

UK Multicentre Overview of the Protecta Foam Mattress Range.

September 2020



Introduction

The total number of hospital beds in April 2020 UK is 170,548¹. Many of these beds will have foam mattresses on them as the first line of mattress in many Trust/Health board protocols. Despite the high use and wide range of foam mattresses offered, there is little clinical evidence to support purchases and to understand clinical efficacy prior to purchase.

The following report details a 42-patient sample in a UK multi-centre overview of the use of the Protecta range of foam mattresses. The Protecta range is indicated for comfort and the prevention of pressure ulcers in patients at all levels of risk and the treatment of category I and II pressure ulcers.

Combining both clinical and cost initiatives, the Protecta 2 offers an effective solution to a foam mattress. It has unique design features that enhance pressure redistribution, whilst at the same time made with durable and innovative materials that can significantly extend product life cycle.



Within this clinical report, four key areas have been considered:

Skin integrity

1,700 to 2,000 patients a month develop pressure ulcers² and treating pressure damage costs the NHS more than £3.8 million every day². NICE guidelines³ suggest the following usage for a foam mattress:

1.1.13 Use a high-specification foam mattress for adults who are:

- *admitted to secondary care*
- *assessed as being at high risk of developing a pressure ulcer in primary and community care setting*

Infection Prevention Control

The unit cost for a foam mattress varies considerably. In a recent review of mattresses used frequently in the UK it showed this variance can be from £80 to £352 for a low-technology high-specification foam mattress⁴. The national

average failure rate of foam mattresses has been reported to be up to 27%⁵. This high turnover rate is as a result of strikethrough, meaning if ingress has been detected on the foam mattress, it has to be condemned and replaced due to infection prevention.

Mobilisation

The benefits of mobilisation are well documented and have led to campaigns such as “end pyjama paralysis”. For older people and in particular frail, older people with an acute illness and hospitalisation, immobility is associated with significant potential harm. Furthermore, one of the major drivers of iatrogenic harm in older adults is hospital-induced immobility, the so-called ‘pyjama paralysis’⁶.

Early mobilisation seems to be important to prevent postoperative complications, improve functional capacity and reduce length of hospital stay in patients after surgeries⁷.

Plus-sized patients have an increased risk for thromboembolic disease, pressure ulcers, prolonged mechanical ventilation, deconditioning, and poor physical function which may lead to increased length of stay. Bed rest and immobilisation may further contribute to these complications⁸.

Patient comfort

Comfort is central to patient experience and is an indicator of healthcare quality, particularly patient-centred care⁹.

Furthermore, sleep has a restorative function and is particularly important in maintaining patient health and well-being¹⁰. Sleep deprivation is a major concern for patients in hospitals¹¹. The ideal support system should therefore be comfortable, provide pressure redistribution and prevent tissue damage¹².

Overview of evaluation and methodology

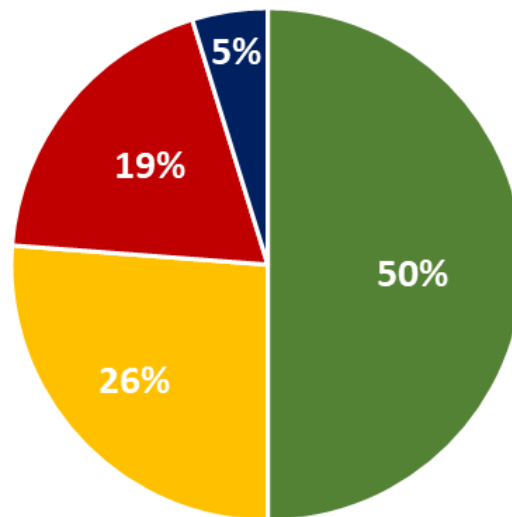
The following results have been obtained through a multi-site evaluation of the Protecta range of foam mattresses where the four above attributes had been selected as points of analysis. Medstrom Clinical Advisors used a data collection tool to collect outcomes on 42 patients across several hospital sites. This data has then been collated to provide the following summaries.

Patient background information

The patient age range was between 20 and 104 years old, with an average patient age of 63 years old. This range ensured a wide and diverse adult population had been captured. This comprised of 23 males (55%), and 19 females (45%).

The risk score of the patients had also been collected. This was using a combination of Braden (24%) and Waterlow (76%) scores, dependent on the Trust/Health Boards preference of scoring system. The majority of patients (76%) had risk scores of low, moderate or at risk.

