A global perspective on clinical and policy standards in pressure ulcer reduction
September 10, 2012

Elizabeth A. Ayello
PhD, RN, ACNS-BC, CWON, MAPWCA, FAAN
Faculty Excelsior College of Nursing, Albany, NY
Senior Advisor, The John A. Hartford Institute for Geriatric Nursing, New York, NY
President Ayello, Harris & Associates, Copake, NY
Clinical Editor, Advances in Skin & Wound Care, Ambler, PA
Editorial Board, Nursing2011
Executive Editor, World Council of Enterostomal Therapists Journal, Australia
Co-Director, International Interprofessional Wound Care Course, University of Toronto

elizabeth@ayello.com

© Ayello 2012
Ayello Disclosures and Disclaimers

- Dr. Ayello has/is a consultant to CMS on various wound & skin initiatives including IRF-PAI pressure ulcer items, Tag F 314, LTCH CARE Data Set, and MDS 3.0 Section M Skin Conditions. Slides and opinions expressed are hers and not official CMS statements. Consult with official CMS documents for compliance.

- This PowerPoint has been developed by Dr. Elizabeth A. Ayello strictly for educational purposes. These slides should not be used out of context and are not intended to provide or replace legal advice for a particular case or claim nor compliance with any state or federal regulations.

© Ayello, 2012
Participants will:

• Describe elements of selected initiatives to reduce pressure ulcers

• Describe a tool kit that can be used to reduce pressure ulcers.
The Wound Care World just met again!

4th Meeting - WUWHS 2012

WUWHS 2012
YOKOHAMA JAPAN

September 2(SUN) - 6(THU), 2012
PACIFICO YOKOHAMA, Yokohama, Japan

Welcome to Japan

MAIN THEME Better Care, Better Life
Pressure Ulcers - A worldwide concern

© Ayello, 2012
In USA there are many Clinical Practice Guidelines
International Guideline NPUAP-EPUAP

Prevention of Pressure Ulcers:

- Risk Assessment
- Skin Assessment
- Nutrition for Pressure Ulcer Prevention
- Repositioning for the Prevention of Pressure Ulcers
- Support Surfaces
- Special Population: Patients in the Operating Room

© NPUAP-EPUAP, 2009

www.npuap.org or www.epuap.org
Pressure Ulcers- Not just a *nursing* problem, but a *multidisciplinary* problem!

• “the problem of pressure ulcers belongs to no one group of healthcare professionals: **all on the healthcare team must work together** to diminish the incidence and severity of pressure ulcers.”

Decubitus 1(1) P. 7
And I dreamed I saw a world without pressure ulcers

© Ayello 2008
NJHA Collaborative Goals

- Close the gap between what is known and what is practiced
- Reduce pressure ulcer incidence by \(25\%\)
- Achieve 95% compliance with the PU prevention Bundle
  - Skin assessment on admission
  - Risk assessment on admission
  - Reassessment of skin and PU risk
  - Prevention strategies implemented within 24 hrs
- Improved \textit{communication} across care settings

© Ayello, 2006
The New Jersey Hospital Association (NJHA)
Pressure Ulcer Collaborative

Changing systems, changing cultures

Contact Information: Theresa Edelstein        Aline Holmes
609-275-4102        609-275-4157
tedelstein@njha.com   aholmes@njha.com

www.nopressureulcers.com
NJHA DATA for 2006

- Incidence reduced by 70% - from 18% to average of 5% across all organizations

- 48 organizations achieved results of 0 new pressure ulcers for three months or more!
NJHA Data for 2009

- 3% incidence rate in February
- 1% incidence rate in June
- 25 out of our 59 partners had three months of zero pressure ulcer incidence
8:43E-13.4 Mandatory use of Universal Transfer Form

(a) A licensed healthcare facility or program shall use the Universal Transfer Form, HFEL-7, provided as N.J.A.C. 8:43E-13 Appendix, incorporated herein by reference, and available on the Department's website at http://web.doh.state.nj.us/apps2/forms/, in either paper or electronic version, whenever a patient is transferred to another licensed healthcare facility or program.

