



Improving Quality Measures in Both Long and Short Term Settings

Improving Quality Measures in both Short Stay (SS) and Long Stay (LS) requires a multidisciplinary approach. In the hands of both rehab and nursing teams, the NeuroGym® line of mobility training equipment can help facilities show a positive change in a number of key Quality Measures both in SS and LS applications.

Perhaps the ultimate measure of success in Short Stay is reduced length of stay (LOS). It is generally accepted that more effective physical and nursing rehab programs can have a major impact on this measure. ***Less well understood, is the fact that better mobility training programs can also positively affect a number of key Quality Measures in both the SS and LS environments.*** But choosing which rehab equipment and programs will have a definite impact on residents' functional abilities and, in turn, on key Quality Measures, requires careful consideration.

The NeuroGym® line of mobility training tools are specifically designed to enable the type of exercise and movement training that will lead to real changes in functional mobility. Developed by a physical therapist and movement scientist, the equipment targets the underlying skills and abilities necessary to improve, balance, gait and motor control. Likewise, they are designed to be used in a way that does not necessarily require specialized staff or increased staff time and resources.

Regular evaluation of several key Quality Measures should indicate the effectiveness of mobility and functional training in a facility. Due to the standardized nature of the scales, these scores could also be used to demonstrate the effectiveness of programs both within and across facilities.

Activities of Daily Living (ADL) Decline

The Minimum Data Set (MDS) protocol is comprehensive and covers various domains of the resident's well being. One would expect that training with the NeuroGym® tools and methodology would improve measures of mobility, stability and ADL. For example, the section on "Physical Functioning and Structural Problems", evaluates activities such as bed mobility, transfer, walking (either in or outside the resident's room), dressing, toilet use, and bathing amongst others. A resident's ability is scored on a scale of 0-8 where 0 is 'normal' and 8 is 'no function noticed'. It is a simple but effective scale to record measures of function and is reasonably sensitive to change. In other words, if a resident's ability to transfer improves from requiring a mechanical lift to a 2- person transfer, their MDS score would improve from 8 to 3. If

applied over many residents, a facility that effectively promotes mobility training would stand out on the MDS scores of Physical Functioning and Structural Problems. ***This would translate into improving the Quality Measure of ADL decline.***

For example, information from the Resident Assessment Instrument – Minimum Data Set (RAI-MDS) was recently collected in a number of long term care facilities in Ontario that are using NeuroGym® Technologies equipment. **Figure 1** illustrates the changes that occurred in one of the facilities 'Improved Locomotion' measures.

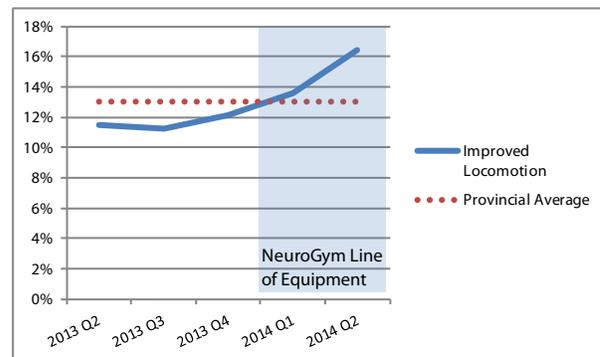


Figure 1: The percentage of residents showing improvement in locomotion increased following implementation of training with the NeuroGym line of equipment. The percentage of residents with improved locomotion now exceeds the provincial average.

In the three quarters preceding the NeuroGym® equipment implementation, scores on this measure were: 11.5%, 11.2% and 11.9% , with the desired benchmark being 13%. In the following two quarters, with the NeuroGym® line of equipment in place, scores improved to 13.6% and 16.4%.

A recent case study on the effect of enabled standing and squatting training also demonstrated the potential of intensive training with the NeuroGym® equipment. A 12 week training program consisting of enabled standing and squatting and games-based biofeedback training (TimTrainer), was given to 11 LS residents (average age of 87.4 years) each of whom required assistance for the sit-to-stand movement in their ADL. All 11 participants required assistance to perform 5 consecutive sit-to-stand movements. At the end of the study, 4 residents could stand independently – all 11 improved their ability to

stand. MDS functional mobility scores, but also some indirect measures such as **Pressure sores** and **Pain level**, also showed parallel progress. It was clear that the NeuroGym® equipment use significantly improved the ability to stand in frail older adults who had been dependent on assistance.

