# Management of Incontinence Associated Dermatitis

**Mary Montague**
MSN RN ACNS-BC CWOCN

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## Objectives

- Define Moisture-Associated Skin Damage
- Define Incontinence-Associated Dermatitis
- Differentiate IAD from other types of skin breakdown
- Discuss measures used to prevent and treat IAD

## Once upon a time (2005)…..

- A group of esteemed WOCN colleagues met to focus attention on the issue of incontinence-associated dermatitis
- Existing research was defined and gaps in clinical evidence were identified
- The term "Incontinence-Associated Dermatitis" (IAD) was advocated

## Findings published in 2007

- IAD is a common problem, however there was little evidence concerning its epidemiology, etiology, or pathophysiology
- More research was needed to determine the efficacy and effectiveness of IAD interventions
- A tool to identify IAD and measure its severity in both the clinical and research setting was needed

## Once upon another time (2010).........

- Another group of esteemed WOCN colleagues met to increase the attention of skin damage caused by moisture
- 3 articles were published in 2011 enhancing the knowledge of various forms of moisture damage

## Moisture-Associated Skin Damage (MASD)

- Inflammation and erosion of the skin caused by prolonged exposure to various sources of moisture, including urine or stool, perspiration, wound exudate, effluent from ostomy, mucus, or saliva
- Exposure alone not sufficient to produce skin damage
- MASD based on chemical content of moisture, force of friction, and presence of potential pathogenic microorganisms

## Types of MADS

- Incontinent-associated dermatitis (IAD)
- Intertriginous dermatitis
- Periwound moisture-associated dermatitis
- Peristomal moisture-associated dermatitis

## Incontinence-Associated Dermatitis (IAD)

## Definition

- Inflammation of the skin as a result of chronic or repeated exposure to urine or fecal matter and manifests as redness with or without blistering and skin erosion.
- IAD is now the accepted term for skin damage caused by exposure to urine or stool

Incontinence Associated Dermatitis (IAD): Best Practice for Clinicians
WOCN Society, 2011

## IAD

- Occasional exposure to urine may not be harmful, but repeated exposure in presence of occlusion or fecal material puts skin at higher risk
- Top-down skin injury, originating on the skin surface and progressing to upper dermis

## Distribution of Skin Damage

### Urine

- Perineum (skin from vulva to anus in women; skin from scrotum to anus in men)
- Labial folds
- Groin
- Buttocks
- Scrotum

### Stool

- Perianal area
- Gluteal cleft
- Inner, posterior thighs, depending on exposure

## Effects of Urine

- Overhydration of skin
- Increase in skin pH
- Increased friction as skin moves against absorptive devices, clothing, or bedding
- Decreased tissue tolerance as a result of friction, shear, or pressure

## Effects of Stool

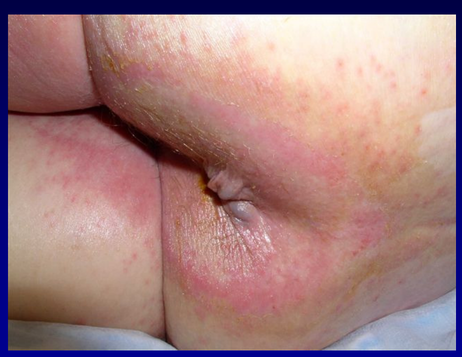
- Lipases and proteases produced by fecal bacteria break down protein in kerotinocytes, contributing to skin erosion
- When urine and stool mix, bacteria in stool converts urea to ammonia
- Ammonia increases pH of skin, destroying the acid mantle
- This disruption initiates the release of inflammatory cytokines and histamines

## Effects of Liquid Stool

- Liquid stool more irritating than solid stool because it encompasses a larger skin surface area
- Contains more bile salts and pancreatic lipases, which are irritating to skin

## Other Effects

- Common secondary infections can develop from *Candida albicans* or toxins from *C difficile*