1. Emergency departments are exempt from mandatory use of the Universal Transfer Form, but shall follow hospital procedures regarding documentation.

(b) A licensed healthcare facility or program shall complete all sections of the Universal Transfer Form, to the best of the licensed healthcare facility or program's ability.

1. The Universal Transfer Form is not complete if medication information is not attached.

(c) A licensed healthcare facility or program shall send a completed, paper copy of the Universal Transfer Form with a patient when a patient is transferred.

(d) A licensed healthcare facility or program shall retain a completed copy of the Universal Transfer Form sent with a patient when a patient is transferred as part of the patient's medical record.
Update on Statewide New Jersey Universal Transfer Form

• One page with 29 items

• Item # 15 **Skin Condition**

  □ No Wounds

  □ Yes **Pressure, Surgical, Vascular, Diabetic, Other**
  
  See attached TAR

<table>
<thead>
<tr>
<th>Type</th>
<th>P</th>
<th>S</th>
<th>V</th>
<th>D</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage (pressure)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

  □ P □ S □ V □ D □ O
  
  | Site |   |   |   |   |   |
  | Size |   |   |   |   |   |
  | Stage (pressure) |   |   |   |   |   |
  | Comment |   |   |   |   |   |
Update on Statewide New Jersey Universal Transfer Form

- Item # 20 At Risk Alerts

- Falls
- Wanders
- Pressure Ulcer
- Elopement
- Aspiration
- Seizure

Harm to: NA Self Others

Weight Bearing Status:
Left Leg: Limited Full
Right Leg: Limited Full

© Ayello, 2010
Update on Statewide New Jersey Universal Transfer Form

Item # 25 Bowel:

☐ Continent ☐ Incontinent Date Last BM______

Comments__________________________

Item # 26 Bladder:

☐ Continent ☐ Incontinent ☐ Foley Catheter______

Comments__________________________
Change is good!
The ABCDE of Pressure Ulcer Incidence Reduction Initiatives

- Administrative support backed by support at the patient care level is vital
- Bundling care practices and having an identifiable theme
- Creating a culture of change, commitment, and communication
- Documentation of pressure ulcer prevention practices must be visible
- Education is essential
This project was funded under contract number HHSA 290200600012 from the Agency for Healthcare Research and Quality (AHRQ), US Department of Health and Human Services.
Additional support was provided through the US Department of Veterans Affairs under grant # RRP 09-112
GOALS OF PRESSURE ULCER PROJECT

• Review **successful approaches** to prevention of pressure ulcers in hospitals.

• **Work with partners** in establishing hospital quality improvement **teams** and **tools** workgroup.

• **Develop** and **pilot test** a toolkit of pressure ulcer prevention practices through the **adoption** or **adaptation** of existing instruments and the development of new **instruments**.
GOALS OF PRESSURE ULCER PROJECT

• **Implement** a quality improvement project using the pressure ulcer prevention tools in our partner hospitals.

• **Assess lessons learned** during the quality improvement project through the monitoring of staff use of the tools, observations on changes in prevention practices, and determinations of changes in pressure ulcer rates.

• **Incorporate these lessons** learned into a final **pressure ulcer prevention manual** which will serve as the major product of this effort.

© Ayello 2011
A project sponsored by the Agency for Healthcare Research and Quality (AHRQ), Department of Veterans Affairs

Preventing Pressure Ulcers in Hospitals

Principle Investigator: Dan Berlowitz, MD, MPH from Boston University

http://www.ahrq.gov/research/ltc/pressureuclertoolkit/

This work was supported by the Agency for Healthcare Research and Quality, US Department of Health & Human Services, contract #HHS 290200600012

© Ayello & Berlowitz 2011
Some factors that make pressure ulcer prevention so difficult include it is:

- **Multidisciplinary**
  - Nurses, physicians, dieticians, physical therapists, patients and families are among those who need to be invested

