

Clinical Benefits of Frequent and Timely Patient Repositioning

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Introduction

When the head of a bed is elevated, the patient's support surface literally becomes a ramp and gravity causes the patient to slide down in bed. Sliding down was shown to lead to a significant increase in pressure on the sacral area, heels, as well as other susceptible areas on the body.

When do Caregivers Reposition?¹



Why do Caregivers Wait to Reposition?

- **Assistance not readily available** – Typically requires 2-4 caregivers
- **Dangerous** – Cause of caregiver injuries
- **Patient not all the way down**
- **Task saturated** – Don't have time
- **Disturbs patient**
- **Scheduled in the near future** – Have to turn or meal arriving in a half hour

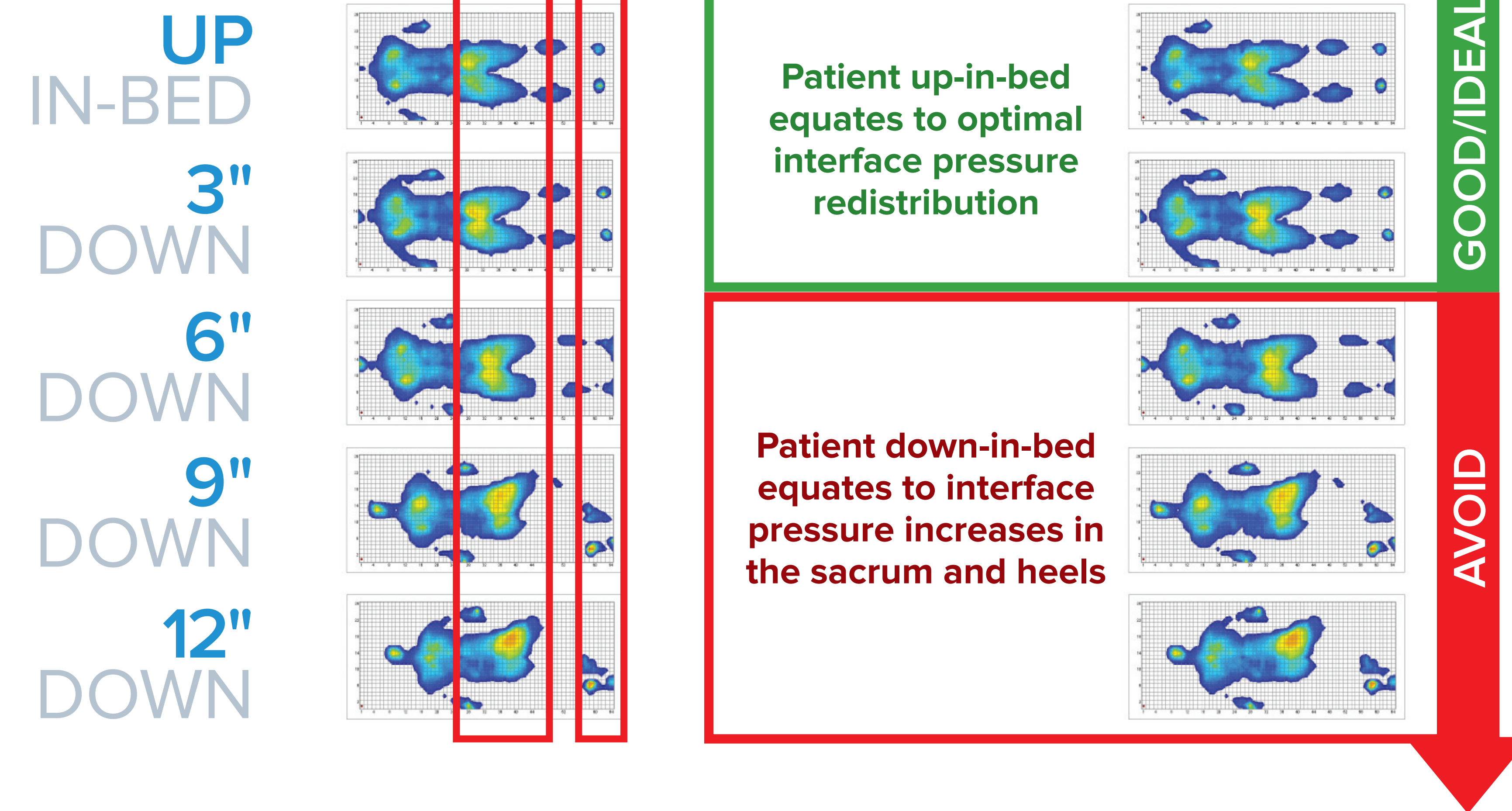
Weber State University Study²

Pressure mapping study to analyze the effects on pressure as volunteers slide down in bed.

- 3 Different Surfaces** – on a hospital bed
 - Powered integrated air surface
 - Non-powered air surface
 - Viscoelastic memory foam surface
- 4 Volunteers** – 2 male and 2 female
 - Weight: 145 – 220 pounds
 - Height: 67" – 74"
 - BMI: 21.6 – 29.0
- 5 Discrete Positions Measured** – sliding down in bed
 - 0", 3", 6", 9" and 12"



Pressure Changes with Patient Migration



Study Findings

- Interface pressures increase in the sacrum & heels as the patient slides down in bed
- Pressures increase with all patients and on all tested surfaces
- Rate of pressure increase accelerates when the patient moves beyond 6" down in bed
- As the patient's feet contact the footboard, their knees bend, resulting in significant pressure increase on their heels

Conclusions³

Frequent and timely repositioning should be an integral part of every pressure ulcer prevention and management program.

Evidence-Based Outcomes⁴



Three hospitals reviewed key metrics to verify if improvements occurred after implementing automated repositioning programs with The Hercules Patient Repositioner in their facilities. Hercules allows caregivers to reposition patients up-in-bed every time they walk in the room with the push of a button.

Each facility had dedicated care units where Hercules was placed on every bed allowing them to compare their performance for the 12-month periods before and after implementation.

Hospitals involved included The Christ Hospital in Cincinnati, Ohio, Reid Health in Richmond, Indiana and Memorial Hospital in Jasper, Indiana. (246 Hercules systems in a variety of care areas were included in data collection)

86% DECREASE IN HAPI INCIDENCE RATE

- Memorial Hospital – HAPI incidence rate went from 3.3% to 0%
- Reid Health – HAPI incidence rate was 6.1% and dropped to 1.3%
- The Christ Hospital – 0 HAPIs reported since Hercules installation in June 2014

Additional Evidence-Based Benefits

Caregiver Injuries Go Down

- 67% reduction in caregiver injuries
- 75% reduction in lost work days
- 75% reduction in light duty assignments

Caregiver Satisfaction Goes Up

- 21% improvement in employee satisfaction

References

1. Hercules Patient Repositioner – Pre-Trial Survey (39 acute care hospitals; 1,204 caregiver surveys) Results. (2014-2016)
2. Evan Call, MS, CMS (June 2014)
3. Failure to Reposition After Sliding Down in Bed Increases Pressure at the Sacrum and Heels; Michel H.E. Hermans, MD and Evan Call, MS, CSM; Wounds 2015; 27 (7); 191-198.
4. Case Studies
 - The Christ Hospital, Cincinnati, OH; Oct 2016
 - Reid Health, Richmond, IN; May 2016
 - Memorial Hospital, Jasper, IN; Nov 2016