

Across various geographic locations and demographic populations throughout the world, the presence of skin conditions are proliferating.¹⁻⁷ There are more than three-thousand known skin diagnoses that affect millions of individuals with causative factors ranging from age-related changes to environmental toxins.¹⁻⁷ As compared to other pathologies, skin-related conditions are the “fourth most common cause of human illness”⁸ with costs and prevalence rates equating or exceeding other conditions of societal concern, such as cardiovascular disease or diabetes.¹ In the United States (US), one in four people were examined by a physician for at least one skin disease in 2013, which totaled approximately eighty-five million individuals.¹⁻⁷

Despite the startling statistics, these values likely underestimate the prevalence of skin-related pathology, as most individuals refrain from seeking routine medical care for their skin due to a multitude of barriers.^{1,8} Specifically, barriers to seeking skin-related care entail patient-related scheduling constraints, limited dermatologist availability, and lack of patient knowledge and priority for partaking in an annual skin exam.^{1,8,9} In combination with barriers complicating evaluation and treatment strategies of skin conditions, social determinants of health predispose individuals to disparities and inequities regarding medical care for skin pathologies.

Often formed in graduate school, healthcare providers subconsciously develop biases and pre-conceived notions towards specific patient populations through hidden curriculums in their medical and allied healthcare programs.^{10,11} Specifically, hidden curriculums are “uncritical aspects of medical training that impact medical practice”^{10,11} In the context of skin, aspects of hidden curriculums are observed through the limited representation or lack of representation for various skin tones of racial and ethnic groups in textbooks, academic materials, and lectures.^{10,11} From exposures to hidden curriculums, the subconsciously developed biases and pre-conceived notions of healthcare providers undoubtedly contribute to disparities and inequities in care.¹⁰⁻¹²

Regarding dermatologic care, “patients of color are more likely to experience adverse dermatologic outcomes, present with advanced skin disease, and experience lower melanoma survival rates”^{12, 13,14} In response to the disparities and inequities, professional organizations have expanded to cater to more diverse patient populations. Although the American Academy of Dermatology (AAD) states it is the “largest, most influential, and representative dermatology group in the United States”¹⁵, the Skin of Color Society (SOCS) is an up-and-coming group designed to foster awareness for attending to the dermatologic needs of patients of color.^{15,16}

Apart from racial and ethnic influences, the aspect of age can influence care. Ageism, defined as “a negative perception of older adults based on their age alone”¹⁷, can impact patient-practitioner relationships among older adults and healthcare providers. The presence of ageist biases and pre-conceived notions of healthcare providers can lead to “low motivation, poor compliance, or poor prognosis”¹⁷ of older adults. Although initially mentioned in the context of racial and ethnic groups, hidden curriculums can also distort the perspectives and attitudes of healthcare students and practitioners towards older adults.¹⁸ Often, students and practitioners associate working with older adults as monotonous or infuriating with few providers pursuing careers in geriatrics, as treating “elderly patients with chronic illnesses is reported to be less attractive than curing younger patients with acute illnesses”¹⁹, among other reasons.¹⁷⁻²¹

In relation to dermatology, the elevated prevalence of skin pathology in the US is only exacerbated with aging. As compared to skin conditions being present in one of four individuals, the demarcation of age sixty-five provokes prevalence rates to approach one of two older adults.¹ Despite the exacerbated prevalence of skin-related conditions combined with a “rapidly ageing world population”²², dermatologists report barriers of time constraints and insufficient financial reimbursement that mainly contribute to the lack of priority in caring for older adults’ skin.²²

Aside from highlighting the prevalence of skin-related conditions and diseases as well as acknowledging the barriers to dermatologic care, it would be remiss to disregard foundational information on the anatomical structure and physiological function of skin necessary for fully understanding skin-related pathology. The integumentary system is notably one of the largest organs of the entire human body.²³ The system is mainly composed of the skin, also known as the integument, paired with other complementary structures consisting of blood vessels, nerve endings, oil glands, hair follicles, and sweat glands.^{17,23-26}