- **Multidimensional**
  - Many different discrete areas must be mastered

- **Customized**
  - Each patient is different, so care must address their unique needs

- **Routinized**
  - Same tasks need to be preformed over and over, often many times in a single day without failure

- **Not glamorous**
  - Skin does not enjoy the high status and importance of other clinical area
Improvement as Puzzle Pieces

• Quality improvement initiative needs to be individualized
  – Each site starts at different place
  – Each site has different needs

• Path through the guide *not* a single sequence of steps

• Different site = different approaches = same completed puzzle

• Interlocking pieces of puzzles
  – One piece depends on another

© Ayello & Berlowitz 2011
AHRQ Toolkit p. 3
ORGANIZATION OF TOOLKIT

Six chapters each addressing a key question:

1. Are we **ready** for this change?
2. How will we **manage** change?
3. What are the **best practices** in pressure ulcer prevention that we want to use?
4. How should those practices be **organized** in our hospital?
5. How do we **measure** our pressure ulcer rates and practices?
6. How do we **sustain** the redesigned prevention practices?

- Appendices with tools and resources

© Ayello & Berlowitz 2011
Each TOOLKIT Chapter

• Begins with a brief explanation of why the question is relevant and important to the change process or to pressure ulcer prevention.

• Each section includes additional questions with action steps and specific resources to address the questions.
Icons
Throughout this toolkit, additional helpful materials are identified as follows

<table>
<thead>
<tr>
<th>Action and Resource Symbols</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Checkmark]</td>
<td>Denotes action Steps</td>
</tr>
<tr>
<td>![Hammer]</td>
<td>Denotes a tool for this action in Tools and Resources</td>
</tr>
<tr>
<td>![Email]</td>
<td>Denotes a linked tool or other resource for this action</td>
</tr>
<tr>
<td>![Binoculars]</td>
<td>Denotes practice insights</td>
</tr>
<tr>
<td>![Books]</td>
<td>Denotes additional background material for those interested in pursuing this area in more detail</td>
</tr>
</tbody>
</table>

© Ayello & Berlowitz 2011
Chapter 1- Are we ready for this change?

1.1 Do organizational members understand why change is needed?

Creating Urgency

Urgency can be created in a variety of ways.

At one hospital, nurses in the surgical intensive care unit (SICU) felt they were delivering exceptional care. Unfortunately, due to high incidence of pressure ulcers (33%) patients were not being accepted to the “good” rehabilitation hospital in town and their recovery slowed.

A meeting with the rehabilitation hospital helped nurses learn best practices to prevent pressure ulcers.

Now incidence of pressure ulcers is down to 2 percent. At this hospital, understanding how a high incidence of pressure ulcers was affecting patient outcomes helped create urgency among the staff nurses.
1.7 Checklist for assessing **readiness** for change

<table>
<thead>
<tr>
<th>1. Organizational Readiness Checklist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why is change needed?</td>
</tr>
<tr>
<td>Hospital-specific reasons for change have been identified</td>
</tr>
<tr>
<td>Do organizational members understand why change is needed?</td>
</tr>
<tr>
<td>Staff attitudes about pressure ulcers have been assessed</td>
</tr>
<tr>
<td>Assessment results have been analyzed to suggest awareness-building needs</td>
</tr>
<tr>
<td>Is there a sense of urgency about the change?</td>
</tr>
<tr>
<td>Supporters who have a sense of urgency have been identified</td>
</tr>
<tr>
<td>Efforts are underway to generate a sense of urgency if lacking</td>
</tr>
<tr>
<td>Is there leadership support for this effort?</td>
</tr>
<tr>
<td>Leadership support has been assessed</td>
</tr>
<tr>
<td>If necessary, efforts are underway to generate this support</td>
</tr>
<tr>
<td>Senior leader champion, sponsor, or linkage has been identified</td>
</tr>
<tr>
<td>Who will take ownership of this effort?</td>
</tr>
<tr>
<td>A leader has been identified for the pressure ulcer prevention effort</td>
</tr>
<tr>
<td>This leader is now involved in the subsequent planning steps</td>
</tr>
<tr>
<td>What kinds of resources are needed?</td>
</tr>
<tr>
<td>The basic building blocks for pressure ulcer treatment are in place</td>
</tr>
<tr>
<td>A preliminary list of needed human and material resources has been developed</td>
</tr>
<tr>
<td>Commitments to provide those resources have been obtained or are forthcoming</td>
</tr>
</tbody>
</table>

