

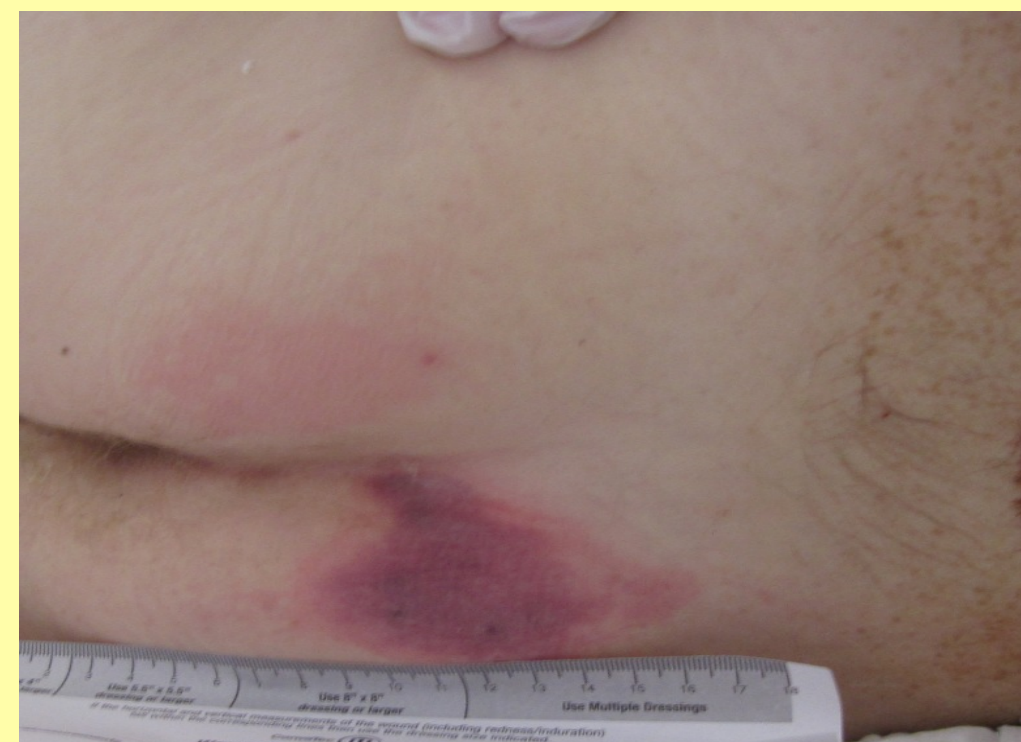
Preventing Pressure Ulcers/DTI in the Perioperative Setting

Holly Kirkland-Walsh FNP-c GNP-c, Elizabeth Key RN BSN, Oleg Teleten RN BSN, UC Davis Medical Center
Melanie Juarez CSUS BNS, Danielle Wachter CSUS BNS, Sacramento State School of Nursing

Problem

- At a large teaching hospital there were eight Hospital Acquired Pressure Ulcers (HAPU), stage III or greater, that were reported to the state.
- Risk factors for pressure ulcers that occur in the perioperative area are decreased mobilization, poor nutrition and hydration, BMI <20 or >30, a low serum albumin, diastolic BP <50, according to literature review.
- Through a medical record review these cases shared the following:
 - anesthesia time >9 hours in a single case up to 38 hours over a few weeks
 - BMI under 20 or over 30
 - spinal cord injury patients
 - weight loss of 2% in the week before surgery
 - diastolic BP <50 during the procedure.
- All eight cases started out as suspected Deep Tissue Injuries (sDTI)
- The National Pressure Ulcer Advisory Panel (NPUAP) has defined sDTI as initially have the appearance of a deep bruise associated with pressure related injuries to the subcutaneous tissue under intact skin that later (up to 3 weeks) develops into a stage III or IV pressure ulcer despite optimal treatment.
- There is a strong link that HAPU are related to prolonged surgical procedures.

sDTI 12 hours post 9 hour surgery



Significance

- The NPUAP states that pressure ulcers are a major health problem and pressure ulcer incidence is an indicator of quality of care.
- Centers for Medicare and Medicaid service will not reimburse care costs related to HAPUs because they are considered a preventable situation.