In relation to the anatomical structure, the skin is composed of two main layers including the epidermis and dermis, in which the epidermis is superficial to the dermis.^{17,23-26} The epidermis is stratified with multiple layers consisting of the stratum corneum, stratum lucidum, stratum granulosum, stratum spinosum, and stratum basale.^{25,26} Classified as the most superficial epidermal layer, the stratum corneum consists of twenty-five to thirty layers of flattened, dead keratinocytes organized vertically that are designed to shed.^{25,26} The stratum lucidum consists of three to five transparent layers of dead keratinocytes designed to provide hydration to the skin; however, this epidermal layer is solely present in areas of thickened skin, such as “the palms of the hands and soles of the feet”^{25,26}. The stratum granulosum consists of three to five layers of long, flat keratinocytes organized horizontally designed to undergo apoptosis, or programmed cell death, in preparation for moving into the stratum lucidum and stratum corneum layers.^{25,26} Ranging from five cells to twelve cells thick, the stratum spinosum consists of rounder, spikier cells designed to form intracellular bridges via desmosomes to enhance the “tensile strength and flexibility of the skin”^{25,26}. Categorized as the deepest epidermal layer, the stratum basale is composed of “a single row of columnar keratinocytes”²⁵ designed for cell division.²⁶ As this epidermal layer covers the underlying dermal layer, this layer receives most of the nutrients.^{25,26}

As the epidermal layers of the skin are mostly avascular and aneural, blood vessels and nerves of the underlying dermis provide nutrients to the epidermis.²⁵ Since the stratum basale is the deepest epidermal layer adjacent to the dermis, it collects the most nutrients compared to the other epidermal layers migrating away from the dermis towards the skin's surface.²⁵ Among the various layers of the epidermis, there are four main types of cells including keratinocytes, melanocytes, Langerhans cells, and Merkel cells that synthesize protein, pigment skin, regulate immune response, and modulate tactile sensation, respectively.^{25,26}

Aside from the epidermis, the underlying dermis is “responsible for providing nutrients and physical support to the epidermis”²⁵ via complementary structures of “lymph vessels, nerve endings, hair follicles, and glands”²⁵. The dermis is stratified with two main layers including the reticular and papillary layers, in which the reticular layer contains connective tissue comprised of collagen and elastic fibers whereas the papillary layer contains nerves and capillaries.²⁵ Apart from the layers, there are four types of dermal glands including eccrine, apocrine, sebaceous, and ceruminous glands.^{25,26} Albeit different in “structure, location, and type of secretion”²⁵, the glands produce sweat-like secretions for regulation of temperature, hormones, and lubrication.²⁵

Below the dermis, there is a subcutaneous layer of tissues subdivided into superficial fascia and deep fascia.²³ Albeit commonly, yet inaccurately, categorized as anatomical layers of the skin, the superficial fascia and deep fascia are adjacent, yet distinct, tissues working with the skin.^{23,25} The superficial fascia is comprised of loose connective tissue and adipose tissue that contains “the deepest parts of the sweat glands, the blood and lymphatic vessels, and cutaneous nerves”²³. The deep fascia is comprised of dense connective tissue that “envelops most of the body deep to the skin and subcutaneous tissue”²³, such as neurovascular bundles or muscular compartments. Appendix A highlights the epidermis, the dermis, and the subcutaneous layer.²⁵

Regarding functions of the integumentary system, the skin primarily “forms a protective covering for the body”²³ that simultaneously balances fluid and electrolyte permeability.²⁵ Along with protection, the skin restrains deeper organs and tissues, synthesizes and stores vitamin D, indicates infection and/or disease, permits and/or limits joint movement, modulates temperature, and assists with sensation.^{23,25} In relation to the synthesis and storage of vitamin D, this is critical for absorbing calcium and phosphorus necessary for bones.²⁵ The modulation of temperature is accomplished through “thermoregulatory mechanisms occurring in the skin”²⁵ via “insulation, sweating, and control of blood flow”²⁵. The skin assists with sensation by responding to stimuli in the external environment including temperature, pain, touch, vibration, and pressure.^{23,25}

While considering the anatomical structure and physiological function of the skin, there are normal, age-related changes that the integumentary system can undergo throughout aging. In relation to the epidermis, all epidermal layers thin significantly pre-disposing the aging skin to an abundance of dangers, ranging from increased skin fragility to reduced nutrient transfer.^{17,26} As the most superficial epidermal layer, the stratum corneum, separates the body from the external environment, the epidermal thinning leads to slower desquamation rates risking extreme wear and tear as well as reduced wound healing on the skin.^{17,26} Furthermore, there are decreased numbers of Langerhans cells in the epidermal layers yielding decreased regulation of immune responses risking higher exposures to infection and disease.^{17,26} At the junction of the epidermis and dermis, there is significant thinning of the interface primarily responsible for resistance to shearing forces; therefore, the area of interface becomes more prone to “shear-related insults to the skin”^{17,26}. In the dermis, there is significant thinning yielding reductions in complementary structures including blood vessels, nerve endings, hair follicles, and glands.^{17,23-26} The reticular layer of the dermis also undergoes collagen fiber laxity paired with elastic fiber rigidity causing

wrinkled skin.^{17,25} Within the subcutaneous layer of tissues, there is significant thinning leading to decreased “ability to provide mechanical protection and thermal insulation”¹⁷.

