

# Evaluating a Static Pressure Redistributing Mattress in a Rehabilitation Ward

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## Introduction

As recommended in the Healthcare Improvement Scotland, Prevention and Management of Pressure Ulcer Standards 2016<sup>1</sup>, patients within Greater Glasgow and Clyde NHS Board have a daily pressure ulcer risk assessment using PUDRA<sup>2</sup>, with those identified as 'at risk' having an individualised care plan. Often this care plan includes the use of a dynamic pressure redistribution mattress. However, the Tissue Viability team frequently see these mattresses being used inappropriately resulting in unnecessary cost to the Board in terms of rental and electricity use.

The NHS continues to strive to make cost savings whilst providing high quality care<sup>3</sup>. As part of this measure, the Tissue Viability Team looked at using a static hybrid mattress for six months. This would provide cost savings from appropriate mattress choice following assessment in line with board policy and reduction in electricity usage. Staff time would be saved as patients would not need to be transferred to a dynamic mattress so often. Additionally, as there would be no pump, patients would not be disturbed by associated noise.

The Ultracore Plus mattress (Figs. 1 & 2) was felt to be a good option to evaluate. This comprises a U-shaped foam core with a Repose inflatable inner (which staff were already familiar with). It is appropriate to use on patients up to 222Kg, at all levels of risk and / or with up to grade two pressure ulcers. To ensure optimum inflation, the Repose inner should be re-inflated weekly.

## Method

Four mattresses were placed on the rehabilitation ward at Inverclyde Royal Greenock Hospital. Patients on this ward are at high risk of developing pressure damage and stay on the ward for more than seven days, allowing for an accurate assessment of the Ultracore Plus mattress on the skin and the patient experience.

The mattresses were kept in one bay and not removed from this area to allow for continuity and reduce the possibility of lost stock. Ward Tissue Viability Link Nurses ensured evaluation recording initial, interim and final assessment were completed and staff updated. The ward continued with their usual pressure ulcer prevention practice.

Patients chosen were without active pressure damage.

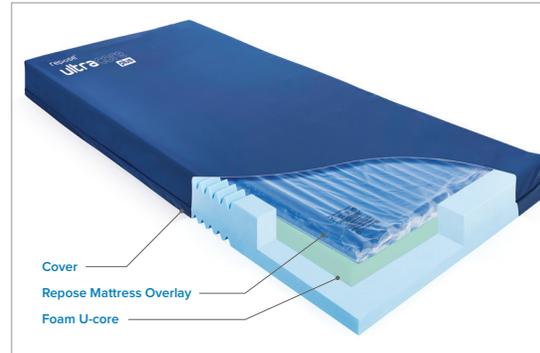


Figure 1. Ultracore Plus



Figure 2. Ultracore Plus in situ

## Results

At the time of writing, 10 evaluations have been completed. In all cases, the mattresses were used for pressure ulcer prevention with the patients deemed to be at high risk and with varying medical histories including cardiac disease and diabetes. All patients have decreased mobility but are able to mobilise out of bed to a chair for periods of the day. All patients required manual turning; 70% received two hourly positional changes and 30% every three to four hours. 50% are incontinent.

The mattress has successfully prevented pressure damage occurring in conjunction with other standard preventative strategies.

As the evaluation continues, patients with existing pressure damage (up to grade 2) will be included. Patient comfort, ease of use, set-up, repositioning and inflation were all assessed and found to be either excellent or good.

From a cost savings perspective, figures are not yet available, but it is to be expected even just from the reduced number of dynamic mattresses rented, a cost saving is being realised.

## Discussion

Initially staff were concerned the mattress would deflate and require more frequent than weekly reinflation. However, this has not been the case, with weekly reinflation incorporated, with no issues, into the routine weekly ward checks.

## Conclusion

The Ultracore Plus mattress has provided nursing staff with a cost-effective and time saving piece of equipment, which provides appropriate pressure redistribution for the patients identified. The mattress has allowed staff to plan preventative care without the need for ordering further equipment and associated time delays.

Patient experience has also improved as there is no longer the need for transferring to a different bed when a mattress is required.

Staff found the mattresses easy to set up and use and significantly, patients have reported the Ultracore Plus mattress as being comfortable and have been happy to continue with the evaluation.

1. Healthcare Improvement Scotland Prevention and Management of Pressure Ulcer Standards 2016. [http://www.healthcareimprovementscotland.org/our\\_work/patient\\_safety/tissue\\_viability\\_resources/pressure\\_ulcer\\_standards.aspx](http://www.healthcareimprovementscotland.org/our_work/patient_safety/tissue_viability_resources/pressure_ulcer_standards.aspx) (accessed 31.08.17)
2. Hodgson H. Horner J. (2016) Wounds UK e-poster. How NHS Greater Glasgow and Clyde has reduced avoidable hospital acquired pressure damage by 53% by replacing Waterlow risk assessment with PUDRA (Pressure Ulcer Daily Risk Assessment)
3. NHS England. Next Steps on the Five Year Forward View - Funding and Efficiency. <https://www.england.nhs.uk/five-year-forward-view/next-steps-on-the-nhs-five-year-forward-view/funding-and-efficiency/> (accessed 31.08.17)