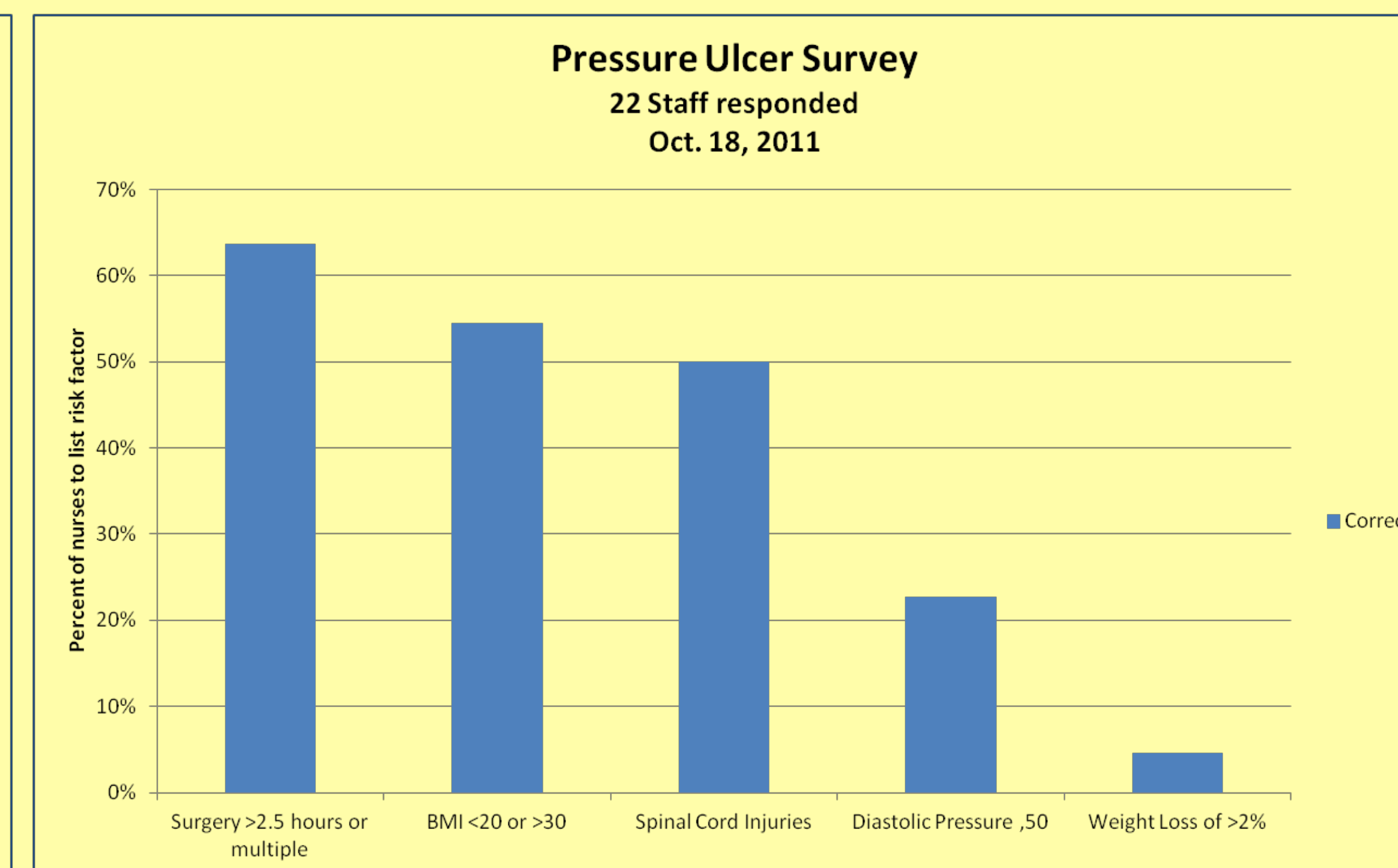
