

MANUALLY ADJUSTED SYSTEMS

Audit reveals a significant risk of error: is it safe to walk away?

Patients who are considered at risk of pressure damage are frequently provided with a specialist support surface. In order to obtain an optimal clinical outcome, it is important that the equipment is set up and maintained correctly.

While many devices automatically adjust to accommodate the body mass distribution of the patient, others require patient weight/position to be input manually. This manual selection will be required either once, at the outset, or at several times during the course of the day when the patient moves between a sitting and lying position.

If the mattress setting is incorrectly selected the product may provide sub-optimal therapy and expose the patient to unnecessary risk.

ArjoHuntleigh audit reveals a significant degree of error (Figs 1-4 overleaf) and recommends, where possible, the selection of a mattress or mattress overlay which is fitted with an automated pressure-regulation system such as the *NIMBUS*[®] range of mattresses; *AUTO logic*[®] systems or the new *Alpha Response*[™] mattress replacement and mattress overlay.



NIMBUS range



AUTO logic system

EQUIPMENT AUDIT

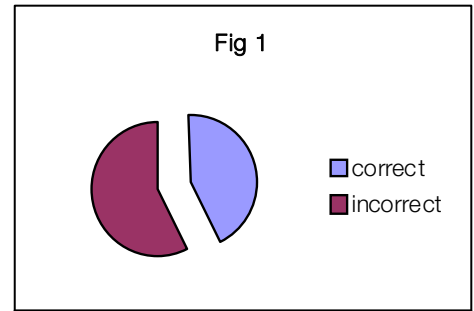
598 manually-adjusted mattresses (different manufacturers, countries and healthcare settings) were encountered during 4 routine audits and data was reported to indicate whether:

- a) the correct patient weight was entered (Fig 1)
- b) whether the setting resulted in too high or too low internal air pressure (Fig 2)
- c) the correct sitting/lying position was selected (Figs 3 & 4)

The results show similar trends with a consistent tendency for maladjustment.

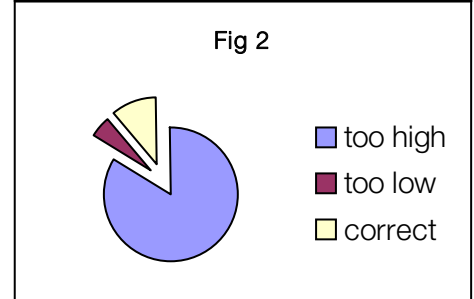
Audit 1: 368 mattresses (Fig 1)

- 55% were set up **incorrectly** for the weight of the patient



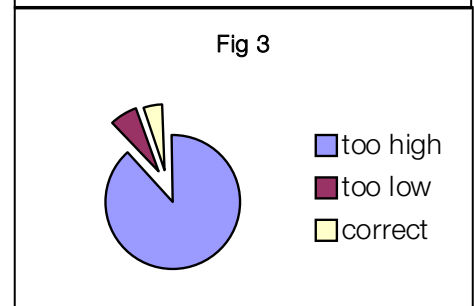
Audit 2: 44 mattresses (Fig 2)

- 84% set higher than patients weight (too firm)
- 5% set lower than patients weight (risk of bottoming out)
- 11% set correctly



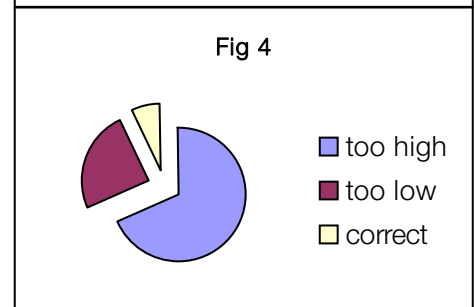
Audit 3: 114 mattresses – PATIENT SUPINE (Fig 3)

- 88% indicate pressure over-set (too firm)
- 7% indicated pressure under-set (risk of bottoming out)
- 5% correctly set up



Audit 4: 72 mattresses – PATIENT SITTING UP IN BED

- 68% indicate pressure over-set (too firm)
- 25% indicated pressure under-set (risk of bottoming out)
- 7% correctly set up



SUMMARY

Although manually-adjusted mattress systems do provide a high level of therapy to vulnerable patients, the outcomes are dependent upon skilled supervision and appropriate intervention at a level which may prove difficult in today's challenging healthcare environment. A mattress which is too firm may lead to reduced comfort and poor concordance while an under-inflated device risks 'bottoming out'.

In these surveys, more than half the mattresses were incorrectly set up with **one-in-four patients exposed to an increased risk of tissue break down** as they sat up in bed; this is particularly evident for those mattresses which require sit/lie settings to be manually selected each time the patient changes position.

While the initial cost of a manual system seems attractive, the overall equation should consider patient exposure to less than optimal outcomes and facility exposure to the legal and financial costs risks associated with pressure ulceration.

Our recommendation is to source affordable, automatic support surfaces where possible.