Poster Presentation: FUSION™ Response

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Evaluating a new, non-powered hybrid mattress system in a nursing home environment

Rodwell House
Nursing home & Care Suites

Karen Raggett, Manager, Rodwell House Nursing Home, Surrey

Introduction and Aim

Pressure ulcer prevention affects all healthcare providers irrespective of care setting. In the nursing or residential home environment up to 20% of patients may be affected by these largely preventable wounds. [1]

Access to an appropriate support surface, alongside the patients care package, can help reduce the risk of pressure ulcer development. [2]

Nursing home patients often present with a risk of pressure ulceration, therefore it is vital that these patients have access to the correct support surface, relevant to their individual need and risk status.

The recent development of hybrid support surfaces offers healthcare providers greater flexibility with regard to mattress provision, however it is important to understand where, when and how these products should be used in order to optimise patient care with regard to pressure ulcer prevention.

The aim of this evaluation was to follow patients' clinical progress whilst being nursed on the FUSION™ Response, a new non-powered hybrid mattress from Talley (Figure 1).

FIGURE 1.
FUSION™ Response mattress

Method

Two FUSION Response mattresses were installed into a large Nursing Home which focuses on dementia care and specialist nursing. The non-powered hybrid mattress works by using foam inside sealed air cells. These respond to patient movement and position in order to provide a constant low pressure support surface for the patient.

Four patients were allocated to the mattresses;

Patient 1: 100 year-old female, classified as 'at risk' according to Waterlow score and 'high risk' in the clinical opinion of the nurse. The patient could not independently reposition, however would use a call bell to be turned by staff at night. The patient sits in a chair for 8 hours per day on a pressure-relieving cushion.

Patient 2: 55 year-old male, classified as 'high risk' according to Waterlow score and nursing opinion. The patient could reposition himself in bed and sits in a chair during the day.

Patient 3: 95 year-old male, classified as 'high risk' according to Waterlow score and nursing opinion. The patient could reposition himself in bed and sits in a chair during the day.

Patient 4: 101 year-old male, classified as 'high risk' according to Waterlow score and nursing opinion. The patient could reposition himself in bed and sits in a chair for 4-6 hours per day.

The evaluation was led by the Nursing Home Manager and Nurse in Charge. Patients were monitored throughout their time on the mattress and patient progress was documented weekly by nursing staff.

Results

Patient 1 remained pressure ulcer free on the hybrid mattress for 23/24 days. On day 22/24 she developed a urinary tract infection (UTI) and became bed bound as her condition deteriorated. Due to the UTI, both nutritional status and fluid intake deteriorated from 'good' to 'poor'. Due to her deteriorating condition and reduced mobility, Patient 1 developed a Grade 1 pressure ulcer on her sacrum on day 24 and was stepped-up to a QUATTRO® Plus mattress replacement system.

Patient 2 remained pressure ulcer free on the hybrid mattress for 51 days. On day 51 a moisture lesion developed and a clinical decision was made by nursing staff to transfer him onto a QUATTRO Plus mattress replacement system.

Patient 3 remained pressure ulcer free on the hybrid mattress for 10 days and remained on the mattress after the evaluation was complete.

Patient 4 remained pressure ulcer free on the hybrid mattress for 9 days during the evaluation. On day 9 the patient was discharged home.

Ten staff completed product evaluation forms. All staff stated that they would "definitely" use the mattress again for patients classified as "at risk" to "high risk" ideally with some degree of independent mobility.

In addition 100% of staff stated that the mattress was:

- "effective / very effective" at redistributing pressure and maintaining patients' skin integrity.
- "comfortable / very comfortable" for their patients.
- "easy / very easy" to set up and "stable / very stable" when transferring patients on and off the mattress.

One patient provided feedback during the evaluation and stated that the mattress was "comfortable" giving him a "good" quality of sleep. In addition he felt quite safe and stable on the mattress and he would "definitely" use it again.

Discussion

It is clear from the outcomes reported above that the FUSION Response evaluated very well with staff and as an integral part of a patient care package this new, non-powered hybrid mattress can help with the prevention of pressure ulcers in patients at an increased risk of pressure related tissue injury.

Preventing pressure ulceration for a cumulative time of 93 days in appropriate patients identified as 'high risk' indicates that in this instance the new hybrid mattress was able to meet the clinical needs of these patients with regard to pressure redistribution.

The need to step two patients up to the QUATTRO® Plus (a full dynamic mattress replacement system) in response to a deterioration in patient condition (Patient 1) and the occurrence of a moisture lesion (Patient 2) demonstrates that hybrid mattresses do not represent a panacea and should be used as part of a comprehensive range of support surfaces which is likely to include full dynamic mattress replacement systems for the most vulnerable patients.

Conclusion

The recent development of hybrid mattresses allows healthcare providers greater flexibility with regard to support surface provision and hybrid mattresses can now occupy the 'middle ground' between foam mattresses and full dynamic replacement systems. Using these innovative new products as part of a range of support surfaces can assist practitioners by increasing their ability to tailor the mattress to patients' individual pressure area care requirements.

References

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2. Guy, H. Recognising pressure ulcer risk factors. Wound Essentials. 2012;7(1): 49-52

Talley Group Limited
Premier Way, Abbey Park Industrial Estate
Romsey, Hampshire, SO51 9DQ England
TEL: +44(0)1794 503500
FAX: +44(0)1794 503555
EMAIL: sales@talleygroup.com
www.talleygroup.com

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