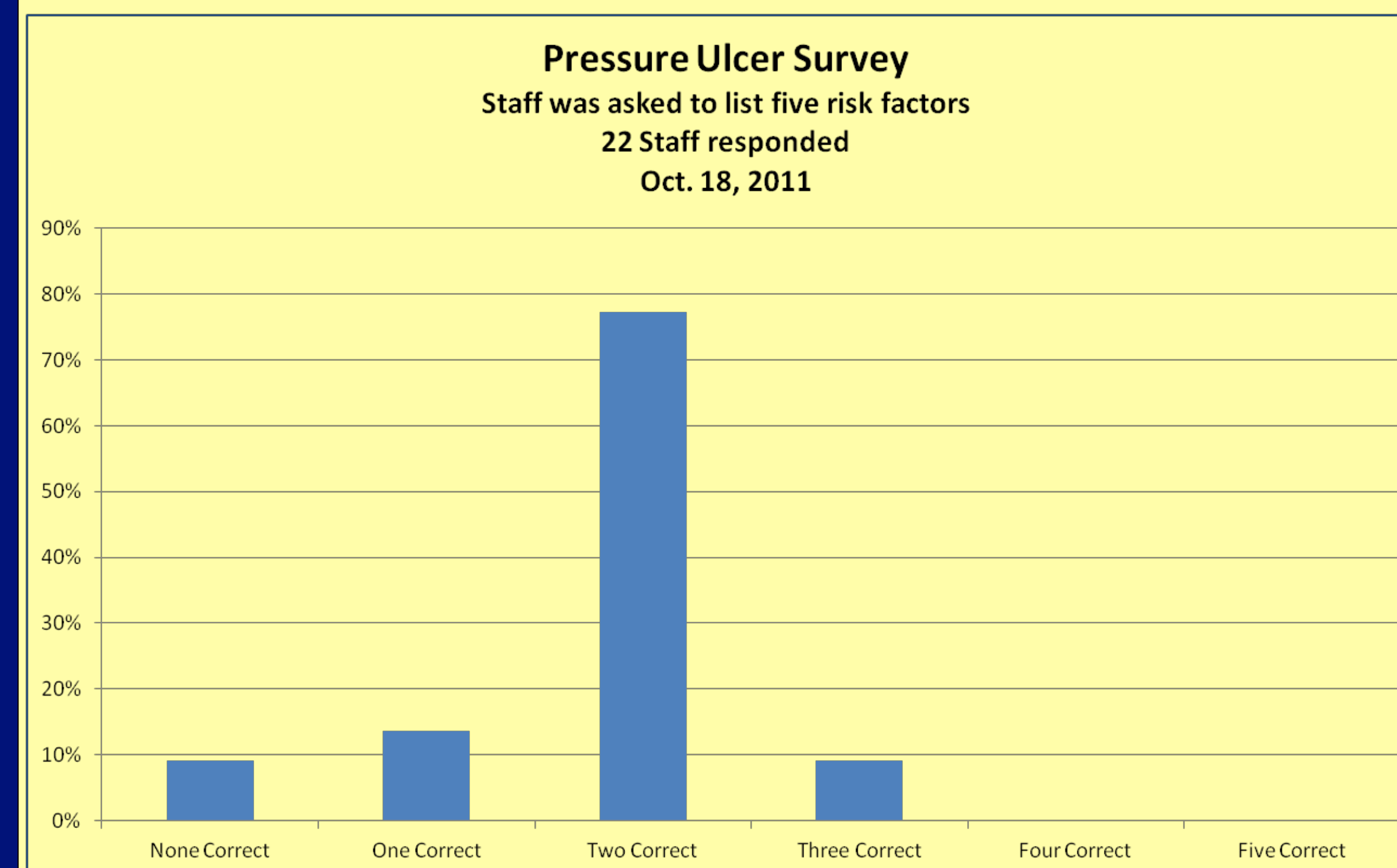
Current Policy and Procedure

