolar orthoses) when she was aged 18 months and presented with developmental delay, hypotonia, and pronation. Prior to receiving her SMOs, she had been pulling to stand for four months and cruising for three months. She had just begun to take some independent steps, but was still very unstable.

Addie started pulling to stand around age 14 months (five months delayed) and had mastered walking with one hand held at age 18 months (six months delayed). Prior

to receiving her SMOs, her gross motor skills rate of change (months/skills) was .61, compared to .43 for a typical child of the same age.

After receiving her SMOs, Addie gained gross motor skills much faster, at a rate of .52, compared to 1.03 for a typical child of the same age. By the end of the study, Addie was walking backward and running, and had closed the gap to be only two to three months behind her peers. She gained three months of skills in four months.

BY MEGAN SMITH, CO

BACKGROUND: Each child in this case series was assessed every other week for 16 weeks (12 weeks for one patient who moved out of state) to determine mastery of items 23, 26-28, 30-39, 41, 42, and 45 (ranging from “pull to stand” to “run”) on the Peabody Developmental Motor Scale. Test instructions were modified as needed for children to understand them. Parents were included in each session and encouraged to play with the child in order to demonstrate the targeted skills. Graphs illustrate age of mastery for each item number for the hypotonic child compared to a “typical” child, with linear trend lines illustrating rate of change, and demonstrate the improved mastery of skills after prescription of SMOs.

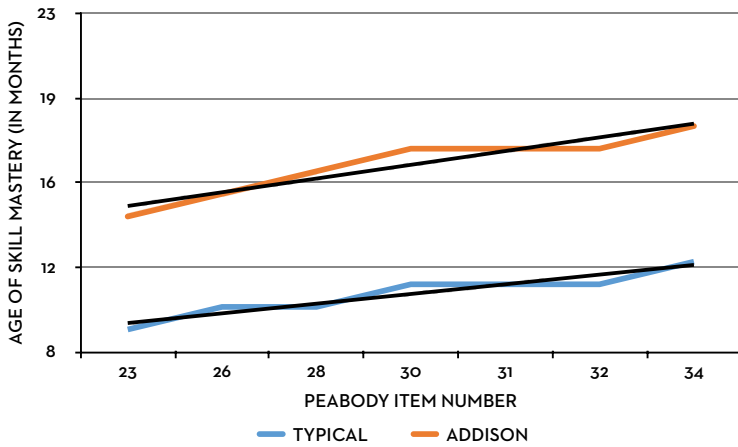
Day One - Barefoot

Day One - SMOs

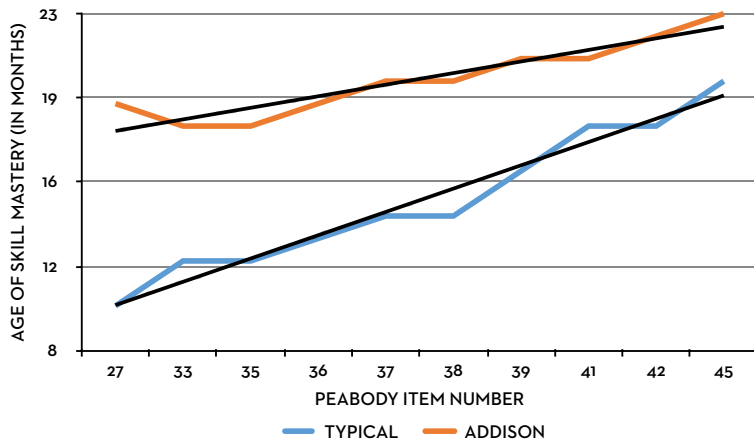


Gross Motor Skill Mastery Over Time

Gross Motor Skill Prior to SMOs



Gross Motor Skill With SMOs



PEABODY ITEM DEFINITIONS

- 23 Pull to stand with support
- 26 Cruising: 4 steps
- 27 Lowering to sitting without falling
- 28 Takes 4 steps with trunk held
- 30 Standing: Child will let go of table and stand for 5 seconds
- 31 Standing: Away from table, child will stand for 3 seconds
- 32 Stepping: 4 steps with one hand held
- 33 Standing up from ground without turning more than 20°
- 34 Walking 8 feet with one hand held
- 35 Walking 5 steps with no hands held (independent)
- 36 Standing, picks up toy from ground, stands up and takes 3 steps
- 37 Creeps up 2 steps
- 38 Walks 10 feet with narrow base of support, has heel-toe gait for half the distance
- 39 Creeps down 3 steps backward, without support
- 41 Walking fast
- 42 Walking backward
- 45 Running

Source: Folio MK, Fewell R. Peabody developmental motor scales and activity cards. Chicago: Riverside Publishing; 1983.