It should be noted that ADL scores, though very important as a reflection of functional progress, are complex measures. Clinicians need to be specifically trained to detect (and encourage) improvement in ADL and not just to notice regression.

Pressure Ulcers & Bowel/Bladder Control

Two other quality measures also improved with the introduction of the NeuroGym® tools. **Pressure ulcer** scores in the three preceding quarters were 9.40, 10.20 and 9.40. Following the implementation of a program using the NeuroGym® Technologies equipment, these scores went down to 9.00 and 8.00 (approaching the benchmark of 6.40) (see **Figure 2**). Similarly, **bowel and bladder continence** scores improved significantly with the initiation of this mobility training (see **Figure 3**). This should positively affect the Quality Measure of percentage of residents who need **catheterization**.

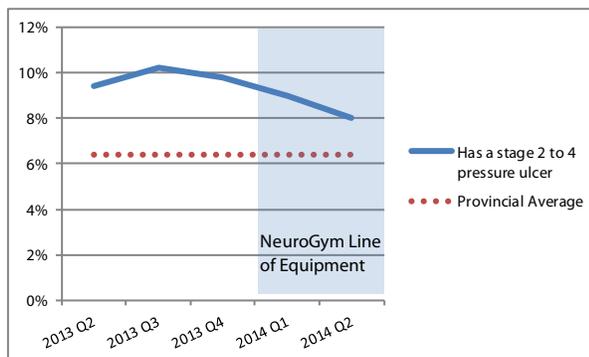


Figure 2: The percentage of residents with a stage 2 to 4 pressure ulcer exceeded the provincial average. Implementation of the NeuroGym line of equipment has helped reduce the percentage of residents with pressure ulcers, and the facility is approaching the provincial average.

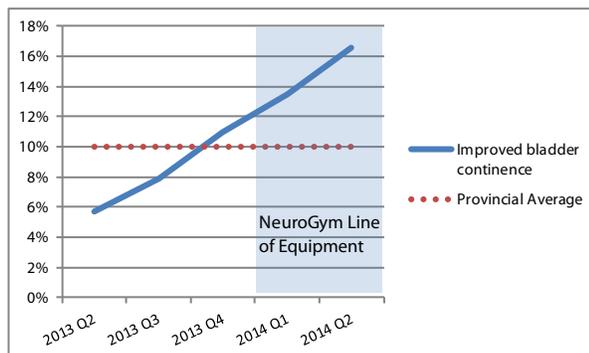


Figure 3: The NeuroGym equipment facilitates resident mobility for toileting plans. The percentage of residents with improved bladder continence has continued to increase dramatically with the implementation of NeuroGym equipment.

Frequency of Falls

It is important to note that as currently structured, not all conventionally targeted quality measures are sensitive to improved mobility and function. The frequency of Falls scale, for example, is such a complex measure. Since the measure of falls is typically done across the facility, it normally includes 'old walkers' as well as 'new walkers' (i.e. those residents who re-learn how to walk). The latter group, however, may fall more frequently than those who usually use a wheelchair, thus obscuring the training effect. To effectively use Falls as a valid quality measure, one would have to limit the investigation to a particular group of walkers (or residents during transfers) and re-evaluate those same residents following training.

Reduced Length of Stay (LOS)

Although not a direct Quality Measure, reduced stay days are the ultimate outcome of improved Quality Measures in SS. Prior to a four month pilot program using NeuroGym® Technologies equipment, a 28 bed sub-acute program had average stay days of 77. After just four months of the implementing regular mobility training with the tools, average stay days were reduced to 55, an almost **30% reduction in stay days**.

With regular and intensive use of the NeuroGym® Technologies line of mobility training equipment, residents should improve on a number of Quality Measures both in SS and LS.



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