Incontinence-Associated Dermatitis (IAD): Assessment, Prevention and Management

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Capital Nursing Education
Objectives of this Program

- Become aware of the different types of skin damage resulting from moisture
- Assess the skin for moisture damage
- Review the skin anatomy
- Explore the ways to prevent Incontinence-Associated Dermatitis
- Develop an understanding of MASD
- Learn how to treat IAD

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Moisture-Associated Skin Damage

- Incontinence-Associated Dermatitis
- Intertriginous Dermatitis
- Periwound Moisture-Associated Skin Damage
- Peristomal Moisture-Associated Skin Damage

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Anatomy of the Skin-Review
Anatomy of the Epidermis

Dead cells flaking off at the skin surface
Stratum corneum
Stratum lucidum
Stratum granulosum
Stratum spinosum
Stratum basale
Dermis
The Importance of Skin

- Provides interface between the body and the rest of the world
- It shields us from harmful organisms
- It protects us from physical and mechanical injury
- **Strong enough to protect us, yet flexible enough to move with us!**
Function of Skin

- Provides a protective barrier against mechanical, thermal and physical injury and noxious agents.
- Helps regulate temperature control.
- Prevents loss of moisture.
- Plays a role in immunological surveillance.
- Reduces the harmful effects of UV radiation.
- Synthesises vitamin D3 (cholecalciferol).
- Acts as a sensory organ.
- Has cosmetic, social and sexual associations.
Skin Facts

- Weighs 6-8 lbs and covers more than 20 square feet – largest organ
- pH of 4.0-6.5 (acidic) which helps regulate normal skin flora
- Thickness from 0.5mm to 6mm
  - Thinnest = eyelids
  - Thickest = palms/soles
The **epidermis**, the outer protective layer

The **dermis**, inner layer that provides strength, support and elasticity

The deeper **subcutaneous** is made of fat and connective tissue and provides cushioning

**Layers of the Skin**

- Epidermis
  - Sebaceous(oil) gland
  - Pores
- Dermis
  - Stratum corneum
  - Squamous cells
  - Basal cells
  - Arrector pili muscle
  - Sweat pore
  - Hair follicle
- Hypodermis (Subcutaneous tissue)
  - Artery
  - Vein
  - Adipose tissue
- Muscle
Moisture Associated Skin Damage (MASD)

Term to describe the irritation, inflammation and erosion of skin that has been in contact with some type of moisture

Four Types

- Incontinence-Associated Dermatitis (IAD)
- Intertriginous Dermatitis (ITD)
- Periwound Moisture-Associated Dermatitis
- Peristomal Moisture-Associated Dermatitis
Skin Assessment

“For one mistake for not knowing, 10 mistakes are made for not looking!”
Skin Assessment

- **Inspection:**
  View the entire body including all skin folds, check under all devices, etc.

- **Palpation/touch:**
  Note temp changes, edema, dry/wet skin, etc.

- **Olfaction:**
  Note any odors/smells and determine source

- **Document** findings and notify MD of abnormal
What Do You See??

Are there areas of the skin that are:

- Red
- Discolored
- Not intact

*Redness (erythema) shows up better on lighter skin. Darker skin looks almost brown to dark purple to black hue.*
What Do You Hear??

Is the patient complaining of:

• Itching
• Burning
• Pain

*Are they or family telling you that they were “found down”, on the floor, in the chair, coded in field, etc?

*DTI (deep tissue injury) = 48-72 hours to “surface” or show up
What Do You Feel??

Are some areas of the skin:

- Firm
- Soft
- Scaly
- Hot
- Cold
What Do You Smell?

What odors do you notice especially after cleansing:

- Sweet
- Musty/yeasty
- Foul
Intertriginous Dermatitis

- Inflammation that occurs between opposing skin surfaces
- Inflammation is related to friction from skin-on-skin rubbing and trapped moisture
Main goal is to keep area dry and avoid any friction between the opposing skin surfaces.

Cleanse area with foaming cleansing etc and pat dry.

Antimicrobial wicking sheets (Interdry).

Pillowcases (wicking) only if Interdry not available.

Antifungal powder.

Oint/creams not best Tx.
Periwound Moisture-Associated Dermatitis

- Occurs when wound drainage has sustained contact with the skin around a wound
- Wound drainage can cause inflammation and redness
Treatment

Goal is absorbing excess drainage

- Alginates
- Foams/polymer dressings
- Use of skin barrier
- Increase the dressing change frequency
Peristomal MASD

MASD adjacent to a stoma

- Inflammation
- Denudation
Peristomal MASD Etiology

- Skin exposure to effluent (urine or stool)
Establish why the skin is exposed to fluids
Examine the pouching technique
Determine which pouching system will help to keep the stool or urine off the peristomal area
Teach patient to use correct pouching system and method to keep skin dry and intact around the stoma
If you are not experienced in stoma care, refer to Ostomy Certified Nurse
Incontinence-Associated Dermatitis (IAD)

• Also known as diaper rash or diaper dermatitis
• Inflammation that occurs when skin has prolonged contact with urine or stool.
IAD

Results in redness, edema and pain in addition to erosion (epidermis or dermis), yeast rash, bleeding (from shearing and friction)
Typical Characteristics

