



# Pressure Injuries in ICU and prevention: A multidisciplinary approach

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# Scope of the Issue

## Cost

- \$9 billion to \$11 billion
- \$20,000-\$150,000 per ulcer

## Incidence

- Home care – 17 percent
- Acute care – 38 percent
- Long Term Care–24 percent
- Diagnosis-related group (DRG) payments for patients with >Stage 2 pressure injuries are not covered
- Most pressure injuries are preventable.

# Scope of the Issue

- Pressure injury rates continue to escalate
  - The incidence of pressure injuries increased by 80% from 1995 to 2008
  - Every year, 2.5 million patients develop a pressure injury
  - Because of the ever-increasing number of obese, diabetic, and elderly patients, rates are predicted to continue to rise

# Patients in the Intensive Care Unit

- Patients admitted to the Intensive Care Unit (PICU) have a higher incidence of PI's and usually they are more severe. Effective prevention for these patients should be based on correctly identifying them at risk.

The ICU environment includes several main contributing factors:

- Low cardiac output state
- Inotrope and vasoconstrictor use
- Impaired level of consciousness
- Immobility
- Poor peripheral blood flow
- Decreased nutrition

- Pressure Injuries- Is it nursing negligence??

**Blame free  
culture!!**



# High-Reliability Organizations

- Provide consistent performance at high levels of safety over long periods of time.
- Practice “collective mindfulness,” understanding that even small failures in safety protocols or processes can lead to catastrophic or adverse events if action is not taken to solve the problem.
- Eliminate deficiencies in safety processes through the use of powerful tools to improve their processes.
- Create an organizational culture that focuses on safety; they are constantly aware of the possibility of failure.

Chassin MR, Loeb JM, 2013

Chassin MR, Loeb JM, 2011



# Why Team Approach?

- National Pressure Ulcer Advisory Panel

- Nutrition, mobilization, medical devices

- American Medical Directors Association

- An interdisciplinary team may help to ensure implementation of a consistent and appropriate process for pressure ulcer prevention



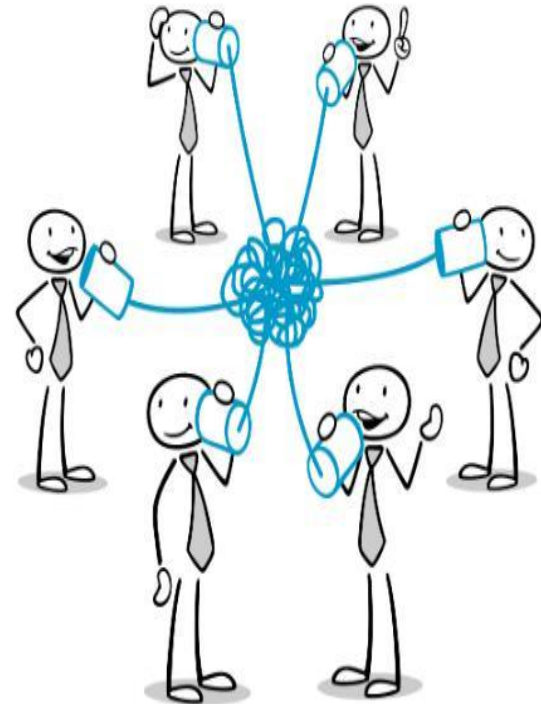


# Making Teams Work



# Team Referral and Communication

- Who? When?
- Braden score 18? 12?
- Braden sub-scores?
- Nutrition, mobility, activity scores
- PO intake? Lab values?
- Compromised skin integrity?



# Clinical Team

- Physician/Intensivist
- Specialist Nurses- Wound Care, Infection Prevention, Clinical Educator, Pain Management
- Nursing Staff/ Team leader
- Respiratory Therapists
- Rehabilitation Therapists
- Nutritional Services
- Pharmacy



# Pressure Injury prevention in ICU

## ▪ Risk Assessment

- Conduct risk assessment ASAP but within 8 hours after admission (Strength of Evidence = C)
  - Repeat risk assessment as often as required by the individual's acuity (Strength of Evidence = C)
  - Conduct reassessment if there is any significant change in individual's condition (Strength of Evidence = C)
- 
- National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Haesler (Ed.). Cambridge Media: Perth, Australia; 2014.

# Pressure Injury prevention in ICU

- Activity and Mobility
- Nutrition
- Skin Moisture
- Sensory Perception
- Current ulcer or previous ulcer
- Perfusion and oxygenation
- Increased body temperature
- Hematological measures
  - Albumin
  - Hemoglobin
  - C-reactive protein

# Skin Assessment

- Educate staff on how to conduct skin assessments/inspections (Strength of Evidence = B)
  - Blanchable vs. non-blanchable
  - Localized heat and pain
  - Edema
  - Induration
  
- National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Haesler (Ed.). Cambridge Media: Perth, Australia; 2014.

# Interventions for Prevention

- Repositioning as tolerated for ICU patients
  - Use of positioners to give complete lateral position to offload the sacrum
  - Use of prophylactic dressings on the pressure points to release the pressure
  - Daily skin assessment to be conducted on patients who is on prophylactic dressings
  - Offload the heels
  - Early mobilization for ICU patients
- Dietary consult
- Pharmacist - Pain control, Edema, Spasticity, Incontinence, Vitamin and mineral supplements



# Preventive Skin Care

- Use a pH balanced skin cleanser
- Protect skin from exposure to excessive moisture with a barrier product
- Use a skin moisturizer to hydrate dry skin to reduce skin damage



National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Haesler (Ed.). Cambridge Media: Perth, Australia; 2014.

