WOUND OR IAD

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

Joyce Moss ADN, BSN, MNM, MSc, RN, CWS, CWCN, COCN, DAPWCA

Capital Nursing Education

September 13, 2023

Provider Approved by the California Board of Registered Nursing

Provider Number 16026

Approved for 1 CE contact hour/ Provider Kathleen J. Ellis

Made Possible by a Grant from Shield HealthCare

OVERVIEW

Incontinence Associated Dermatitis (IAD) is a common problem with individuals having difficulty controlling urine and or feces in conjunction with mobility issues. This skin damage is secondary to exposure from moisture, chemicals and bacteria in urine or stool after prolonged contact with the skin. Other factors such as pH, age, body habitus, etc. may influence the amount of skin damage. Improper skin care after incontinent episodes can lead to IAD which causes pain, increased risk for the development of pressure injuries, skin infections, loss of independence and a profound effect on the individual's social, physical, financial, and psychological well being.

OVERVIEW

IAD is often underdiagnosed. This is a challenge for healthcare providers secondary to inconsistencies in terminology, inability to recognize the problem and differentiate it from pressure injuries, and a lack of internationally recognized and validated tools for data collection. It is important for healthcare providers to understand and recognize skin damage caused by moisture and be able to provide appropriate prevention and treatment strategies.

OBJECTIVES

- Review skin facts
- Discuss the effects of moisture on the skin
- Recognize different types of skin damage caused by moisture
- Assess skin damage caused by incontinence
- Differentiate IAD from other skin related damage
- Promote IAD prevention strategies
- Identify seasonal tips for prevention of Intertriginous Dermatitis (ITD)
- Identify IAD treatment strategies

SKIN FACTS

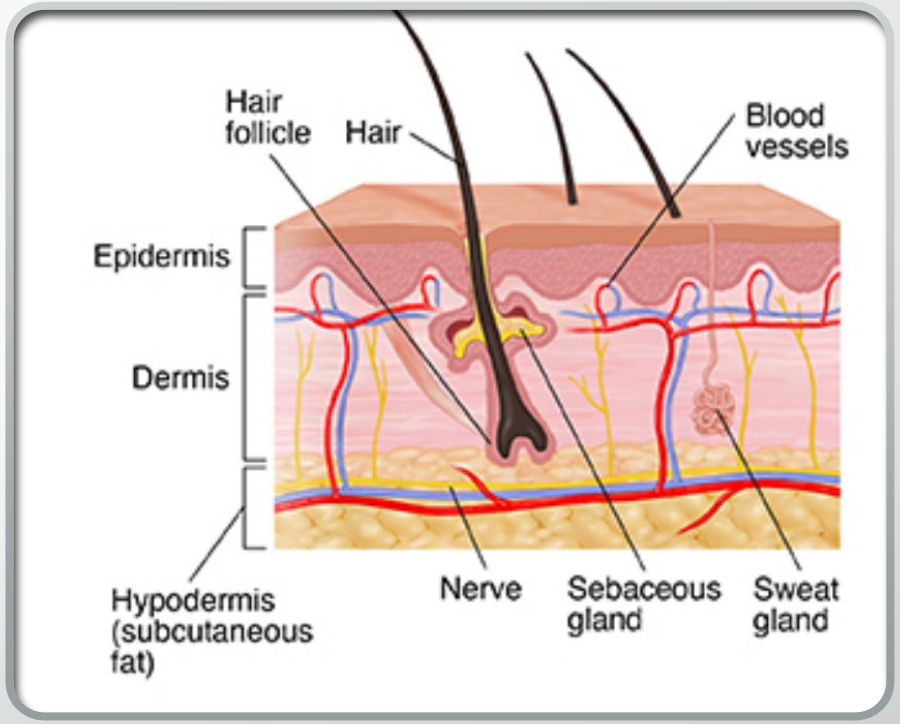
- Largest organ in the body
- Acts as a protective shield against the environment
- Regulates temperature
- Prevents water loss
- Acts as a sensory organ
- Helps to make vitamin D when exposed to the sun
- Accounts for about 15% of the body's weight
- Skin sheds and replaces new cells about every 28 days; this rate decreases as we age
- 90% of the visible signs of aging are caused by sun damage
- Contributes to appearance

Yousef & Sharma 2022; Gray , Black et al 2011

SKIN FACTS

Layers

- **Epidermis**
  - **Stratum Basale – deepest layer; produces keratinocytes responsible for epidermal water barrier and regulate calcium absorption by converting UVB light to vitamin D; produces melanin; contain Merkel cells that function in light touch**
  - **Stratum Spinosum – 8 to 10 cell layers; contain Langerhans' cells that fight infection; contain lipids that waterproof the skin**
  - **Stratum Granulosum – 3 to 5 cell layer; keep the cell stuck together**
  - **Stratum Lucidum – 2 to 3 cell layer; only in soles & palms**
  - **Stratum Corneum – 20 to 30 cell layers; upper-most layer; contain dead keratinocytes; maintain structure of skin, hair and nails**
  - **Free nerve ending extend into epidermis to detect heat, cold & pain**

