Jump Gait in Spastic Diplegia: Patient Outcome

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Treatment
Based on the history, physical exam, and the gait analysis, it was decided to perform a psoas lengthening over the pelvic brim, a medial and lateral hamstring lengthening, and a gastrocnemius recession. Postoperatively, she was mobilized weight bearing as tolerated in a short leg cast, knee immobilizers on and off every 2 hours, and 4 hours of prone time each day for 6 weeks. After that, she was placed in solid ankle-foot orthosis. See attached postoperative video.

She returned for a postoperative gait analysis 12 months later. Figure 8 shows increased GDI compared to preoperative values. Pelvic kinematics show a slightly increased pelvic tilt, but hip kinematics also showed slight improvements in internal rotation (Figure 9 and 10). Knee and ankle kinematics show marked improvements in knee extension and ankle dorsiflexion (Figures 11 and 12), and the pedobarograph shows improved total foot contacts (Figure 13).

![Figure 8. Postoperative Temporodistance Parameters](image)
Figure 9. Postoperative Pelvic Kinematics

Figure 10. Postoperative Hip Kinematics
**Figure 11.** Postoperative Knee Kinematics

**Figure 12.** Postoperative Ankle Kinematics
Figure 13. Postoperative Pedobarograph