Hybrid-Power mattress system - Clinical Trial in an Acute setting (Conducted during July and August 2016)

Introduction

A pressure ulcer can be described as an area of localised damage to the skin and underlying tissue caused by pressure or shear or a combination of these (European Pressure Ulcer Advisory Panel, EPUAP, 2014). Pressure ulcers are caused when an area of skin and the tissues below are damaged as a result of being placed under pressure sufficient to impair its blood supply.

All patients are potentially at risk of developing a pressure ulcer. However, they are more likely to occur in people who are seriously ill, have a neurological condition, impaired mobility, impaired nutrition, or poor posture or a deformity. Also, the use of equipment such as seating or beds which are not specifically designed to provide pressure relief can cause pressure ulcers. As pressure ulcers can arise in a number of ways, interventions for prevention and treatment need to be applicable across a wide range of settings including community and secondary care. This may require organisational and individual change and a commitment to effective delivery.

The current NICE guideline rationalises the approaches used for the prevention and management of pressure ulcers and will ensure practice is based on the best available evidence. Recommendations for prevention include methods for identification and risk assessment and the preventive measures that should be applied. Treatment of pressure ulcers includes recommendations on wound care, adjunctive therapies and support surfaces.

Trial background

The Isle of Wight NHS Trusts Tissue Viability Team; Stuart Elliott and Glenn Smith had identified both a requirement and an enthusiasm to fully assess both the clinical and practical advantages of using the Hybrid-Power mattress, supplied by Drive DeVilbiss Healthcare.

The Trust already own a number of hybrid systems and wanted to compare them to the Drive DeVilbiss system. The Tissue Viability Team firmly believe that true alternating therapy systems carry a higher risk factor in patient falls, therefore driving the Trusts objective to move towards an increased hybrid fleet across its 380 beds. Based on recent clinical suitability audits, the patient caseload across the Trust indicates an average of just 15-20 patients (5.2%) requiring a fully active alternating therapy system. The trial and associated conclusions will assist in determining the timescale of the plan to increase the hybrid fleet.

The Product

The Hybrid-Power Mattress combines the pressure redistribution properties of high specification foam, with alternating pressure relief. Clinicians can quickly and easily initiate a Step Up/Step Down process without the need for a new system, thus reducing the manual handling aspects involved.

Trial site

St Mary's Hospital, IOW Healthcare NHS Trust, Newport, Isle Of Wight.

Trial ward

Appley Ward was outlined as the trial site; a medical ward where patients suffer from a hugely varied range of conditions including Acute Kidney Disease, Cellulitis, COPD, Dementia and unexplained weight loss. This ward was identified as an ideal trail area because of the high patient throughput and patient's complex clinical needs mix. This ward provided a suitably challenging patient group to trial a new mattress. The Ward Manager and her team were fully engaged and supportive throughout the trial process. The Tissue Viability Team were also fully committed and took full ownership of the patient based evaluations during the trial.

Aim of the trial

In addition to gaining evidence in relation to positive impact on Patient Outcomes and ease of use from the staff team perspective. The overall objective was for nursing staff and patients alike to evaluate the benefits and suitability of a hybrid system in providing an effective solution for pressure redistribution.

The method behind the trial

Once the ward had been selected a specific bay was set aside for the 6 x trial mattresses to be installed onto each bed. All staff were made aware of the plan that this bay would be used for the duration of the 2 month trial period. All patients admitted to that bay would be nursed on the Drive DeVilbiss Hybrid Power Mattress, which would be used in static or dynamic mode dependant on patient's initial and ongoing clinical assessment in relation to pressure prevention and management needs.

This method meant that all patients were quickly assessed and the appropriate therapy could be selected from the earliest possible stage. The Hybrid Power Mattress ability to transition from static therapy mode to dynamic therapy mode was outlined as "very easy to switch" during many training sessions and the Product Evaluations received when the trial ended.

There were 60 patients nursed in the selected bay during the trial, all nursed on the new hybrid mattress. Approximately 46 of the 60 patients utilised the "active" therapy mode for at least part of their hospital stay. The patient data forms collected during the trial allowed the Tissue Viability Nurse to adjust the therapy mode following reassessment of the patient's clinical needs during their stay on the ward.