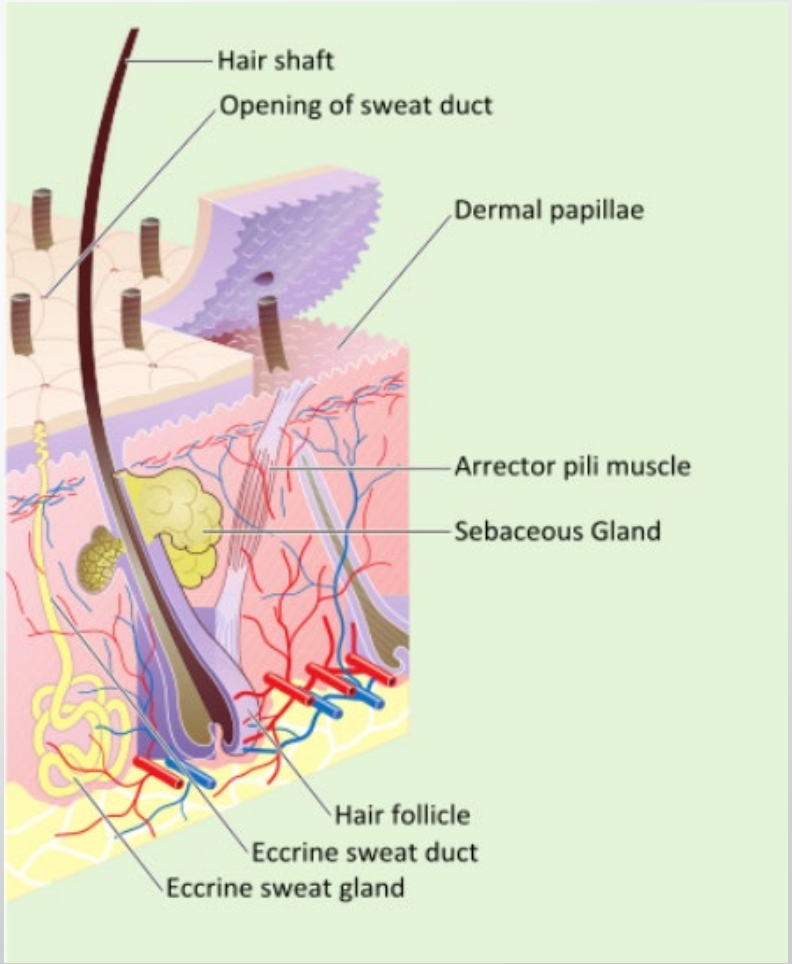


Brannon & Gallagher 2023; Yousef, Alhajj & Sharma 2022

SKIN FACTS

Layers

- **Upper Dermis**
  - **Papillary Layer – upper layer of connective tissue that connects with epidermis; capillaries regulate temperature and provide nutrients; Meissner corpuscles transmit light touch; Lamellar corpuscles transmit vibration and pressure**
- **Lower Dermis**
  - **Reticular Layer – lower layer of dense connective tissue with collagen bundles; houses sweat glands, hair follicles, muscles, sensory neurons, blood vessels, lymphatics, and sebaceous glands; gives skin elasticity and strength**
- **Range from 0.6mm thick (eyelids) to 3mm thick (soles & palms)**

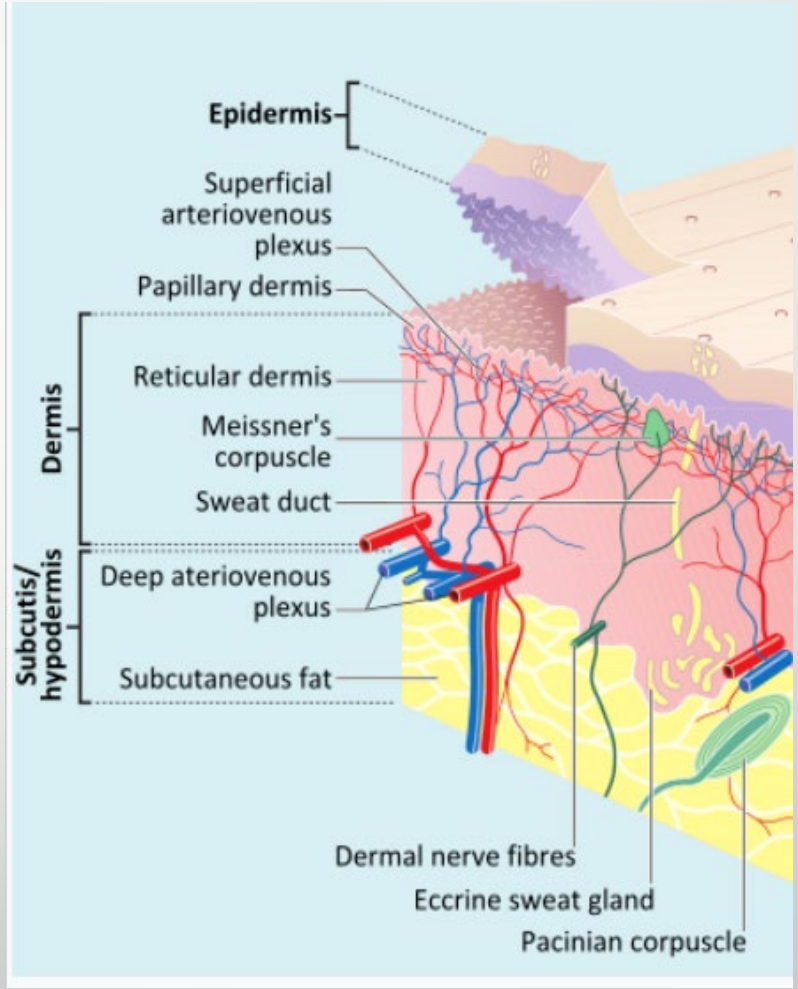


Brannon & Gallagher 2023; Yousef, Alhajj & Sharma 2022

SKIN FACTS

Layers

- **Hypodermis (subcutaneous)**
  - Contains mostly fat that provides padding
  - Arrector pili muscles contains hair follicles to produce goosebumps and compress sebaceous glands
  - Stores fat cells for energy production
  - Contains fibroblast cells that produce collagen
  - Large nerves pass through the adipose layer to the epidermis
  - Contains connective tissue that connects the skin to bone, muscle and organs
  - Provides shape & contour to the body
  - Fat cells produce Leptin that control appetite
  - Affect the appearance of the skin especially in the face and neck
  - Acceptable site for medication administrations



Brannon & Gallagher 2023; Yousef, Alhajj & Sharma 2022

MOISTURE ASSOCIATED SKIN DAMAGE (MASD)

Etiology

- Prolonged exposure to urine, stool, perspiration, wound exudate, mucus, saliva
- Chemical irritants within body fluids
- Inflammation of the skin with or without erosion or infection including other factors
  - Loss of Moisture Barrier
  - Altered pH
  - Advancing Age
  - Obesity
  - Immunological Response (eczema)
  - Mechanical Forces (Friction, shear, & pressure)

Dissemond, Assenheimer et al 2021; Gray, Black et al 2011

SKIN DAMAGE FACTORS

Loss of Moisture Barrier Function

- Control movement of water from body's interior while protecting the body from excessive absorption of water and solutes from the environment
- Humectant effect (draw moisture from the air into the skin cells): Corneocytes have hygroscopic molecules that maintain 20% water weight within the stratum corneum
- Emollient effect (seal moisture within the cells): lipids enhance natural moisturizing factor
- Aquaglyceroporins control transport of water, glycerol, urea and other small molecules while impeding the movement of proteins