## Factors Contributing to IAD

- Tissue Tolerance
- Perineal Environment
- Toileting Ability

## Tissue Tolerance

- Age
- Health status
- Nutritional status
- Oxygenation
- Perfusion
- Exposure to shear or friction
- Core body temperature
- Presence of other irritants or allergens
- Use of occlusive containment devices

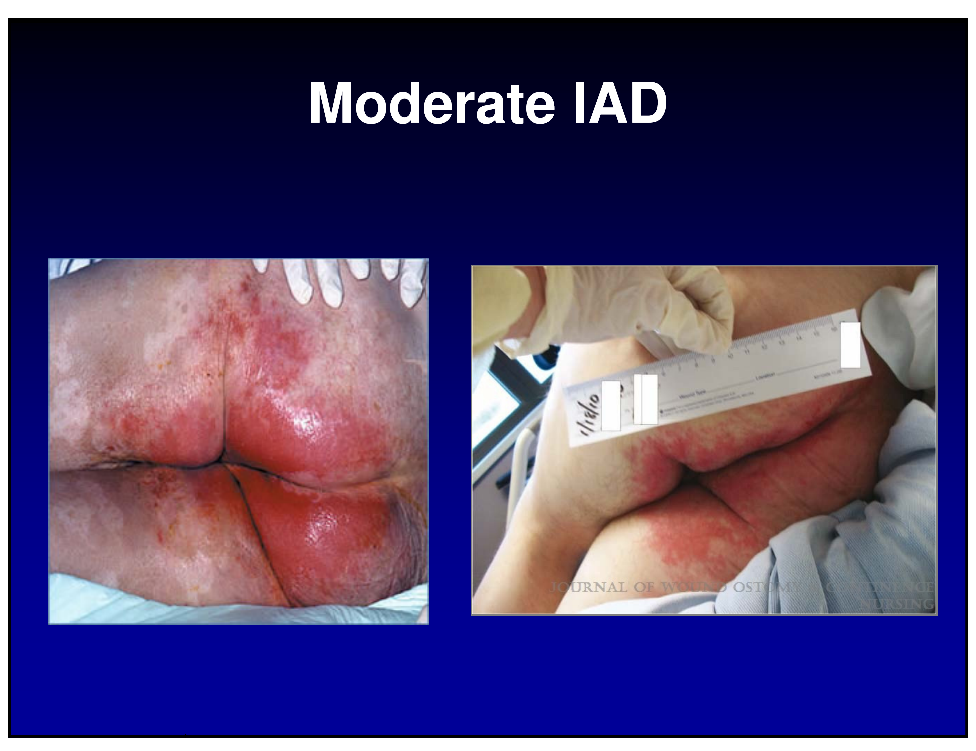
## Perineal Environment

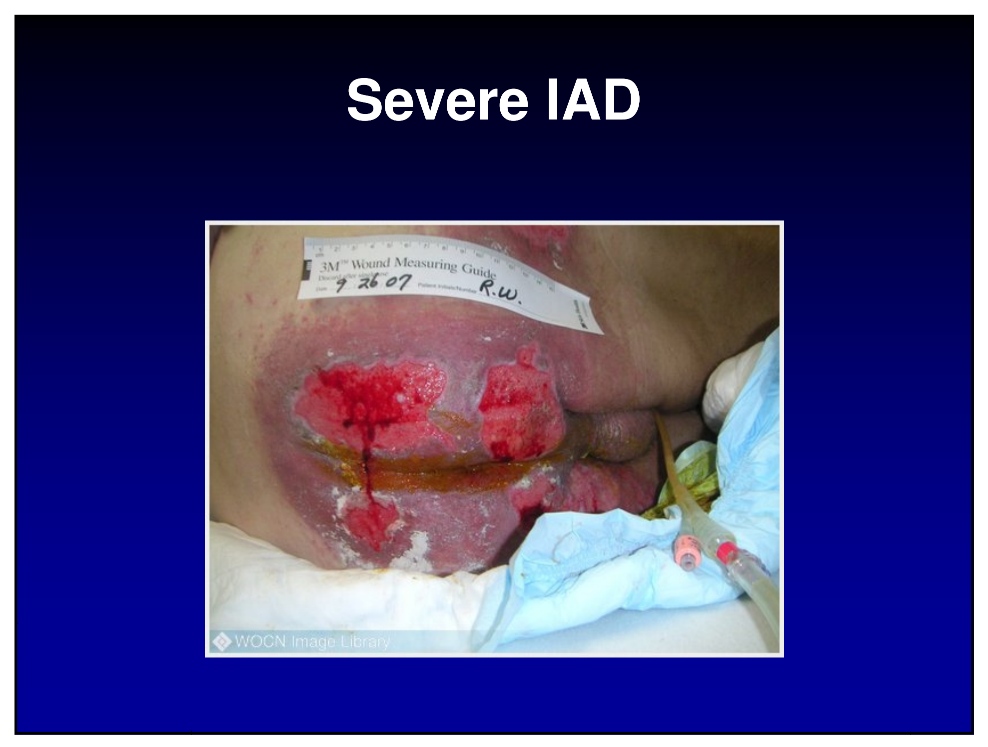
- Altered by
  - Frequency of incontinence
  - Type of incontinence (urinary, fecal, or both)
  - Condition of skin (inflamed or edematous)
  - Factors that impair perineal skin (hydration, pH of urine or stool, pathogens in stool or on skin)

## Toileting Ability

- Physical ability to reach toilet