Training and Clinical Support

Throughout the trial period (July 3rd-August 31st) Drive DeVilbiss Healthcare Clinical Advisor offered full support and training to the ward team, covering everything from the trial outline, basic installation and safe clinical use of the product. Staff stated that the Hybrid-Power Mattress concept was very easy to understand and were enthusiastic about using it on their ward.

Full training was given to over 28 staff during the trial. This training focused on correct installation, safe set up, weight setting and adjustment. Alongside the key message about implementing the Step Up/Step down process.

Small laminated user guides were distributed to all staff and information cascaded to other members of the ward team. Regular contact was maintained with the ward staff and Tissue Viability Team in terms of effective management of any issues. Evaluation feedback from staff and patients were also collected; the results of this feedback are detailed in the following graphs.

Post-trial conclusions

Feedback on the Hybrid Power Mattress from the Trust can be summed up in the quotes below-:

"The ward staff all found the mattresses to be excellent, easy to use and did the exact job we hoped they would"

"The key group of patients we wanted to target with these systems were the patients whose clinical needs fluctuated during their hospital stay. That's where the key benefits were most evident during the trial, enabling staff to see how easy it was to switch between therapy modes"

The trial and evaluation achieved exactly what the Trust had hoped to find. Identifying the key benefits of how a hybrid system could reduce time for nursing staff as well as reducing manual handling concerns. The positive evaluations received from the patients and staff involved, provided very positive evidence that the Hybrid Power Mattress is a comfortable and suitable hybrid product choice.

The evidence fully supported the pre-trial belief that the benefits of a hybrid system can most clearly be seen on patients with fluctuating clinical needs. The Tissue Viability Nurse referred to this group of patients as "transitional", i.e. where manual handling and time spent sourcing differing types of equipment are at their highest.

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References:

1. Pressure ulcers: prevention and management. Clinical guideline [CG179] Published date: April 2014
2. Pressure ulcers Quality standard [QS89] Published date: June 2015


