

Incontinence-Associated Dermatitis (IAD): the Basics and Beyond

3MSM Health Care Academy

Julia Hanna (Colliflower) MHA, BSN ,RN, CWON
3M Critical and Chronic Care Solutions Division

Presenter: Julia Hanna (Colliflower)
MHA, BSN, RN, CWON

Is an Employee of 3M.

Disclaimer

Important Information:

The content of this program is based on current United States information including regulations, standards, guidelines, and practices as of [date].

Requirements in other countries may be different and US guidance may change in the future.

Always consult product *Instructions For Use* and follow local laws and regulations.

This presentation contains an overview of general information and should not be relied upon, in isolation, to make specific decisions.

Program objectives

- Articulate key risk factors for development of IAD and why consideration of risk is important
- Compare and contrast current prevention and treatment options for IAD

What is IAD?

- Results from exposure to urine/feces
 - **overhydrates skin → swelling and disruption of stratum corneum**
 - **increases skin pH**
 - **creates inflammation**
- Net effect: *disruption of normal epidermal barrier structure and function*



Thayer, Rozenboom, Baranoski. "Top-down" Injuries. Wound Management. Core Curriculum. WOCN Society. 2016

MASD

Publications by condition



~200 (10)



~30



~20



<10

Why the focus on IAD?

- It's common
 - LTC-3.4-30% ^{1,2}
 - Acute care-42% ³
 - ICU-36%⁴ -93%⁵
 - 26% prevalence with FMS ⁶
- Negative outcomes



“Excoriation”-still used by a lot of clinicians



1-Bliss D JWOCN 2007; 2-Van Damme N et al Intl Wound J. 2016; 801-809; 3-Campbell J et al. Intl Wound J. 2014; 1-19; 4-Bliss DZ et al. J WOCN. 2011; 38(4): 433-45; 5-Peterson KJ. Amer J of Crit Care. (Abstract.) 2006; 15(3): 325; 6-Kayser SA, Phipps L, VanGilder C, Lachenbruch C. JWOCN. 2019; 46(4):285-290.

But why do we need to think differently about IAD?



Incidence data suggests what we are doing now is not working for many patients!

The IAD-PI (PU) relationship

Patients with IAD are at a significantly higher risk of superficial sacral pressure ulcers¹

The risk of developing pressure ulcers has been found to increase as the severity score for IAD increases²

IAD significantly increases the risk of developing a sacral pressure ulcer³

Superficial sacral pressure ulcers developed in 44.4% of patients who had IAD versus 12.2% of patients who did not have IAD¹

The likelihood of developing a pressure ulcer increases by a ratio of 1.9 for every 1-point increase in IAD severity score (odds ratio (OR) = 1.9)²

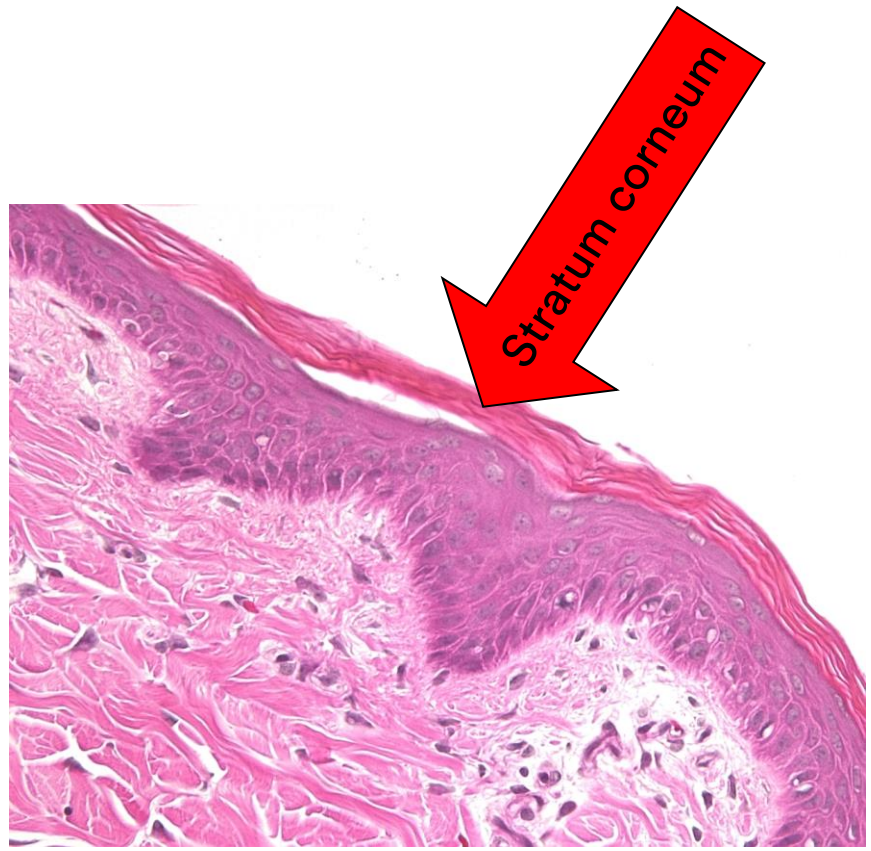
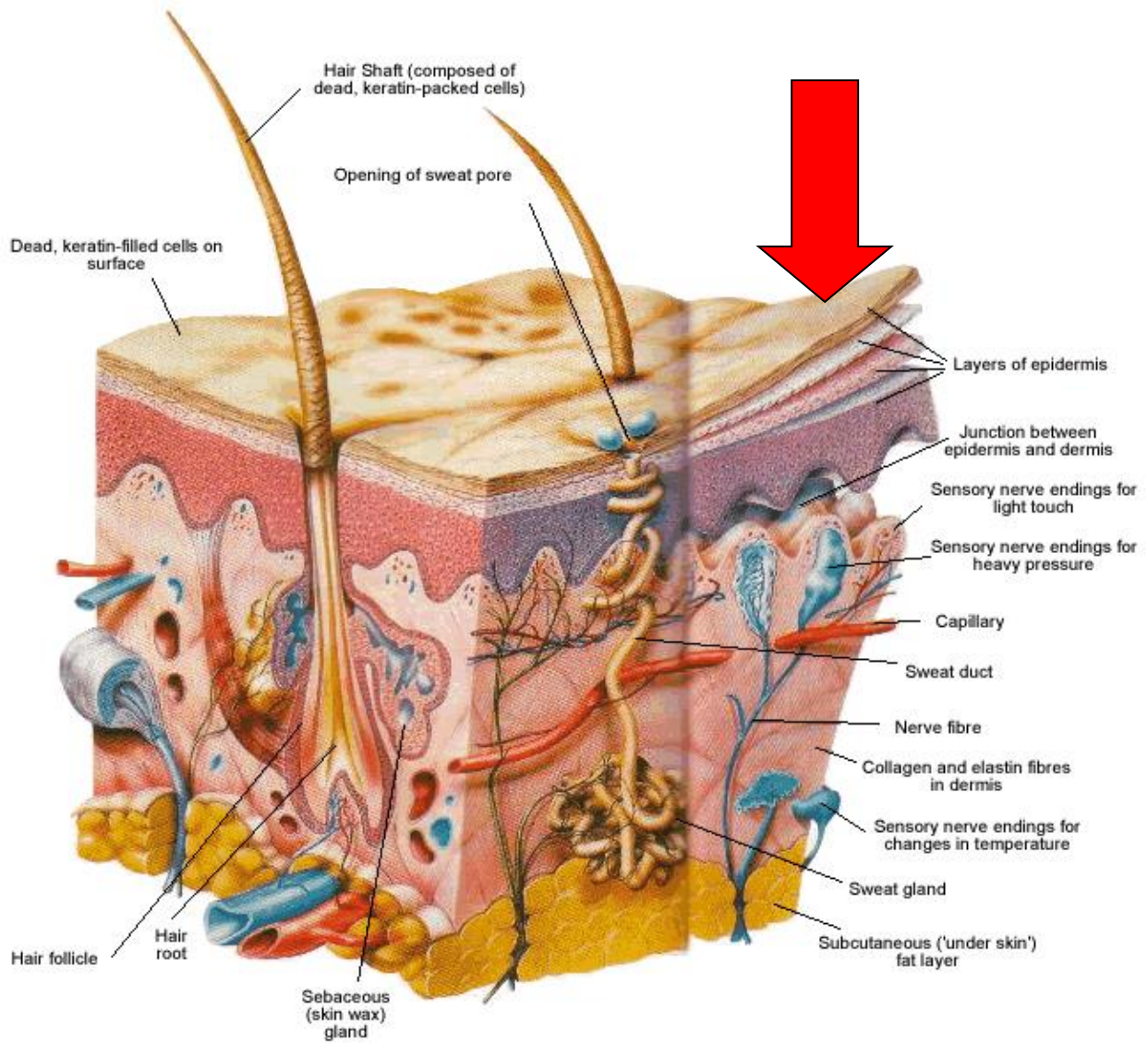
IAD significantly increased the likelihood of developing a full thickness sacral pressure injury (OR=2.65)³