Berlowitz, D, VanDeusen Lukas, C, Parker, V et al. Preventing pressure ulcers in Hospitals: A toolkit for improving quality of care. AHRQ April 2011 p.18
2.1.3 How does the Implementation Team work with other teams involved in pressure ulcer prevention?

Figure 1. Team relationships

- **Implementation Team**: Interdisciplinary team charged with designing and implementing pressure ulcer change project.
- **Wound Care Team**: Interdisciplinary group of experts that provides day-to-day care of skin and wound care needs and are a resource for staff and patient/family.
- **Unit-Based Team**: Staff on the unit who provide daily care to the patient, including skin and pressure ulcer risk assessment and care planning.

2.4 Checklist for **managing** change

<table>
<thead>
<tr>
<th>2. Managing Change Checklist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation Team composition</td>
</tr>
<tr>
<td>Team leader is identified and in place</td>
</tr>
<tr>
<td>Members with necessary expertise/role have been identified and invited</td>
</tr>
<tr>
<td>Linkage to senior leadership defined and established</td>
</tr>
<tr>
<td>Team startup</td>
</tr>
<tr>
<td>Team agenda and charge are clearly stated</td>
</tr>
<tr>
<td>Team has necessary training and resources to get started</td>
</tr>
<tr>
<td>Current state of pressure ulcer practice and knowledge</td>
</tr>
<tr>
<td>Current practice and policies have been systematically examined</td>
</tr>
<tr>
<td>Challenges to good practice have been identified at organization and unit levels</td>
</tr>
<tr>
<td>Staff knowledge has been assessed</td>
</tr>
<tr>
<td>Starting the work of redesign</td>
</tr>
<tr>
<td>Approaches to redesign have been explored and chosen</td>
</tr>
<tr>
<td>Gap analysis has been conducted between current practice and guideline-consistent practice</td>
</tr>
<tr>
<td>Setting goals and plans for change</td>
</tr>
<tr>
<td>Specific goals have been set</td>
</tr>
<tr>
<td>A plan for making changes to meet those goals has been initiated</td>
</tr>
<tr>
<td>A preliminary plan for sustaining the changes is in place</td>
</tr>
</tbody>
</table>

### 1.5 What kinds of resources are needed?

<table>
<thead>
<tr>
<th>Resource Needs Assessment</th>
<th>Needed: Yes/no</th>
<th>Notes on what needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other resources:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff education programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality improvement experts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PT/OT consultation on work practices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Technology support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific products/tools (e.g. bed and chair surfaces)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilities and supplies (e.g. meeting rooms)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printing/copying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphics/design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonclinical time for team meetings and activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comprehensive Programs for Preventing Pressure Ulcers: A Review of the Literature

Study Objective

To examine the evidence supporting the combined use of interventions to prevent pressure ulcers in acute care and long term care facilities.

This work was supported by the Agency for Healthcare Research and Quality, US Department of Health & Human Services, contract #HHS 2900600125

Study Search Methods

- Ovid, Medline and Ovid CINAHL

Search terms included:
- Pressure ulcer
- Bed sore
- Decubitus ulcer
- Prevention
- Protocol
- Best practice
- Quality assurance
- Tool


© Ayello 2012
Study Methods-Article Limitations -

• Published January 1995 - December 2010
• Inclusion Criteria:

Describe a program to prevent PrU:
– Implemented in Acute Care or LTC
– More than 1 intervention component
– Not limited to specific PrU site
– Multidisciplinary efforts
– Measured pre and post implementation rates

