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# The Effectiveness of Specialist Seating Provision for Nursing Home Residents

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**Seating Matters/Ulster  
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## Introduction

In 2013, an estimated 475,000 older people lived in residential and nursing homes across the UK (LaingBuisson, 2014). There are about 15,700 private, voluntary and Local Authority care homes in the UK, providing care at an estimated annual value of more than £8 billion per annum (Annexe, 2002).

Approximately half of the residents of nursing home facilities are predominantly wheelchair or seating users.

The standard chairs in nursing homes were never intended for continuous sitting. In some cases poor posture and positioning as a result of inadequate seating results in increased discomfort, skin breakdown, reduced mobility, limits on vision, swallowing, breathing and biomechanical problems, such as hips out of normal alignment and poor lower-extremity positioning.

## Impact of Poor Seating

Many people who suffer from long term disabilities or who are elderly lack mobility. As a result, they often spend long periods of time sitting, whether in a wheelchair or in an armchair. When people spend prolonged time sitting they can become very uncomfortable and may develop poor posture, pressure ulcers or both. Many nursing home residents do not receive an adequate seating assessment on admission to the nursing home and therefore are provided with unsuitable seating which can be very harmful.

*"I feel like we are never going to get one [a chair] to suit her. We have used three from storage but they have not been suitable and her current chair is leaving marks on her skin."*  
Caregiver feedback

A seating assessment should be fundamental to the initial assessments undertaken when a person is admitted to a nursing home. A professional trained in how to assess and prescribe seating and monitor pressure care should carry this out. The resident should ideally be matched with suitable specialised seating to meet their postural and functional needs.

Current expenditure by the NHS in the UK on pressure ulcers is £2.1bn annually (Bennett, 2004). This equates to approximately £10,500 per sore. Anecdotal evidence suggests that correct seating provision is instrumental in depleting this cost by preventing ulcers through investment in chairs before ulcers develop. As the average retail price of a chair is £1,800 across all seating companies, there is an 82.9% potential saving for the NHS in this area (Bennett, 2004).

## Aim of Research

Seating Matters have collaborated with leading researchers at Ulster University to try to identify the importance of suitable seating provision in reducing the incidence of pressure ulcers and postural difficulties which have an impact on swallowing, eating, breathing and feeding in adults in nursing homes. This clinical trial explores the effectiveness of specialist seating provision within a nursing home environment and how it has the potential to impact positively on the health and wellbeing of residents and their caregivers. It will identify the key principles of correct positioning, seating and mobility and the influence this can have on the health of older people.

## Methods

### Study Design:

This study involved a mixed methods design. We used a range of qualitative and quantitative tools, both standardised and those designed by the research team, based on issues identified in the literature.

38 participants were recruited from three nursing homes and randomly allocated to one of two groups using computer generated numbers. The Control Group continued to use their existing chair while the Intervention Group were provided with a chair that was compatible with their individual seating and postural needs.

Both groups were monitored by occupational therapists from the research team over a 12 week period looking at their seating and postural abilities, oxygen saturation levels, functional skills, skin integrity and caregivers' level of input.

A questionnaire was completed by the caregiver before and after the 12 week trial period. A seating assessment was also completed with each participant before and after the trial period to monitor and record any changes in posture, skin breakdown or medical presentation. As a pilot study of a specific nature, it was not blinded.

### Outcome Measures:

At the beginning of the trial the following assessment tools were administered for participants in both the Intervention and Control groups.

#### Clinical factors:

- Demographics (such as age of client, medical history etc).
- Seating assessment (of resident's sitting balance and postural needs, sitting skills, range of movement for sitting and transferring in/out of the chair).
- Digital Photographs (taken before and after initial assessment with residents sitting in their original chair and in the chair they used during the trial period).

#### Physiological factors:

- Braden Scale to measure risk of developing pressure ulcers.
- Pulse Oximeter to measure saturated oxygen levels.

#### Quality of life factors:

- Caregiver questionnaire to gather any changes, if any before and after trial period.

*Full ethical approval and research governance was sought and obtained from Ulster University filter committee and OREC Northern Ireland.*

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## Results

Initial findings are shown in brief below. For more information on the research findings please email [contact@seatingmatters.com](mailto:contact@seatingmatters.com).