¹ Demarre, J Adv Nurs 2014;Aug 19; ² Park KH, J Wound, Ostomy, Cont Nurs 2014;41(5):424-29; ³-Gray M, Juliano KK J Wound Ostomy Cont Nurs 2018; 45(1):63-67.



How does IAD develop?

What structures are affected?



Cross-section of epidermis

Learnings from Diaper Dermatitis:

- **1988:** “Etiology and Pathophysiology of Diaper Dermatitis”¹
- **1986:** “The effects of wearing diapers on skin”²
- **1977:** “Urinary ammonia and ammonia producing organisms in infants with and without diaper dermatitis”³



Moisture is a major problem!

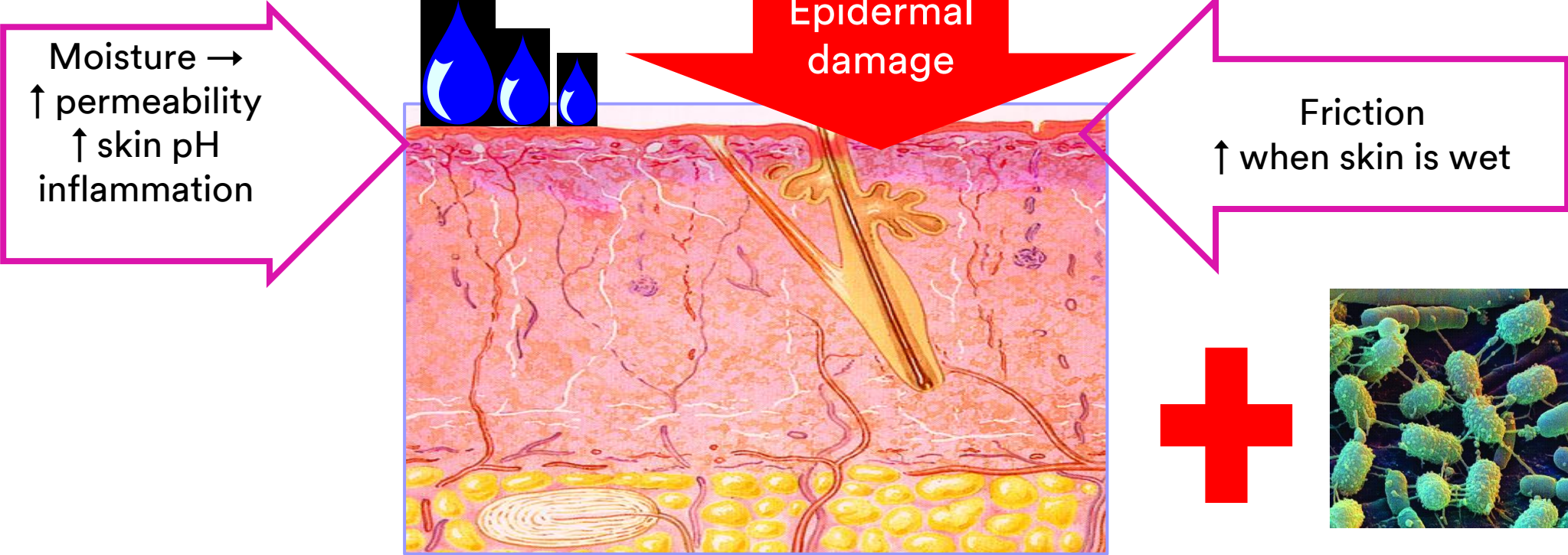
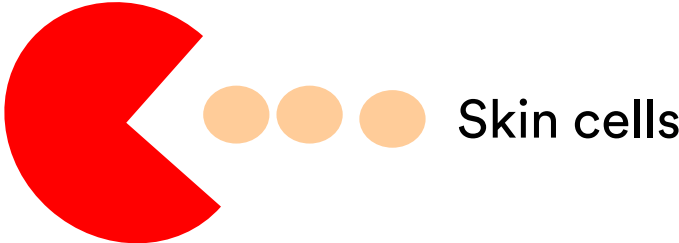
1 Berg RW. Adv Dermatol 1988; 3:75-98; 2 Leyden JJ, Katz S, Stewart R, Kligman AM. Arch Dermatol 1977; 113(12):1678-80; 3 Zimmerer RE et al: Pediatr Dermatol 1986; 3: 95-101.

What happens when there's too much moisture?



The “Moisture-Plus” Concept

Fecal enzymes



But!