Study Results

24 articles comprehensive PrU prevention programs

- 20 Acute care
- 4 LTC

• Each study analyzed for:
  - Setting and scope of program
  - Implementation team and preparations prior to program implementation
  - Intervention components
  - Methods of data collection
  - Results

References*-Acute Care Studies


* This work was supported by the Agency for Healthcare Research and Quality, US Department of Health & Human Services, contract #HHS 290-06-0012-5
References* – Acute Care Studies


* This work was supported by the Agency for Healthcare Research and Quality, US Department of Health & Human Services, contract #HHS 290-06-0012-5
References* – Acute Care Studies


* This work was supported by the Agency for Healthcare Research and Quality, US Department of Health & Human Services, contract #HHS 290-06-0012-5
References*- LTC Studies


* This work was supported by the Agency for Healthcare Research and Quality, US Department of Health & Human Services, contract #HHS 290-06-0012-5
Example of the Review tables for the 24 studies

---

<table>
<thead>
<tr>
<th>Reference Authors</th>
<th>Setting and Scope</th>
<th>Team</th>
<th>Preparations</th>
<th>Best Practices</th>
<th>Staff Education</th>
<th>Care Process Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fadawi and Radeva, 2018</td>
<td>Acute care setting</td>
<td>Task force (not specified)</td>
<td>Task force (not reported)</td>
<td>Risk assessment</td>
<td>Presentation (at launch)</td>
<td>Not reported</td>
</tr>
<tr>
<td>9</td>
<td>Hospital-wide wounds committee: CWOCN wound champions</td>
<td>CWOCN hours increased to full time</td>
<td>Computer tool for PU assessment and initial care, including skin tear protocol</td>
<td>Pressure relief</td>
<td>Mandatory education sessions</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>All 5 inpatient units at hospital (Cancer hospital, USA)</td>
<td>Multidisciplinary QI team: Clinical nurse specialist (CNS); Nursing director; ET registered nurse (RN); quality manager; Staff development specialist</td>
<td>Initial intervention: Chart audits by CNS</td>
<td>Risk assessment</td>
<td>Skin assessment and individualized care plan based on Braden subscales and linked to products/services available at the facility</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td>Second intervention: Assessment of state of practice</td>
<td>Skin assessment</td>
<td>Second intervention: Information packets at launch; CNS available to assist and monitor staff</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Initial intervention: Unit in-service sessions</td>
<td>Individualized care plan based on Braden subscales and linked to products/services available at the facility</td>
<td>Second intervention: Information packets at launch; CNS available to assist and monitor staff</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Second intervention: weekly chart audits</td>
<td>Risk assessment</td>
<td>Skin assessment and individualized care plan based on Braden subscales and linked to products/services available at the facility</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RN: completed protocol</td>
<td>Skin assessment</td>
<td>Second intervention: Information packets at launch; CNS available to assist and monitor staff</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PGA: audits chart 3 d later</td>
<td>Skin assessment</td>
<td>Second intervention: Information packets at launch; CNS available to assist and monitor staff</td>
<td></td>
</tr>
</tbody>
</table>
We cannot simply give a patient with PU or at risk of developing PU a new and healthy skin!
## Ayello’s Suggested Competencies

### Pressure Ulcer Risk Assessment

<table>
<thead>
<tr>
<th>Setting</th>
<th>CMS Form/regulation</th>
<th>Required - Yes</th>
<th>Not Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Care</td>
<td>POA-HAC 1 October 2008</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Long term Care Hospital</td>
<td>MDS 3.0 Section M-Skin Conditions 1 October 2010</td>
<td>✓ M0100, M0150</td>
<td>✓</td>
</tr>
<tr>
<td>Inpatient Rehabilitation Facility</td>
<td>LTCH CARE Data Set- Section M Skin conditions 1 October 2012</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Home care</td>
<td>OASIS C 1 January 2010</td>
<td>✓ M1300,1302</td>
<td>✓</td>
</tr>
</tbody>
</table>