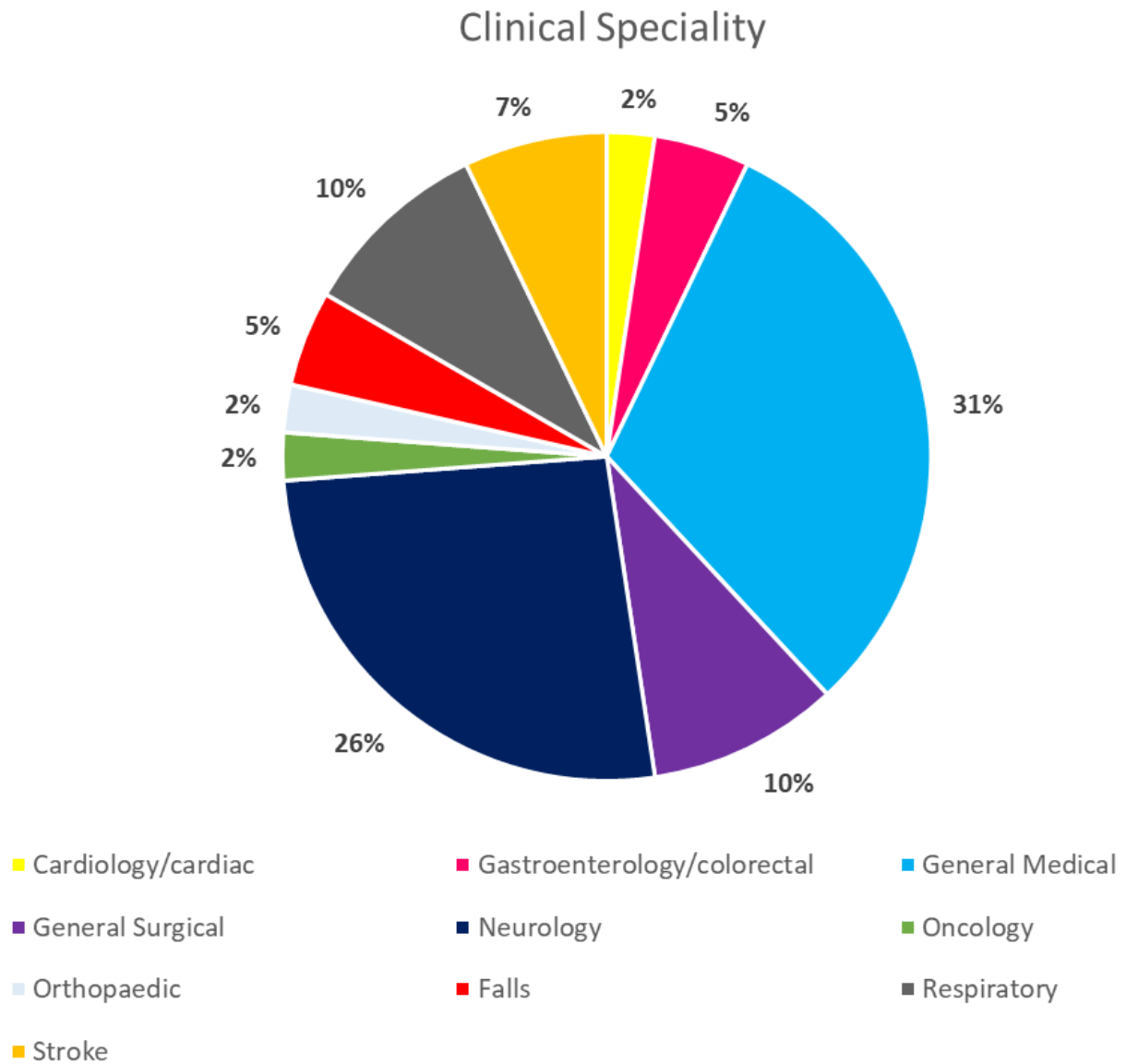
Risk Scores



■ Low/Moderate risk ■ At risk ■ High risk ■ Very high risk

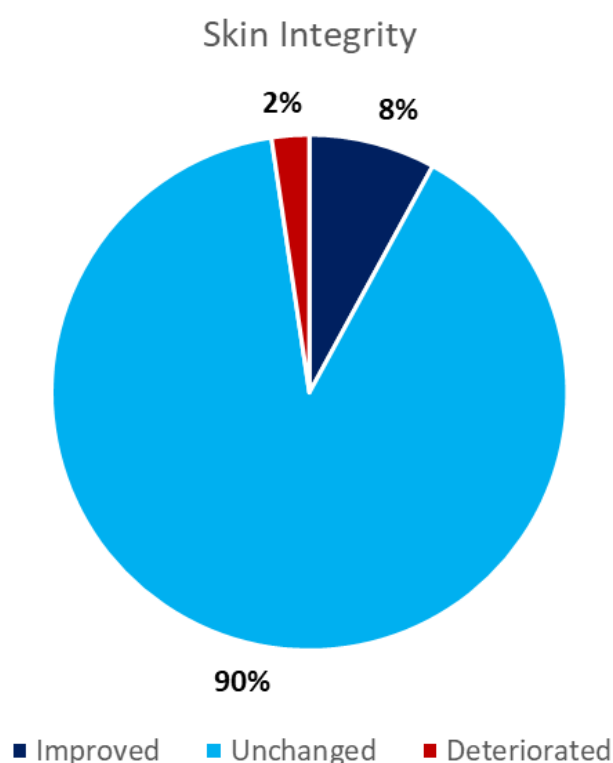
Clinical Speciality

Data was collected across various wards with varying clinical specialities to again ensure a wide patient population was captured. The main clinical speciality was General Medical (31%), followed by Neurology (26%), General Surgical (10%) and Respiratory (10%).