Despite the normal, age-related changes of the integumentary system, the presence of integumentary-related impairments can occur from excessive, extrinsic stressors combined with several, co-morbid health conditions in addition to the normal, age-related changes.^{17,26} Although there are an abundance of skin conditions that older adults can acquire, common conditions entail skin tears, decubitus ulcers, dermatitis, and skin pre-malignancy or malignancy.^{17,22,25} Of the conditions, it is crucial to be aware of the condition-specific pathophysiology, clinical presentation, and management by the physical therapist (PT) and the multi-disciplinary team.

Across all patient populations and age groups, skin tears most frequently occur in older adults aged sixty-five years and over.¹⁷ Of all the older adults residing in nursing homes and continuing care facilities, this patient population sustains approximately 1.5 million skin tears per year.^{17,27-29} Regarding the condition-specific pathophysiology, skin tears occur from “traumatic separation of the epidermis and dermis”¹⁷ via harsh mechanical forces from “shear, friction, or blunt trauma”³⁰. Often, skin tears are due to removal of tapes and adhesives or activities that impose shear forces, such as slide board transfers or bumping into objects.^{17,30} Skin tears are most commonly categorized on the Payne-Martin Skin Tear Classification System.^{17,29,31,32} The three main classifications of skin tears involve category one, category two, and category three injuries involving skin tear devoid of tissue loss, skin tear with partial tissue loss, and skin tear with full tissue loss, respectively.^{17,29,31,32} Appendix B highlights the Payne-Martin Skin Tear Classification System.^{17,29,31,32}

Regarding clinical presentation, skin tears are largely acute injuries; however, improper wound management can lead to injury chronicity and/or secondary wound infections.³⁰ Common

skin tear locations involve arms, hands, and lower extremities.^{17,28,30} In the area of injury, a skin tear can present clinically as an open wound characterized by significant bruising with or without an intact skin flap overlaying the area of injury.^{17,30,33,34} Additional risk factors for inducing skin tears include desiccated skin, dehydration, poor nutrition, impaired mobility, visual impairments, cognitive involvement, medications that alter the thickness of skin (i.e.- steroids, anticoagulants), and history of prior skin tears.³⁰ Appendix C highlights the clinical presentation of skin tear.^{33,34}

In relation to managing the condition of skin tears, there are various interventions that can be implemented by the PT and the remainder of the multi-disciplinary team. The PT can engage in effective practitioner-patient communication on the importance of protecting the older adult's skin from additional trauma.¹⁷ Older adults should be educated on avoiding alcohol-based soaps and lotions, applying lotion twice per day, integrating appropriate clothing and footwear, and modifying the surrounding environment.^{17,35,36} Specifically, the clothing should be loose in nature designed to sufficiently covers the upper extremities (UE) and lower extremities (LE) paired with non-skid footwear.¹⁷ The older adult's surrounding environment can be modified by "eliminating superfluous furniture, providing adequate lighting (including night-lights), and padding edges on furniture, wheel-chairs, and bedrails"¹⁷. Apart from practitioner-patient education, the PT can engage in effective practitioner-practitioner communication with other members of the multi-disciplinary team. The most pertinent topics for practitioner-practitioner communication involve appropriate transfer techniques as well as wound dressing methods.¹⁷ Specifically, transfers should eradicate any techniques that promote friction or shearing while dressings should utilize gauze or stockinette versus adhesives or tape.¹⁷

Decubitus ulcers, also known as pressure ulcers or bed sores, are prevalent among the geriatric population across various settings with 3.5% to 29% in acute care, 2.4% to 26% in long-

term care, and 10% to 12.9% in home health care.^{17,28,37,38} Regarding the condition-specific pathophysiology, decubitus ulcers occur via frictional forces, shearing forces, or prolonged and repeated pressure on “skin, soft tissue, muscle and/or bone”²⁵ causing malnourishment, ischemia, hypoxia, and/or necrosis of the compressed structures.^{17,25} In relation to classifying ulcers, the National Pressure Ulcer Advisory Panel categorizes decubitus ulcers into six main stages of suspected deep tissue injury, stage I pressure ulcer, stage II pressure ulcer, stage III pressure ulcer, stage IV pressure ulcer, and unstageable pressure ulcer.^{17,25} Appendix D highlights the National Pressure Ulcer Advisory Panel: Pressure Ulcer Stages.^{17,25}