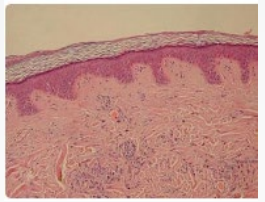
Dissemond, Assenheimer et al 2021; Millard 2021; Gray, Black et al 2011;

SKIN DAMAGE FACTORS

pH

- Healthy skin pH: 5.5-5.9
- Acid mantle suppresses coliform bacteria
- Raising the pH (alkaline)
  - Impairs lipids from forming a layered structure
  - Decreases corneocyte adhesion
  - Increases lysis of existing corneocytes

Gray M, Black J et al 2011



AGE

- Rete pegs are projections of the epidermis into the upper dermis that enhance adhesions and interlocking of epidermis and dermis to maintain structural integrity and control cellular microenvironment
  - Aging leads to atrophy, fragility, delayed healing and dyspigmentation

Aleemardan , Trikic et al 2021

SKIN DAMAGE FACTORS

OBESITY

- Inefficient thermal regulation
  - Store heat longer
  - Produce sweat over a longer period
  - Transepidermal water loss (TEWL) increases as body mass index (BMI) increases

Gray M, Black J et al 2011

ECZEMA

- Increased sensitivity to irritants such as sweat, humidity, water, and chemical irritants and microbes in urine, stool, and wound exudate
- Gene mutation that may cause an inheritable defect in epidermal moisture barrier function

Gray M, Black J et al 2011

SKIN DAMAGE FACTORS MECHANICAL FORCES

- Mechanical irritation from clothing dragging over linen
- Pressure and or shear forces predisposing to pressure injuries – sliding down in bed
- Tape stripping
- Occlusion from lying on wet, nonbreathable materials or clothing
- Use of rough towels for cleansing or excessive rubbing of the skin

Dissemond, Assenheimer et al 2021

TYPES OF MASD
PERISTOMAL SKIN DERMATITIS

- **Erythema and inflammation of the skin around a stoma such as urostomy, colostomy, or ileostomy**
  - **Skin may be denuded secondary to urine, feces or mucus trapped under an ostomy appliance**
- **Erythema and or denuded skin around tube insertion sites (stoma) from gastric contents, urine, or saliva; examples such as G-Tube, Suprapubic catheter, J-tube, Nephrostomy tube, tracheostomy**

Dissemond, Assenheimer et al 2021; Gray, Black 2011

TYPES OF MASD

INTERTRIGINOUS DERMATITIS (Intertrigo/ITD)

- Erythema and inflammation of skin adjacent to and within skin folds secondary to perspiration, friction and bacterial/fungal bioburden
- Skin may be denuded (loss of epidermis due to moisture & friction) or have linear erosions due to mechanical forces
- May be associated with containment devices where moisture can be trapped in skin folds
- Common locations include axilla, under breasts, groins, abdominal pannus, neck folds on swollen or obese necks, web space between toes. Gluteal cleft

Dissemond, Assenheimer et al 2021; Gray, Black et al 2011

PREVENTION OF INTERTRIGINOUS DERMATITIS (ITD)

- Common skin-to-skin inflammation (rubbing) that is intensified by heat & moisture
- Trapped moisture causes surfaces of skin to stick together in the skin folds
- Moisture increases the friction
- Warmth, moisture and friction induce skin damage which allows bacteria/fungus to grow
- SEASONAL PREVENTION
- Keep the skin folds clean, dry and cool
- Use fan on cool setting to several times day to affected areas
- Wear loose fitting garments
- Antiperspirant to affected areas
- Apply skin sealants
- Apply antimicrobial sheets to affected areas
- Apply drying gents
- Moisture wicking garments
  - Linen, cotton, chambray

TYPES OF MASD PERIWOUND MOISTURE ASSOCIATED DERMATITIS

- Erythema and inflammation of the skin within 4 centimeters of the wound edge
- Wound exudate with proteolytic enzymes that can cause maceration and excoriation secondary to scratching
- Uncontrolled wound drainage is a risk factor for delayed healing, increased risk of wound infection, increase in wound size, and an increase in pain, treatment time and costs

LeBlanc & Campbell 2021; Dissemond, Assenheimer et al 2021; Gray, Black et al 2011

TYPES OF MASD
INCONTINENCE ASSOCIATED DERMATITIS

Urine

- **pH 4.8 – 8.0**
- **~95% water with urea, chloride, sodium, potassium & creatinine**
- **Skin wetted with water or synthetic urine and occluded has a significant decrease in tissue hardiness, temperature and blood flow**
- **Ammonia does not irritate healthy skin but repeated exposure to urine alters the pH leading to inflamed skin**
  (Leyden, Katz & Kligman, 1977; Larner, Matar et al 2015)
- *Alkaline urine causes more skin inflammation than acidic urine*

Koudounas, Bader & Voegel 2020; Gray, Black et al 2011

TYPES OF MASD
INCONTINENCE ASSOCIATED DERMATITIS

Feces

- pH range 5.0 – 8.0
- Proteolytic and lipolytic enzymes from liquid stool cause more skin damage than solid stool
- Coliform bacteria and fungi lead to infections in the presence of skin erosions
- Enzymes act on urea to produce ammonia
- Dual incontinence causes more severe skin damage

Koudounas, Bader & Voegel 2020; Gray, Black et al 2011

INCONTINENCE ASSOCIATED DERMATITIS

- Incontinence is always present – damage due to externally produced moisture (urine and or stool)
- Superficial or partial thickness injury that extends to the epidermis and upper dermis with preservation of deep dermal and underlining tissues
- Visual: begin as blanchable erythema of intact skin (fair skin tones) then may progress to vesicle formation with epidermal skin loss
- Palpation: change in firmness and or temperature (dark skin tones)
- Inflammatory response due to top-down tissue injury because of exposure to urine and or stool rather than inflammatory response due to bottom-up injury secondary to ischemia (pressure injury)