- Cognitive inability to recognize need for toilet

## Mild IAD

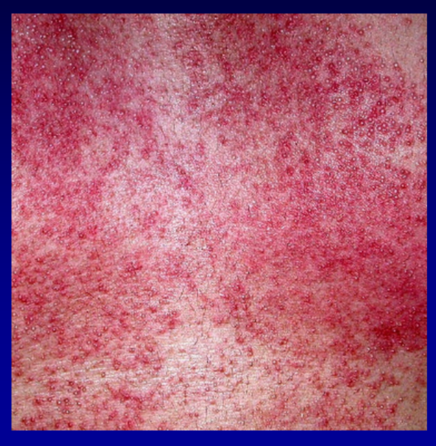

Moderate IAD


Severe IAD
3M™ Wound Measuring Guide
9.26.07
R.W.
WOCN Image Library

# Differential Diagnosis

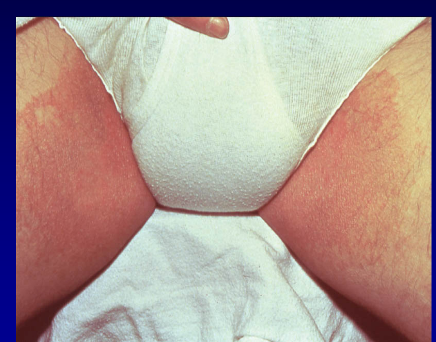
# Miliaria

- Obstruction of sweat glands and overhydration of skin
- Mimics candidiasis
- Lacks confluent areas of erythema and scaling characteristic of candidiasis
- Presents as rash with discrete lesions
- Pruritic



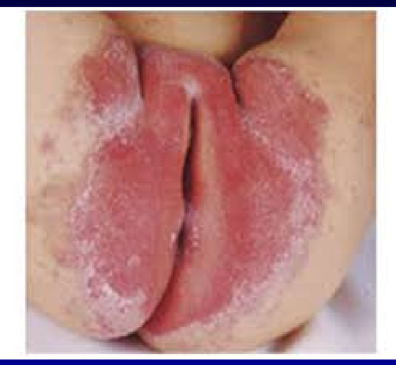
# Erythrasma

- Caused by bacterium of *Corynebacterium* family
- Mimics candidiasis
- Does not produce satellite lesions and scaling
- Distributed along inner thighs, gluteal cleft, and area around scrotum
- Diagnosed by fluorescence