- Over fatty tissue of buttocks, perineum, inner thigh and groin
- Consolidated or patchy formation
- Covers diffuse area, shaped like a mirror image in the skin fold or linear area in anal cleft
- Superficial or partial thickness in depth. Note: if it extends into subcutaneous or deeper, stage as pressure injury, according to the WCEI (Wound Care Education Institute)
Management of IAD

For all patients with IAD (Incontinence-Associated Dermatitis):

- Gently cleanse (minimal friction) with foam cleanser, pat dry; turn and check every 2 hours
- No need to remove ALL moisture barrier after stooling. Remove moisture barrier that is contaminated with stool and reapply
**Incontinent: Barrier ointment apply at least once a shift and with incontinence episode**

**No Break In Skin But Red**
- Incontinent: Barrier ointment apply at least once a shift and with incontinence episode

**Severe Denudement (Oozing, Bleeding, Skin Loss)**
- Sprinkle with Stomahesive powder to open areas (dust excess off)
- Apply zinc-based ointment at least q6 if not more

**Red, Raw And Mildly Excoriated**
- Apply Zinc based ointment every shift and with incontinence episode

**Fungal/Yeast Rash (Patchy Red With Scattered Red Spots)**
- Dust rash with antifungal powder, dust off ALL excess
- Apply barrier creams as above if needed
- Continue this for at least 7-10 days
PREVENTATIVE SKIN CARE

Cleanse

Moisturize

Protect
Cleanse

- Basic but essential
- Skin wastes and environmental contaminates accumulate on skin (dirt, dead cells, excess body oils)
- Select pH balanced cleanser (4-5.8)
- Clean off urine and/or stool as soon as possible
If cleansers are too harsh, or there is too much friction with cleansing - you or the patient will notice the following:

- Skin is tight and dry (water loss) and cracking
- Skin is red, rough and irritated open
Moisturize

WHEN
Moisturize routinely after bathing

WHY
Can help avoid skin complications such as dry skin, skin tears and skin breakdown

HOW
Use of lotions, emollients, etc.
Protect

• Protecting the skin is the ultimate goal

• Exposure to irritants and excess moisture from urinary and/or fecal incontinence can lead to painful dermatitis and skin breakdown, even pressure ulceration

• Barriers isolate the skin's exposure to these elements
All Barriers Are Not Created Equal

- **Petrolatum**
  - Good protection, modest skin hydration and avoids maceration
  - Con: Blocks skin from breathing

- **Dimethicone**
  - Variable protection, good skin hydration and modest protection against maceration

- **Zinc Oxide**
  - Good protection, poor skin hydration and does not avoid maceration
  - Con: Thick, difficult to remove and hard to monitor skin underneath
Absorbent Pads
The Body Worn Absorbent Product Guide
http://bwap.wocn.org
Moisture Interventions

- No Diapers
- Absorbent Pads
- Keep skin clean and dry
- Barrier ointments
- Avoid vigorous massage over bony prominences

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Association of IAD with Pressure Injury Development
Pressure Injuries

- Severe pain
- Prolonged hospitalization
- Increased costs

Caused by:
- Pressure
- Shear
- Friction
- Microclimate
Skin Surface Microclimate

- Includes temperature
- Includes moisture
MASD vs. PI

- Includes Intertrigo (perspiration)
- Periwound skin damage (wound exudate)
- Peristomal skin damage (effluent)
- IAD (urine/feces)

Often it is incorrectly classified as a type of pressure injury
IAD

1. IAD results from top-down damage
2. Tissue intolerance (Age/nutrition)
3. Affected perineal environment (Incontinence)
4. Obstacles to toileting (Restraints/inability to get toileting help/cognitive impairment)

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Pressure Injuries

- Can be both bottom-up and top-down damage
- Deeper tissue affected by pressure or shear
- Moisture weakens the skin

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A Systematic Review and Meta-Analysis of Incontinence-Associated Dermatitis, Incontinence, and Moisture as Risk Factors for Pressure Ulcer Development

Dimitri Beeckman, Aurelie Van Lancker, Ann Van Hecke, Sofie Verhaeghe
Double Incontinence Related to PI Development

- Studies show that there is a significant association between double incontinence and PI development
Urinary Incontinence and PI Development

- Studies show that urinary incontinence is a significant predictor of PI incidence
Association of UI and PI when Patients were PI Free at Start of Study

- Urinary Incontinence proved to be a significant predictor of PI incidence in four different studies
Fecal Incontinence and PI Development

- Four out of five studies showed that fecal incontinence was a significant predictor of PI incidence.
Moisture and PI Development

- Five of nine teams examining this association reported a significant association between moisture and PI development
Conclusion

• There is an association between IAD, its most important etiological factors and the development of PI
Urine and Stool (Mixed Incontinence)

• Leakage of both causes more damage than either one alone

• Candidiasis is more prone when stool and urine is mixed
Candidiasis

- Candida Albicans
- Lactobacillus keeps Candida under control
- When Lactobacillus levels are disrupted, Candida can overgrow

Most at risk:
- People taking antibiotics recently
- Uncontrolled diabetics
- Immunosuppressed individuals
- Pregnant women
- People taking hormone therapy
- People with urinary/fecal incontinence
Candidiasis
(Yeast Infection)
Prevention Of MASD

- Keep skin clean, moisturized, protected
- Never put more than one pad under patient in bed
- Use adult disposable briefs for ambulation only
- Change dressings based on amount of exudate
- Use correct pouches to prevent peristomal moisture damage
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