

# Changing Our Methods of Adult Incontinence Management to Decrease Skin Breakdown and Improve Patient Satisfaction

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## PURPOSE

The purpose of this quality improvement initiative was to: update the facility's incontinence-management protocol to ensure that it was consistent with current evidence-based recommendations, decrease the incidence of skin breakdown and improve patient satisfaction.

## INTRODUCTION

The prevalence of incontinence in acute-care hospitalized adult patients has been documented to be 42% for urinary incontinence and 33% for fecal incontinence.<sup>1,2</sup> Patients with urinary or fecal incontinence are at risk of incontinence-associated dermatitis (IAD), which can result in the development of pressure ulcers (PUs) and secondary skin infection.<sup>3,4</sup>

Exposure to urine and stool increases skin pH, exposes the skin to harmful digestive enzymes, and contributes to skin damage and erosion. The presence of bacteria and fungal organisms in stool further increases the risk of skin breakdown and resultant secondary infection.<sup>3,5,6</sup>

The use of containment briefs in patients with urinary or fecal incontinence has been reported to increase skin pH from an average of 5.5 to as much as 7.<sup>5,3,6</sup> An increased pH and the moisture from urine or stool weaken the moisture-barrier properties of the skin, making it more likely to absorb harmful compounds or pathogens and develop PUs.<sup>3</sup>

PUs are known to increase both medical costs and hospital length of stay. One study showed that the treatment of PUs increased mean annual hospital costs by \$15,760 per patient.<sup>7</sup> An observational study of 2000 hospitalized patients demonstrated that PUs increased the median length of stay by 4.31 days.<sup>8</sup>

Northwest Community Hospital is a 488-bed hospital offering a full range of medically advanced inpatient and outpatient services. In this acute-care community facility, adult urinary and fecal incontinence were managed with absorbent undergarments and thin absorbent pads that were placed under the patients. Despite these efforts, Stage I and II PUs and IAD remained a challenge. A literature review revealed that this facility's incontinence-management protocol was not consistent with current evidence-based recommendations.<sup>9</sup> In addition, some incontinence-management products were not performing as desired, resulting in patient and staff dissatisfaction. A quality-improvement initiative was implemented to include practice and product evaluation.

## METHODS

The absorbent adult briefs (diapers) were removed from use and decision guidelines based on current evidence-based recommendations were instituted. These guidelines were used to direct nursing practice in the management of urinary and fecal incontinence. [Figure 1]

As part of the guidelines, new products were introduced to reduce skin breakdown and produce better patient outcomes. New breathable absorbent underpads,\* pull-up briefs,<sup>†</sup> and improved self-adherent external catheters for males were introduced. The use of fecal pouches and skin-barrier products was expanded.

Verbal and written feedback was obtained from nursing staff regarding their perceptions of the treatment protocol. Verbal feedback was also obtained from patients regarding their comfort and satisfaction with the plan of care.

In addition, the hospital skin care management protocol was updated. The nursing staff were educated on the new protocol, the guidelines, and the new products. A skin care plan [Figure 2] based on the Braden Assessment Scale<sup>10</sup> was also implemented. The goal was to update practice and management of incontinence in the hospital. A reduction in Stage I and II PUs resulted in both direct and indirect cost savings. For the purposes of estimation, Stage I and II PUs were assigned a cost of \$15,760.

\* Attends® Supersorb® Breathable Underpads, Attends Healthcare Products, Greenville, NC

† Attends® Extra Absorbency Protective Underwear, Attends Healthcare Products, Greenville, NC

## REFERENCES

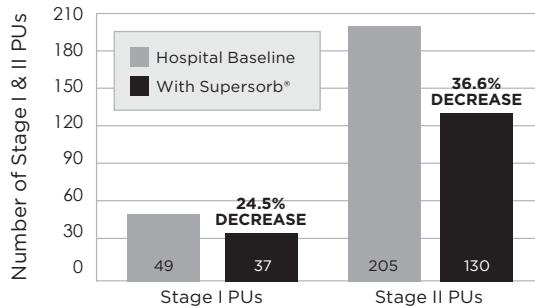
1. Schultz A, Dickey G, Skoner M. Self-report of incontinence in acute care. *Urol Nurs*. 1997;17:23-28.
2. Bliss DZ, Johnson S, Savik K, Clabots CR, Gerding DN. Fecal incontinence in hospitalized patients who are acutely ill. *Nurs Res*. 2000;49:101-108.
3. Junkin J, Selekof JL. Prevalence of incontinence and associated skin injury in the acute care inpatient. *J Wound Ostomy Continence Nurs*. 2007;34(3):260-269.
4. Gray M, Bliss DZ, Doughty DB, Ermer-Seltun J, Kennedy-Evans KL, Palmer MH. Incontinence-associated dermatitis: a consensus. *J Wound Ostomy Continence Nurs*. 2007;34(1):45-54.
5. Gray M, Ratliff C, Donovan A. Perineal skin care for the incontinent patient. *Adv Skin Wound Care*. 2002;15:170-179.
6. Gray M. Preventing and managing perineal dermatitis. *J Wound Ostomy Continence Nurs*. 2004;31(1 Suppl):S2-S9.
7. Kumar RH, Gupchup GV, Dodd MA, et al. Direct health care costs of 4 common skin ulcers in New Mexico Medicaid fee-for-service patients. *Adv Skin Wound Care*. 2004;17:143-149.
8. Graves N, Birrell F, Whitby M. Effect of pressure ulcers on length of hospital stay. *Infect Control Hosp Epidemiol*. 2005;26(3):293-297.
9. Dowling-Castronovo A, Bradway C. Nursing standard of practice protocol: urinary incontinence in older adults admitted to acute care. Updated January 2008. Available at: [http://consultgerirn.org/topics/urinary\\_incontinence/want\\_to\\_know\\_more](http://consultgerirn.org/topics/urinary_incontinence/want_to_know_more). Accessed March 16, 2010.
10. Braden Assessment Scale. Available at: <http://www.bradenscale.com>. Accessed March 16, 2010.