Doughty, Junkin, Kurtz et al 2012

INCONTINENCE ASSOCIATED DERMATITIS

- Edges of the affected area is irregular in shape and surrounding tissue is reddened
- Shiny or glistening appearance of skin without slough or necrosis
- Areas affected include buttocks, perineum, posterior thighs, groins, medial thighs, genitals, under abdominal pannus, and perianal area
- Skin changes usually bilateral
- Higher lipid and melanosome levels in dark skin tones may mask color contrasts – erythema may be seen as violet-black or black tone
- Erythema may be present with Candidiasis – note satellite lesions at edge of erythema
- Dual IAD: alkaline pH of urine increases enzymatic activity of lipase and proteases that break down proteins leading to erosions

Francis 2023; McNichols, Ayello et al 2018; Gray, Black et al 2011

ICD-10 CODES FOR MASD

- **L24A0 Irritant contact dermatitis due to friction or contact with body fluids, unspecified**
- **L24A1 Irritant contact dermatitis due to saliva**
- **L24A2 Irritant contact dermatitis due to fecal, urinary or dual incontinence**
- **L24A9 Irritant contact dermatitis due friction or contact with other specified body fluids**
- **L24B0 Irritant contact dermatitis related to unspecified stoma or fistula**
- **L24B1 Irritant contact dermatitis related to digestive stoma or fistula**
- **L24B2 Irritant contact dermatitis related to respiratory stoma or fistula**
- **L24B3 Irritant contact dermatitis related to fecal or urinary stoma or fistula**

https://www.wocn.org/the-wocn-society-announces-new-icd-10-cm-codes-for-moisture-associated-skin-damage/

PURPOSE OF ICD-10 CODE CHANGES

ICD-10-CM *(International Classification of Diseases, Tenth Revisions, Clinical Modifications)*

- **Effective October 1, 2021**
- **Identifies diseases and health conditions in the US**
- **Links third-party payment for health care and supplies**
- **Allows for accurate reporting of specific types of MASD**
- **Promotes research of MASD**
- **Enhances clinical education and practice**
- **Improves patient outcomes**

Bliss, McNichol, Cartwright & Gray 2022

EPIDEMIOLOGY OF IAD

- 41% of Home Care patients have IAD
- 43% of incontinent patients in acute care have IAD
- Prevalence 5.2% - 46%
  - Lack of universal terminology
  - Lack of consistency in calculating prevalence
  - Differences in care settings
  - Difficulty differentiating IAD from pressure injuries (PI) or other MASD
  - Lack of knowledge regarding ICD-10 codes for MASD
  - Inconsistent documentation of skin/wound issues
  - Lack of universal/validated assessment tools for risk and severity
  - Lack of knowledge transition (KT) – education & tools to assist with the transition of research to practice
  - Stigma associated with incontinence

Bliss, McNichols et al 2022; Banharak, Panpanit, Subindee et al 2021; Kayser, Phipps et al 2019; McNichols, Ayello, et al 2018

HOW TO ASSESS FOR IAD

- Determine if incontinence is present – if incontinence is NOT present then the cause CANNOT be IAD
- Assess the skin in good lighting (natural light or halogen) – identify affected skin areas such as perineum, peri genital areas, buttocks, gluteal folds, thighs, groin, lower back & abdomen
- What color changes are present – changes in presentation are secondary to skin tones – erythema occurs in light skin tones; whereas dark tones present as gray/violet/brown or yellowish discoloration
- Darkly pigmented skin will NOT blanch
- Race and ethnicity are NOT predictive of skin pigmentation
- Cleanse area before assessment
- Accompany visual inspection with palpation and consider use of assessment devices to augment assessment
- Use a valid and reliable tool for skin color/tones

Black, Capasso, Bliss et al 2023 McNichol, Ayello, et al 2018; Beeckman et al 2015; Doughty, Junkin, Kurz et al 2012

HOW TO ASSESS FOR IAD

- Is the skin open or closed – any erosions, blisters, pustules; IAD is damage to the epidermis and upper dermis only – damage is top down
- Compare moist skin to be assessed with dry unaffected skin
- Determine if fungal infection present– true dermatophyte fungus has a red active margin; whereas Candidiasis has a confluent red center with satellite lesions near the periphery
- What is the position and mobility – wetted skin in mobility compromised persons is at risk for friction injury, shear, and pressure injury
- Follow-up on any complaints of burning, itching, tingling or pain even without visible skin damage
- Does the skin feel soft, firm, scaly, hot or cool, boggy in comparison to unaffected area
- Do you smell any odors – foul, musty, ammonia, fruity

Black, Capasso, Bliss et al 2023 McNichol, Ayello, et al 2018; Beeckman et al 2015; Doughty, Junkin, Kurz et al 2012

IAD ASSESSMENT TOOLS

- **IADIT** *(Incontinence Associated Dermatitis Intervention Tool; Itctoolkit.mao.ca/IADIT.pdf; IADIT@medbiopub.com)*
- **IADS** *(Incontinence Associated Dermatitis and its Severity; Severity Coloplast. US/IAD Severity Assessment and Scoring Tool_M1234N.pdf*
- **COMPREHENSIVE SKIN ASSESSMENT** *(ahrq.gov/webinar/4_pu_skinassesst_final.pdf)*
- **CAVILON INCONTINENCE ASSOCIATED DERMATITIS ASSESSMENT GUIDE** *(multimedia.3m.com/mws/media/13560670/3m-iad-assessment-guide.pdf)*

Gray, Bliss & McNichols 2022; Beeckman D et al 2015; Borchert et 2010; Bliss et al 2006

- **Many tools are available but further research is needed to investigate tool validity and how well these tools function to improve clinical decision making**
- **Tool needs to be simple and easy to use based on the level and severity of skin damage**
- **Tools are helpful when linked to a structured skin care protocol**
- **Skin assessment relies on clinical observations, visual inspection and palpation**
- **Skin damage unclear, then strategies for management of incontinence and pressure injury prevention should be implemented**
- **Assessment should include checks for temperature, turgor, color, moisture level and skin integrity**
- **Skin assessment and risk assessment should be used to develop a care plan**
- **Document assessment accurately and timely**

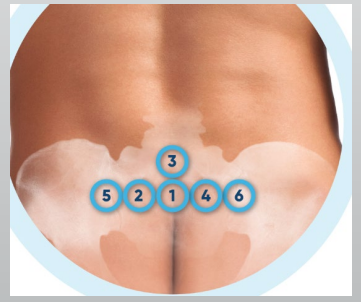
HOW TO INCORPORATE SKIN ASSESSMENT INTO WORKFLOW