In relation to clinical presentation, decubitus ulcers are either closed wounds with discoloration indicative of a deep tissue injury or open wounds with or without intact skin overlaying the area of injury.^{17,25} The open wounds can affect the epidermal skin layers, dermal skin layers, subcutaneous fat layers, muscle layer, tendon layer, or bone layer all depending on the severity of the ulcer.¹⁷ The ulcers most commonly occur on bony prominences; however, they can appear on any bodily location exposed to abnormal forces or pressure.^{17,25} Risk factors pre-disposing older adults to decubitus ulcers consist of scenarios of abnormal and prolonged pressure, immobility, compromised sensation, malnutrition, cognitive impairment, exposure to moisture, and incontinence of the bowel and/or bladder.¹⁷ Appendix E highlights pressure ulcers in accordance with the National Pressure Ulcer Advisory Panel: Pressure Ulcer Stages.^{17,25}

As evidenced by limitations with Medicare reimbursement and integrations of fines for hospital-acquired or facility-acquired ulcers, decubitus ulcers are completely avoidable; thus, the implementation of interventions from the PT and the remainder of the multi-disciplinary team for managing the condition are indispensable.¹⁷ The PT, along with the multi-disciplinary team, can integrate mild cleansing agents for bathing and grooming, optimize nutritional habits, develop a

bowel and bladder program, maximize mobility and physical activity levels, avoid massage on bony protuberances, re-organize transfer techniques, alternate positioning schedules, optimize environmental surroundings, and educate family members and care partners.¹⁷ Other approaches for reducing decubitus ulcers entail incorporation of standardized initiatives, such as the SSKIN protocol.³⁹ The SSKIN protocol is comprised of several strategies and techniques for attempting to prevent decubitus ulcers including surface, skin inspection, keeping your patient moving, incontinence and moisture, and nutrition and hydration.³⁹ Among the most recent, evidence-based literature, additional interventions involve adapting furniture choices as well as utilizing therapeutic modalities. Regarding furniture choices, the integration of static air mattresses and alternating pressure air mattresses in hospitals, nursing homes, and long-term care facilities seem to be most effective for preventing decubitus ulcers in older adults, as compared to viscoelastic foam mattresses.^{40,41} Apart from furniture choices, the use of high-voltage electrical stimulation, ultrasound, and negative pressure wound therapy are the most beneficial therapeutic modalities for treating decubitus ulcers in the geriatric population.⁴²⁻⁴⁴

In general, dermatitis is a condition that involves inflammation and irritation of this skin; however, dermatitis can present in many forms and be due to various causes.⁴⁵ Within the larger category of dermatitis, there are clinical variations of atopic dermatitis and contact dermatitis.^{46,47} Atopic dermatitis, or eczema, is chronic inflammation and irritation of the skin with or without periods of exacerbation.⁴⁶ Contact dermatitis entails acute inflammation and irritation of the skin; however, improper care may cause chronicity.⁴⁷ Subtypes of contact dermatitis include allergen-induced and irritant-induced contact dermatitis.⁴⁷ Appendix F notes multiple types of dermatitis.

Regarding clinical presentation, generalized dermatitis appears as either “itchy, dry skin or a rash on swollen, reddened skin”⁴⁵ with or without skin breakdown, such as blistering or

flaking. Risk factors for generalized dermatitis involve age, presence of allergies, job-related demands, asthma, and pre-existing health conditions.⁴⁵ Specifically, job-related demands might involve varying amounts of exposure to different types of materials, metals, cleaning supplies, and various other items pre-disposing individuals to skin inflammation and irritation.⁴⁵ In relation to pre-existing health conditions, immunocompromised individuals are at higher risk of inflammation and infection, such as individuals with human immunodeficiency virus (HIV) and/or acquired immunodeficiency syndrome (AIDS).⁴⁵ The clinical presentation for atopic dermatitis, or eczema, involves red patches of dry skin; however, additional signs and symptoms may include severe itchiness, interspersed brownish-gray areas within the red patches, raised bumps or nodules filled with fluid, appearance of scale-like skin, and swelling of the skin.⁴⁶ Risk factors for atopic dermatitis involve personal or family history of eczema.⁴⁶