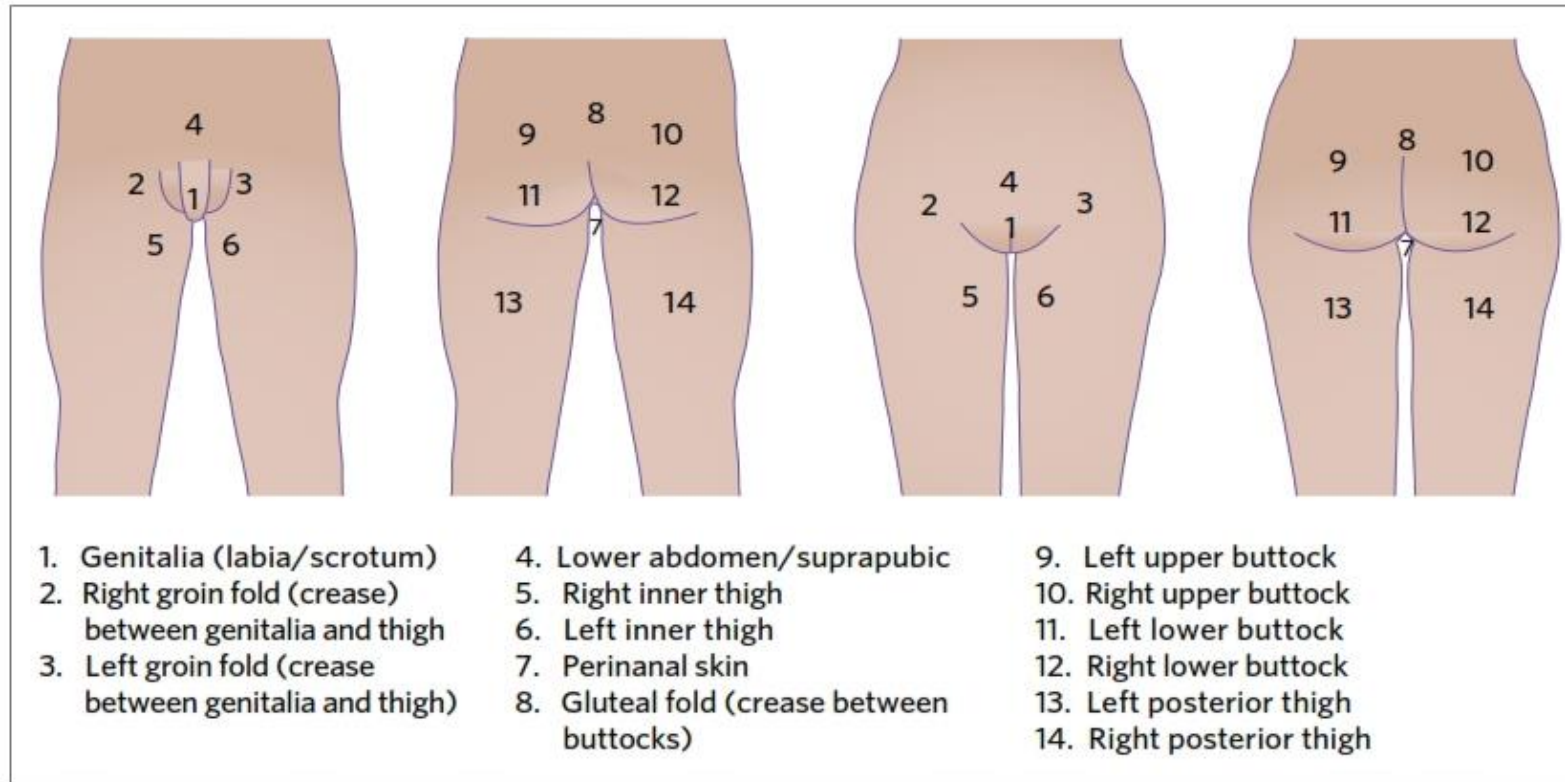
Here's what we still don't know about IAD etiology

- Details of the inflammatory response*
- Role of urine pH* (and stool)
- Specific action of digestive enzymes and fecal bacteria* (composition?)

*Koudounas S, Bader D, Voegeli D. JWOCN. 2020; 47(4): 388-395.

Assessment of IAD

Where can you expect to see IAD?



IAD may affect large areas, not just the perineum

What are you looking for?

Erythema



Erosion/Denudation



Lesions?



Candidiasis

- Signs (in light skinned patients)
 - Erythematous rash
 - Often *intensely* red
 - “Pin-point” maculo-papular lesions at periphery
 - Scaling of epidermis
 - Can be intensely pruritic or burn



**PRESENT IN 10-18% OF
INCONTINENT INPATIENTS¹**

1-Evans E and Gray M. JWOCN. 2003;30: 11-16

Clinical insight: Knowing the difference between Stage 2 PI and Incontinence-Associated Dermatitis (IAD)

PI

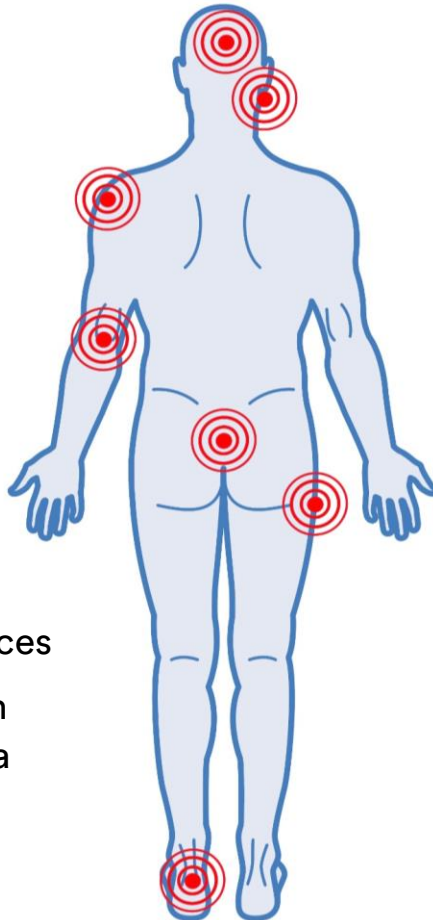
Not incontinent

Symptoms:

- Pain
- Discomfort

Location:

- Bony prominences
- Associated with the location of a medical device



Characteristics:

- Distinct edges and margins

IAD

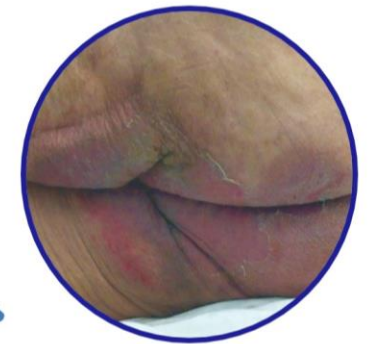
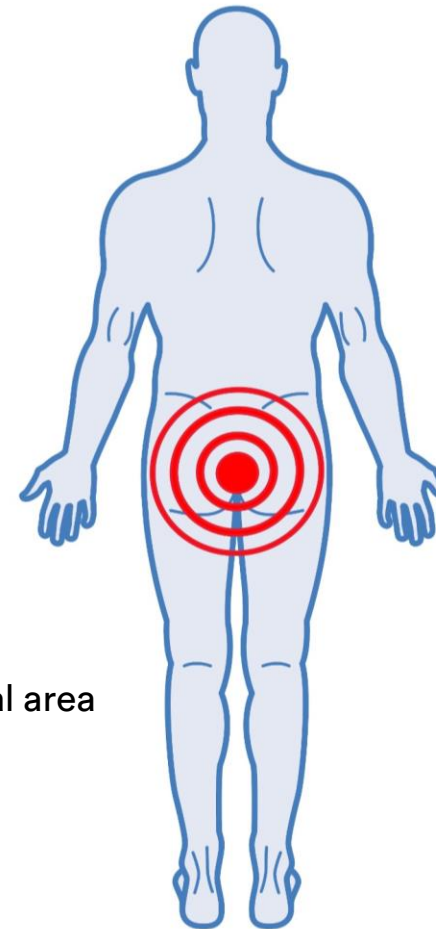
Incontinent

Symptoms:

- Burning
- Itching
- Tingling

Location:

- Perineum
- Peri-genital area



Characteristics:

- Diffuse
- Poorly defined edges
- Blotchy

Differential assessment is challenging



- 100 wound care nurses asked to classify etiology of 9 wounds within gluteal cleft or on buttocks
- Results-significant lack of consensus on etiology of lesions (Fleiss $\kappa= 0.17$)

Mahoney, M et al. Issues Related to Accurate Classification of Buttocks Wounds. J WOCN. 2011; 38(6): 635-642.

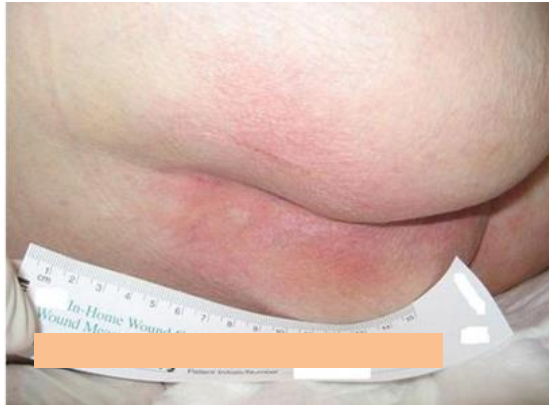
Are there IAD assessment tools?

