

Is this IAD or a Stage II pressure ulcer or something else?



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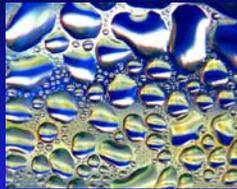
Skin Damage to the Perineum



Slide from Mikel Gray

How Does Moisture Injure Skin?

- Skin pH 5.5
- This acid mantle keeps our skin healthy and resists bacterial invasion
- Some body fluids are not caustic
- Sweat pH is 5.5
- Caustic body fluids
- Diarrhea pH is acidic to alkaline
- Urine pH 4.5-8.0 depending on disease and diet
- Gastric HCl pH is 1.0
- Wound drainage pH is unknown



3

Etiology of maceration



- Soaking weakens the "mortar" between epidermal cells
 - Soaking in soapy water increases degradation
 - Spaces form between cells, tissue loses integrity

Maceration from wet dressings



White soft skin

Serous drg from wound

Periwound maceration

Moisture Associated Skin Damage (MASD)

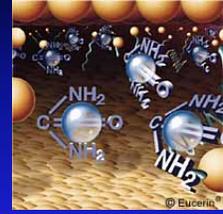
- Skin damage associated with excessive exposure to moisture
 - Incontinence Associated Dermatitis
 - inflammation & skin erosion associated with exposure to caustic fluids (urine, stool), use of absorptive containment device
 - Intertrigo
 - inflammation in skin folds related to non-caustic fluids (perspiration), friction and bacterial/ fungal bioburden
 - Periwound maceration
 - skin breakdown from wound exudate, associated with volume of exudate, its constituents and bacterial bioburden

Incontinence Associated Dermatitis

- Etiology can be confusing
 - could be from exposure to urine and stool
 - could be from exposure to pressure
 - could be from yeast or fungus
- Yet, the treatment for these varies greatly
- Therefore, making the correct diagnosis to start with is crucial

Etiology of IAD

- Exposure to urine
 - Absorbed by keratinocytes and once they are swollen, they cannot provide a barrier
- Exposure to stool
 - Diarrhea contains digestive enzymes which denude the skin
- Exposure to pressure and shear
 - Aggravated by HOB up



Water-binding urea between the keratinocytes and dermis.

Incontinence Associated Dermatitis

- Risk factors
 - History of incontinence with exposure of the skin to urine
 - Use of briefs or pads that increase exposure
- Skin looks denuded in multiple areas with flaring on the edges
- Skin may also smell of ammonia



* Photos courtesy Linda Bohacek

Stages of IAD



Dry, intact, not blistered
Pink or red with diffuse (not sharply defined), often irregular borders

Mild



Shiny and moist skin with weeping
Pinpoint areas of bleeding
Raised areas/blisters
Angry bright red color
Small areas of skin loss
Painful

Moderate



Red with areas of denudement
Oozing/bleeding
Skin layers may be stripped off as the oozing protein is sticky and adheres to any dry surface

Severe

Reducing Risk of IAD

- Determine cause of incontinence
 - Acute, often urinary tract infection
 - High risk groups
 - post menopausal women
 - patients with a history of instrumentation
 - women recently sexually active
 - Sometimes urgency due to caffeine
 - Chronic, urine may be colonized
 - High risk groups are elders with cognitive or mobility problems

Treating IAD

- Cleanse the skin after each episode and moisturize it
 - Denuded areas will not heal quickly due to slow turnover of cells in aged
 - Dry cells do not replicate
- Protect skin from future exposures
 - Use products with dimethicone

Is the ulcer IAD or a stage II?

- Important distinction
 - IAD is usually not a reportable condition
 - IAD may not be fully preventable
 - IAD seldom, if ever, evolves into full thickness ulceration
- However, it can be prevented and healed if managed well

PrU Vs IAD

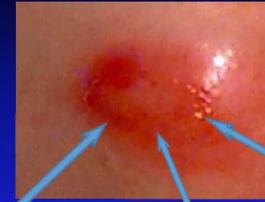
- Consider history
 - Has the patient been bedridden or incontinent?
- Consider location
 - PrU occur on tissue exposed to pressure or shear
 - IAD occurs in skin exposed to urine or stool



Examine the skin and ulcer

- Examine the skin
 - Single ulcer likely PrU
 - Multiple ulcers likely IAD, esp intragluteal kissing ulcers
 - Erythema throughout likely IAD
 - Normal skin around ulcer likely PrU
- Examine the ulcer
 - Granulation is stage III PrU
 - Necrotic tissue is PrU
 - Thin slough? May be IAD

Stage II pressure ulcer



One open shiny wound with normal skin around it, this is on the hip

No granulation tissue or slough

Painful, but heal quickly

How deep can a stage II go?



Stage II may have depth if it extends into the reticular dermis

How Pressure Ulcers Heal



- ▶ Partial thickness pressure ulcers heal by reepithelialization. The epithelial cells are nearby on the edge of the ulcer. Therefore, no scar is produced.
- ▶ Full thickness pressure ulcers close by first clearing slough and eschar and then producing scar tissue to pull the ulcer edges closer together. The edges of the ulcer roll because there is no surface for epithelial cells to slide over.

