A Quality Improvement Project To Improve the Prevention of Pressure Ulcers on the Heels In A Hospital Setting Until There is Good Reliable Evidence Available

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Introduction

The Skin Integrity Team (SIT) at Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust (DBTH) noted that 31% of hospital acquired pressure ulcers (HAPU) in 2020/2021 were developing to the heels. A reduction in hospital acquired pressure ulcer development reduces adverse impact on quality of life, pain, discomfort, hospital length of stay, morbidity and mortality. Through using a Quality Improvement (QI) Methodology SIT and product evaluation on two wards at DBTH SIT were able to determine if the use of an off loading boot as a standard preventative plan for a groups of patients was beneficial. Education was provided to the staff and the patients were reviewed and outcomes were measured throughout. The results show potential benefits to using an offloading boot as for patients that are bedbound or requires hoist transfer as part of their preventative plan for preventing pressure ulcer to the heels, due to a reduction of heel ulcer being achieved (22%). In addition an average saving of £22,515 was estimated through the implementation of offloading boots for these ward areas.

Method

Understanding

In June 2022 it was noted that 31% of hospital acquired pressure ulcers in 2020/2021 were developing to the heels.

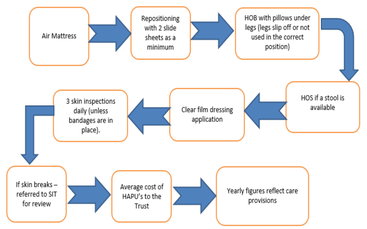
Our Vision

Reducing the number of hospital acquired pressure ulcers developing to the heels

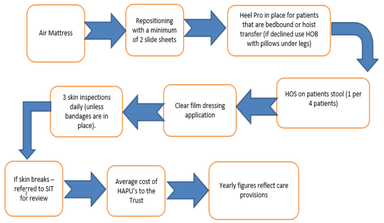
Current condition and target

National evidence and recommendations were reviewed and it was identified the Trust was implementing the recommended preventative measure. However one area that was not being used that was recommended for consideration in NICE guidance was the use of heel offloading devices that may contribute to preventing pressure ulcers developing on the heel. The Trust's Orthotic Department already provided an off loading device (heel pro) following a referral from wards and departments for patient with an exist ulcer to the heels, but this was not used for prevention.

Current process map of SIT Heel Prevention



Future process map of SIT Heel Prevention



Quality indicators

Based on the current conditions and root causes identified quality indicators to measure Improvement were agreed:

HAPU figures by patient number on the evaluating ward(s)

The cost analysis of products vs HAPU development

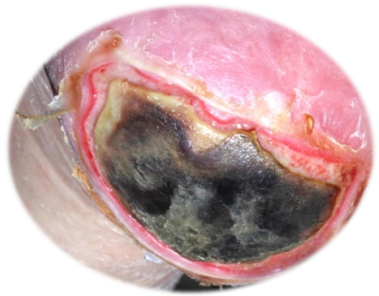
Delivery and implementation:

Undertake an evaluation on a 2 wards that collected data around the patient skin condition to their heels through the use of the offloading boot heel pro.

Provide education to the ward staff from the company that produces Heel Pros

Discussion

A reduction in hospital acquired pressure ulcer development reduces adverse impact on quality of life, pain, discomfort, hospital length of stay, morbidity and mortality. A reduction in NHS costs can also be achieved through the reduction of pressure ulcer development, including but not limited to; quicker return of people to the community or community long-term care, reduced pressure ulcer incidence resulting in lower costs of nursing care, dressings and rehabilitation, the reusable nature of the garments. Current evidence around heel pressure ulcer prevention is limited. Off-loading devices are perceived to be more effective/useful when patients are completely immobile and confined to bed and a trip hazard when patients start to rehabilitate and mobilise. PRESSURE research observed their use in 10% of a high risk patient population, and off-loading devices are generally initiated for treatment of Category ≥2 heel pressure ulcer rather than prevention. PRESSURE 3 RCT is being undertaken with the aim to provide recommendations around heel prevention. Until then local evaluations and experience is to be used.