Some tools are available, but their use in day-to-day practice remains limited

- IAD Assessment and Intervention Tool (IADIT)
- Incontinence-associated dermatitis and its severity (IADS)
- Skin Assessment Tool
- PuCLAs

Junkin, J. IADIT. <http://woundcareadvisor.com/wp-content/uploads/2013/05/IADIT.pdf>; Borchert, K. J Wound Ostomy Continence Nurs. 2010 Sep-Oct;37(5):527-35; Lutz, J., Kennedy KL. European Conference on Advances in Wound Management 4 October 1996. EPUAP <http://puclas3.ucvvgent.be/>

“Old” IAD categories



Mild




Moderate







Severe


Clearly there was a need for a better tool to help with assessment and documentation!

A simple tool is available, but not widely used




Ghent Global IAD Categorisation Tool

Category 1: Persistent redness	Category 2: Skin loss
<p>1A - Persistent redness without clinical signs of infection</p>  <p>Critical criteria</p> <ul style="list-style-type: none"> Persistent redness A variety of tones of redness may be present. Patients with darker skin tones, the skin may be paler or darker than normal, or purple in colour. <p>Additional criteria</p> <ul style="list-style-type: none"> Marked areas or discolouration from a previous (healed) skin defect. Shiny appearance of the skin Macerated skin Intact vesicles and bullae Skin may feel tense or swollen at palpation Burning, tingling, itching or pain <p style="font-size: 2em; text-align: center;">1A</p>	<p>2A - Skin loss without clinical signs of infection</p>  <p>Critical criteria</p> <ul style="list-style-type: none"> Skin loss Skin loss may present as skin erosion (may result from damaged/eroded vesicles or bullae), desquamation or excretion. The skin damage pattern may be diffuse. <p>Additional criteria</p> <ul style="list-style-type: none"> Persistent redness A variety of tones of redness may be present. Patients with darker skin tones, the skin may be paler or darker than normal, or purple in colour. Marked areas or discolouration from a previous (healed) skin defect Shiny appearance of the skin Macerated skin Intact vesicles and bullae Skin may feel tense or swollen at palpation Burning, tingling, itching or pain <p style="font-size: 2em; text-align: center;">2A</p>
<p>1B - Persistent redness with clinical signs of infection</p>  <p>Critical criteria</p> <ul style="list-style-type: none"> Persistent redness A variety of tones of redness may be present. Patients with darker skin tones, the skin may be paler or darker than normal, or purple in colour. Signs of infection Such as white scaling of the skin (suggesting a fungal infection) or satellite lesions (pustules surrounding the lesion, suggesting a <i>Candida albicans</i> fungal infection). <p>Additional criteria</p> <ul style="list-style-type: none"> Marked areas or discolouration from a previous (healed) skin defect. Shiny appearance of the skin Macerated skin Intact vesicles and bullae The skin may feel tense or swollen at palpation Burning, tingling, itching or pain <p style="font-size: 2em; text-align: center;">1B</p>	<p>2B - Skin loss with clinical signs of infection</p>  <p>Critical criteria</p> <ul style="list-style-type: none"> Skin loss Skin loss may present as skin erosion (may result from damaged/eroded vesicles or bullae), desquamation or excretion. The skin damage pattern may be diffuse. Signs of infection Such as white scaling of the skin (suggesting a fungal infection) or satellite lesions (pustules surrounding the lesion, suggesting a <i>Candida albicans</i> fungal infection), slough visible in the wound bed (yellow/brown/greyish), green appearance within the wound bed (suggesting a bacterial infection with <i>Pseudomonas aeruginosa</i>), excessive exudate levels, purulent exudate (pus) or a shiny appearance of the wound bed. <p>Additional criteria</p> <ul style="list-style-type: none"> Persistent redness A variety of tones of redness may be present. Patients with darker skin tones, the skin may be paler or darker than normal, or purple in colour. Marked areas or discolouration from a previous (healed) skin defect Shiny appearance of the skin Macerated skin Intact vesicles and bullae Skin may feel tense or swollen at palpation Burning, tingling, itching or pain <p style="font-size: 2em; text-align: center;">2B</p>




Beekman D, Van den Broecke K, Alves J, Beele H, Ciprandi G, Coyer J, de Groot T, De Meyer D, Dunk AM, Fourni A, Garcia-Molina J, Gray M, Hsiao A, Jelliss B, Johansen E, Karadag A, Lalliercq K, Liu Dataro Z, Long MA, Meaurio S, Polozova A, Romanelli M, Ruppert S, Schoonhoven L, Smet S, Smith C, Stevinger A, Stockmar M, Van Cleve H, Voogel D, Van Hecke A, Verhaeghe S, Woon K & Kothner J. The Ghent Global IAD Categorisation Tool (GLOBIAD). Skin Integrity Research Group- Ghent University 2017.