- Check ears and head when applying oxygen
- Check skin folds when assessing bowel sounds or lung sounds
- Check back , buttocks, heels, and calves when repositioning
- Check genitals and groins when assessing urinary catheter
- Check elbows/arms when assessing IV
- Check skin under all removal equipment such as TENS, restraints, splints, oxygen tubing, Heel suspension boots, endotracheal tubes (ETT), compression garments, TED stockings, etc.
- Assessment frequency depends on patient status and unit protocols but should occur on admission, transfer to different unit or level of care, significant change in status, and upon discharge
- Use assessment devices to enhance the skin assessment when possible

Beeckman D, Campbell D et al 2015

SKIN ASSESSMENT DEVICES

- Electrical capacitance testing (SEM Scanner)
- Ultrasound System (EpiScan)
- Thermographic Imaging System (Wound Vision)



DIFFERENIATING PRESSURE INJURY VS INCONTINENCE ASSOCIATED DERMATITIS

PRESSURE INJURY

- Pressure/shear present with tissue ischemia; bottom-down injury – stage level of tissue damage
- Superficial to deep full thickness tissue damage
- Over bony prominence, cartilaginous prominence or under a medical device
- Well defined edges or margins
- Equal redness, pink, yellow or black
- Purple or maroon discoloration may indicate Deep Tissue Injury (DTI)
- Slough, granulation tissue, or eschar may be present
- Nonblanching erythema in fair skin tones with change in temperature, turgor, sensation, firmness in dark skin tones
- Soft tissue infections may be present
- Pain may be present

IAD

- Urine or feces is present with or without friction; top-down injury – DO NOT stage
- Superficial tissue damage – limited to epidermis and upper dermis
- Located in perineum, buttocks, perianal, gluteal cleft, posterior/inner upper thighs, groins
- Diffuse irregular margins, kissing lesions; jiggered edges when friction injury present
- Blotchy discoloration – unequal pink/redness, gray or brown
- No purple/maroon discoloration
- No slough, granulation or eschar
- Glistening erythema or discoloration
- Superficial tissue infections
- Pain, burning, itching, tingling may be present

Black, Capasso, Bliss et al 2023 McNichol, Ayello, et al 2018; Beeckman et al 2015; Doughty, Junkin, Kurz et al 2012

THE REAL WORLD

Pressure injuries and IAD can and often coexist

No incontinence then negative for IAD

Dual incontinence is at greater risk of developing IAD in comparison to urinary incontinence

Incontinence is a risk factor for pressure injury development

At risk for IAD

- Aging/critical illness
- Impaired cognition and or mobility
- Pyrexia
- Poor nutrition
- Frequent episodes of incontinence
- Antibiotics/immunosuppressive meds
- Improper hygiene or product selection
- Use of occlusive products

Ousey, Doughty et al 2017; Beeckman et al 2015

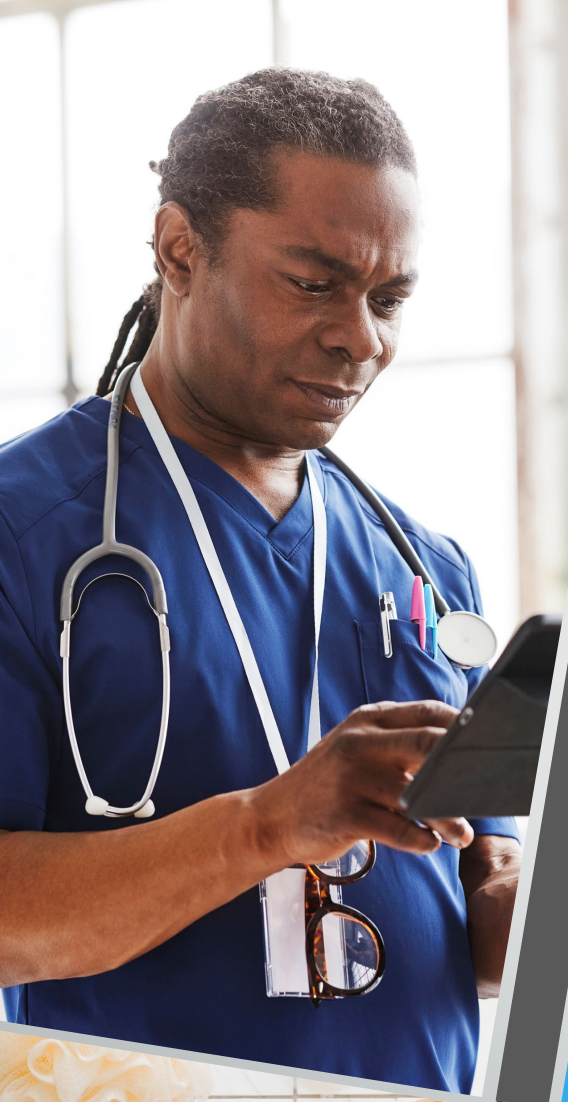
PREVENTION STRATEGIES

Appropriate use of skin care products	**Consistent, structed skin care regimen**
Education on the management of IAD - ongoing	**Select products based on ingredient content both active and inactive; humectants with emollients are NOT indicated for use on overhydrated or macerated skin as it will attract more moisture,**
Select pH-based products that approximate skin acid mantle balance (4.7-5.7)	No rinse gentle cleansers preferred over scrubbing techniques and towel drying; consider disposable cloths – pat dry as needed
Cleanser-protectant combination product (1-step procedure) results in less nursing time , decreased costs and improved patient comfort	Banharak, Panpanit et al 2021; Lim & Carville 2019; Beeckman et al 2015; Doughty, Junkin et al 2012

PREVENTION STRATEGIES

- Repositioning to increase air flow and decrease area of irritation especially in adults
- Review nutritional status and supplement as needed; RD referral
- Check for patient sensitivity or allergy to product ingredients before use
- Maintain topical moisture barrier on intact skin in diaper area; films, creams, ointments, zinc-based creams, or carboxymethly cellulose (CMC) or pectin-based powders
- Disposal diapers promote more absorption and wick away moisture in comparison to cloth diapers

