

History: (name has been changed)

Bobby is a young man with a diagnosis of Arthrogryposis Multiplex Congenita (AMC). AMC is a genetic condition which presents with multiple contractures of the joints in the body. This means the joint does not have full range of motion. Usually many of the bodily joints are involved. Bobby's mom reports that during her pregnancy he did not move in utero. Physicians and mom suspected some sort of problem but was unsure of what it was until later in the pregnancy. Bobby was born at 35 weeks gestation. He spent 5 days in the NICU and was casting using the Ponseti method to help correct for bilateral club feet. At 6 months old Bobby had surgery for his club feet. He has received therapy on and off throughout his life for functional development and movement patterns.

Challenges:

- Decreased Range of Motion
- Decreased Endurance
- Functional movement
- Functional independence
- Decreased balance

Situation:

Bobby and his family wanted physical therapy to help with his overall functional independence, strength, balance, and to assist with his ability to independently transfer. He has seen the AMC specialist in Philadelphia at Shriners where he had casting done on both lower legs to work on getting 90 degrees at the ankle. Once this was achieved, standing therapy could begin. Before obtaining a flat foot position, Bobby was only able to stand for a few seconds at a time with maximal assist. He also fatigued very quickly with movement and it was difficult to transfer to different positions.

Intervention:

Physical Therapy has primarily focused on strengthening of the core and the lower extremity with the inclusion of functional gait improvements and endurance for mobility. Therapy has used the mat table for supine and prone exercises against gravity to facilitate strength, endurance and coordination. Bobby has also worked on sit to stand activities using games, balls and balloons for lower extremity strength, balance and coordination. Bobby has used the Wii gaming system in standing balance activities, weight shifting activities in supported standing and balance when using his arms with dynamic movement in supported standing when playing Wii games. Bobby and his therapist worked together to obtain a new gait trainer for walking at home and a Hoyer lift for easier transfers for parents. Bobby and his therapist use obstacle courses with gait belt, leg extension on the slide, swing for leg strengthening, ambulation with locked KAFO's (knee ankle foot orthosis) baseball in supported standing with a balloon, balance reaching activities. Bobby and his family has also given extensive home exercise programs to continue care and carryover at home.

Results:

Bobby can stand for 25 minutes at a time with min to mod A. He has built up endurance to ambulate with support through gait belt and his KAFO's 70 feet with minimal to mod assist. With reminders about posture, Bobby has better overall functional movement. His range of motion of his lower extremities has improved through the casting and from the bracing but this allows for more functional movement and mobility. Bobby's ability to transfer independently out of his wheel chair to a surface with minimal assist. He continues to work on functional movement with transferring back to his wheelchair. His ability to stand for longer periods and improvements with endurance has helped with all his different types of transfers during his daily routines.