www.skinintegrity.com



University Centre for Nursing and Midwifery

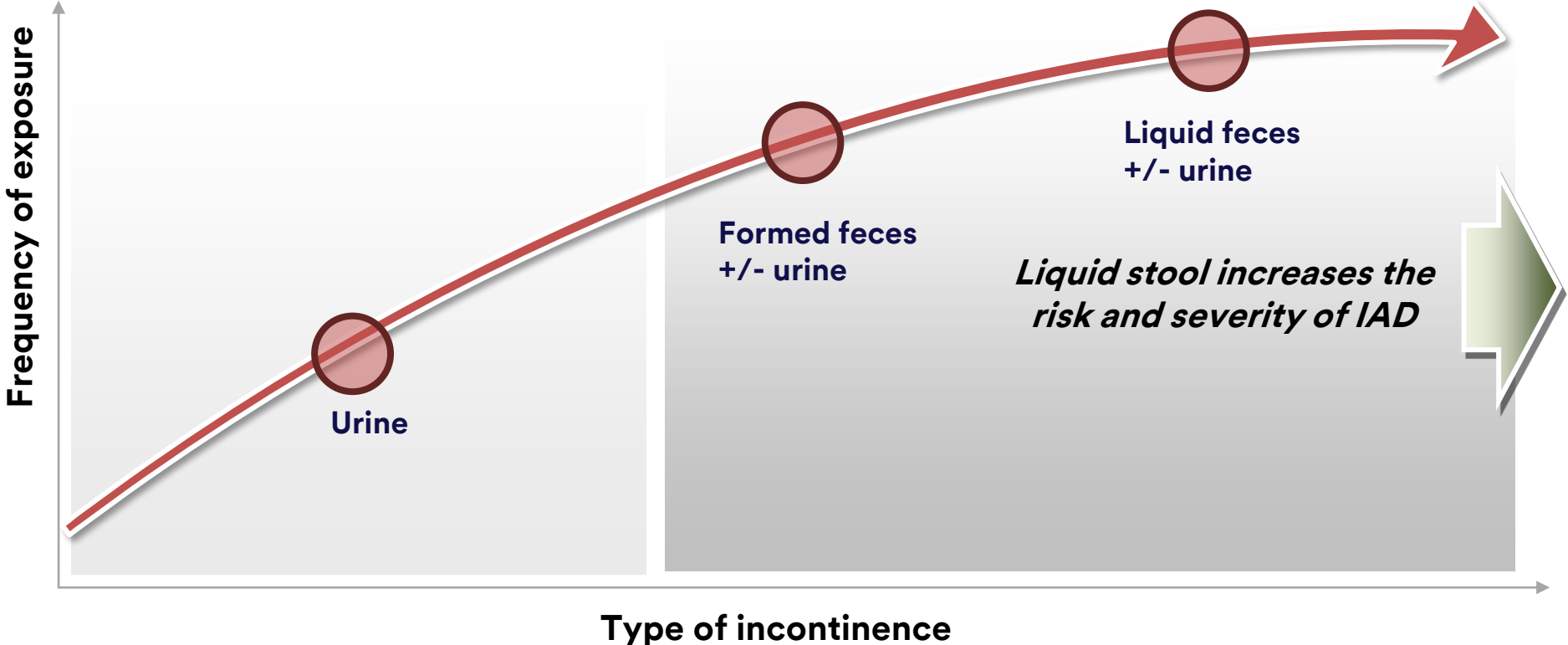


Ghent University

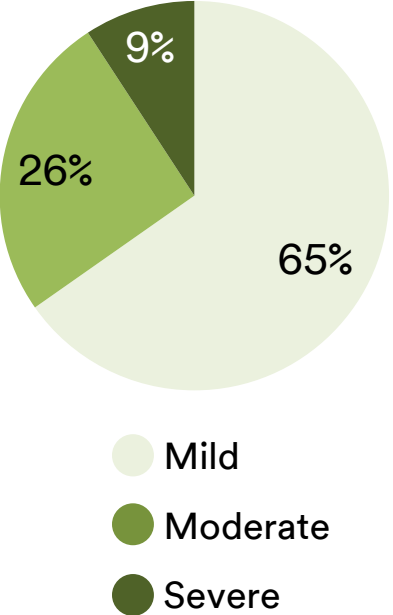
Beekman D. et al. BJD. 2018; 178: 1331-1340.

We need to recognize and manage risk!

Pattern of IAD in Critical Care³
Rapid onset
Moderate to severe skin damage
Resolution follows resolution of diarrhea



Moderate-severe IAD occurs in ~35% of cases²



¹Beekman et al, Wounds international 2015; ²Gray M and Baros S. Presented at the 23rd Annual Meeting of the Wound Healing Society; SAWC Spring/WHS Joint Meeting, Denver, CO. May 1-5; 2013; Coyer F. Intensive and Critical Care Nursing. 2017; 40: 1-10

Acute Fecal Incontinence with diarrhea (AFI-d) is a big problem!

- Definition: ≥ 3 loose/liquid stools/day of > 250 mL
- Common in critical care
12.9%-38% prevalence
- Causes:
 - Laxatives
 - Malnutrition
 - Enteral feedings
 - Infection/alteration in gut flora
e.g. *C.difficile*
 - Medications incl. antibiotics

Pressure Injury Risk Assessment Scales

Controversy re: ability to predict IAD risk

Patient's Name _____		Evaluator's Name _____		Date of Assessment _____					
SENSORY PERCEPTION Ability to respond meaningfully to pressure-related discomfort	1. Completely Limited Unresponsive (does not moan, flinch, or grasp) to painful stimuli, owing to diminished level of consciousness or sedation OR Limited ability to feel pain over most of body.	2. Very Limited Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness. OR Has sensory impairment that limits the ability to feel pain or discomfort over half of body.	3. Slightly Limited Responds to verbal commands but cannot always communicate discomfort or the need to be turned. OR Has some sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities.	4. No Impairment Responds to verbal commands. Has no sensory deficit that would limit ability to feel or voice pain or discomfort.					
MOISTURE Degree to which skin is exposed to moisture	1. Constantly Moist Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned.	2. Very Moist Skin is often, but not always, moist. Linen must be changed at least once per shift.	3. Occasionally Moist Skin is occasionally moist, requiring an extra linen change approximately once daily.	4. Rarely Moist Skin is usually dry. Linen requires changing only at routine intervals.					
ACTIVITY Degree of physical activity	1. Bedfast Confined to bed.	2. Chairfast Ability to walk severely limited or nonexistent. Cannot bear own weight and/or must be assisted into chair or wheelchair.	3. Walks Occasionally Walks occasionally during day, but only for very short distances, with or without assistance. Spends majority of each shift in bed or chair.	4. Walks Frequently Walks outside room at least twice a day and inside room at least once every 2 hours during waking hours.					
MOBILITY Ability to change and control body position	1. Completely Immobile Does not make even slight changes in body or extremity position without assistance.	2. Very Limited Makes occasional slight changes in body or extremity position but unable to make frequent or significant changes independently.	3. Slightly Limited Makes frequent though slight changes in body or extremity position independently.	4. No Limitation Makes major and frequent changes in position without assistance.					
NUTRITION Usual food intake pattern	1. Very Poor Never eats a complete meal. Rarely eats more than ____ 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. OR Has no oral intake and/or has been maintained on clear liquids or IV nutrition for more than 5 days.	2. Probably Inadequate Rarely eats a complete meal and generally eats only about half of any food offered. Protein intake includes only 3 servings of meat or dairy products per day. Occasionally will take a dietary supplement. OR Receives less than optimum amount of liquid diet or tube feeding.	3. Adequate Eats more than half of most meals. Eats 4 servings of protein (meat or dairy products) per day. Occasionally will refuse a meal, but will usually take a supplement when offered. OR Is receiving tube feeding or total parenteral nutrition that probably meets most of nutritional needs.	4. Excellent Eats most of every meal. Never refuses a meal. Usually eats 4 or more servings of meat and dairy products. Occasionally eats between meals. Does not require supplementation.					
FRICITION AND SHEAR	1. Problem Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheets is impossible. Frequently slides down in bed or chair, requiring frequent repositioning with maximum assistance. Spasticity, contractures, or agitation leads to almost constant friction.	2. Potential Problem Moves feebly or requires minimum assistance. During a move, skin probably slides to some extent against sheets, chair, restraints, or other devices. Maintains relatively good position in chair or bed most of the time, but occasionally slides down.	3. No Apparent Problem Moves in bed and in chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position in bed or chair.						
Total Score									

<http://www.bradscale.com/images/bradscale.pdf>

PAT-Perineal Risk Assessment Tool

Intensity of irritant	3 Liquid stool with or without urine	2 Soft stool with or without urine	1 Formed stool and/or urine
Duration of irritant Amount of time that skin is exposed to irritant	3 Linen/pad changes at least every 2 hours	2 Linen/pad changes at least every 8 hours	1 Linen/pad changes at least every 8 hours {or more}
Perineal skin condition Skin integrity	3 Denuded/eroded with or without dermatitis	2 Erythema/dermatitis with or without candidiasis	1 Clear and intact
Contributing factors: low albumin, antibiotics, tube feeding or other	3 3 or more contributing factors	2 2 contributing factors	1 0-1 contributing factors

Copyright 2000 D Nix

Nix, D.H. Ostomy Wound Management. 2002; 48(2), 43-49.