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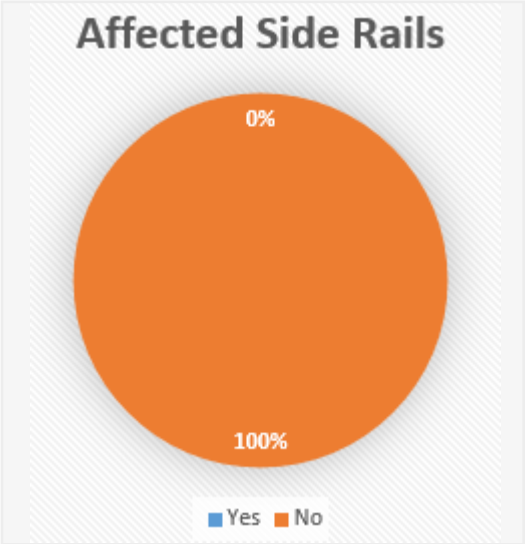
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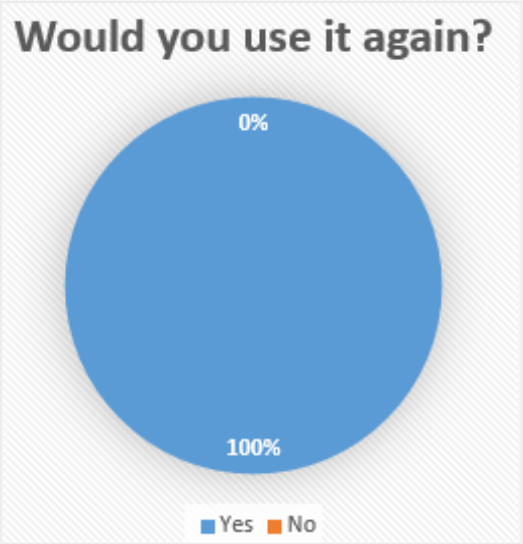
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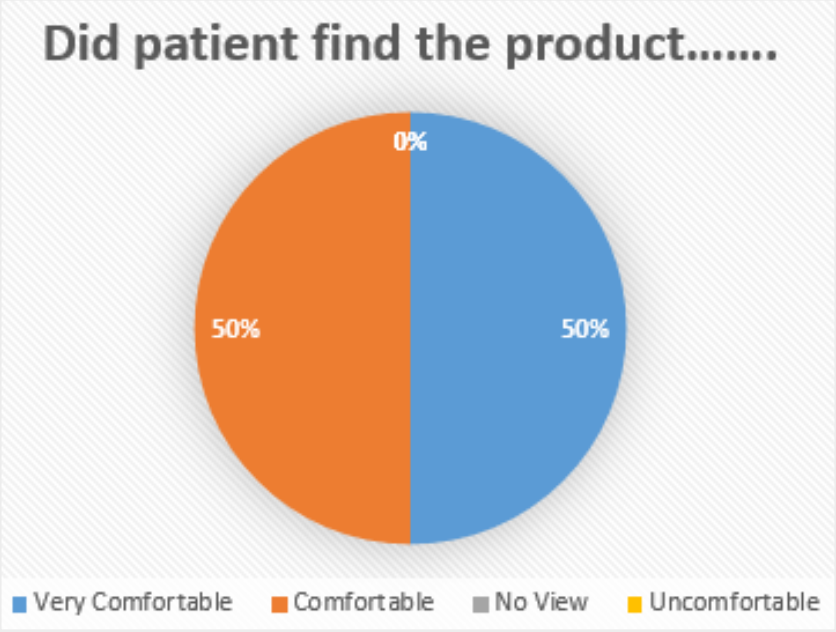
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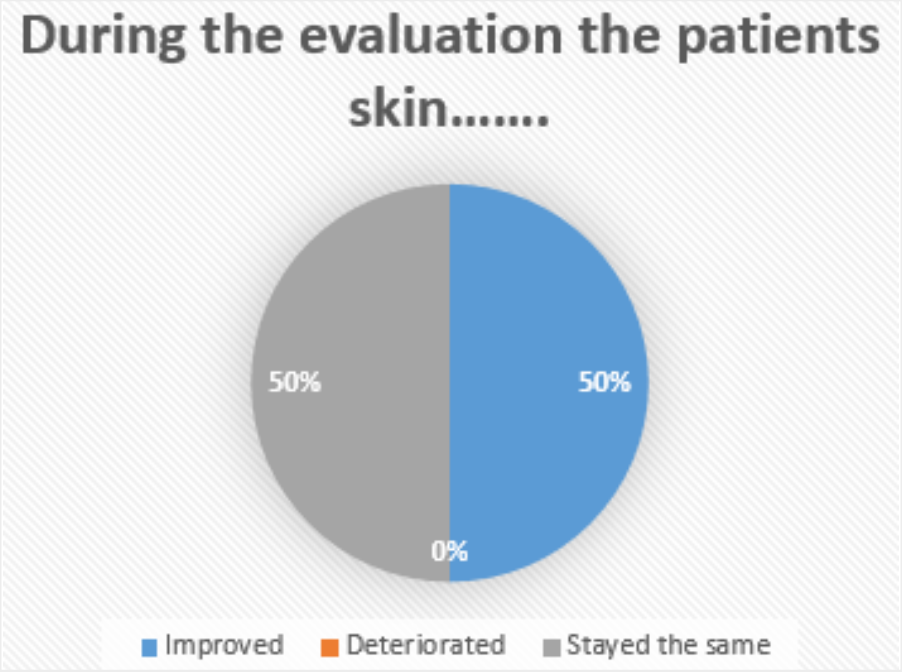

Summary of other evaluation comments

- 70% of respondents felt the product was better than other hybrid products they had used.
- 100% of nursing staff asked said they would use it again.
- Overall a majority of staff found the user instructions, cover durability and related clinical guidance easy to use and understand.

Other comments

Made by staff:
"Very satisfactory for what we needed"

"A great product, so easy to switch from one therapy mode to another" "Much less disruptive to our patients when they become more at risk"

Made by a patient:
"I'm a big fan of this product, my bad back settled down"