

## Mattress Evaluation – August thru September 1995 by Mary Bowling RN CETN

### Results of Clinical Study Performed in Skilled Nursing Unit

#### COMFORT

1- Patients were asked to rate comfort on scale (1) at least comfortable to (5) most comfortable. Not all patients were able to respond to this question.

Average scores

BG Maxifloat 4.3

BG Viscoelastic 4.4

Tempur-Med 4.4

2- Complaints of “sinking at the buttocks” were given on all mattresses.

3- Complaints of being hot were given on the Tempur-Med and Viscoelastic mattresses.

4- All mattresses had patients (on antibiotics) develop a fungal on their backs.

#### SAFETY

1- All the mattresses provided easier touch access to the floor when patient sitting than the standard hospital mattresses with overlays.

2- Slippage – the two BG mattresses would move off the frame easily when patient would push to sit.

The Tempur-Med mattresses did not slip at all

3- Sheets stayed on very well on Tempur-Med, they slipped off corners of the BG's.

4- Mattress stability with transfer was better with the Tempur-Med due to no mattress shifting.

5- All mattresses meet all infection control requirements and have excellent cover resiliency.

#### HOUSEKEEPING

1- No standing of any standard cleaning agent used.

2- Tempur-Med dried quicker.

3- Tempur-Med stayed in a place better.

4- Tempur-Med had no specific foot or head end. BG mattresses had specific head nad foot end making it easy to have mattress improperly, place and changing efficacy. Tempur-Med can be rotated without changing efficacy head end foot end.

#### DISCUSSION

Of note: The patients on the SNU were not acutely ill and many were rehabilitating. The patients in the hospital are acutely ill and have a greater risk of breakdown due to the influences of their illness. This may take outcomes in the hospital significantly different.

This was a very small patient population of “At Risk” patients and a limited amount of time.

Literature does support the use of pressure reduction mattresses to reduce ulcer development. In **Lancet, March 1994, Pressure Sores and pressure-decreasing mattresses; controlled clinical trial, the trial demonstrated “that the occurrence of pressure ulcers and their severity can be significantly reduced when patients at risk are nursed on an interface- pressure decreasing mattress.”** Literature supports the use of air overlays with the pressure reduction mattresses for patients with breakdown or under treatment for ulcers. In Ostomy and Wound Management, October 1993. “Determining the

right mix of support surfaces to minimize hospital acquired pressure ulcers”, **the test hospital noted an increase in the number of hospital acquired pressure ulcers after the introduction mattress replacements until they reintroduced air overlay products. Of note was the replacement mattress studied was not the Tempur-Med.** The use of 2 inch foam overlay was completely eliminated. **Patients were noted deteriorate on the BG mattresses. None were noted to deteriorated on the Tempur-Med mattress, The key to prevention is ongoing assessment and specific criteria for product utilization.**

The **lift pads need to be thin and loose fitting** to allow for confirmation of the mattress to the patient. **Thick pads will decrease the efficacy of the mattress.** This trial was done with cotton woven sheeting. Most overlay products have shown a decrease in interface pressures when used with knitted fitted sheeting.

It is recommended to delete the use of the 2 inch foam overlay. **But...due to the small size of the study (only 27 risk patients) and limited time. I can not recommend the removal of air overlay products** from our present prevention program. The nurses should monitor the patients without breakdown for the development of redness and selectively place patients developing or breakdown on adjunct protocol under the direction of the ET or skin care committee guidelines. The a/p mattress still needs to be readily available to the staff as it is the lowest cost prevention item on the on the next step-up list of the intervention items. There should be a drastic reduction in the use of the alternating pressure devices.

**Recommendation is for the Tempur-Med mattress, in conjunction with thin loose lift sheets and open absorbent pad for incontinence. We should maintain availability of the alternating pressure mattress as an intermediary measure before utilization of daily rental high cost beds.**