

Introduction

Pressure ulcers affect an estimated 30% of patients in the community and 4-10% of patients admitted to hospital (NHS Institute for Innovation and Improvement, 2013) with an estimated annual cost of pressure ulcer care in the UK being up to £4 billion and the cost of treating the most severe ranging from £11,000 to £40,000 per person (NPSA, 2010)

They significantly affect quality of care and account for an estimated 3% of annual NHS expenditure (Drew et al, 2007). Every effort to avoid them should be made as the emotional costs to the individual affected and their family are immeasurable.

It is vital that every effort should be made to identify those most at risk of developing a pressure ulcer and implement interventions to reduce risk, of which provision of pressure-redistributing equipment is a crucial element (Nichols, 2014).

Background

Central England Rehabilitation Unit (CERU) is the largest level 1 accredited facility available which offers patient focused neuro-rehabilitation, with patients having varying levels of brain injury, ranging from those who have prolonged disorder of consciousness to those who are able bodied requiring psychological rehabilitation. With patients amongst those highest at risk of developing pressure ulcers, it is vital the correct choices are made regarding support surface therapy as part of a holistic approach to a pressure ulcer prevention strategy.



Invacare's Softform Premier Active 2 (SPA2) is the only mattress used at CERU

Method

On admission to the 42 bed unit, a risk assessment and skin assessment were undertaken and patients were routinely prescribed an alternating air system, unless contraindicated, and used in conjunction with other preventative strategies such as repositioning as recommended in the EPUAP and NICE guidelines (EPUAP 2014, NICE 2014).

However, there were occasions when patients were compromised on the alternating air interface surfaces and an alternative mattress support was required. Following research and recommendation, the Softform Premier Active 2 mattress system was considered as an alternative choice. The high specification foam surface providing a pressure redistributing static interface with an alternating air cell deck beneath, altering the areas of the body bearing load.

Supported by sound clinical evidence for use with the most compromised patients with application recommended for the most severe pressure ulcers, including grade 4 (Stephen-Haynes et al 2015), the system was evaluated to address comfort and transfer issues for patient within the unit.

Case Studies

Case Study 1

A 68-year-old gentleman, who was a Swimming instructor. Very active man who developed Guillain Barre syndrome in July, 2016. He was admitted to CERU in September for neurological rehabilitation. On admission, he was being peg fed and completely dependent upon staff for total care.

He didn't like the air mattress initially prescribed as he felt quite frightened due the movement on the cells causing instability. A SPA2 was prescribed as an alternative support surface. He used a banana board transfer and felt much more stable and confident while in bed. He stands and walks with a frame now but does tire easily so spends time during the day in his wheelchair. His skin remains intact.

Case Study 2

A 23-year-old gentleman, a photographer's assistant, who was setting up a photo shoot on top of a building in November, 2016, when he fell down a ventilation shaft. His fall was broken by a flight of stairs and as a result, he suffered multiple fractures including both legs, both arms, pelvic and spinal fractures and a ruptured spleen. He also suffered a head injury and facial fractures. He underwent a splenectomy, a cerebral pressure probe was inserted and then further surgery for fixation of his fractures. He was admitted to CERU in January, 2017. On admission, he was prescribed an alternating air mattress which he found uncomfortable. The following day this was changed to a SPA2 mattress, which greatly improved his comfort and aided transfer due to the stability of the edges when he uses the rota stand with the assistance of two staff.

His pressure areas are managed successfully and his skin remains intact.

Case Study 3

A 16-year-old boy, with axonal diffuse brain injury after falling off his bicycle. He was admitted to the major trauma centre initially, where he was intubated and ventilated. He was then transferred to the children's hospital.

He was admitted to CERU in March, 2016. He had a Grade 4 pressure ulcer to the back on admission from his cervical collar. He was nursed on an air mattress initially when he completely bedbound. When he was transferred he was in a state of prolonged disorder of consciousness. Following neuro rehab assessment, where his awareness levels were improved, his tracheostomy was removed, his peg tube was removed and he was able to drink and eat unaided by May, 2016. He commenced hydrotherapy in February, 2017 which further aided his rehabilitation process. He was considered to be at high risk of falls and the cells of the air mattress proved to be a means of egress for him as he could grab individual air cells and drag himself to the edge of the bed. A SPA2 was prescribed as an alternative support surface.

The SPA2 reduced his falls risk and risk of shear damage and he remains on the system with his pressure areas intact. He transfers with a rota stand and the assistance of two nurses.

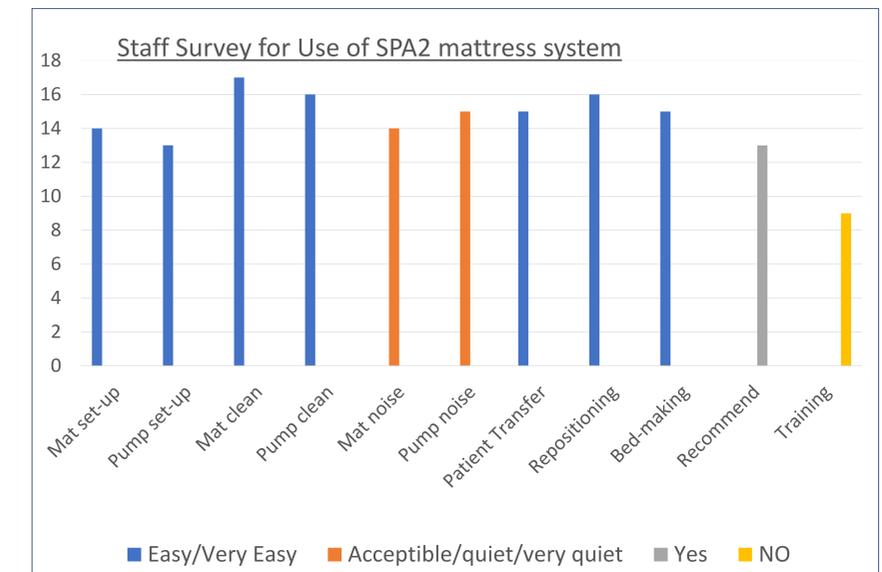
Staff survey for use of the SPA2

A survey was undertaken by 17 ward staff, including care support workers, trained staff, a student, an agency and bank nurse, an assistant practitioner and a clinical sister to identify the following:

- Easy of set up
- Ease of cleaning
- Noise level
- Ease of patient transfer
- Ease of repositioning
- Ease of bed-making
- Whether they would recommend the SPA2
- Further training requirements

Results

The following results were recorded.



Conclusion

The unit now has a full complement of SPA2 systems, which have proved to be a successful alternative to the alternating air system previously prescribed for Neuro-rehabilitation patients within CERU. Patients have gained benefits from using the system, staff feedback was positive and the unit is very proud to announce that since using the SPA2, they are now five years pressure ulcer free!

References

Nichols E (2014) Pressure-redistributing mattresses: when and where are they appropriate? *Wound Essentials* 9 (1): 70-78

Stephen-Haynes J, Callaghan J, Allsopp A (2015) A retrospective analysis of the use of the Softform Premier Active 2 in an NHS Trust. *Wounds UK* 11 (4): 82-88

National Institute for Health and Care Excellence (2014) Pressure Ulcers: Prevention and Management (CG179). Available at: <https://www.nice.org.uk/guidance/cg179>