

Addressing Resident Mobility and Fall Prevention: A CLINICAL PERSPECTIVE WITH GAIT TRAINING

An integral component of the care of residents or patients in long-term care facilities is the maintenance and restoration of functional activities. Ambulatory goals are a central component for most residents. In therapeutic or restorative gait programs, the challenge is to provide a safe and effective method for both resident and caregiver. Falls can be a devastating problem for the resident, caregiver and the risk management in a facility. Advances in ambulatory and support devices provide a safe and effective method for mobility of the resident that can make a significant impact on the overall health of residents, caregivers and the cost effectiveness of treatments in facilities.

Falls in nursing homes and long term-care facilities as noted by the National Center for Injury Prevention and Disease Control are a serious problem with approximately 50% of the 1.5 million residents nationwide falling at least once per year. These falls occur in part because the residents in our facilities are in need of our help. They are often older, frailer, more cognitively impaired than those living outside long-term care facilities. For these reasons, residents being transferred or ambulated, may “give way” suddenly, without warning and resulting in a fall unless we are properly positioned and ready for this event. In the Nursing Home Long Term Care June, 2000, article on Improving Resident Transfers, Wood et al., point to improper training for manual lifting techniques with under arm holds as a major culprit for injuries. The training of the clinical/caregiver staff was addressed and the cost savings relating to proper training was discussed in detail. The most common causes of nursing home falls are weakness and gait problems, which accounts for 24% of the falls. Environmental hazards (wet floors, lighting etc.), medications, difficulty in transferring and foot care are some of the other causes.

Identifying predisposing factors and assessing resident-caregiver risk can assist in forecasting fall risk of the resident, the caregiver and the facility in regards to mobility and fall prevention.

Predisposing factors with falls as it relates *to the resident* may be weakness and gait problems, poor general health, impaired mental status possibly influenced by medications and their emotional status. Predisposing factors for falls as it relates *to the caregiver* may be improper training in both transfers and the use of transfer and ambulatory equipment, and physical factors such as a disparity between the size of the resident and the size of the caregivers. *The facility's* predisposing factors include limitations of equipment used or provided that reduces the stresses during lifting and supporting residents. Environmental factors that can lead to falls are lighting, flooring and other design issues. The challenges encountered by caregivers while assisting residents with mobility and transfer activities are some of the most difficult challenges in long-term care facilities today, as the residents can suddenly “give way.” If a fall occurs, the mutual trust that is necessary for advancement in therapy programs is strained.

From a clinical perspective, the fall and mobility issues for residents should address those factors that can be influenced through implementation of products and services that will most effectively address the major causes of falls while maximizing the benefits of mobility for residents.

Researchers in the area of physical therapy and mobility are looking at new ways to address these areas and they have encouraging news. New technologies are emerging in the industry such as ambulator-gait harness systems have a significant impact with regards to clinical experiences. These systems provide for safe, effective and dynamic gait training programs that can be integrated into all ambulatory and transfer needs of the facility. One such system is the Second Step, Inc. Gait Harness System® (GHS). The system is composed of a gait harness and ambulator. The gait harness designed to reduce the stresses/compressive forces on the lower back of the caregiver during gait training activities.

Dr. Robert Andres has written about the uses of gait harness systems and in a study he modeled a variety of situations using realistic postures with caregivers using gait harnesses. Other researchers also relate to finding safety solutions for Mobility and Fall Prevention as described in The Isernhagen Work Report, Fall 2000, the Ergo Focus identifies that the harness distributes the patient's weight, allowing caregivers to manage residents more easily and safely. The gait harness also provides the caregiver a unique ability to control the lower half of the resident's body during transfers providing substantially improved manual control and assist of the resident as needed. Through secure handholds built into the harness, caregivers can be sure to position themselves properly with both single and two person assistive activities. The use of the gait harness in weight-bearing assistive programs addresses both mobility and safety issues effectively.

The following therapists' clinical experiences identify resident mobility outcomes that address many of these key factors in fall prevention with gait training. According to Linda Horn, PT, NCS, the inpatient physical therapy coordinator for St. Agnes Healthcare, Baltimore, Maryland, a 407 bed Integrative Health Care Facility, once the resident is properly placed in the gait harness, they can be transferred into the ambulator for mobility activities. When the resident is properly secured in the GHS, the resident is completely supported without the need for the caregiver to hold onto the resident directly. This eliminates the risk of injury from the resident suddenly "giving way" and falling to the floor. Since the resident is in a stable and secure environment, mobility activities can be performed relatively hands free for the caregiver. Linda states "the resident's confidence is then restored, which can be a huge barrier removed," thus allowing the therapist to concentrate on fine-tuning the resident and addressing weakness and other gait deviations.