Relative contribution of other risk factors to Cat. 2 IAD unknown

- Critical illness
- Medications
- Occlusive briefs
- Poor skin condition
- Immobility
- Cognitive impairment
- Inability to perform personal hygiene



Prevention and Management of IAD

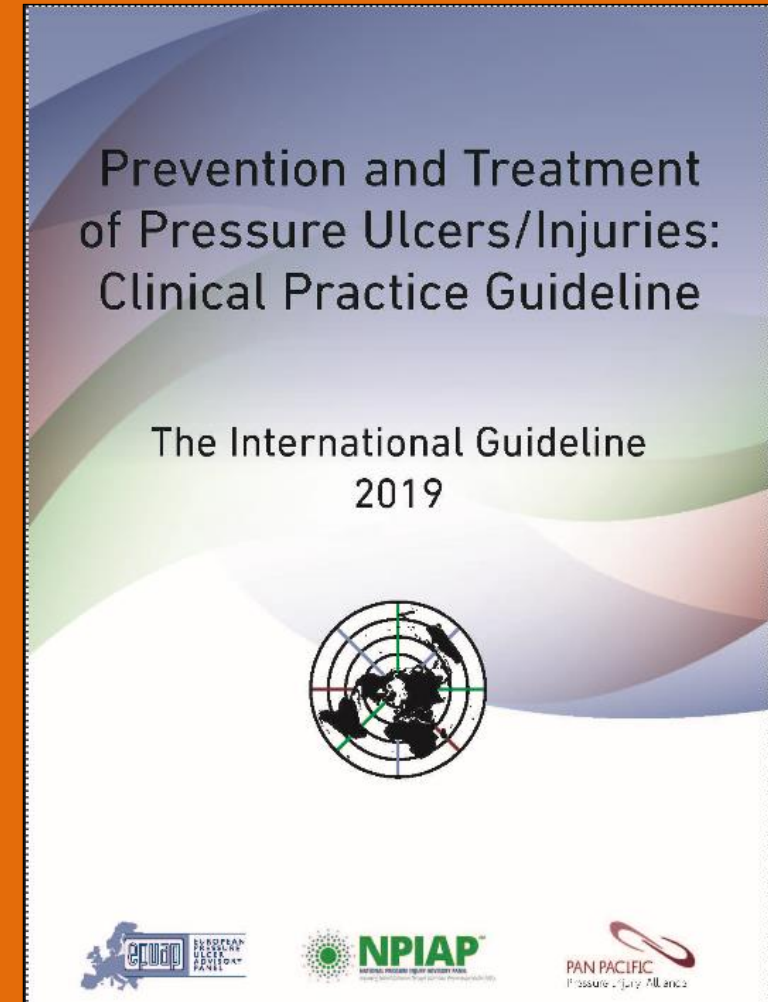
Our current approach to skin damage



Pressure Injury prevention

1. Risk Assessment
2. Skin and Tissue Assessment
3. **Preventative Skin Care**
 - **Includes: Skin hygiene, continence mgt.**
4. Nutrition
5. Repositioning and Early Mobilization
6. Heel PIs
7. Support surfaces
8. Device-related PIs

National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Injury Alliance. Prevention and Treatment of Pressure Ulcers: Clinical Practice Guideline. Emily Haesler (ED.) 2019.



**Presence of urinary +/- fecal incontinence,
even in the absence of risk factors, should
trigger implementation of an IAD *prevention*
protocol**

Prevention and management of IAD

Involves **2** critical interventions:

1) Manage incontinence



2) Implement structured skin care regimen

Insert Facility Name

Incontinence Skin Care Using 3M™ Cavilon™ Products

Category	At-Risk**	At-Risk** <i>High risk!</i>	Category 1**	Category 2**	Fungal Infection
Description	<ul style="list-style-type: none"> No Redness and Skin Intact** Urinary Incontinence and/or Fecal Incontinence 	<ul style="list-style-type: none"> No Redness and Skin Intact** Frequent Urinary and/or Fecal Incontinence + Risk Factors** 	<ul style="list-style-type: none"> Red but Skin Intact (mild)** Urinary Incontinence and/or Fecal Incontinence 	<ul style="list-style-type: none"> Red with Skin Breakdown (moderate to severe)** Frequent and/or Severe Fecal Incontinence (e.g. diarrhea) 	
Protocol	<p>Cleanse skin gently with 3M™ Cavilon™ No-Rinse Skin Cleanser after every incontinent episode. The cleanser can be sprayed directly onto skin or onto a damp cloth. Rinsing is not required. If desired, gently dry skin.</p> <p>Protect the skin with 3M™ Cavilon™ Durable Barrier Cream. Apply just enough cream to cover all the skin exposed to urine or stool. Reapply every 8 hours after cleansing; reapplication after every incontinent episode is not necessary.</p>	<p>Cleanse skin gently with Cavilon No-Rinse Skin Cleanser after every incontinent episode. The cleanser can be sprayed directly onto skin or onto a damp cloth. Rinsing is not required. If desired, gently dry skin.</p> <p>Protect the skin with 3M™ Cavilon™ Advanced Skin Protectant. Reapply 2-3x/week. Reapplication after every incontinent episode is not necessary. Do not use ointments, lotions, ointments or pastes under or over the protectant.</p>	<p>Cleanse skin gently with Cavilon No-Rinse Skin Cleanser after every incontinent episode. The cleanser can be sprayed directly onto skin or onto a damp cloth. Rinsing is not required. If desired, gently dry skin.</p> <p>Protect the skin with Cavilon Durable Barrier Cream. Reapply every 8 hours after cleansing/reapplication after every incontinent episode is not necessary.</p> <p>OR</p> <p>* Protect skin with Cavilon Advanced Skin Protectant if IAD is not resolving, is worsening and/or if multiple risk factors are present. Refer to the 3M Incontinence-Associated Dermatitis (IAD) Assessment Guide.</p>	<p>Cleanse skin gently with plain water or Cavilon No-Rinse Skin Cleanser after every incontinent episode. The cleanser can be sprayed directly onto skin or onto a damp cloth. Rinsing is not required. If desired, gently dry skin.</p> <p>Protect the skin with Cavilon Advanced Skin Protectant. Reapply 2-3x/week. Reapplication after every incontinent episode is not necessary.</p> <p>Do not use ointments, lotions, ointments or pastes under or over Cavilon Advanced Skin Protectant.</p>	<p>Cleanse skin gently with Cavilon No-Rinse Skin Cleanser after every incontinent episode. The cleanser can be sprayed directly onto skin or onto a damp cloth. Rinsing is not required. Gently dry skin.</p> <p>Treat and protect with 3M™ Cavilon™ Antifungal Cream. Reapply twice per day or as directed by facility procedure.</p> <p>Reevaluate skin condition and discontinue once infection has resolved. When Cavilon Antifungal Cream has been discontinued, resume use of Cavilon Durable Barrier Cream or Cavilon Advanced Skin Protectant.</p>

** Source: Bealmer D, et al. Proceedings of the Global IAD Expert Panel. Incontinence-associated dermatitis: making prevention work. Wounds International 2015. Available to download from www.3m.com/au/ica ** 3mcares@3m.com

3M and Cavilon are trademarks of 3M. © 2015 3M. All Rights Reserved. 3M Confidential.

Urinary incontinence: identify and treat reversible causes



Dementia/Delirium

Infection

Atrophy

Pharmaceuticals/Psychological

Excessive urine output

Restricted mobility

Stool impaction

Diarrhea is never normal

Make sure the provider knows the patient is having diarrhea! Medical work-up is critical to determine etiology and treat the cause



Consider laboratory testing to identify the causative pathogen!
Note! Stool culture is not diagnostic for *C. difficile*

Divert or contain moisture and irritants whenever possible

Fecal incontinence

- **Fecal management systems**
- **Fecal pouch**

Urinary incontinence

- Condom catheters
 - **Need a variety of sizes, sizing is needed**
- External female catheters
- Body worn absorbent products

[WOCN - Body Worn Absorbent Product Guide](#)

Benoit,R, Watt,C. J WOCN. 2007; 34(2): 163-175. Echols,J. et al. J WOCN. 2007; 34(6):664-670.