© Ayello, 2012
Weight pattern status and stability
Examination

• Weight loss

• Bony prominences

© Ayello, 2012
Method

Cross-sectional multicentre prevalence study in German hospitals and nursing homes

- **Sample:**
  - 4067 patients (22 hospitals); 2393 residents (29 nursing homes)

- **Malnutrition parameters:**
  - BMI less than 18.5 or less than 20 for patients older than 65 years
  - Percentage undesired weight loss (5% during last month or 10% during last 6 months)
  - Nutritional intake (Braden scale)

- **Multivariate logistic regression analysis**
  - Dependent variable: PU(s)
  - Independent variables: Age, Gender, Mobility, Time since admission, Neurological diseases, Cancer,
Conclusions: for patients in both sectors

Positive relation between PUs and:
- Poor intake
- Weight loss

No relation between PUs and:
- BMI

PU patients deserve adequate nutritional attention!
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Never eats a complete meal. Rarely eats more than a of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Takes fluids poorly. Does not take a liquid dietary supplement. <strong>OR</strong> is NPO and/or maintained on clear liquids or IVs for more than 5 days.</td>
<td><strong>1.</strong> Very Poor</td>
<td><strong>2.</strong> Probably Inadequate</td>
<td><strong>3.</strong> Adequate</td>
<td><strong>4.</strong> Excellent</td>
</tr>
<tr>
<td>Eats a total of 4 servings of protein (meat, dairy products per day. Occasionally will refuse a meal, but will usually take a supplement when offered <strong>OR</strong> is on a tube feeding or TPN regimen which probably meets most of nutritional needs</td>
<td><strong>2.</strong> Probably Inadequate</td>
<td>Eats over half of most meals. Eats a total of 4 servings of protein (meat, dairy products per day. Occasionally will refuse a meal, but will usually take a supplement when offered <strong>OR</strong> is on a tube feeding or TPN regimen which probably meets most of nutritional needs</td>
<td><strong>3.</strong> Adequate</td>
<td>Eats most of every meal. Never refuses a meal. Usually eats a total of 4 or more servings of meat and dairy products. Occasionally eats between meals. Does not require supplementation</td>
</tr>
<tr>
<td>Takes fluids poorly. Does not take a liquid dietary supplement. <strong>OR</strong> receives less than optimum amount of liquid diet or tube feeding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Levels of pressure ulcer risk

19 to 23 = not at risk

15 to 18 = at risk

13-14 = moderate risk

12 to 10 = high risk

9 or below = very high

Make score part of the nursing report
Rethink Pressure Ulcer Risk Assessment because some clinicians:

- Believe it's just a task
- Have lost the critical thinking piece
- Don’t complete scale correctly
- “Copy forward”
<table>
<thead>
<tr>
<th>Sensory Perception</th>
<th>1. Completely Limited: Unresponsive (does not moan, flinch, or grasp) to painful stimuli, due to diminished level of consciousness or sedation</th>
<th>2. Very Limited: Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness,</th>
<th>3. Slightly Limited: Responds to verbal commands but cannot always communicate discomfort or need to be turned,</th>
<th>4. No Impairments: Responds to verbal commands.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR limited ability to feel pain over most of body surface</td>
<td>OR Has a sensory impairment which limits the ability to feel pain or discomfort over 1/2 of body</td>
<td>OR Has some sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities</td>
<td>Has no sensory deficit which would limit ability to feel or voice pain or discomfort</td>
</tr>
</tbody>
</table>
**AT RISK (15-18)***

**FREQUENT TURNING**  
**MAXIMAL REMOBILIZATION**  
**PROTECT HEELS**  
**MANAGE MOISTURE, NUTRITION AND FRICITION AND SHEAR**  
**PRESSURE-REDUCTION SUPPORT SURFACE IF BED OR CHAIR-BOUND***

*If other major risk factors are present (advanced age, fever, poor dietary intake of protein, diastolic pressure below 60, hemodynamic instability) advance to next level of risk.*