Results

Pre data

- 9 patients across 2 wards developed a heel hospital acquired pressure ulcers (category 2 and above) without a offloading heel boot being in part of their preventative plan.

Patient information

- 100% (50) of the patients were at risk of developing a pressure ulcer with 67% (33) being high risk (amber) and 33% (17) being very high risk (red).
- 12% (6) had an established pressure ulcer or foot ulcer to the heel when the evaluation commenced.
- 88% (44) had intact skin with no ulcer and were evaluated for the effectiveness of heel pros assisting with heel ulcer prevention.

Patient outcomes and feedback

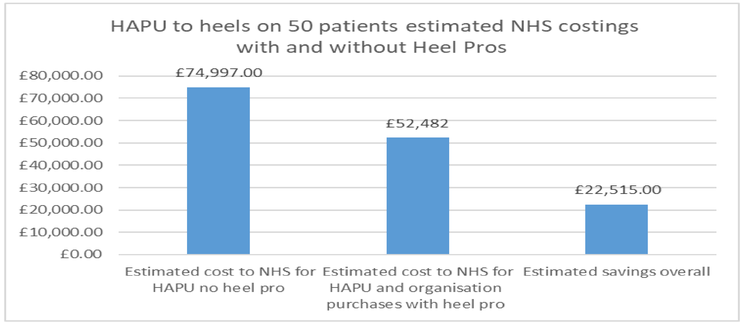
- The average pain score to the heel whilst using the heel pro was 1 (0-10, 0 = none).
- The average comfort score was 6 (0-10, 0 not comfortable 10 very comfortable).
- The likelihood of the patient recommending the use of heel pros to other patient with 6 (0-10, 0 not at all and 10).
- The likelihood of the staff recommending the use of heel pros to other healthcare providers was 5 (0-10, 0 = not at all and 10 = definitely).
- 16% (8) of the pre-existing ulcers healed/resolved during the evaluation whilst using heel pros as part of their management plan.
- 98% (41) of patients with intact skin remained intact remained intact with no ulcer development.
- 2% (1) of patients with intact skin develop a pressure ulcer.

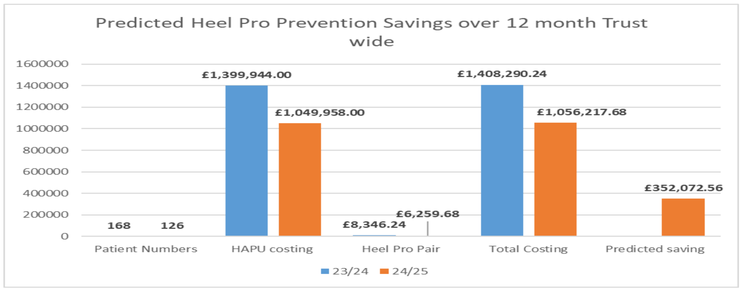
Post data

- A 33% (3) reduction the number of pressure ulcers (cat 2 and above) that developed on the heel was achieved when an offloading boot was used in the prevention plan.

Costings

- Using the NHS Pressure Ulcer costing calculator the estimated cost to the NHS for the 9 heel hospital acquired pressure ulcer in pre data was £74,997.
- Using the same calculator the cost to the NHS for the 7 heel hospital acquired pressure ulcer in 2023/2024 was £49,998.
- When the cost of the 100 heel pros for the 50 patients that were used for the prevention (£24.84 each / £2484 total) is added to the 2023/2024 estimated costing it provides an overall cost to the NHS of £52,482.
- This equates to an overall estimated saving of £22,515.





Conclusion

The results show potential benefits to using an offloading boot as for patients that are bedbound or requires hoist transfer as part of their preventative plan for preventing pressure ulcer to the heels. The plan now is to propose to the Trust that we implement the heel pro into the preventative plan for patients that are bedbound or requires hoist transfer for preventing pressure ulcer to the heels until the results of PRESSURE 3 is published.

https://www.england.nhs.uk/pressure-ulcers-productivity-calculator/
https://www.ndorms.ox.ac.uk/news/white-pressure-3-opens-to-recruitment