## RESULTS

All incontinent patients were treated according to the new protocol beginning in 08/08. However, the revised treatment protocol resulted in a **clinically significant decrease in both Stage I (49 vs 37) and II (205 vs 130) PUs**. A review of the data collected from 08/08 to 08/09 revealed that the number of consults for incontinence were similar between the two groups: 59 in 2008 vs 62 in 2009.

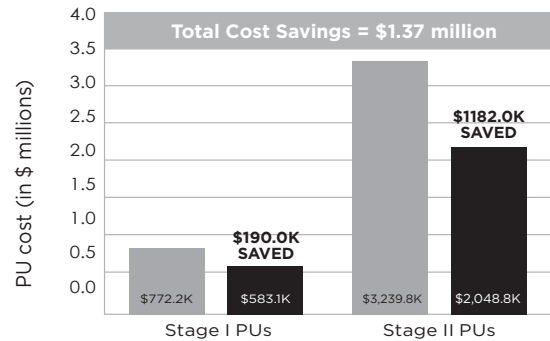
The decrease in Stage I and Stage II PUs resulted in a **substantial reduction in direct and indirect costs for a total savings of \$1.37 million** (\$190,000 for Stage I and \$1,182,000 for Stage II).

### Number of Stage I & II PUs Pre- & Post-Implementation



Pre-Implementation data collected in 2008. Post-implementation data collected in 2009.

### Cost of Stage I & II PUs Pre- & Post-Implementation



Pre-Implementation data collected in 2008. Post-implementation data collected in 2009.

\* Kumar RH, Gupchup GV, Dodd MA, et al. Direct health care costs of 4 common skin ulcers in New Mexico Medicaid fee-for-service patients. *Adv Skin Wound Care*. 2004;17:143-149

## CONCLUSION

Reviewing the literature and developing an evidence-based guideline resulted in a decrease in Stage I and II PUs thereby directly and indirectly reducing costs.

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### FIGURE 1. Decision Guidelines for Incontinence Management

**The "Rule of 3"** — The "Rule of Three" only three layers between the patient and the surface

- 1- Sheet
- 1- Draw/lift sheet
- 1- White disposable underpad (if needed)

#### Incontinent patient

- ✓ Offer the following:
  - Urinal
  - Toilet
  - Bedpan
- ✓ Use one white disposable underpad on the bed
- ✓ Ask patient q 1-2 hrs if toilet needed

#### Urine incontinence

- ✓ Male external catheter
- ✓ Position urinal between legs

#### Stool incontinence

- ✓ Fecal incontinence collector
  - if the peri-rectal skin is intact
  - use for C. diff diarrhea
- ✓ Bowel mgmt, system (rectal tube) - need MD order

#### New white underpads

- ✓ Place smooth side against linen and patterned "circle" side next to patient's skin
- ✓ May eliminate draw/lift sheet under patient
- ✓ These take the place of the "airbed" chux- no need to order special airbed chux anymore
- ✓ No more blue chux under patient's buttocks

#### Pull ups

- ✓ Use only while the patient is out of bed or at a procedure
- ✓ If ortho patient, put the affected leg on first

### FIGURE 2. Skin Care Plan

#### If Braden Score is 19-23:

- Inspect skin every shift
- Assess and control pain
- Offer bedpan or urinal
- Maintain good hydration and nutrition
- Encourage maximal activity
- Use proper transferring techniques
- Use trapeze &/or lift sheets
- Elevate head of bed no more than 30° unless contraindicated or for meals
- Avoid rubbing when cleansing & drying skin
- Moisturize skin as necessary
- Avoid hot water while bathing
- Use only one white underpad under patient if needed
- Do not massage red bony prominences
- Avoid wrinkled sheets, tubes & objects under patient
- Avoid oversedation

#### If Braden score is 18 or below, do above skin care plan PLUS:

- Place patient on a waffle mattress or contact Wound Care Consultant for an evaluation for a specialty mattress if multiple skin breaks present
- Reposition every 2 hours while in bed
- When in chair reposition hourly
- Use bath wipes, incontinence barrier wipes, and incontinence skin care products
- Protect skin from maceration with skin barrier products
- Manage incontinence: consider male external catheter, fecal pouch or fecal collector (bowel management system not to be used over 29 days)
- Suspend heels off mattress; use pressure relief boots
- Ask primary physician for PT/OT
- Nutrition consult; assist with meals, snacks, fluid intake
- Use proper turning & repositioning techniques
- Use appropriate number of personnel to reposition & transfer
- Use pull ups only for ambulatory incontinent patient
- Prevent knees & ankles from touching each other
- Use 30° oblique side lying positioning—avoid positioning on existing wound