<table>
<thead>
<tr>
<th>MODERATE RISK (13-14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURNING SCHEDULE</td>
</tr>
<tr>
<td>USE FOAM WEDGES FOR 30' LATERAL POSITIONING</td>
</tr>
<tr>
<td>PRESSURE-REDUCTION SUPPORT SURFACE</td>
</tr>
<tr>
<td>MAXIMAL REMOBILIZATION</td>
</tr>
<tr>
<td>PROTECT HEELS</td>
</tr>
<tr>
<td>MANAGE MOISTURE, NUTRITION AND FRICITION AND SHEAR</td>
</tr>
</tbody>
</table>

*If other major risk factors present, advance to next level of risk.*

<table>
<thead>
<tr>
<th>HIGH RISK (10-12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCREASE FREQUENCY OF TURNING SUPPLEMENT WITH SMALL SHIFTS</td>
</tr>
<tr>
<td>PRESSURE REDUCTION SUPPORT SURFACE</td>
</tr>
<tr>
<td>USE FOAM WEDGES FOR 30' LATERAL POSITIONING</td>
</tr>
<tr>
<td>MAXIMAL REMOBILIZATION</td>
</tr>
<tr>
<td>PROTECT HEELS</td>
</tr>
<tr>
<td>MANAGE MOISTURE, NUTRITION AND FRICITION AND SHEAR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VERY HIGH RISK (9 or below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL OF THE ABOVE +</td>
</tr>
<tr>
<td>USE PRESSURE-RELEIVING SURFACE IF PATIENT HAS INTRACTABLE PAIN OR SEVERE PAIN EXACERBATED BY TURNING OR ADDITIONAL RISK FACTORS</td>
</tr>
</tbody>
</table>

*low air loss bed: do not substitute for turning schedules.*

---

Copyright Barbara Braden 2001
Moisture and pressure ulcers

• **Subdermal moisture** was associated with pressure ulcers in persons with dark skin tones

Bates-Jensen, BM, McCreath, HE, Pongquan, V. Subepidermal moisture is associated with early pressure ulcer damage in nursing home residents with dark skin tones. *JWOCN*. 2009; 36(3):277-284

© Ayello 2011
Pressure ulcer clinical risk factors in older adults in home health

- Bowel incontinence
- Inability to transfer

Bergquist-Beringer, S., Gajewski, BJ. Outcome and assessment information set data that predict pressure ulcer development in older adults home health patients. Advances in Skin and Wound Care. 2011; 24(9):404-14

© Ayello, 2012
Can technology help with risk assessment and early detection?

- **Ultrasound for early recognition**
  
  Aoi et al, 2009; Yabunaka et al 2009

- **Sweat monitoring**
  - Rate of sweating
  - Skin metabolite levels
  - Sweat urea
  - Sweat lactate


© Ayello, 2008
After identification of PU risk

Is the problem:

• Don’t have the prevention products
• Staff do not know now to use prevention products or reposition patients?
• Equipment not being:
  – used
  – used inconsistently
  – used timely
  – used effectively
Don’t wait to do pressure redistribution

The study data:
792 patient aged 65 years of older
Evaluated on day 3 of admission

RESULTS:
Only 15% had any preventive device at day 3 of admission
51% of at risk patients had a preventive device
68% of patients with pressure ulcer had documented PU in record

Shayna E, Rich, Shardell, M, Margolis, D, Baumgarten, M (2009)
Pressure ulcer prevention device use among elderly patients early in the hospital stay. Nursing Research March/April 2009 58(2) 95-104

© Ayello, 2009
Changing daily routine requires much creativity!