The clinical perspective from Healthsouth Rehabilitation in Tampa, FL, where patients whose diagnosis range from Traumatic Brain Injury (TBI) to post-operative total joint replacements have demonstrated functional advancement in weight-bearing activities at faster rates with a higher level of functional performance. Mutual trust between the resident and therapist while being held/supported with the GHS is enhanced and more productive therapy sessions can follow. 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 to either the caregiver or resident.

Clinicians progressed another patient, who in five years of on again off again rehabilitation, failed to develop independent ambulatory capabilities for even short distances. The therapist integration of the GHS with this resident made tremendous progress and independence with ambulation for moderate distances of 200 to 300 feet through aggressive therapy in restorative gait training programs. The system allowed the therapist to use his hands to resist or assist the patient despite her difficulties relating to balance control. For example, the therapist stood a short distance behind the patient and resisted her lower extremities. Resistive tubing was utilized to provide resistance to the thigh to enhance motor recruitment and facilitate normal patterns of movement without the need to hold on to the resident. This allowed the resident to receive truly skilled hands-on care for more progressive therapy sessions by concentrating on specific areas such as neural programming and coordinate task in standing. The therapist noted an increase in resident motivation and confidence as therapy progressed. Simple task such as backward walking could be performed with the therapist focused on retraining the movements and assisting or resisting without fear of the resident falling. At Providence Benedictine nursing center, Mt. Angel, Oregon, Theresa Raudsepp, MSPT, reports that one of her residents with a brainstem CVA utilized the GHS during her stay. Emphasis was placed on symmetrical stride length and cadence with the goal of normalizing her gait. Another resident with a diagnosis of left hemiplegia and right total knee replacement was treated with a therapy program that included GHS. This allowed the caregiver to address both the complications of his hemiplegia while at the same time restoring the strength and function of his lower extremity in standing. The system provided the resident with a secure environment to ambulate. This enhanced his muscular recruitment and the resident soon overcame his foot drag.

At IHS of Braden River, Bradenton, Florida, a 208 bed SNF, clinicians indicate therapy time for a nursing home resident with TBI, was shortened by 6 weeks after the introduction of the GHS. 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 could not rely on someone else to support her and lean on the caregiver. She gained confidence quickly and was soon able to ambulate, perform higher-level coordinative activities such as catching and throwing a ball and build her endurance through walking in this system.

Liza Chuanico Bolle, RPT follows an integrative approach with their restorative gait training programs. Favorable intervention efforts are getting the results that caregivers are looking for with Mobility and Fall Prevention as it relates to gait training. One 200 lb TBI resident previously ambulating using a rolling platform walker 200-300 feet for 30 minutes, required 2 caregivers assistance due to a tendency to lean to the right side with the right leg buckling under him. GHS has assisted the patient to assume a more upright and symmetrical position through arm supports and has cut ambulation time to 5 minutes. This reduced assistance to 1 person per resident and restorative aid feedback, the system provided a secure and stable environment allowing overall improvement in this program.

These programs benefit residents, caregivers and the facility. They reduce the risk of falling by restoring and maintaining resident muscle strength and control, improving range of motion, joint nutrition and function, improving circulation, maintaining bone density and increased alertness. In addition, residents have the psychological benefit of increased self-esteem from actively participating in their own care with a greater degree of independence. The entire health care team benefits from greater resident physiological improvements, which prevents falling injuries and a reduced risk of injury to caregivers since these systems provide a safe environment for the resident during ambulatory activities.

In summary, clinicians indicated very promising outcomes in relation to fall prevention and mobility. The challenges that nursing home facilities are confronted with in relation to complex and difficult areas are being met with very favorable intervention efforts. Researchers and therapists offer evidence that options exist that provides encouragement. Implementing effective systems and programs within the long-term care facility can prevent injuries that are fall related while increasing opportunities for your facility's mobility outcomes.

Joseph Millen PT MTC has extensive experience working with program development for nursing homes and rehabilitation centers in the Tampa Bay area.

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Facilities Approved	# of Beds	Contact Person
1. St. Agnes Nursing Center Baltimore, Maryland	407	Linda Horn, PT NCS, Physical Therapy Coordinator
2. Healthsouth Rehab Tampa, Florida	120	Joyce Urban, PT, Physical Therapy Coordinator
3. IHS of Braden River Bradenton, Florida	208	Lisa Chuanico Bolle, RPT
4. Providence Benedictine Mt. Angel, Oregon	105	Theresa Raudsepp, MSPT