### Pressure Ulcers/Red Areas:

The results in this area have been very significant with no participants developing a red area or pressure ulcer whilst using Seating Matters specialist seating. In the Control Group, there was an increase in pressure ulcers. Each existing pressure ulcer in this group remained. Concurrently, the participants in the Intervention Group, using the Seating Matters chairs, had an overall reduction in pressure ulcers.

### Pulse Oximeter-Saturated Oxygen Levels:

Interestingly 85% of the intervention participants were found to have increased saturated oxygen levels over the 12 week trial. The rest of the intervention participants maintained their initial results. 60% of the control participants experienced decreased oxygen saturation levels while continuing to use their existing seating which had not been individually tailored to their needs.

### Positioning:

Results from the caregiver questionnaires as well as qualitative feedback have shown that both the incidence of sliding and falling to the side in participants in the Intervention Group have decreased significantly. In some cases, carers have reported initially repositioning the participant as a result of poor posture every 20 minutes whereas at the end of the trial, using specialised seating, that has been reduced greatly.

*"The chair is fab! We don't have to reposition him as much anymore as he used to slide down in his chair before every 20 minutes!"*

Caregiver feedback

### Function:

Feedback from carers and family as well as direct observation and assessment from the occupational therapists has shown that as a result of seating, many intervention participants have shown increased function and participation in activities of daily living. Participants were more alert, able to sit up for much longer and able to assist with self-care tasks and leisure activities.

*"She is so much more comfortable. She doesn't ask to go to bed anymore and she can even play bingo now!"*

*"She seems to like the new chair, always sitting comfortably. Family love it and say they find their mother more responsive when they visit."*

Caregiver feedback

In some cases, participants even regained the ability to feed themselves independently and carers found that assisting with this activity was much easier and safer when positioned correctly in a Seating Matters chair.

*"We can now feed her in the chair as they [Seating Matters] provided us with a table that can be fitted on. It's been great."*

*"It's been great. She is much easier to feed now as she doesn't fall forward anymore. She is very content in her chair."*

Caregiver feedback

## Conclusions

This relevant and current piece of research provides information on strategies and protocols needed for appropriate seating and positioning recommendations. The needs of each patient are different and require individualised assessment to provide appropriate clinical guidance and recommendations for seating. This is a fundamental aspect of patient care which has a direct effect on many wider aspects of an individual's health and wellbeing. The Seating Matters chairs have been researched intensively and clinically trialled for those who are elderly or have complex seating needs.

The staggering results have proven what we already believe, that the correct use of specialised seating can lead to;

- A reduction in pressure ulcer incidence.
- Increased functional ability.
- Improved posture and a reduction in the development of postural deformities or sliding/falling from the chair.
- Improvement in respiration, elimination, digestion and other physiological functions.
- Improved quality of life and psychological wellbeing.
- Improved communication and interaction.
- Improved comfort and a reduction in the need for pain medication.
- A significant reduction in expenditure on staff labour and treatment of pressure ulcers.

### References:

LaingBuisson (2014) *Strategic commissioning of long term care for older people* [Online] Available from: [https://www.laingbuisson.co.uk/Portals/1/Media\\_Packs/Fact\\_Sheets/LaingBuisson\\_White\\_Paper\\_LongTermCare.pdf](https://www.laingbuisson.co.uk/Portals/1/Media_Packs/Fact_Sheets/LaingBuisson_White_Paper_LongTermCare.pdf). [Accessed 9 February 2016].  
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European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel. *Prevention and treatment of pressure ulcers: quick reference guide*. Washington DC: National Pressure Ulcer Advisory Panel; 2009.  
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\*The study reported a reduction in pressure ulcers, which has been calculated from the reduction in pressure ulcers/pressure injuries/skin redness in the intervention group. The control group experienced an increase in pressure ulcers during this period. The measurement of pressure ulcers was observational and the analysis of the results included various forms, not including statistical analysis. The study has been reviewed and presented at over 30 academic conferences in 3 continents and is pending publication in a respected peer-reviewed journal.



Martina Tierney and Seating Matters have teamed up with leading researchers in health sciences, working with Ulster University to continually push the boundaries of seating innovations. Together we are discovering the effectiveness of suitable seating provision in increasing functional ability, improving postural management, quality of life and reducing the risk of pressure ulcers in adults in nursing homes.

