

A retrospective analysis of a specialist active therapy support surface for bariatric patients in an acute setting

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Introduction

Between April 2015 and March 2016, the NHS in England reported 24,674 patients had developed a pressure ulcer (PU).¹ Pressure ulcers remain a key indicator of the quality and experience of patient care for all healthcare providers and although clear progress has been made in preventing and managing pressure ulcers, reducing the risk of this avoidable harm remains a priority.²

One group of patients that are typically challenging to manage with regards pressure ulcer prevention are those deemed bariatric or obese. The term bariatric refers to patients with a Body Mass Index (BMI) of 30 or over.³

In 2016/17 there were 617,000 admissions in NHS hospitals where obesity was recorded as the primary or secondary diagnosis.⁴ Obese patients are often at high risk of pressure ulcer development due to associated, substantial complications and comorbidities that are linked with increased BMI. This patient cohort typically requires specialist intervention and equipment to prevent pressure ulcer development and to manage existing pressure ulcers.⁵



FIGURE 1.
The QUATTRO Sentinel active therapy support surface from Talley

Preventing and managing pressure ulcers in this high-risk group, requires a comprehensive care bundle. The provision of an active support surface capable of effectively offloading the pressure experienced by these patients is recommended as part of this care bundle⁵ and is essential in assisting the prevention of pressure related tissue injury.

Aims

The primary aim of this retrospective analysis was to report the clinical progress of patients nursed on the Talley QUATTRO® Sentinel active therapy support surface (see Figure 1) in an acute care setting. The secondary aim was to report user acceptance of the mattress system.

Method

A retrospective evaluation took place, collecting clinical data from five patients nursed on the QUATTRO Sentinel support surface, looking back over a 3-year period from 2015 to 2018.

Patient demographics recorded included age, sex, primary diagnosis, relevant comorbidities, BMI, pressure ulcer risk level, history of previous and existing pressure damage, nutritional status and length of stay on the mattress system. User acceptance of the QUATTRO Sentinel mattress was determined by structured questionnaires.

Results

All 5 patients were female with a mean age of 52 years (range 27 – 78 years). The average length of stay on the mattress was 19 days (range 7 – 37 days) and all patients were assessed as high risk using a modified Braden score and placed onto the trust's pressure ulcer prevention pathway (see Figure 2). Patient BMI ranged from 49 to 104, categorising all as bariatric. Nutritional status for all 5 patients was very poor. None of the patients developed any new pressure ulcers during their stay on the mattress and a summary of each individual patient is provided in Table 1 below.

Twenty-one staff completed feedback questionnaires encompassing product usability, safety and effectiveness. All staff reported that patients were safe and stable when

PATIENT	SUMMARY
1	Twenty seven year old female with a BMI of >49. Able to re-position independently in bed when prompted (2-3 hourly) and able to sit out of bed throughout the day. There were no pre-existing pressure ulcers prior to using the QUATTRO Sentinel and the patient remained pressure ulcer free during the 7 days of using the mattress.
2	Forty eight year old female with a BMI of 59. Unable to reposition independently in bed, turned 2-4 hourly and unable to sit out of bed. The patient had four pre-existing, full thickness, pressure ulcers (Category 3 pressure ulcers to her left and right heels; Category 4 PUs to her left hip and sacrum). All pre-existing pressure ulcers remained stable and no new pressure ulcers developed during the 11 day stay on the QUATTRO Sentinel mattress.
3	Fifty five year old female with a BMI of 66. Unable to reposition independently in bed, turned 2-3 hourly and unable to sit out of bed. There were no pre-existing pressure ulcers prior to using the QUATTRO Sentinel mattress and the patient remained pressure ulcer free during the 4 weeks they were nursed on the mattress.
4	Fifty two year old female with a BMI of 104. Unable to reposition independently in bed, turned 2-3 hourly but able to sit out of bed. The patient had two pre-existing Category 3 pressure ulcers to her hip and heel. During the 12 days being nursed on the QUATTRO Sentinel mattress these wounds showed signs of healing and reduced in length. No new pressure ulcers developed whilst being nursed on the mattress.
5	Seventy eight year old female whose BMI was unknown but had been assessed as bariatric and high risk using the modified Braden Score. Unable to reposition independently in bed, turned 2-3 hourly and unable to sit out of bed. The patient had two pre-existing Category 2 pressure ulcers, one to her sacrum and one to her right elbow. These remained stable during the 37 days the patient was nursed on the QUATTRO Sentinel mattress and no new pressure ulcers developed during this time.

TABLE 1.
Patient cohort summary

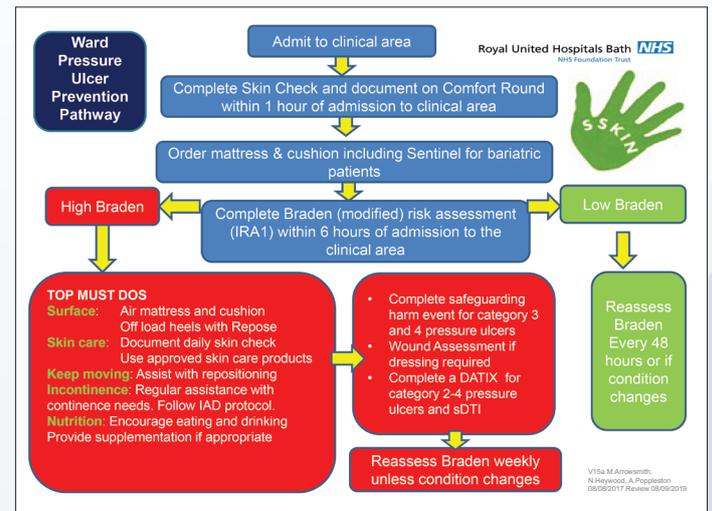


FIGURE 2.
Royal United Hospitals Bath Pressure Ulcer Prevention Pathway

being repositioned and/or transferring to or from the mattress. Furthermore 100% of staff reported that the QUATTRO Sentinel mattress was;

- Effective / very effective at redistributing pressure and maintaining patients' skin integrity
- Easy / very easy to use

In addition;

- 95% of staff reported minimal noise from the system
- 90% reported that the reliability / quality of the system was good / very good
- 85% stated that the mattress system was easy / very easy to set up, connect and get ready for a patient
- 81% of staff gave an overall rating of the mattress as excellent / good

Discussion

Bariatric patients typically present multiple challenges to clinicians and the comorbidities and immobility often associated with a high BMI make effective pressure area care highly complex.

Although specialist bariatric support surfaces are only one part of an effective pressure ulcer prevention and management care bundle, these products must demonstrate the ability to manage the physical demands from the patient whilst simultaneously delivering safe, effective pressure relief/redistribution to ensure that this typically high-risk patient population are protected from avoidable pressure related tissue injury.

The results of this retrospective evaluation clearly demonstrate that the QUATTRO Sentinel mattress is simple to set up, easy to use and well-liked by staff. Furthermore, since none of the existing pressure ulcers deteriorated and none of the patients in this cohort developed any new pressure ulcers during their stay, the mattress is able to deliver safe, effective pressure area care for the prevention and management of pressure related tissue damage in bariatric patients and can therefore be used to help manage the complex clinical needs for this high-risk group.

Conclusion

Providing safe, effective, harm-free care to bariatric patients can be complex to achieve, however, by combining the correct pressure ulcer prevention care pathway with the correct specialist equipment that is simple to use and well-liked by staff it is possible to reduce the risk of pressure related tissue injury in this most vulnerable patient group.

References

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