- The RN will conduct an assessment using the Braden Scale upon admission and during each shift and within eight hours of a surgical procedure.
- Any pressure ulcer findings must be documented in the medical record.

Sample

- Direct observation of the assessment conducted by six nurses (pre-op and circulators)
- Assessment of current knowledge of pressure ulcer risk factors in 22 perioperative staff

Results



- Process Study on Assessment
 - Two nurses asked about skin conditions
 - None did a physical assessment
 - All documented that there were no pressure ulcers

Interventions

- The Wound Care Team and perioperative areas will collaborate in the use of pressure redistribution mattress overlays or pressure redistribution cushions to be used for each patient who has risk factors as listed above.
 - Surgery <2.5 hours or multiple surgeries
 - BMI <20 or >30
 - Spinal Cord Injuries
 - Diastolic Pressure <50
 - Weight loss of >2% in two weeks prior to surgery
- silicone foam dressings will be applied to the sacral area of each high-risk patient.
- An educational in-service to perioperative nurses will be presented to inform them of the new products and how to appropriately assess for risk of pressure ulcers and to apply evidence based interventions.
- Perioperative areas will document preventative interventions in the patients electronic medical record



Pressure redistribution mattress on an OR table



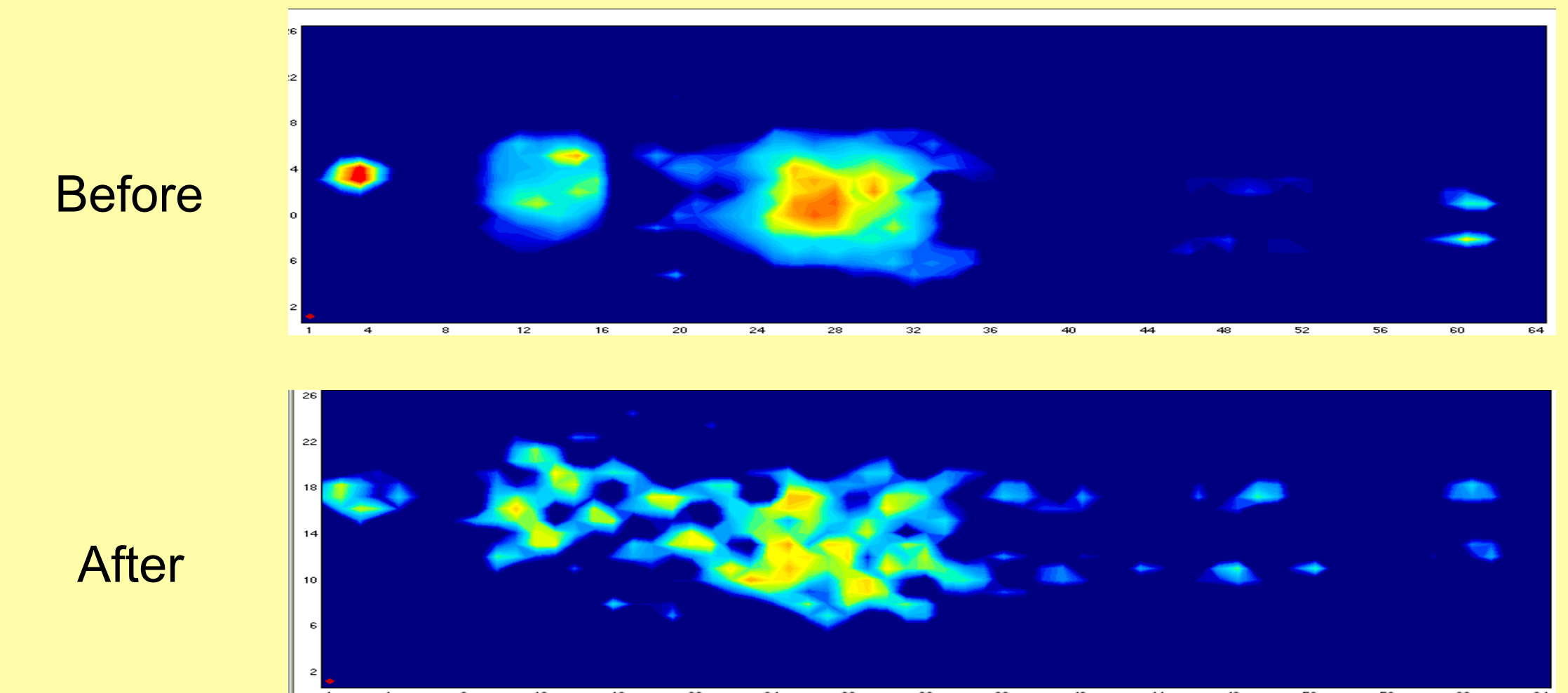
Pressure redistribution cushion



Silicone foam dressing applied to the sacrum

Summary

- No risk assessment tool exists to assess pre-operatively what patients are at risk for the development of sDTIs.
- Gel mattress pads currently used in the perioperative area, however they are only effective for procedures that are two hours or less.
- Pressure mapping results show the effects of using a pressure redistribution mattress:



- Silicone Foam dressings will protect the skin from breakdown related to shearing and friction

Expected Outcomes

With the implementation of improved assessment practices among perioperative nurses in combination with the use of pressure redistribution products and foam dressings, there will be a decreased incidence of pressure ulcers/sDTIs from the perioperative setting.

References

- UC Davis Health System (2010). Patient at Risk for Developing or Those With Pressure Ulcer. Retrieved from http://intranet.ucdmc.ucdavis.edu/policies/patient_care_standards/integumentary_skin_burn_care/XII-02.shtml
- Centers for Medicare & Medicaid Services (2009). Hospital-acquired conditions (present on admission indicator). Retrieved from <http://www.cms.hhs.gov/HospitalAcqCond/>
- Connor, T., Sledge, J., Bryant-Wiersema, L., Stamm, L., & Potter, P. (2010). Identification of pre-operative and intra-operative variables predictive of pressure ulcer development in patients undergoing urologic surgical procedures. *Urologic Nursing*, 30(5), 289-305
- Lindgren, M., Unosson, M., Krantz, A., & Ek, A. (2005). Pressure ulcer risk factors in patients undergoing surgery. *Journal of Advanced Nursing*, 50(6), 605-612.
- Natioanl Pressure Ulcer Advisory Panel (1992). Statement on Pressure Ulcer Prevention. Retrieved from <http://www.npuap.org/positn1.htm>