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Who: 32-year-old female referred to PT with generalized fatigue and weakness related to Postural Orthostatic Tachycardia Syndrome (POTS)

What: Pt. that was unable to tolerate upright positions without headache, syncope, and increased HR started using the AlterG Anti-Gravity Treadmill to help with conditioning and improving tolerance to upright position.

Why: The AlterG enabled patient to stand, walk, and exercise longer than with traditional treatment options. The result was the ability to begin cardiovascular training more gently and allow patient to improve endurance in a more controlled setting.

Introduction

Patient is a 32 y/o female who was referred to PT due to generalized fatigue and weakness related to Postural Orthostatic Tachycardia Syndrome (POTS). She also has arrhythmia and had ablation treatments. She experiences severe headaches that last for hours and even days at a time. She experiences syncope in upright positions, causing restriction with daily activities including having to lie down right away after taking a quick shower and spending most of her time on the couch. She has not been able to drive and has been off of work since the start of her symptoms. She has not been able to spend much time with her 3 children and she gets fatigued even to walk short distances, like from the parking lot into the PT clinic.

Goals

Short Term Goals (to be achieved within 2-3 weeks):

- Tolerate upright positions for at least 15 mins without symptoms
- Tolerate performing home exercises in the sitting position for at least 10 minutes without symptoms

Long Term Goals (to be achieved within 6-8 weeks):

- Perform household chores for at least 30 minutes at a time without symptoms
- Return to work at regular hours without difficulty and symptoms
- Resume prior level family activities, to include leisure and school activities, without symptoms
- Resume leisure walking and prior fitness routine without symptoms

History

The patient started physical therapy on 07/20/2010 with only supine exercises to mobilize the core and was only able to tolerate about 30 minutes of the therapy session. The goal at this time is to normalize general circulation through the muscle pumping action of the core and LE muscles. Another goal is to improve general body conditioning. The patient would get very tired and lightheaded after each session. After 2 weeks, recumbent bike was added to bed exercises and she was only able to tolerate 4 1/2 minutes. She was unable to come to PT appointments for about 3 weeks due to side effects of her new medication. After about 4 1/2 weeks, exercises were resumed, which she tolerated well, including 7 minutes on the recumbent bike. She denied dizziness, but did report fatigue.

The AlterG was started on 09/10/2010 on level surface, 1.0 mph, at 50% body weight. She tolerated 15 minutes of gait activity that day, which she was unable to do otherwise. After 2 weeks, she was progressed on the AlterG to 55% body weight, 1.0 mph. Her heart rate would normally start at 119 bpm, and then drop to 84 bpm after walking on the AlterG. 2 1/2 weeks after the AlterG was started, she was already tolerating 20 minutes of walking on the AlterG at 55% body weight and 1.2 mph. Her heart rate

always normalized from 118-119 bpm to 84-93 bpm after walking. Currently, she continues to use the AlterG for up to 30 minutes, as her schedule permits, at 55% body weight and up to 1.5 mph.

Progression Table

Weeks	Program	Speed (mph)	Incline (%)	Time
<i>Week 1</i>	Walking at 55% of BW	1.0 mph	0	5 min
<i>Week 2-3</i>	Walking at 55% of BW	1.0 mph	0	17 min
<i>Week 4</i>	Walking at 55% of BW	1.0 mph	0	30 min
<i>Week 5-9</i>	Pt did not receive any treatment due to having ablation surgery.			
<i>Week 10</i>	Walking at 55% of BW	1.0 mph	0	20 min
<i>Week 11</i>	Walking at 55% of BW	1.2 mph	0	25 min
<i>Week 12</i>	Pt missed appointments due to being sick from new medication.			
<i>Week 13-21</i>	Walking at 55% of BW	1.2 mph	0	20 min
<i>Week 22-25</i>	Walking at 55% of BW	1.3 mph	0	22 min
<i>Week 26-present</i>	Walking at 55% of BW	1.5 mph	0	25 min

Results

Patient is pleased with progress achieved thus far. She is now able to drive safely to work and clinic appointments. She is now back to work at 12-15 hours a week. She reports decreased tachycardia and lightheadedness by at least 50%. She is starting to do some light household chores without increased symptoms. She is able to spend more time with her children and husband – working with homework, playing and other leisure activities – without increased symptoms.

The AlterG Anti-Gravity Treadmill was incorporated into this treatment program to:

- minimize cardiac load with activities by decreasing weight-bearing

- develop increased tolerance to walking and upright activities
- increase general body conditioning.

Since patient had been severely deconditioned due to prolonged periods of bed rest and orthostatic intolerance, the AlterG enabled patient to stand, walk, and exercise longer than with traditional treatment options. The result was the ability to begin cardiovascular training more gently and allow patient to improve endurance in a more controlled setting.