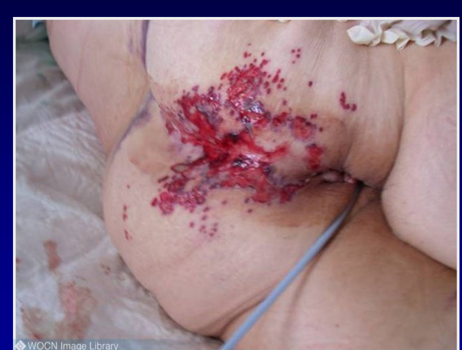
# Perineal Psoriasis

- May mimic candidiasis, but lacks satellite lesions
- Absence of pruritus
- Distinguishable by silvery color and distinct margins



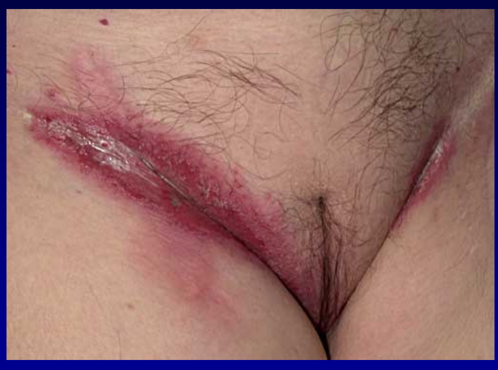
# Perianal Herpes

- Irregular or unusual cluster of small vesicles on a red base
- Lesions localized along perianal dermatome (along anal verge) or along buttock
- Pain




# Intertriginous Dermatitis

- Skin damage caused by internally produced moisture (perspiration) and frictional forces between opposing skin surfaces
- Presents as inflammation and linear lesions
- Occurs at base of skin folds (beneath pannus, underneath breasts, or in *groin crease*)



## Pressure Ulcer

- Ischemic lesion
- Bottom-up injury, originating in deep tissue layers, progressing to skin surface
- Present as full thickness, located over bony prominence or under medical device
- Characterized by tissue necrosis
- Often involves undermining and tunneling

## Why Differentiate????

- Effective treatment must include correction of etiologic factors
- Misclassification of IAD for pressure ulcers:
  - increase facility's risk for litigation and reimbursement
  - compromises integrity and validity of prevalence and incidence data, leading to inaccurate benchmarking

## Why a Challenge????

- Patients at risk for IAD also at risk for pressure ulcer development
- Both Stage I pressure ulcer and mild-moderate IAD present as erythema of intact skin

## IAD Assessment

## Perineal Assessment Tool

- Assesses risk for IAD based on type of irritant, duration of contact, condition of perineal skin, and presence of contributing factors
- Validity established
- 87% interrater reliability

## Perineal Dermatitis Grading Scale

- Evaluates:
  - erythema
  - skin integrity
  - area affected measured in centimeters
  - associated symptoms
  - measures change after nursing interventions
  - has not undergone validity or reliability testing