Bores J. J for Intl Soc Burn Injuries. 2013; 40(4) 655-663. Gray, M, Kent, D, Ermer-Seltun, J, McNichol, L JWOCN, 2018; 45(3) 243-264.

Prevention and management of IAD: 2nd step





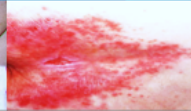
Manage incontinence

2) Implement structured skin care regimen

Insert Facility Name



Incontinence Skin Care Using 3M™ Cavilon™ Products

Category	At-Risk**	At-Risk** <i>High risk!</i>	Category 1**	Category 2**	Fungal Infection
Description	<ul style="list-style-type: none"> • No Redness and Skin Intact** • Urinary Incontinence • and/or Fecal Incontinence 	<ul style="list-style-type: none"> • No Redness and Skin Intact** • Frequent Urinary and/or Fecal Incontinence • + Risk Factors** 	<ul style="list-style-type: none"> • Red but Skin Intact (mild)** • Urinary Incontinence and/or Fecal Incontinence 	<ul style="list-style-type: none"> • Red with Skin Breakdown (moderate to severe)** • Frequent and/or Severe Fecal Incontinence (e.g. diarrhea) 	
Protocol	<p>Cleanse skin gently with 3M™ Cavilon™ No-Rinse Skin Cleanser after every incontinent episode. The cleanser can be sprayed directly onto skin or onto a damp cloth. Rinsing is not required. If desired, gently dry skin.</p> <p>Protect the skin with 3M™ Cavilon™ Durable Barrier Cream. Apply just enough cream to cover all the skin exposed to urine or stool. Reapply every 8 hours after cleansing-reapplication after every incontinent episode is not necessary.</p>	<p>Cleanse skin gently with Cavilon No-Rinse Skin Cleanser after every incontinent episode. The cleanser can be sprayed directly onto skin or onto a damp cloth. Rinsing is not required. If desired, gently dry skin.</p> <p>Protect the skin with 3M™ Cavilon™ Advanced Skin Protectant. Reapply 2-3x/week. Reapplication after every incontinent episode is not necessary. Do not use creams, lotions, ointments or pastes under or over the protectant.</p>	<p>Cleanse skin gently with Cavilon No-Rinse Skin Cleanser after every incontinent episode. The cleanser can be sprayed directly onto skin or onto a damp cloth. Rinsing is not required. If desired, gently dry skin.</p> <p>Protect the skin with Cavilon Durable Barrier Cream. Reapply every 8 hours after cleansing-reapplication after every incontinent episode is not necessary.</p> <p>OR</p> <p>* Protect skin with Cavilon Advanced Skin Protectant if IAD is not resolving, is worsening and/or if multiple risk factors are present. Refer to the 3M Incontinence-Associated Dermatitis (IAD) Assessment Guide.</p>	<p>Cleanse skin gently with plain water or Cavilon No-Rinse Skin Cleanser after every incontinent episode. The cleanser can be sprayed directly onto skin or onto a damp cloth. Rinsing is not required. If desired, gently dry skin.</p> <p>Protect the skin with Cavilon Advanced Skin Protectant. Reapply 2-3x/week. Reapplication after every incontinent episode is not necessary.</p> <p>Do not use creams, lotions, ointments or pastes under or over Cavilon Advanced Skin Protectant.</p>	<p>Cleanse skin gently with Cavilon No-Rinse Skin Cleanser after every incontinent episode. The cleanser can be sprayed directly onto skin or onto a damp cloth. Rinsing is not required. Gently dry skin.</p> <p>Treat and protect with 3M™ Cavilon™ Antifungal Cream. Reapply twice per day or as directed by facility procedure.</p> <p>Reevaluate skin condition and discontinue once infection has resolved. When Cavilon Antifungal Cream has been discontinued, resume use of Cavilon Durable Barrier Cream or Cavilon Advanced Skin Protectant.</p>

** Source: Bealman D, et al. Proceedings of the Global IAD Expert Panel. Incontinence-associated dermatitis: moving prevention forward. Wound International 2015. Available to download from www.3m.com/3m/cavilon ** www.3m.com/3m/cavilon

3M and Cavilon are trademarks of 3M. © 3M 2025. All Rights Reserved. 3M Confidential.

Prevention and treatment of IAD: the state of the evidence

- 2016 Cochrane review
 - 2 trials comparing no-rinse cleansers with soap and water
 - 8 trials comparing various moisturizers, moisturizers/skin protectants, skin protectants
- Conclusion:
 - “Little evidence of very low to moderate quality, exists on the interventions for preventing and treating IAD in adults”.
 - Application of products “seems to be more effective” than no products
 - Performance of products depends on formulation and usage

But!

There's still a lot we don't know about IAD

- Effect of cleansing products and method
- Effect of occlusion*

*Koudounas S, Bader D, Voegeli D. JWOCN. 2020; 47(4): 388-395.

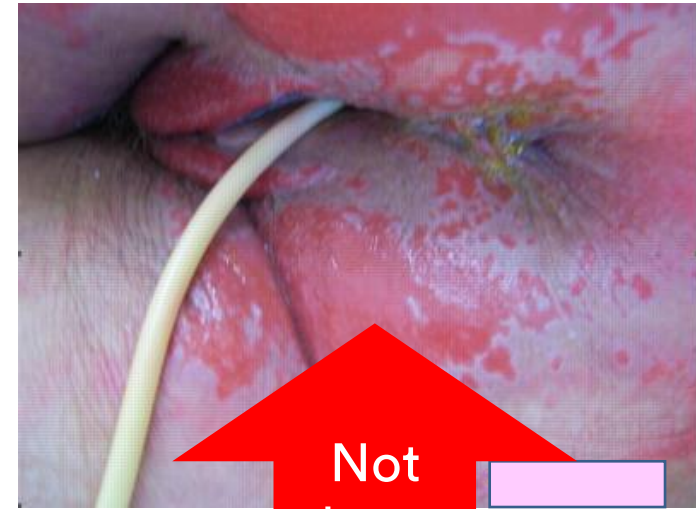
Skin cleansing

1. Gentle, pH balanced, no-rinse liquid skin cleanser and soft cloth
2. Pre-moistened bathing/cleansing wipe
3. “3 in 1” wipe
 - **Less common-3 in 1 liquid plus cloth**



If gentle cleanser is not available or tolerated,
cleansing
with plain water is acceptable (minimum standard)

When does use of a 3-in-1 product make sense?



With incontinence skin is often already over-hydrated!
So, is a moisturizer really beneficial?

A scenic view of a paved walkway along a lake. The walkway is made of grey bricks and has a white bicycle symbol painted on it. There are trees on both sides, a black bench, and a black lamp post. The lake is in the background under a clear sky.

Protecting the skin

Moisture barrier options

Moisture barrier options

Product must be capable of repelling moisture and irritants.



Traditional
ointments/creams/pastes



Polymeric Skin Protectants

How effective are traditional barrier products in protecting skin?



Another problem

- Removal and cleansing can be:
 - Painful
 - Time consuming



**Cleanup took 17 minutes
33 seconds!**

Other limitations of traditional moisture barriers

- Occlusive
 - Prevents TEWL
 - ↑ risk of MASD
- Opaque
 - Cannot visualize skin



So, what do nurses do to overcome these limitations?



Work-arounds of course

- Too occlusive?
 - Use less than optimal amount
 - Don't use in folds
- Won't adhere to wet surfaces?
 - Powder underlying surface or “crust”
- Adheres skin to skin or underpads?
 - Coat surface with petrolatum
- Too difficult to get off?
 - “Only remove soiled layer”

And another consideration!