Banharak, Panpanit et al 2021; Lim & Carville 2019; Beeckman et al 2015; Doughty, Junkin et al 2012



PREVENTION STRATEGIES

- Moisturizing product or combination with emollient best for intact skin
- Cleanse immediately or as soon as possible after each incontinent episode
- Only use antifungal products when cutaneous fungal rash is present
- Use of invasive techniques to control incontinence is NOT the first choice; manage incontinence and consider CWOCN/CCCN, Urology, Gastroenterology or Colorectal referrals as needed
- Disposable basins when necessary; infection control issues have been linked to basin usage
- Avoid standard alkaline soaps & water as soaps increase pH and water alone can increase Transepidermal Water Loss (TEWL) which impairs skin barrier function
- Avoid occlusive garments/fabrics

Banharak, Panpanit et al 2021; Lim & Carville 2019; Beeckman et al 2015; Doughty, Junkin et al 2012

IAD TREATMENT

Cleansers

- Non-ionic – uncharged, less irritating than anionic surfactants
  - Polyethylene glycol (PEG)
  - Acyl-polygylcoside (APG)'Polysorbates
  - Octoxynois
- Anionic – negatively charged, high pH
  - Sodium lauryl sulfate (SLS)
  - Sodium laureth sulfate
  - Sodium stearate
- Amphoteric – positively charged, less irritating than anionic
  - Cocamida propyl betaine

- Contain surfactants to remove debris with minimum of force
- Contain more than 1 surfactant- uncharged is preferred
- Available as spray, liquid solution or lotion, impregnated cloths, or foams

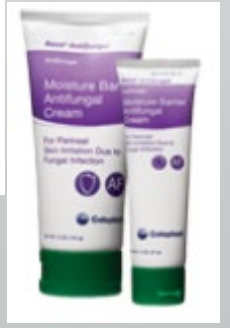
Beeckman et al 2015; Doughty Junkin et all 2012

IAD TREATMENT

Protectants/Barriers

- Petrolatum – common base for ointments; forms occlusive layer increasing skin hydration; can affect fluid uptake of absorbent products; usually transparent
- Zinc Oxide - white powder mixed with carrier to form an opaque cream, ointment or paste; difficult to remove; must remove to inspect skin
- Dimethicone – Silicone-based also called siloxane; non-occlusive; does not affect absorbency of incontinent products
- Acrylate terpolymer – forms a transparent film; does not require removal to allow skin inspection
- Cyanoacrylate monomers (Marathon) – forms transparent film that lasts 1-3 days; takes about 60 seconds to dry; need order from MD or licensed HCP

- Used to form a barrier between the stratum corneum and any moisture or irritant; also, promotes healing
- May be called skin protectant or moisture barrier



Wang, Ma et al 2023; Beeckman et al 2015; Doughty, Junkin et al 2012

IAD TREATMENT

Restore

- Additional step to maintain integrity of the skin by using leave-on skin care products that may contain emollients, ceramides or humectants (glycerin & urea); skin must be dry, and dermatitis resolved

Terminology

- Dimethicone – silicone-based product
- Emollient – softens & smooths by occlusion and filling in crevices between corneocytes
- Humectant – molecule that attracts and retains moisture; like glycerin, urea
- Moisturizer –leave on skin product that softens, smooths and hydrates the skin; typically contain emollients that replace intercellular lipids & slow water loss from the skin. Can be a stand-alone product or combination product
- Cream – mixture of oil, lipids and water
- Ointments – semi-solid usually with petrolatum
- Pastes – mixture of CMC/ointments so it adheres to denuded/wet skin
- Films – liquid polymer dissolved in a solvent that dries to a transparent coating on the skin

Beeckman et al 2015; Doughty, Junkin 2012

IDEAL SKIN CARE PRODUCT

- Proven to prevent or treat IAD
- Close to skin pH
- Low irritant/hypoallergenic
- No sting on application; fragrance free
- Easy application and removal
- Does not interfere with incontinence management products
- Compatible with other products
- Accepted by patients, family, caregivers & clinicians
- Saves time and is cost-effective
- Readily available
- Linked to structed skin care regimen
- Resolve dermatitis within 2 weeks

Banharak, Panpanit 2021; Beeckman et al 2015

SUMMARY

- Skin is the largest organ in the body with multiple functions
- IAD is damage to the epidermis and upper dermal layers with or without breaks in skin integrity – top-down injury; superficial or partial thickness injury – NO STAGE
- Skin tones can affect the presentation of erythema and lead to inaccurate mislabeling as pressure injuries
- Skin Assessment is critical in determining etiology and developing a care plan – if incontinence is not present then it is not IAD
  - What is the color, does it glisten
  - Where is the damage located
  - Does it blanch
  - Are the edges well defined or irregular
  - Is the urine/feces contained or controlled
- Use pH balanced products to cleanse, protect and restore the skin
- If unsure if IAD then provide pressure injury prevention strategies in conjunction with skin care regimen
- Failure to treat IAD appropriately and timely can result in IAD converting to PI

References

Aleemardani M, Trikic MZ, Green NH & Claeyssens F. (2021). The importance of mimicking dermal-epidermal junction for skin tissue engineering: A review. Bioengineering (Basel), Oct 20; 8(11):148. *Doi:10.3390/bioengineering8110148. PMID:34821714; PMCID: PMC8614934.*

Banharak S, Panpanit L, Patcharawan N, et al. (2021). Prevention and care for incontinence-associated dermatitis among older adults: A systematic review. Journal of Multidisciplinary Healthcare, 14:2983-3004.

Beeckman D, Campbell J, Campbell K, Chimentao E, et al (2015). Proceedings of the Global IAD Expert Panel. Incontinence-associated dermatitis moving prevention forward. Wounds International.

Berke, CT. (Nov/Dec 2022). Prevalence of friction skin injury on the buttocks and/or posterior thighs in an acute care setting. A quality improvement project. Journal of Wound Ostomy Continence Nursing, 49(6): 518-521.

Black J, Capasso V, Bliss D, Delmore B et al. (2023). Current perspectives on pressure injuries in persons with dark skin tones from the National Pressure Injury Advisory Panel. Advances in Skin & Wound Care, 36(9), 470-480.