## IAD Skin Condition Assessment Tool

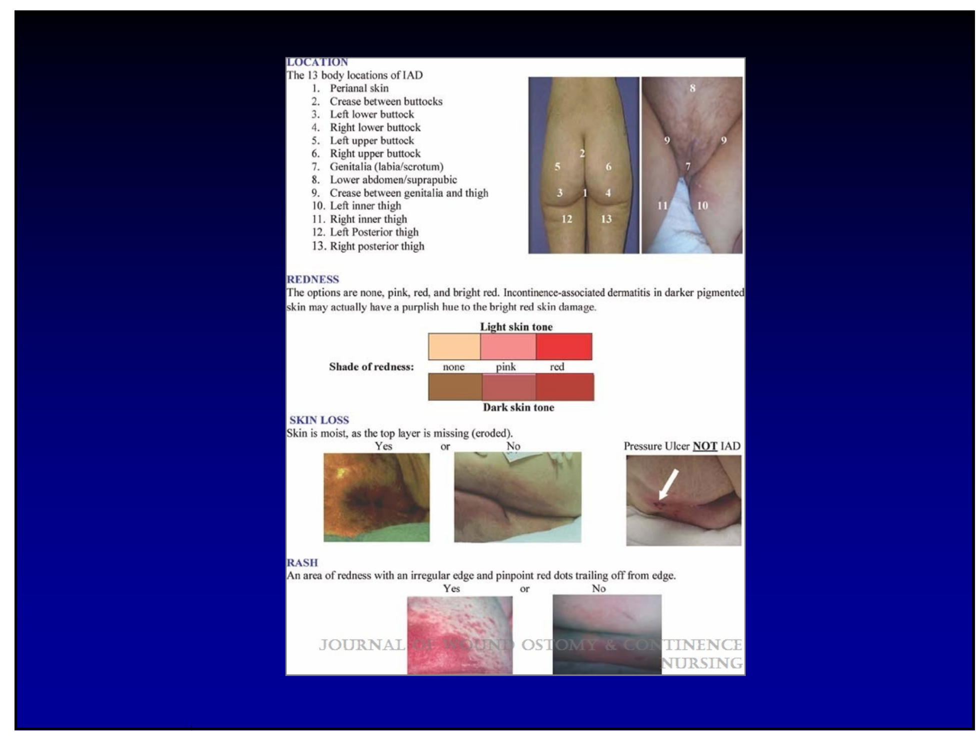
- Describes IAD
- Provides severity score based on area of skin affected, degree of redness, and depth of erosion
- Has not undergone validity or reliability testing

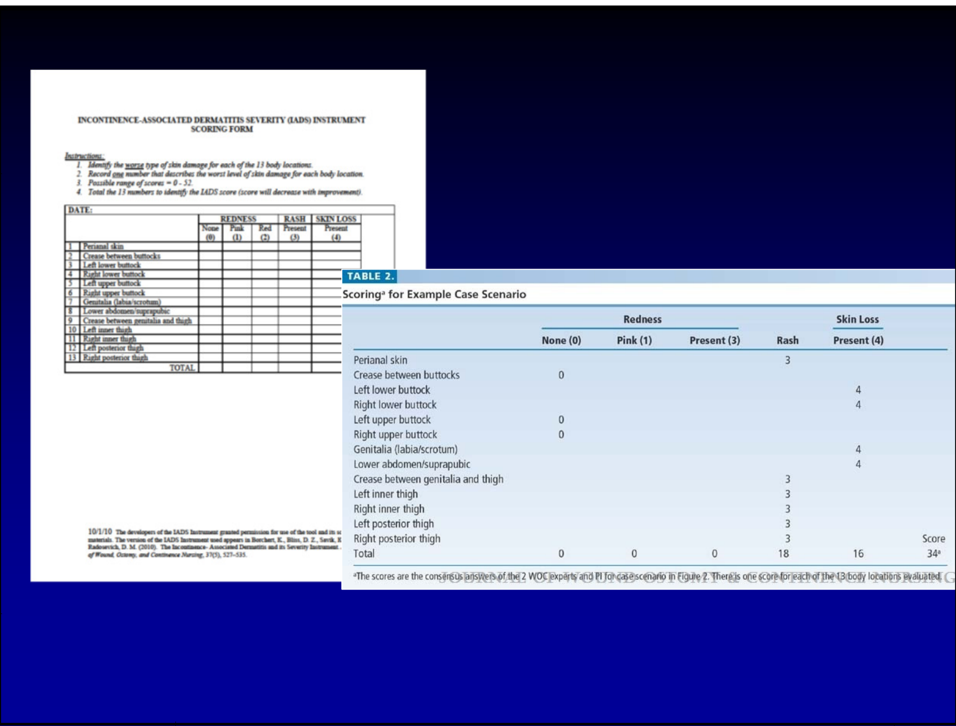
## Perirectal Skin Assessment Tool

- Evaluates degree of skin breakdown following treatment of cancer patients
- Validity and reliability established

