

Evaluation Of A Cost Effective Dynamic Mattress Replacement System (Dual)

Introduction

Pressure ulcer prevention has been identified as one of the four key areas highlighted within the harm free care initiative (NHS Midlands and East, 2012). The start of 2012 saw the Midlands and East strategic health authority set their ambition to eliminate all avoidable pressure ulcers by December 2012 (NHS Midlands and East, 2012). Provide, as a community health care provider pledged a commitment to support the ambition.

Pressure ulcers are costly both to the health care economy and the individual affected. The estimated daily costs of treating a pressure ulcer in the United Kingdom can range from £43 to £374, dependent on its category (Dealy, Posnett and Walker, 2012). However the human costs of pain and suffering cannot be quantified. The need to focus on zero tolerance to avoidable pressure ulcers has never been more important with organisations having to make cost savings whilst realising budget cuts. Organisations with patients who develop pressure ulcers whilst in their care will suffer financial penalties and may incur the cost of extended in-patient stay. Pressure ulcers acquired in community or acute hospitals will inevitably impact on resources available within the community services.

It was therefore imperative that community hospitals within the Mid Essex area focus their efforts on pressure ulcer prevention. Included in this is adequate and timely risk assessment and the development of an individualised prevention strategy for those identified to be at risk. One element of this is the provision of appropriate pressure relieving equipment.

Following an audit of the available equipment within the community hospitals it was found that there was a vast difference in the range and quality of dynamic pressure relieving mattresses. Some were identified as being no longer fit for purpose and were condemned. With such a range of ageing equipment staff were unaware of how to manage some of the systems or identify which mattresses were appropriate for the type of patient and their risk profile.

The evaluation wards and tissue viability team felt it would be appropriate to work with a commercial partner to evaluate an affordable dynamic full mattress replacement system which was able to meet the needs of the in-patient population which included both palliative care and rehabilitation.

Method

A commercial partner (Shelden Healthcare Ltd) supplied and installed eight Dual mattress systems across two community hospital sites for a period of three months, two additional systems were reserved for emergency use. An audit tool was developed to measure specific parameters, these included.

Patient details

- Age and gender
- Weight
- Diagnosis
- Waterlow risk assessment score
- Grade/Category and location of any pressure damage
- Continence
- Mobility and time spent in bed

Staff feedback

- Was the system selected for prevention or management?
- Ease of use, set up, adjustment and transportation
- Ease of cleaning
- Ease of handling the equipment

Service provision and device performance

- Comfort (patient reported)
- Noise level (patient reported)
- Availability of telephone assistance/clinical support
- Prompt and reliable delivery
- Politeness and professionalism of company staff
- Responsive to reported faults or issues

Results

A total of 20 patient's data were returned with very positive results. 16 patients reported that the mattress was very comfortable and the remaining 4 stated it was no different than a previous equivalent mattress. Overwhelmingly all 20 patients stated the pump noise was either very quiet or silent and did not interfere with their sleep. One paraplegic patient reported in a seven day diary that she remained comfortable and her skin remained in-tact with no marking. Staff reported feeling confident with the equipment as it was easy to operate, could be weight adjusted, and had the reassurance that should there be any loss in power supply to the mattress the patient would still be supported by the foam sub-base. One feature of the mattress was the cable management which allows the pump main power cable to be secured within the mattress side to reduce the risk of mains cable damage and the risk of trips and falls to staff and patients mobilising around the bed area. The clinical staff felt fully supported by the commercial partner who provided regular training across both sites and received excellent feedback for responsiveness and clinical support.

Discussion

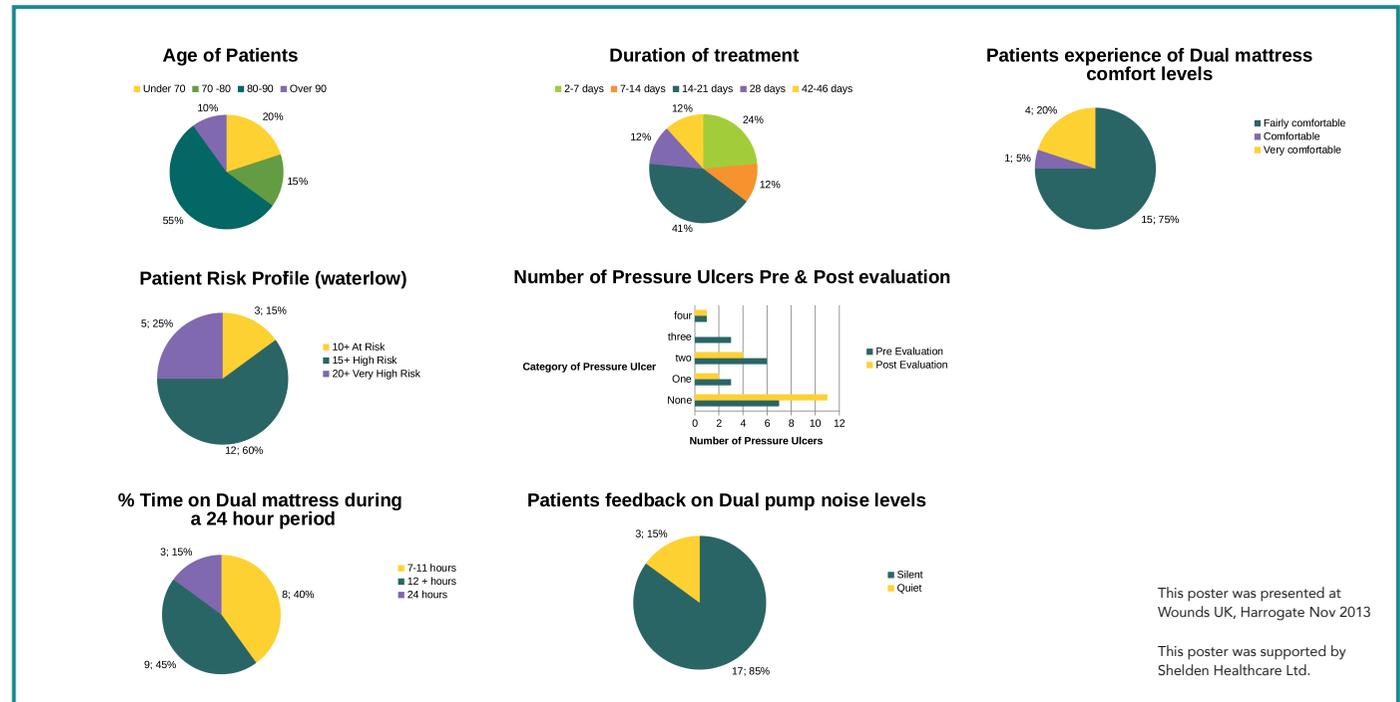
It is suggested that the development or prevention of pressure ulcers is directly representative of the quality of care provided (DH 2010A). Therefore it is imperative that pressure ulcer prevention is of the highest priority for this vulnerable patient group. Using an appropriate and cost effective dynamic pressure relieving mattress which is familiar to staff ensures patients remain safe and free from harm. Throughout this evaluation period no patients developed additional pressure damage. A significant improvement was noted in some patients pressure ulcers.

Conclusion

All health care providers have to work within limited and diminishing resources which can be extremely challenging. Financial constraints and targets have led to a raised awareness of the cost of pressure ulcers and the need to source pressure relieving equipment that is affordable, reliable and clinically effective. This evaluation demonstrated that the dual dynamic mattress replacement system is an effective and safe system to use in both the prevention and treatment of any tissue damage.

References

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