Slide from: Prof JMGA Schols, Md, PhD. Maastricht University, The Netherlands
Rethink forms- how you use your CNAs for skin care

• Leverage **documentation** and knowledge of CNA staff
• **Support collaborative clinical decision making** of a multidisciplinary team using clinical decision support tools
• **Establish practices** for proactive risk identification and early intervention to prevent pressure ulcers (PrUs) as part of frontline caregivers’ daily work


FREE DOWNLOAD www.woundcarejournal.com

© Ayello, 2011
Results and lessons learned

• Reduced incidence of pressure ulcers **42% decline** (from 4% to 2.3%) in 21 facilities with a high level of implementation

• QI efforts **integrated into daily work** are more readily adopted and sustained

• **Multidisciplinary teams** are essential for QI efforts

• CNAs are critical members of the multidisciplinary team and can be better utilized in QI efforts with a **clear role and well structured process**

• HIT alone will not lead to improved quality. Need to **redesign workflow** and links to specific process improvement activities

Program Components – Themes

- **Check, Rock & Roll around the clock**
- **PUPPI** (Pressure Ulcer Prevention Protocol Interventions)
- **SOS - Save our Skin**
- **SKIN** (Surfaces, Keep the patients turning, Incontinence management, Nutrition)
- **TOE** (Turn, Overlay, Elevate)


© Ayello 2012
Program Components – Clinical Monitoring and Feedback

- **Rounding** with wound nurse or other nursing staff
- **Regular chart audits**
- Provide feedback on QI process
  - Make PrU rates visible (Post on billboards, newletters, reports to unit managers) PrU tracking forms and compliance monitoring tools
- **Root-cause analysis** when PrU developed
- **Action plans** when survey results unsatisfactory


© Ayello 2012
Program Components – Skin Care Champions

• **Roles and responsibilities** varied among the 7 acute care units:
  – *Introduce* new policies and interventions to their unit
  – *Serve as skin care resource*
  – *Mentor* coworkers
  – *Serve as liaison* between unit and others in the improvement efforts
  – *Participate in data collection* and ongoing process monitoring

© Ayello 2012
### Program Components – Staff Education

- **Most targeted** nursing staff; 2 studies physicians
- **3 studies** – orientation for new hires

<table>
<thead>
<tr>
<th>Formal Education Activities</th>
<th>Informal Education Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Unit in-service sessions and workshops</td>
<td>• One on one mentoring</td>
</tr>
<tr>
<td>• Computerized educational modules</td>
<td>• Consultation</td>
</tr>
<tr>
<td>• Educational packages for staff</td>
<td>• Support at the bedside</td>
</tr>
<tr>
<td>• Skin fairs</td>
<td>• Individual case review</td>
</tr>
<tr>
<td>• Wound conferences</td>
<td></td>
</tr>
</tbody>
</table>


© Ayello 2012
Pressure ulcer knowledge

Used the Pieper Tool

Physician*  Nurse**

69%  76%


Program Components – Other Elements

- Turn **clocks**
- **Stickers** in patient charts or outside room
- **Theme songs** played every 2 hours
- **Penlights** for skin assessments
- Weekly skin care **newsletters**
- **Posters** on units
- Manuals or guidebooks on **skin care products**


© Ayello 2012
Rethink bathing and skin care practices

What’s in your skin and wound care formulary?

Is there evidence that using products can reduce risk of pressure ulcers?

  pressure ulcers (LTC) 19.9% to 8.1% education and skin protocol

• Thompson, Langemo, Anderson et al (2005) ASWC 18(8):422-9
  Pressure ulcers (LTC) body wash & skin protectant 32.7% to 8.9%, p=.01

  MASD from IAD reduced from 58.3% to 6.7% with all-in-one bathing product

© Ayello, 2010
Check your Skin and Pressure Ulcer Care Culture!

✓ Staff aware?
✓ Incidence rate known by unit staff?
✓ Continuous education - “Skin School”? 
✓ Braden score in patient handover reports?
✓ Right skin and pressure redistribution products?
✓ Documentation forms capturing admission and shift assessment data?
✓ Are you living your protocols?
Participants have:

• Described elements of selected initiatives to reduce pressure ulcers

• Described a tool kit that can be used to reduce pressure ulcers.
Thank you!

Questions or Comments

Follow me on twitter @ElizabethAyello

elizabeth@ayello.com

© Ayello, 2012