Skin Integrity Outcomes

As one of the four main factors, skin integrity outcomes were captured to assess the Protecta's performance regarding pressure redistribution. The results for skin integrity indicate that 90% of patients had an unchanged skin status, meaning any existing skin damage remained static and no new skin damage occurred. 8% of patients improved and 2% (one patient) deteriorated. From the notes on the clinical evaluation submission, it has been reported the patient that deteriorated was of high risk and therefore should have been on a higher specification of mattress as per the Trust's mattress protocol.



Infection Prevention Control

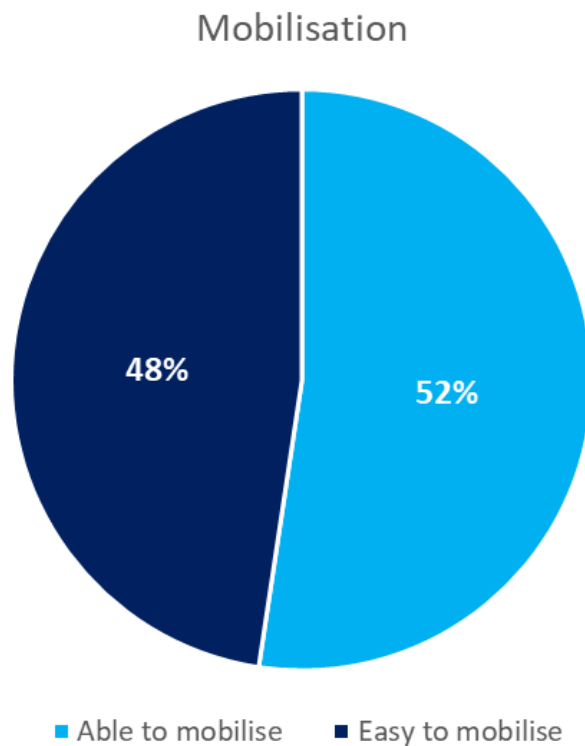
One of the unique features on the Protecta 2 foam mattress is the Platilon® inner cover. This is a polyurethane extruded film that delivers added protection to the foam in the event of ingress through the outer cover. Through supplying Protecta 2 to various Trusts and Health Boards across the UK and Ireland, we have confidence that this product not only offers a good first line mattress for high risk patients but has also extended product longevity. The results confirm and support this as throughout the study, **no mattresses had strikethrough** and therefore had a 100% infection prevention compliance rate.

Mobilisation

Mobilisation outcomes had been collected to assess whether the Protecta range of foam mattress contributed to patient mobilisation. Three factors associating the foam mattress with mobilisation were assessed and reported:

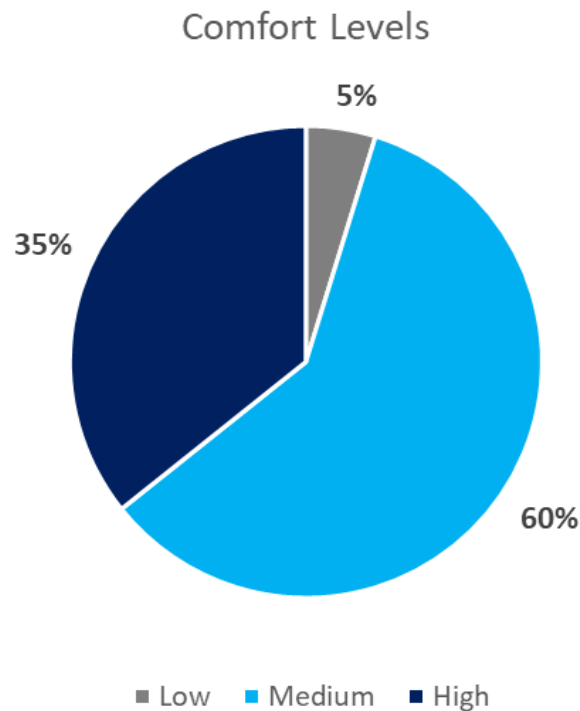
- Able to mobilise
- Easy to mobilise
- Unable to mobilise

Results showed that 100% of patients assessed were able to mobilise or found it easy to mobilise from the Protecta range of mattresses. This provides a good indication that the Protecta 2 does not inhibit mobilisation and can assist with mobilisation if it is clinically safe to do so.



Patient Comfort

The final factor assessed was comfort. Although this is personal to the patient, the results support that there are no concerns raised over the comfort levels with the majority of patients (95%) having high to medium comfort levels on the Protecta range of foam mattresses.



Summary

In conclusion, this multicentre evaluation of the Protecta range aimed to assess four main factors that have been associated as important attributes of a foam mattress. This included **skin integrity, infection prevention, mobilisation** and **patient comfort**.

The 42-patient sample was across a diverse range of patient demographics with varied clinical specialities to give a non-bias approach and robust sample criteria.

Through capturing outcomes, it has demonstrated strong performance qualities of the Protecta 2 and raised no concerns over its capabilities as a first-line foam mattress.

References:

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