**Aim and objectives**

There was a clear need for the Trust to simplify the allocation of dynamic support surfaces for patients at risk of pressure ulceration. In addition the Trust wanted to adopt systems that were simple and intuitive to set up and operate.

The Trust aim was to identify clinically effective dynamic support surfaces from a single manufacturer and adopt them into clinical use. This would simplify the decision making process for staff when providing patients with an appropriate support surface to meet their clinical needs. In addition a mattress which was simple and intuitive to set up and operate has less opportunity for user error and would provide patients with the optimal combination of comfort and pressure relief.

**Process**

In 2007 / 2008 the QUATTRO® PLUS and QUATTRO® ACUTE systems from Talley were chosen by the Trust after a tender process which was designed to rationalise the existing mixture of overlays and replacements from numerous different manufacturers and to consolidate these into a choice of two different support surfaces from a sole supplier.
The QUATTRO® PLUS system offers a 15 minute, one-in-four cell cycle where during the active part of the cycle every 4th cell will deflate to relieve pressure at the support surface / patient interface (see Figure 2). Cells in the deflation phase remain deflated for approximately 3 minutes prior to re-inflation. At this point the adjacent cell (in the direction of the head end of the mattress) will deflate for 3 minutes etc., etc. Adopting a one-in-four cell cycle strikes a good balance between patient support and comfort and clinically effective pressure relief.

Results / Evidence of improvement

The Talley QUATTRO® PLUS has now been in use at Colchester Hospital University NHS Foundation Trust for over 6 years where it continues to do what the tissue viability team set out to do back in 2007 – i.e. maintain or improve clinical outcomes whilst simplifying product selection, provision and use for all clinical and non-clinical staff involved in the appropriate allocation of pressure relieving support surfaces for patients at risk of tissue damage.

The QUATTRO® PLUS system is employed primarily for pressure ulcer prevention within the Trust where it is provided to patients which are deemed to be at medium to high risk of developing a pressure ulcer (according to the Braden risk assessment score AND the clinical judgement of the nursing staff).

The Trust records all stages of pressure ulcer from Category / Stage I to Category / Stage IV and within the past three years (2011 – 2014) there has been a 61.54% reduction in the incidence of hospital acquired pressure ulcers. In addition, there have been no Category / Stage IV hospital acquired pressure ulcers reported within the Trust since July 2012. For the past 2 years (April 2012 to March 2014) all fractured neck of femur patients in Trauma and Orthopaedics have been placed immediately onto the QUATTRO® PLUS system. During this time tissue viability have seen a significant (21.9%) reduction in the incidence of pressure ulcers within this specific high risk patient cohort (this is especially true of Category / Stage III pressure ulcers).

Feedback on the QUATTRO® PLUS is very positive with staff finding the system very easy to set up and use correctly. This simplicity of operation and ease of use has resulted in less user error during product set up and operation which has a follow-on benefit of improved patient comfort.

One significant additional benefit that has been noted by the tissue viability team is the excellent level of product reliability for the QUATTRO® PLUS. The QUATTRO® PLUS system gets heavy use within the Trust yet it continues to provide consistent clinical performance and reliability which in turn leads to staff having very high levels of confidence in the product.

Discussion / Conclusion

Effective pressure ulcer prevention and management is multifactorial and requires a holistic approach to patient care. No single factor is responsible for a reduction in pressure ulcer incidence, however providing patients at risk of pressure damage with a clinically effective support surface is a significant consideration when looking to affect a reduction in incidence of these often preventable wounds.

Adopting the QUATTRO® PLUS mattress into the Trust has helped simplify the choice of support surface for nursing staff. In addition the system is easy to set up and use and this has minimised the opportunity for user error.

Colchester Hospital University NHS Foundation Trust now have over six years of experience of using the QUATTRO® PLUS system for pressure ulcer prevention. This system effortlessly combines clinical performance with patient comfort, product reliability, ease of use and staff acceptance.

When used as an integral part of a holistic care package for patients at risk of pressure ulceration the QUATTRO® PLUS can help reduce the incidence of pressure ulcers in at risk individuals.