## The Incontinence –Associated Dermatitis and its Severity (IADS) Instrument

- Rates severity of IAD, based on location, degree of erythema, rash, and erosion
- Validity and interrater reliability established
- Further study needed to establish reliability in various clinical settings





INCONTINENCE-ASSOCIATED DERMATITIS SEVERITY (IADS) INSTRUMENT
SCORING FORM

*Instructions:*
1. *Identify the worse type of skin damage for each of the 13 body locations.*
2. *Record one number that describes the worst level of skin damage for each body location.*
3. *Possible range of scores = 0 - 52.*
4. *Total the 13 numbers to identify the IADS score (score will decrease with improvement).*

| DATE: | | REDNESS | | | RASH | SKIN LOSS |
|---|---|---|---|---|---|---|
| | | None (0) | Pink (1) | Red (2) | Present (3) | Present (4) |
| 1 | Perianal skin | | | | | |
| 2 | Crease between buttocks | | | | | |
| 3 | Left lower buttock | | | | | |
| 4 | Right lower buttock | | | | | |
| 5 | Left upper buttock | | | | | |
| 6 | Right upper buttock | | | | | |
| 7 | Genitalia (labia/scrotum) | | | | | |
| 8 | Lower abdomen/suprapubic | | | | | |
| 9 | Crease between genitalia and thigh | | | | | |
| 10 | Left inner thigh | | | | | |
| 11 | Right inner thigh | | | | | |
| 12 | Left posterior thigh | | | | | |
| 13 | Right posterior thigh | | | | | |
| | TOTAL | | | | | |

TABLE 2.
Scoring[a] for Example Case Scenario

| | Redness | | | | Skin Loss | |
|---|---|---|---|---|---|---|
| | None (0) | Pink (1) | Present (3) | Rash | Present (4) | |
| Perianal skin | | | | 3 | | |
| Crease between buttocks | 0 | | | | | |
| Left lower buttock | | | | | 4 | |
| Right lower buttock | | | | | 4 | |
| Left upper buttock | 0 | | | | | |
| Right upper buttock | 0 | | | | | |
| Genitalia (labia/scrotum) | | | | | 4 | |
| Lower abdomen/suprapubic | | | | | 4 | |
| Crease between genitalia and thigh | | | | 3 | | |
| Left inner thigh | | | | 3 | | |
| Right inner thigh | | | | 3 | | |
| Left posterior thigh | | | | 3 | | |
| Right posterior thigh | | | | 3 | | Score |
| Total | 0 | 0 | 0 | 18 | 16 | 34[a] |

[a]The scores are the consensus answers of the 2 WOC experts and PI for case scenario in Figure 2. There is one score for each of the 13 body locations evaluated.

# Prevention and Treatment

- Skin care regimen should include:
  - Gentle perineal cleansing
    - pH balanced, no-rinse cleanser
    - NO SOAP
  - Moisturization
    - Maintain skin's barrier function
  - Application of skin protectant or moisture barrier
    - Petrolatum-based
    - Dimethicone-based
    - Zinc oxide-based
    - Liquid acrylate

## Prevention and Treatment

- Addition of anti-fungal products, steroidal-based topical anti-inflammatory products, and topical antibiotics recommended only in specific situations
- Use of absorptive or containment products and/or indwelling devices recommended in specific situations to support prevention and treatment IAD

## Other Recommendations

- Education of caregivers focusing on accurate assessment of IAD
- Creation of clearly defined protocols that are evidence based and cost effective
- Continued research to enhance the understanding of IAD, its prevention and treatment