- Are we spreading pathogens during incontinence care?
- *Multi-use* products handled by *multiple* caregivers and left at bedside
- No guidelines for:
 - large volume F.I. episode clean up
 - management (cleaning?) of incontinence skin care supplies

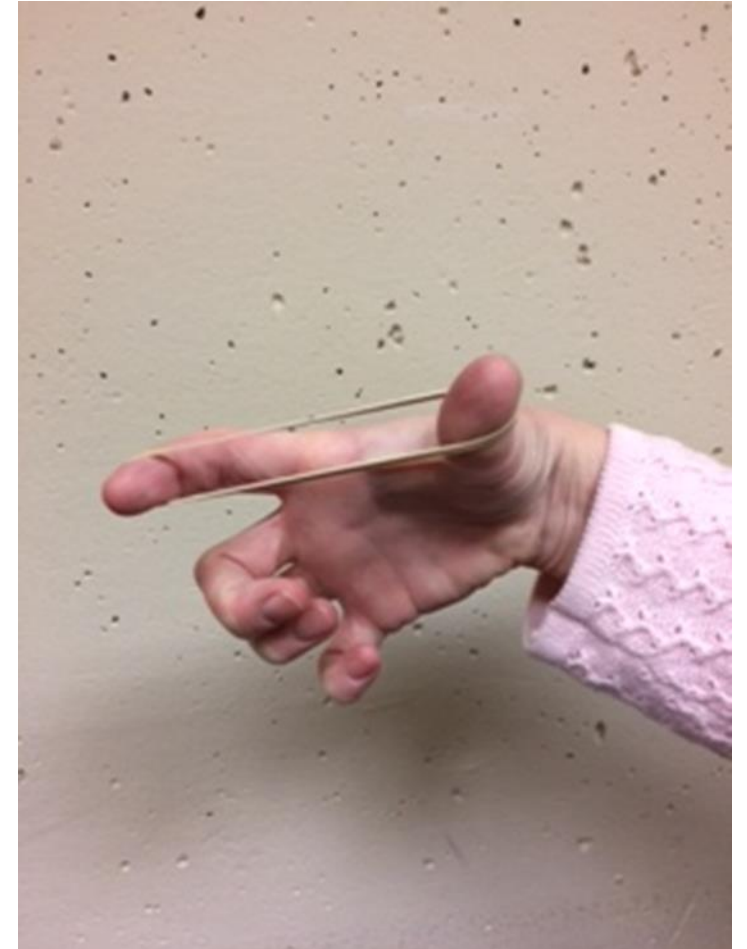


Nurse do not change gloves as often as they should

2nd option for skin protection

Polymeric liquid barriers

- Polymer-cyanoacrylate liquid
 - Unique *elastomeric* formulation
 - *Forms highly durable, protective coating*
 - *Breathable*
 - Able to *attach* to wet surfaces



Polymer-cyanoacrylate skin protectant: benefits

- For the patient
 - Durable skin protection
 - Creates an environment for healing
 - Helps with IAD pain
 - Easily cleaned
- For the nurse
 - Easy to use
 - Eliminates time consuming cleansing and removal
- For the facility
 - Infection control

Polymer-cyanoacrylate skin protectant can replace current practice of using paste or crusting with barrier film



Evidence

Supporting a polymer-cyanoacrylate skin protectant

Acton C, Ivins N, Bainbridge P, Browning P. Management of incontinence-associated dermatitis patients using a skin protectant in acute care: a case series. *J Wound Care*. 2020; 29 (1): 21-26.

Brennan MR, Milne CT, Agrell-Kann M, Ekholm BP. Clinical Evaluation of a Skin Protectant for the Management of Incontinence-Associated Dermatitis. *J Wound Ostomy Continence Nurs*. 2017; 44(2):172-180.

Been R, Bernatchez SF, Conrad-Vlasak D, Asmus R, Ekholm B, Parks PJ. In vivo methods to evaluate a new skin protectant for loss of skin integrity. *Wound Rep Regen*. 2016; 24(5):851-859.

Stoffel J, Bernatchez SF. Effect on microbial growth of a new skin protectant formulation. *Advances in Wound Care*. 2017; 6(3):73-79.

Walt M, Atwood N, Bernatchez SF, Ekholm, BP, Asmus R. Skin protectants made of curable polymers: effect of application on local skin temperature. *Advances in Wound Care*. 2017; 6(4):109-114.

Bernatchez, S, Mathisen M, Grove G, Houser, T. Durability of an Advanced Skin Protectant Compared with Other Commercially Available Products in Healthy Human Volunteers. *Wounds*. 2018; 30(9):269–274.

Desirable feature	Paste	Ointment	Cream
Waterproof-	Some	Some	Some
Smooth texture	Typically, gritty	Yes	Yes
Able to attach to underlying surface	No	No	Some absorb into intact skin
Easy to spread or apply	Not always, many are semi-solid	Yes	Liquid to semi-solid
Non-Sticky	No	No	Some
Breathable	No	No	Some
Can visualize skin through product	No	No	If formulation is vanishing
Easy to clean	No	Some	If formulation is vanishing

Modified from: Beekman D et al. Wounds International 2015.

Application considerations

Liquid or semi-solid spread on barriers (creams, ointments, pastes)

- Cleanse skin thoroughly (gently!) to remove stool and old barrier product
- Assess the skin
- Apply barrier following manufacturer's instructions
- Apply to all skin that will be exposed to urine and/or stool
- Skin needs protection even if FMS is in place!

Application considerations

Liquid polymeric barriers

- Cleanse skin thoroughly (gently!) to remove stool and old barrier product
- Assess the skin
- Apply barrier following manufacturer's instructions
 - Create a thin, even coating – more is not better
 - Allow to completely dry
 - Do not use with creams, ointments, pastes etc. under or over

Treating Cat. 2a (moderate-severe) IAD—other considerations

Cleansing may need to be modified

- Assess tolerance of cleansers and/or wipes
- Severe damage-
 - cleanse with tap water or saline and large syringe or squirt bottle to minimize contact



Options for protection when skin is damaged

When a polymer-cyanoacrylate skin protectant is **not** available

1. Crusting technique with ostomy powder and alcohol-free barrier film
 - Anecdotal evidence only
 - Time consuming
2. Apply paste after every cleansing episode



Treating common infections associated with IAD

Objectives-treat infection *and* protect skin

- **Candidiasis**-options for *topical* care
 - Prescription antifungal covered with moisture barrier
 - “OTC” antifungal moisture barrier
 - remember, creams contain water-may be too wet
 - “Sealing” in antifungal powder under films
 - “off-label” but common practice
- **Bacterial**-incidence unknown
 - no established best practice guidance
- **Viral (Herpes)**-incidence unknown
 - no established best practice guidance

Evans E and Gray M. What Interventions Are Effective for the Prevention and Treatment of Cutaneous Candidiasis. JWOCN. 2003;30: 11-16

Let's wrap up



If the skin is not improving, consider:



- Is/are the right product(s) being used? Used correctly?
 - Do you need a more protective barrier?
- Is cleansing technique and frequency appropriate?
- Could there be infection present?
- Could this be something other than IAD?

Some final thoughts

- IAD is a painful, preventable complication!
 - **Implement skin protection for all patients with incontinence**
 - Must recognize and assess **risk**
 - **For effective *treatment***
 - must consider severity of damage
 - basic moisture barriers often inadequate for protection from *caustic* irritants and ongoing exposure-more durable protection is required
 - barriers that do not stay in place cannot provide protection

Questions?

Thank you!

Julia Hanna (Colliflower)

Jcolliflower@mmm.com

681-204-9069