# Components of Sustainability

Four key strategies:

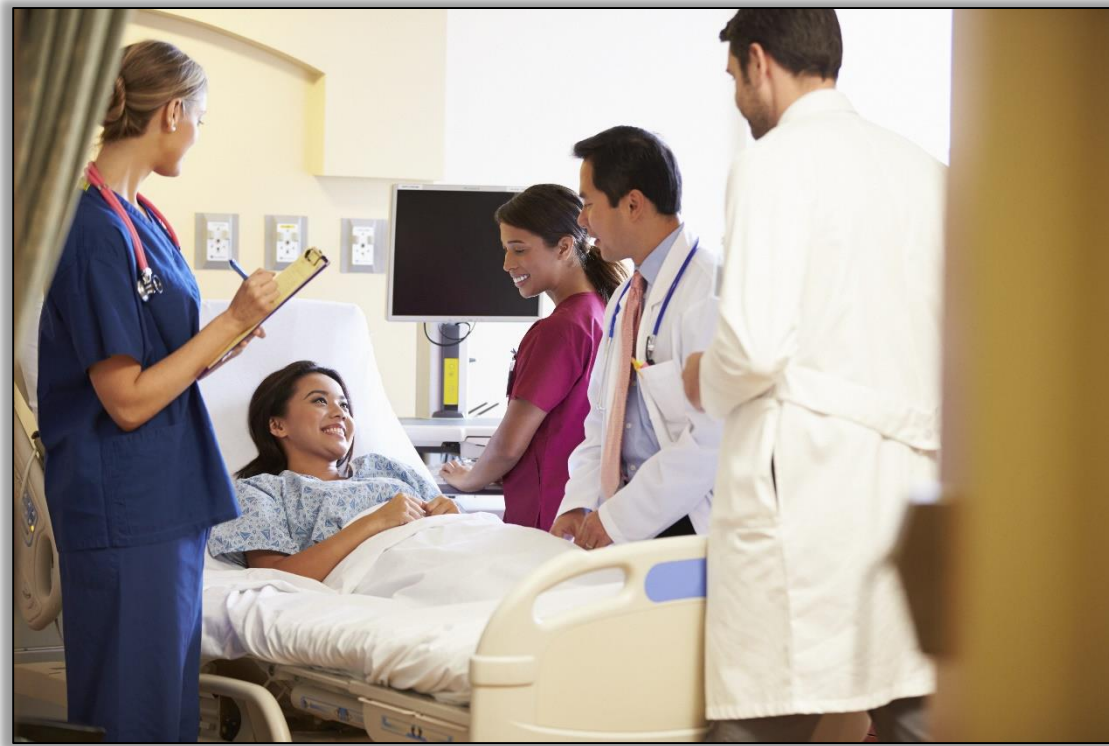
1. **Engage Leadership**
2. Measure Continuously/Evaluate for Change
3. Collaborate With All Disciplines
4. Hardwire Practices and Educate

# Leadership Support

- High-level senior leadership buy-in
- Designated pressure injury prevention Implementation Team-ICU
- Designated pressure injury prevention Implementation Committee/Interdisciplinary Team

# Practice Insight

## Engage Leaders in Rounding on Units



# Components of Sustainability

Four key strategies:

1. Engage Leadership
2. **Measure Continuously/Evaluate for Change:**
  - **Harness the power of local data to drive improvement efforts**
  - **Track prevention practices**
  - **Learn from defects**
3. Collaborate With All Disciplines
4. Hardwire Practices and Educate

# Using Data for Continued Improvement

- Continue to collect process and outcome data
- Set targets for process and outcome data
- Gather information from defects
- Use the data to identify opportunities and hardwire practices
- Share data with:
  - Improvement Team
  - Frontline staff
  - Leadership

# Purpose of Measurement

- Measuring pressure injury prevalence and incidence rates and looking at prevention practices tells you:
  - If any areas of care can be improved
  - If you are meeting your aims
  - If practice changes improve incidence
  - If you are sustaining improvements

***If you don't know where you are,  
how do you know if you are improving?***



# Components of Sustainability

Four key strategies:

1. Engage Leadership
2. Measure Continuously/Evaluate for Change
- 3. Collaborate With All Disciplines:**
  - **Collaborate with multiple disciplines**
  - **Identify physician and nurse champions**
  - **Tap into the wisdom of frontline staff**
4. Hardwire Practices and Educate

# Power of Collaboration

- Senior leadership support is important, but change comes most effectively from frontline staff. Tap into their wisdom
- Shared ownership of positive prevention results



# Components of Sustainability

Four key strategies:

1. Engage Leadership
2. Measure Continuously/Evaluate for Change
3. Collaborate With All Disciplines
4. **Hardwire Practices and Educate:**
  - **Standardize care: prevention practices**
  - **Include practices in patients' daily goals**
  - **Train new staff in evidence-based prevention practices**

# Prevention Works

- Multicomponent prevention programs reduce pressure injury rates
  - Systematic reviews show that pressure injury prevention programs result in statistically and clinically significant reduction in pressure injury rates
  - Rates can drop by 50% to 100%
  - Other benefits include optimal patient care and avoiding the cost of treating Stage 3 and above injuries





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