

# Gait Training to Improve Resident Mobility.

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Falls in nursing homes and long term-care facilities are described by the National Center for Injury Prevention and Control as a serious problem, with approximately 50% of the 1.5 million residents nationwide falling at least once per year. One important reason relates to caregiving: Because residents are often older, frailer and more cognitively impaired than those living outside long-term care facilities, they might 'give way' suddenly, without warning, when being transferred or ambulated. Indeed, the most common causes of nursing home falls are weakness and gait problems, accounting for 24% of falls.

From a clinical perspective, problems with falls should be addressed through use of products and services that will most effectively reduce their major causes while maximizing resident mobility. Researchers in physical therapy and mobility are producing encouraging news: New technologies are emerging that promise to have a significant impact on resident mobility, and among these is the so-called ambulator-gait harness system (AGS).

The gait harness is designed to reduce the stresses/compressive forces on the caregiver's lower back during gait training activities. The gait harness also provides the caregiver with a unique ability to control the lower half of the resident's body during transfers, providing movement assist, as needed.

Specific uses and outcomes of this device are illustrated by the following clinical notes from therapists working in a variety of long-term care facilities employing a specific AGS. [\*]

Linda Horn, PT, NCS, inpatient physical therapy coordinator for St. Agnes Healthcare, Baltimore, Maryland, a 407-bed integrated healthcare delivery system: Once the resident is properly placed in the gait harness, he or she can be transferred into the ambulator for mobility-enhancing activities. When properly secured in the AGS, the resident is completely supported, without the need for caregiver assistance. Mobility activities can be performed relatively hands-free. The resident's confidence is restored, which can be a huge barrier removed, thus allowing the therapist to concentrate on fine-tuning the resident's mobility and addressing weakness and other gait deviations.

Ester Valazquez, MSPT, at Health-south Rehabilitation, Tampa, Florida: Patients whose diagnoses range from traumatic brain injury (TBI) to postoperative total joint replacements have demonstrated functional advancement in weight-bearing activities at faster rates and with a

higher level of functional performance using the AGS. The clinician can advance the therapy program by performing tasks that are above the current functional level of the resident and yet not increase the risk of injury for either the caregiver or resident. For example, one resident had, in five years of "on-again/off-again" rehabilitation, failed to develop independent ambulatory capabilities to cover even short distances. With integration of the AGS into the treatment regimen and use of aggressive therapy in restorative gait training programs, this resident made tremendous progress in independence, ambulating over distances of 200 to 300 feet. The system allowed the therapist to use his hands to resist or assist the resident, despite the resident's difficulties relating to balance control. In one maneuver, the therapist stood a short distance behind the resident and used special tubing to apply resistance to her lower extremities. This was intended to enhance motor recruitment and facilitate normal patterns of movement without need for the therapist to hold on to the resident. This allowed the resident to progress to therapy sessions concentrating on specific areas of improvement, such as neural programming and coordinate task in standing.

The therapist noted an increase in resident motivation and confidence as therapy progressed. Simple tasks, such as backward walking, could be performed with the therapist focused on retraining the movements, using assistance or resistance without fear of causing the resident to fall.

Theresa Raudsepp, MSPT, at Providence Benedictine Nursing Center, Mt. Angel, Oregon: One resident with a brainstem CVA utilized the AGS at our facility. Because of its capabilities, emphasis during rehabilitation was placed on the resident's achieving symmetrical stride length and cadence, with the goal of normalizing gait. Another resident with a diagnosis of left hemiplegia and right total knee replacement was treated with a therapy program that included AGS, allowing the caregiver to address both the complications of his hemiplegia while at the same time restoring the strength and function of his functioning lower extremity in standing. This enhanced the resident's muscular recruitment, enabling him to soon overcome his foot drag.

Liza Chuanico Bolle, RPT, at IHS of Braden River, Bradenton, Florida, a 208-bed skilled nursing facility, indicated that therapy time for a nursing home resident with TBI was shortened by six weeks after introduction of the AGS. This resident lacked enough motor control to ambulate safely in a walker without assistance. The resident was able to quickly gain self-control of her gait, in part because she was unable to rely on someone else to support her. She was soon able to ambulate, perform higher-level coordinative activities such as catching and throwing a ball, and build her endurance through walking.

Bolle and other healthcare workers at IHS of Braden follow an integrative approach with her facility's restorative gait training programs. One 200-pound TBI resident had previously ambulated using a rolling platform walker, crossing 200 to 300 feet in 30 minutes, and in doing so requiring two caregivers' assistance because of a tendency to lean to the right side and have the right leg buckle under him. Use of the AGS has helped this patient to assume a more upright and symmetrical position and has reduced his ambulation time over the same distance to 5 minutes.

Using technologies such as the AGS, rehabilitation programs of this type benefit residents, caregivers and the facility alike. They reduce the resident's risk of falling by restoring and maintaining muscle strength and control, improving range of motion, expediting joint function, improving circulation, maintaining bone density and increasing alertness. In addition, residents have the psychological benefit of increased self-esteem from being able to participate actively in their own care with a greater sense of independence. Finally, the entire healthcare team benefits from residents' physiological improvements, which not only prevent falling injuries but reduce the risk of injury to caregivers.

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(\*) The Therapeutic Ambulator/Gait Harness System from Second Step.