

# The selection and use of support surfaces for best clinical and financial outcomes in an NHS Trust

## Background

The NHS Safety Thermometer reported that from April 2014 to the end of March 2015, just under 25,000 patients were reported to have developed a new pressure ulcer, and on average 2,000 pressure ulcers are newly acquired each month within the NHS in England (NHS Safety Thermometer Report, 2014).

The cost of treating a pressure ulcer varies from £1,214 to £14,108. Costs increase with severity as the time to heal is longer and the likelihood of complications are higher in severe cases, with nursing time making up most of the cost. Other associated costs, estimated at 3.3% of expenditure, include wound dressings, medication and equipment (Dealey et al, 2012).

Walsall Hospital NHS Trust is a 558-bedded acute Trust with an array of different types of foam mattresses and have a managed rental contract for alternating air systems.

NICE and EPUAP, 2014 guidelines recommend the use of high specification foam for adults who are assessed as being at 'high risk' of developing a pressure ulcer and for those with Category I and II pressure ulcers (NICE, 2014, EPUAP, 2014).

The aim of this project was to find a base foam mattress that would meet requirements to enable us to fully adhere to this guidance, produce a simple selection guide and reduce unnecessary use of air mattresses.

## Methods

The TVN team led a four-week evaluation of a clinically proven high specification foam mattress on an acute medical ward. Only patients with category 3 or 4 pressure ulcers, not on the heel and/or those who cannot be repositioned, were to receive air mattresses. All other patients remained on the high specification foam mattress for the duration of the evaluation.

An independent Trust-wide mattress audit was conducted to firstly reflect numbers and types of support surfaces within each ward and department, and secondly to determine suitability for use.

The Equipment Selection Guide was revisited to reflect best practice statements and guidelines and resources created and disseminate throughout the Trust to reflect the changes.

| HOSPITAL MATTRESS SELECTION CHART   |   |                 |                              |                 |                          |                 |                              |                 |                              |                 |                              | Walsall Healthcare NHS Trust |   |
|---|---|-----------------|------------------------------|-----------------|--------------------------|-----------------|------------------------------|-----------------|------------------------------|-----------------|------------------------------|------------------------------|---|
| NOTE  | At Risk 10+   |                 | At Risk 10+                  |                 | High Risk 15+            |                 | High Risk 15+                |                 | Very High Risk 20+           |                 | Very High Risk 20+           |                              |   |
|   | ABLE to relieve pressure  |                 | ASSISTED to relieve pressure |                 | ABLE to relieve pressure |                 | ASSISTED to relieve pressure |                 | ABLE to relieve own pressure |                 | ASSISTED to relieve pressure |                              |   |
| * Mattress will not off load pressure to heels. Heels to be floated using pillows /kerrapro heel pads | No PU   | PU Category 1-2 | No PU                        | PU Category 1-2 | No PU                    | PU Category 1-2 | No PU                        | PU Category 1-2 | No PU                        | PU Category 1-2 | No PU                        | PU Category 1-2              |   |
|   | INVACARE HIGH SPECIFICATION FOAM MATTRESS Suitable weight up to 247kg | ✓               | ✓                            | ✓               | ✓                        | ✓               | ✓                            | ✓               | ✓                            | ✓               | ✓                            | ✓                            | ✓ |
| FULL ALTERNATING MATTRESS Suitable weights 27kg - 247kg   |   | ✓               |                              | ✓               |                          | ✓               |                              | ✓               |                              | ✓               |                              | ✓                            |   |

*If the patient is unable to be repositioned for a clinical reason – consider an upgrade to an air mattress*

Weight setting for alternating mattress to be documented and set in accordance to patient's weight

Bariatric equipment to be requested via requisition form

Ensure foam mattress is fit for purpose/Inner foam to be stain free/outer cover clean

NB: ANY SKIN DAMAGE (including category 2 or moisture lesions) NOT IMPROVING MAY NEED TO CONSIDER UPGRADE TO AIR MATTRESS

## Results

Of the patients who were prescribed a high specification foam during the evaluation period, none had skin deterioration and ward staff commented that in some cases a static support surface had improved the rehabilitation process.

The mattress audit report identified eighteen different types of foam mattress throughout the Trust and confirmed a 49% failure rate based on mattress audit criteria (Invacare resource, 2014). These were then removed and replaced with the high specification foam mattress.

All of the existing foam mattresses were then replaced with the new high specification foam mattress to comply with the guidelines and to simplify the choice for selection.

**Swapping the existing foam mattress for high specification foam, saw a 50% decrease in all pressure ulcers across the Trust in six months following implementation.**

The Equipment Selection Guide was updated to reflect the changes for mattress choice.

**The clinical audit revealed an over-usage of 50% for alternating air systems and these have since been replaced with high specification foam and patients stepped-down.**

The projected cost saving estimation of £300,000 over a five- year period if the over-prescription rate is corrected.

Resources and product information was also provided to support healthcare professionals during the prescribing process of high specification foam, as part of a holistic approach for the treatment of pressure ulcers.

A clinical audit was then undertaken to ascertain prescription patterns for use of alternating air systems, based on Waterlow Score, skin integrity and repositioning schedules.

*The cost of pressure redistributing devices can vary significantly and there is limited evidence on whether sophisticated devices (for example, alternating pressure devices) provide any additional benefit compared to more basic devices such as high-specification foam mattresses. (NICE, 2014)*

*It is important to review the effectiveness of the support surface for prevention and treatment of pressure ulcers and to take into account the impact of choice upon other aspects such as comfort and transfer abilities. (NICE, 2014)*

*Consider using a high specification reactive foam mattress or nonpowered pressure redistribution support surface for individuals with Category/Stage I and II pressure ulcers. (EPUAP, 2014)*

## Conclusion

The standardisation of a high specification foam has been both clinically and financially viable, ensuring the best outcomes are achieved. **The choice of equipment has been simplified for prescribers, pressure ulcer rates have initially improved** and rental costs significantly reduced. The investment in high specification foam being a successful exercise for this trust.

## References

- Dealey C, Posnett J, Walker A (2012) The cost of pressure ulcers in the United Kingdom, J Wound care 21(6): 261-266
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- NICE (2014), Clinical Guideline 179: Pressure ulcers: prevention and management of pressure ulcers, April 2014, guidance.nice.org.uk/cg179
- EPUAP/NPUAP/PPPIA (2014) Prevention and Treatment of Pressure Ulcers: Quick Reference Guide
- Invacare, 2014, Mattress care resource, part number 1492637

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