Bliss D, McNichol L, Cartwright D, Gray M. (2022). Practice Alert New ICD-10 for MASD. Journal of Wound Ostomy Continence Nursing, 49(1):15-19.

Bliss D, Zehrer C, Savik K, et al. (2006). Incontinence-associated skin damage in nursing home residents: a secondary analysis of a prospective, multicenter study. Ostomy Wound Management, 52:46-55.

Borchert K, Bliss D, Savik K & Radosevich D. (2010). The incontinence-Associated Dermatitis and its Severity Instrument. Journal of Wound Ostomy Continence Nursing, 37(5), 527-535.

References

Brannon H & Gallagher C. (2023, May 19) Layers of skin and their function. Retrieved from *http://www.verywellhealth.com/skin-anatonomy_1068880*.

Doughty D, Junkin J, Kurz P et al. (May/Jun 2012). Incontinence-associated dermatitis Consensus statements, evidence-based guidelines for prevention and treatment, and current challenges. Journal Wound Ostomy Continence Nursing, 39(3):303-315.

Dissemond J, Assenheimer B, Gerber, V, Hinter M & et al. (Jan 2021). Moisture-associated skin damage (MASD): A best practice recommendation from Wund-D.A.CH. Journal der Deutschen Dermatologischen Gesellschaft. Posted at the Zurich Open Repository and Archive, University of Zurich ZORA URL: *https://doi.org/10.5167/uzh-211354*

Francis KF. (2023). Assessment and identification of skin disorders in skin of color An integrative Review. Journal of Wound Ostomy Continence Nursing, 50(2):107-114.

Gray M, Black J, Baharestani M, et al. (May/June 2011). Moisture-Associated skin damage. Journal of Wound Ostomy Continence Nursing, 38(3): 233-241.

Gray, M, Bliss D & McNicholas L. (Mar/Apr 2022). Moisture associated skin damage Expanding & updating practice based on the newest ICD-10_CD codes. Journal of Wound ostomy Continence Nursing, 49(2): 143-151.

Holroyd S (2021). Moisture=associated skin damage caused by incontinence. Journal of Community Nursing, 35(4): 58-64.

Kayser, Phipps L, VanGilder, & Lachenbruch. (2019). Examining prevalence and risk factors of incontinence-associated dermatitis using the International Pressure Ulcer Prevalence Survey. Journal of Wound Ostomy Continence Nursing, 46(4):285-290.

References

Koudounas S, Bader D, & Voegel J.(2020). Knowledge gaps in the etiology and pathophysiology of incontinence-associated dermatitis A Scoping Review. Journal of Wound Ostomy Continence Nursing, 47(4):388-395.

Larner J, Matar H, Goldman VS & Chilcott RP. (2015). Development of a cumulative irritation model for incontinence-associated dermatitis. Arch Dermatol Research, 307:39-48.

LeBlanc K, Beeckman D, Campbell K et al (2021). Best practice recommendations for prevention and management of Periwound skin complications. Wounds International.

Leyden JJ, Katz S, Stewart R, Kligman AM. (Dec 1977). Urinary ammonia and ammonia-producing microorganisms in infants with and without diaper dermatitis. Arch Dermatol.;113(12):1678-80. PMID: 596897.

Lim YS & Carville K. (2019). Prevention and management of incontinence-associated dermatitis in the pediatric population. Journal of Wound Ostomy Continence Nursing, 46(1): 30-37.

McNichol L, Ayello E, Phearman L et al. (2018). Incontinence-associated dermatitis: State of the science and knowledge translation. Advances in Skin Wound Care, 31(11): 502-513.

Wang J, Ma L, Zhou D & Yu B. (2023). Meta-analysis investigating the efficacy of liquid dressing and ostomy powder for the treatment of incontinence associated dermatitis. Advances in Skin & Wound Care, 36(9), 481-485.

Yousef, H, Alhajj M, Sharma S. Anatomy, Skin (Integument), Epidermis. [Updated 2022 Nov 14]. In: StatPearls [Internet] Treasure Island (FL): StatPearls Publishing: 2023 Jan-.Available from https://www.ncbi.nlm.nih.gov/books/NBK470464.

CE Contact Hour

Healthcare Professionals
CE Contact Hour Provided by:

Capital Nursing Education
California BRN Provider # 16028
capitalnursingeducation@gmail.com

CE contact hour will be issued via email directly from Capital Nursing Education within 2 weeks.

Please be sure to check your spam folder.

Certificate of Achievement

This is to certify that:

Name: John Doe
Address: 27911 Franklin Parkway
Valencia, CA 91355
License #: 0123456789

Has Successfully Completed

Webinar

Instructor:
Jane Doe

Facility: Webinar
Location: Sacramento, CA
Date: MM/DD/YYYY

Hours Awarded 1.0
Social Security Number

This document must be retained by the licensee for a period of four years after the course concludes. Do not send this to the State Board of Nursing or State Nurses Association unless requested to do so.

Kathleen J. Ellis
Continuing Education Coordinator
Capital Nursing Education, LLC

