

DO ARTICULATED BED FRAMES INCREASE THE PREVALENCE OF HEEL ULCERS?

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Figure 1.



Figure 2.

With the introduction of profiling bed frames in many clinical areas it seems that mattresses don't fit the bed frame properly they either move down the bed as the frame articulates pushing the mattress (and the patient) tight up against the bed end (see Figures 1 & 2) or become too short (a physical property due to the fact that they follow the contours of the bed frame), both of which may result in patients becoming at risk of pressure damage to the heel or plantar surface of the foot (see Figure 3).

It was also noted that during the profiling of the frame because of the way the foam behaved on the frame, the patients heels slid across the mattress, sometimes moving up to 15cm, causing friction, shear and pain. (see Figures 4 & 6).

Simple adjustments to the standard foam resulted in a changed performance characteristic as the foam was profiled which resulted in a minimal movement of the heel (see Figures 5 & 7) it also increased the length of the foam as the cuts in the U – Core of the foam opened as the frame contoured (see Figure 8). This allowed for a 6'4" volunteer to still have their heels resting on the mattress rather than overhanging the edge as would usually happen.



Figure 3.

Potential pressure damage

Position of the heel with bed flat:

Standard mattress

New mattress



Figure 4.



Figure 5.

Position once the bed is contoured (note: 10cm of travel with the standard mattress)



Figure 6.



Figure 7.



Figure 8.

The U Core of the foam (blue foam) opening to more closely follow the contours of the bed frame as it profiles