

Submitted on Monday, 3/16/2015 7:12 PM

Name of Organizer: Joan Breen MD

Affiliation: Whittier Rehabilitation Hospital

Phone: 978-372-8000

Email: joanbreen@comcast.net

I am a current member of the ASNR (Symposium organizers must be ASNR members):

Yes

Title of Symposium: Integrating Novel Technology Including an Anti-Gravity Treadmill Into an Interdisciplinary Community-Based Neurorehabilitation Program Can Improve Walking in Neurologic Patients

Description of Submitted Symposium (please limit to 2000 characters): Background:With ongoing advances in technology, rehabilitation professionals can use a variety of modalities for gait training including overground training, conventional treadmill, body weight support, robotics, aquatics. The Ant-Gravity Treadmill is a new modality initially used by athletes and astronauts allowing unweighting up to 80% of body weight. Patients are enclosed in a cockpit which unweights by filling up with air, allowing patients to be safely progressed at higher speed and longer durations than the conventional treadmill. There are few reports of outcomes for neurologic patients treated with this system. Methods:We trialed the AG system with 23 community dwelling patients(18 men, 5 women), ages 28-90 years, with chronic neurologic conditions (15 Stroke, 2 SCI, 3 Parkinson's, 1 TBI, 2 Brain Tumors) between 6/2014-1/2015 as part of an outpatient physical therapy(PT) program. 14/23 patients received conventional treadmill training prior to using AG system. Endurance, gait speed, and balance were measured using the 6 Minute Walk Test, Timed Up & Go, and Berg balance tests before AG use and monthly. Various other outcome measures were obtained. Results: Patients received a range of 4-44 sessions. No adverse complications or pain occurred. 19/23 patients (83%) had improved 6MWT and 15/19 patients (79%) had improved TUG following AG use. 1 Parkinsons, 1 SCI, 2 Stroke patients had decreased scores but increased walking duration and speed on AG treadmill. Patients with the greatest gait impairments (Functional Ambulation Category 1) had the greatest improvements in 6MWT (60%). Conclusions:AG treadmill led to improved gait speed and endurance in the majority of these patients with chronic neurologic conditions. The AG system was easily incorporated into PT and was found to be the preferred method of gait training for patients and therapists. Potential contributors to improved outcomes are the role of biofeedback and feelings of improved self-efficacy.

Length of time required for symposium?: 60"

Additional Presenters (Limited to 4 additional presenters, list full name and email address)

Please Note: Any Non-member speakers must receive prior approval from the Program

Chair.: Heather Popp DPT; heatherpopp1@gmail.com Sandra Kiley PT; sskiley@yahoo.com

What is the role of each presenter?: Joan Breen MD, Medical Director, Heather Popp DPT, Sandra Kiley PT; physical therapists Neurology Day Rehabilitation Program will review outcomes and their use of the Anti-Gravity Treadmill with community dwelling patients with various Neurologic diagnoses.

Objective 1: Have an improved understanding of potential advantages of incorporating the Anti-Gravity Treadmill into gait and endurance training for patients with various neurologic diagnoses; including safety, patient engagement/satisfaction/confidence, incorporation of bio-feedback, improved walking and other outcomes. "WHY TO USE THIS NEW TECHNOLOGY"

Objective 2: Have an improved understanding of how to overcome barriers to incorporating new technologies into "every-day", community-based rehabilitation programs, and learn specifics of how to use this new system. "HOW TO USE THIS NEW TECHNOLOGY"

Objective 3: Have an improved understanding of outcomes of a pilot group of patients with various neurologic diagnoses treated with an Anti-Gravity Treadmill

Target Audience: physicians, nurse practitioners, nurses, physical therapists, occupational therapists, rehabilitation professionals

Type of Educational Activity: Symposia

Lecture - oral didactic presentation: Yes

Forum - open dialogue and discussion among all participants: No

Panel Discussion - 3 to 6 faculty engaged in dialogue: No

Please explain: An oral presentation format will enable the presenters to present new information and outcomes for a novel gait training modality, and compare it to existing gait training techniques. Oral Lecture will facilitate discussion of video case studies of patients at baseline and at various points during treatment with the Anti-Gravity Treadmill.

Please explain: We have found that some patients who had previously plateaued with other PT gait training modalities showed further gains with use of the Anti-Gravity Treadmill system. This has led our team to incorporate the AG system earlier into the course of treatment. Patients also uniformly find this modality positive. We continue to collect ongoing outcomes data for all patients using this system.

How do you know the practice gap exists? (You must answer this question for your symposium to be considered): Evaluation Results

Please describe:

What Desirable Physician Attribute(s) will your symposium address? (Select all that apply): Patient care, Medical knowledge, Practice-based learning and improvement, Provide patient centered care, Works in interdisciplinary teams, Employ evidence-based practice, Apply quality improvement

At the end of the educational session, what will your learners have gained? (check all that apply - you must answer this question for your symposium to be considered): Knowledge (information)

Please indicate any other needs for the symposium.: ability to show patient videos

By clicking "submit form" below, I agree to adhere to all deadlines and requirements as set forth by the ASNR Executive Office and understand if I do not adhere to these deadlines and requirements I may be disqualified from presenting at the meeting.:

Line:

Response ID: 1559