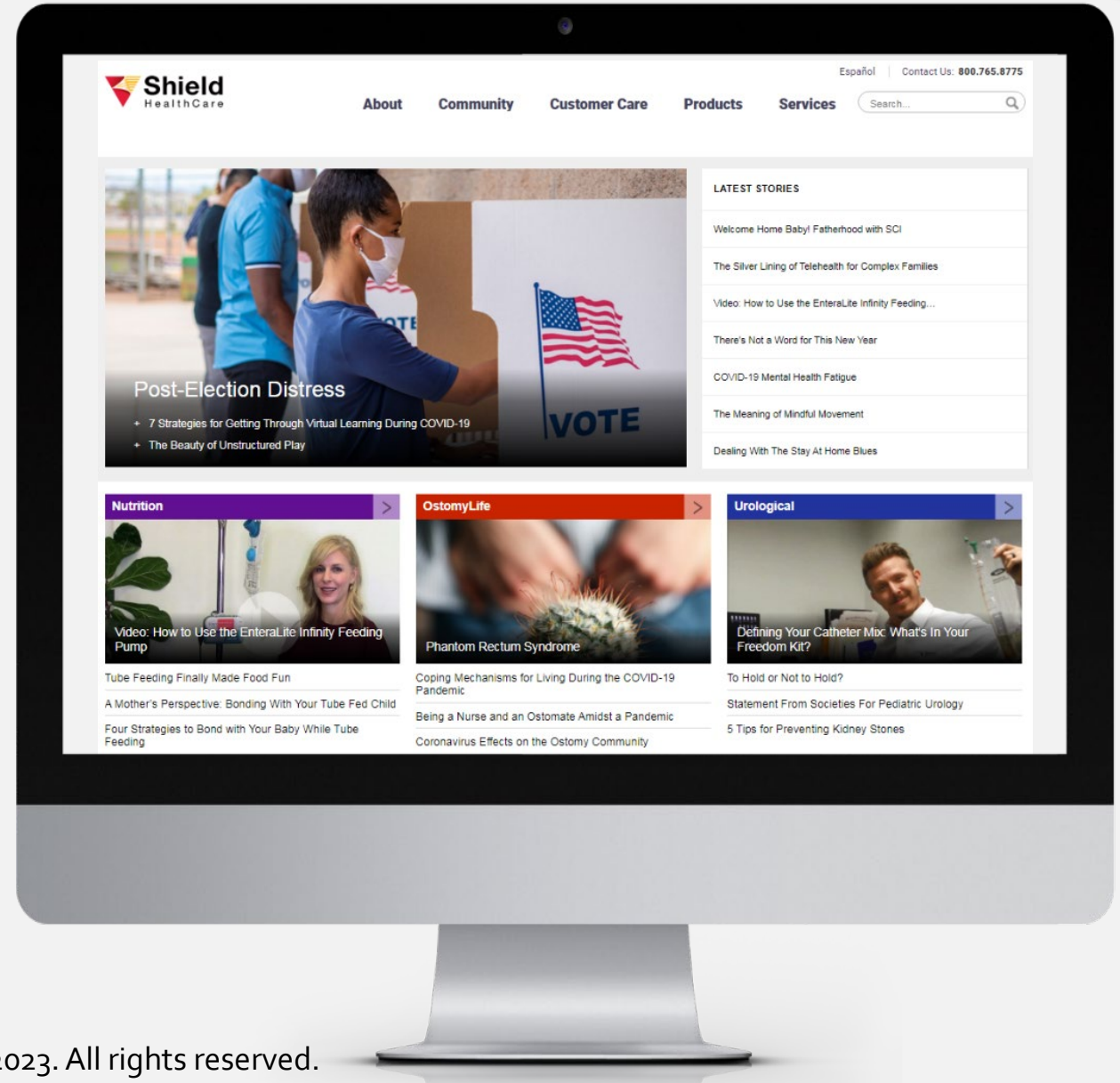
California Board of Registered Nursing Provider # CEP 16028

SHIELDHEALTHCARE.COM/COMMUNITY

ONLINE SUPPORT FOR PATIENTS & CLINICIANS

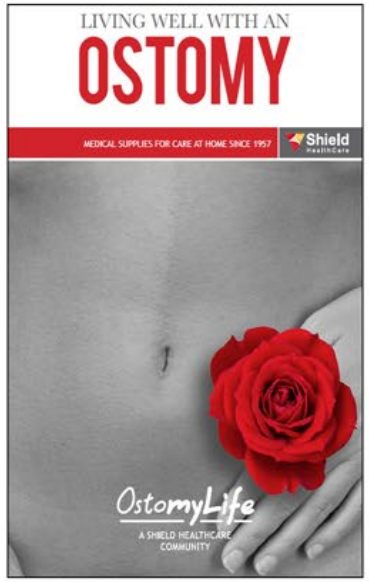
- Dx-based topics
  - Dx management
  - Lifestyle support
- Helpful articles
- How-to videos
- Caregiver support
- Live and recorded webinars
- Relevant healthcare news

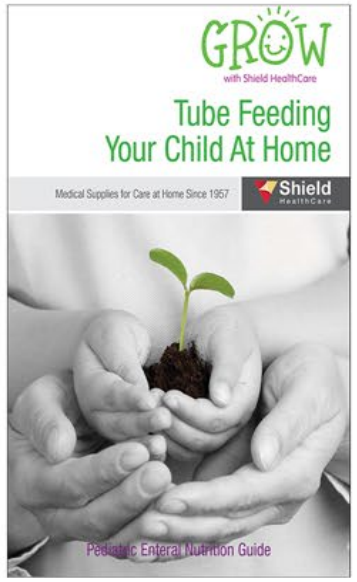
UPDATED REGULARLY

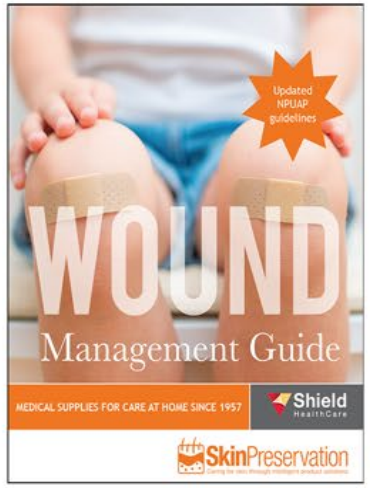


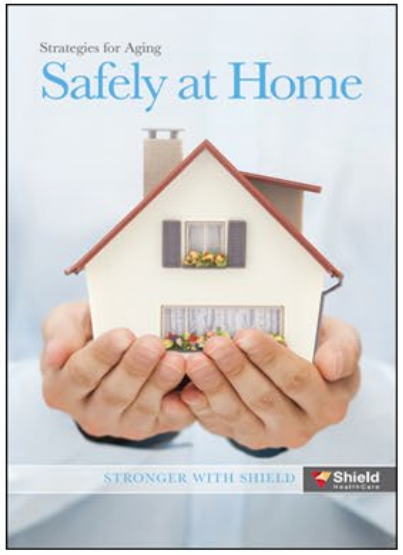
FREE EDUCATIONAL BOOKLET GUIDES

Patients, Family & Healthcare Professionals Can Request Free Guides Online:









SHIELDHEALTHCARE.COM/COMMUNITY

FOR MORE INFORMATION, OR TO ASK QUESTIONS ABOUT THE PRESENTATION, CONTACT:

Shield HealthCare
marketing@shieldhealthcare.com

Capital Nursing Education
capitalnursingeducation@gmail.com