

# Patient Engagement through Advanced Pressure Visualization as a Component of Pressure Injury Prevention

Jennifer Parks, BSN, RN, TCRN; Kayla Northrop, BSN, RN, CCRN; Dhaval Bhavsar, MD; Richard Korentager, MD, FACS, FRSC(C), Nate Harris, BSN, RN\*

## Introduction

Hospital-acquired pressure injuries represent one of the most frequent health care problems in clinical practice. Burn patients specifically pose a greater challenge due to:

- loss of skin integrity
- post-op positioning requirements
- high levels of moisture.

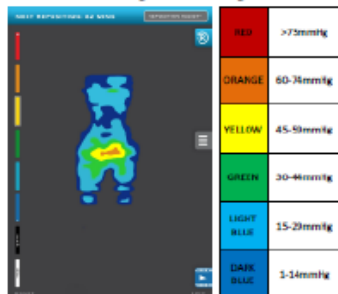
As an adjunct to unit based standard of care, a new technology was initiated to identify if pressure visualization will encourage patient engagement in repositioning as a component of pressure injury prevention.

## Statement of Significance

The purpose of this project is to evaluate the impact of a new advanced pressure visualization (APV) system\*\* on patient engagement and HAPI quality outcomes.

## Data Source/Population

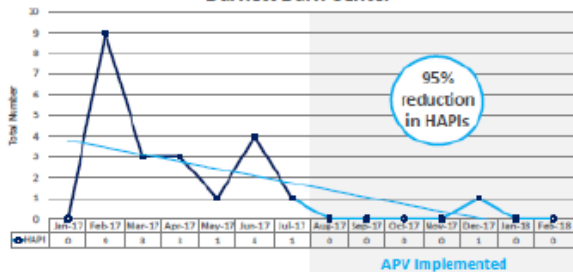
Pressure monitoring on current high-end mattress



The APV pressure sensor mat and tablet were installed on 10 beds, displaying their body image with continuous pressure readings. Utilizing a color gradient to exhibit pressure values, patients were educated on the significance of each color in the gradient related to high - low pressure.

## Results

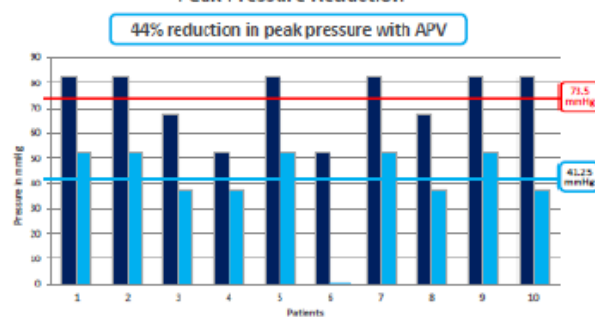
Hospital Acquired Pressure Injuries by Month  
Burnett Burn Center



**HAPI Incidence Inclusion:** All non-medical device related pressure injuries, stage I or greater for 7 months (2,849 patient days) prior to implementation of the APV and for 7 months (2,561 patient days) after implementation.

**RESULT:** We had a 95% reduction in hospital acquired pressure injuries in the 7 months following the implementation of the APV system.

Peak Pressure Reduction



**Patient Engagement Inclusion:** Patients with intact cognitive awareness and the ability to see and respond to the color screen at the foot of the bed were included. Data from 10 patients and 20 repositions were identified.

**RESULT:** Initial peak pressures, averaged 73.5 mmHg. The average reduction in peak pressure after self-repositions was 41.25 mmHg.

## Conclusion

Patient engagement through use of the APV contributed to the reduction of pressure injuries.

The National Pressure Ulcer Advisory Panel prevention and treatment guidelines encourage patients to work with the health care team to develop an individualized pressure ulcer prevention plan.

With APV, the patient can easily:

- identify high areas of pressure
- actively participate in pressure reduction measures

## Lessons Learned

- We underestimated the value of patient and family involvement in this process
- Just-in-time education had to be completed with float pool staff
- Device cannot be utilized on bariatric or air fluidized beds
- Real-time feedback and recommendations from bedside staff have been utilized in ongoing device improvement

## Acknowledgments

The staff and physicians of the inpatient Burnett Burn Center whose support, engagement, and leadership were instrumental in the ongoing success of this quality initiative. The unit based superusers were instrumental in the education and integration into daily practice.

## References

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\* Clinical Manager, Wellstone, Birmingham, Michigan  
\*\*VU, Wellstone, Birmingham, Michigan



THE UNIVERSITY OF KANSAS HOSPITAL