Stage IIIs heal via reepithelialization

Partial Thickness heal by reepithelialization and also seen at edges of early healing in full thickness

Full thickness heals with granulation and scar



Healing in Darkly Pigmented Skin

- Melanocytes located in bottom of epidermis
- Any wound into dermis can lead to loss of pigmentation in skin



Other Partial Thickness Skin Injuries that Often are labeled Stage II Pressure Ulcers



Moisture (microclimate) lesions?

- Superficial multiple lesions in moist skin
- Today called microclimate
- Moisture weakened skin leading to traumatized skin with in bed movement?



Blistering deep tissue injury

- Deep tissue injury develops a thin blister
- The wound bed remains dark
- This blister does not make this a stage II ulcer due to the dark bed



Reulcerated scar

- Seen in full thickness ulcers
 - Commonly healed with NPWT rather than surgery
- Repeated trauma leads to new ulcer
- No stage for this ulcer yet
- It is full thickness



Intertriginous Dermatitis

- Breakdown between skin folds
- Common sites
 - Under breasts
 - Under panniculi
 - Under other skin folds
- Due to friction of skin folds rubbing together
- Often colonized with *Candida* and other organisms



Treating ITD

- Goal is to dry out skin fold and kill organisms in it
- Options
 - Silver impregnated textiles
 - Antifungal powders (don't dry the skin fold tho)
- Avoid
 - Pillowcases, draw sheets
 - Just wick moisture and stay wet



Skin fold Candidiasis

- Rash that extends beyond skin lesions (satellite lesions)
- Risk factors
 - Warm body areas
 - Use of antibiotics
 - Skin folds that are moist
 - Skin folds that cannot be easily cleaned
 - Obesity
- Treatment
 - Antifungal powder (dust on)



When they all occur together



Benefits of a Skin Care Program

- 98% of residents (N= 1918) in long-term care found to have incontinence
 - Only 3.4 % developed IAD due to the skin care program
- ▶ Daily perineal skin assessment by CNAs
- ▶ Formal assessment for high risk patients by nurses
- ▶ Skin cleansing when soiled
- ▶ Skin moisturizing daily
- ▶ Skin protection when incontinent

• Bliss, 2007

Principles of Skin Care

- Skin needs to be kept moist without creating maceration
 - Limit the soaking of skin
 - Skin lubrication applied to moist skin
 - Skin lubricant should contain glycerin, methyl glucose, lanolin, jojoba oil or mineral oil
- Allergic response needs to be minimized
- Odor in the skin could be controlled

Products for Skin Care



Skin Care Basics

- ▶ Cleanse – don't clean
 - Use soft clothes
 - Use pH balanced soap
 - No Dial, Irish Spring etc
 - Alkali based
 - Lead to skin erosion
 - No alcohol-based products
 - Products can be liquid, emulsion, foam, or impregnated into wipes
 - Don't rub to clean off debris
 - No rinse products ideal
 - Pat dry, don't rub



What is in the bath?

- Avoid products with many ingredients
 - Leads to
 - Allergies
 - Toxicity if absorbed
 - Increased cost
 - Decreased shelf life



Moisturize

- While the skin is damp apply a moisturizing lotion
 - Lotion needs to have no fragrance, no alcohol, no preservatives
 - Fragrance can be inhaled and can be nauseating
 - Some compounds purposely contain alcohols to dry the skin, so that you use more product
 - Preservatives are absorbed by fragile skin



Skin moisturizing

- Emollient = soften and soothe the skin
 - Lanolin
- Humectant = preserve moisture in the skin
 - Glycerin, mineral oil
- Skin moisturizer = lipid emulsion that hydrates the skin by drawing water from the dermis into the epidermis
 - Greasy to watery

Preservatives in product

- Highly allergenic
 - Benzyl alcohol, butylated hydroxytoluene, chlorocresol, imidurea, parabens, sodium metabisulfite, sorbic acid
- Absorbed by very young skin (prior to 44 days of life) and very old skin and damaged skin



Protect

- Also called skin barriers or moisture barriers
- Apply product liberally to prevent skin damage from urine or stool
- Try to use products that contain blocking agents
 - Dimethicone
 - Petrolatum
 - Zinc oxide (not by itself)
- Consider how you will get the product off!
- Liquid barrier films also available
 - Applied to the skin and after evaporation leaves of film barrier

Containment products

- Underpads or absorbant briefs
 - Should wick urine away from skin not trap against the skin
- Pads/briefs create heat and can lead to maceration if left in place
- Recommendations
 - Use when ambulating for dignity
 - Open or remove when at bedrest



Perineal odor

- Perineal odor from urine common even after bathing
 - Only when skin cells shed, does the odor from those cells leave
 - Important to do good skin care and change pads when soiled
 - Deodorizers available

Many conditions can lead to shallow skin ulcers



Consider all the possibilities before diagnosing and choosing treatments

