



CASE STUDY

Total Hip Arthroplasty

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INTRODUCTION

72-year-old active female with long history of DJD to lumbar spine and most recently to her right hip. She underwent elective right total hip arthroplasty. A posterior approach was used in the procedure. The patient is active, walking 2 miles daily for exercise and also walks her dog at least 30 min per day.

GOALS

- Initiate early activity with respect for THA post-operative precautions
- Develop a normal gait pattern
- Progressively improve hip and core strength
- Return to a normal walking program and be able to walk her dog on even and uneven surfaces without difficulty

HISTORY / PROGRESSION (see Progression Table)

- Patient had long history of back pain which was getting worse with increased activity
- Developed increased R hip pain after returning from vacation
- Consulted with MD and elected to undergo R total hip arthroplasty with posterior approach
- Underwent 4 days of inpatient care, followed by 10 days of inpatient rehabilitation, then started outpatient rehabilitation
- Patient initially had significant anterior and anteromedial hip pain. X-rays were cleared by MD. Had significant lower leg swelling issues, cleared also for any vascular issues
- 2 weeks post-op, the patient initiated a walking program on the AlterG Anti-Gravity Treadmill at 30% of her body weight at 1.5 mph and no incline. We did reduce her to 25% of her body weight secondary to mild groin pain
- The protocol included gait training (on the AlterG), soft tissue mobilization, hip stability drills, and proprioceptive drills
- Program duration was 4 months

CONSIDERATIONS

- Pain and soreness were considered when progressing ambulation on the AlterG
- Speed and incline were increased as patient's pain level improved

RESULTS

The patient was seen 3x/wk x 3 weeks, then 2x/wk x 3 weeks, then 1x/wk x 4 weeks, then once every 2-3 weeks until 4 months post op. The patient started with increased anterior/medial hip pain which we needed to keep an eye on. She also had bilateral lower leg swelling issues that we were watching. She did have

RESULTS (cont.)

follow up x-rays and Doppler to rule out any medical issues. The patient did achieve all of her goals and has returned back to an exercise program and walking her dog. The AlterG Anti-Gravity Treadmill was incorporated early in the rehabilitation program as a way to restore her normal gait. In addition to allowing for normal gait patterns, the limited hip flexion ROM needed in walking in the AlterG versus cycling provided a safe exercise alternative while respecting standard THA post-operative precautions. The patient walked on the AlterG daily and progressed her speed and increased her incline to make it more of an endurance program. The patient was discharged after 4 months post op and able to walk her dog without problems. She is able to ambulate on stable and unstable surfaces without difficulty.

Progression Table

Weeks (Post-Op)	Program	Speed (MPH)	Incline (%)	Time (min)	Frequency
Week 2	Walking at 30% of BW	1.5 mph	0	15 min	3x/wk
Weeks 3-4	Walking at 35% of BW	1.8 mph	0	15 min	3x/wk
Weeks 5-8	Walking at 45-55% of BW (progressed as tolerated)	2.0 mph	0	17 min	2x/wk
Weeks 9-10	Walking at 50-65% of BW	2.5 mph	1%	17 min	2x/wk (patient was self-pay for one visit)
Weeks 11-13	Walking at 65%-75% of BW	2.7 mph	2%	19 min	2x/wk (patient was self-pay for one visit)
Weeks 14-15	Walking at 80%-95% of BW	3.0 mph	2-3%	20 min	2x/wk (patient was self-pay for one visit)
Week 16	Walking at 90% to 95% of BW	3.2 mph	3%	20 min	2x/wk (patient was self-pay for one visit)