Contact dermatitis involves a red rash with additional, potential signs and symptoms of severe itching, appearance of scale-like skin, raised bumps or nodules, and swelling.⁴⁷ In older adults, contact dermatitis is often irritant-induced from urinary and/or fecal incontinence.⁴⁸⁻⁵¹ Risk factors for allergen-induced and/or irritant-induced contact dermatitis involve exposures to nickel, medications, personal hygiene items, plants, rubbing alcohol, fertilizers and/or pesticides, laundry detergents, urine and/or feces, and airborne substances.⁴⁷ For both subtypes of contact dermatitis, other risk factors include choice of occupation, such as cosmetologists, construction workers, hairdressers, and professional cleaners. With any of the types of dermatitis, individuals can complicate the baseline clinical presentation by excessively scratching the areas leading to open sores or secondary infections.⁴⁵⁻⁴⁷

In relation to managing different types of dermatitis, there are various interventions that can be implemented by the PT and the remainder of the multi-disciplinary team. Of all the

potential interventions, effective practitioner-patient education is advantageous for addressing dermatitis. For all types of dermatitis, the patient should be educated on limiting excessive periods of bathing that may pre-dispose skin to drying out, avoiding harsh chemicals in soaps and cleansers, integrating gentle drying techniques post-bathing, and engaging in regular periods of moisturizing the skin with lotions.^{45,48} Specific, additional management strategies for atopic dermatitis involve identifying and eliminating any exacerbating triggers to the skin.⁴⁶ Specific, additional management strategies for contact dermatitis entail avoiding irritants and allergens, using protective clothing/garments, applying protective barrier creams, integrating bladder and bowel schedules to avoid incontinence, and being cautious around household animals.⁴⁷⁻⁵¹

The presence of skin pre-malignancy or malignancy, also recognized as skin pre-cancer or cancer, is extremely prevalent in older adults.¹⁷ Of all types of skin pre-malignancy or malignancy, the most common forms are basal cell carcinoma, squamous cell carcinoma, and melanoma.¹⁷ The condition-specific pathophysiology for all types of skin pre-malignancy or malignancy involves uncontrolled proliferation of abnormal cells of the integument.^{17,24,52-54} Apart from the condition-specific pathophysiology, the clinical presentation is dependent on the specific type of skin pre-malignancy or malignancy.⁵²⁻⁵⁴ Basal cell carcinomas either present as skin-colored, pearl-like nodules or generalized pink/brown patches of skin occurring anywhere on the body from excessive exposures to sunlight or tanning beds.⁵²⁻⁵⁴ Squamous cell carcinomas can present anywhere on the body as a “red firm bump, scaly patch, or a sore that heals and then re-opens”^{52, 53,54} Melanomas, often the most serious and most deadly form of skin cancer, either develop in an already existing mole or form a new dark brown spot.⁵²⁻⁵⁴ Risk factors for skin pre-malignancy or malignancy include “men and women older than age 65 years, patients with atypical moles, patients with more than 50 moles, family history of skin cancer, and a history of

severe sunburns”¹⁷. Additional risk factors consist of having fair skin, experiencing excessive sun exposure, demonstrating a personal history of skin cancer, having a weakened immune system, and experiencing excessive exposures to radiation or chemical substances.⁵³ Appendix G highlights basal cell carcinoma, squamous cell carcinoma, and melanoma.^{17,52-54}

In relation to managing the condition of skin pre-malignancy or malignancy, there are various interventions that can be implemented by the PT and the multi-disciplinary team. The component of effective practitioner-patient education is necessary for early recognition and treatment of skin pre-malignancy or malignancy. Specifically, practitioner-patient education should focus on enhancing patient self-management for early recognition through integration of mnemonic devices to appropriately recognize suspicious spots on the skin that could indicate skin pre-malignancy or malignancy.¹⁷ The ABCDE mnemonic is the most common, which entails asymmetry (A), border (B), color (C), diameter (D), and evolving (E).^{17,52} Appendix H highlights the ABCDE mnemonic.^{17,52-54} Other treatment interventions involve avoiding sun exposure during the day’s peak between 10 a.m. and 4 p.m., wearing sunscreen and sun-protective clothing regularly, avoiding outdoor tanning and tanning bed exposures, recognizing sun-sensitive medications, and self-inspecting all areas of the skin regularly.⁵²⁻⁵⁴

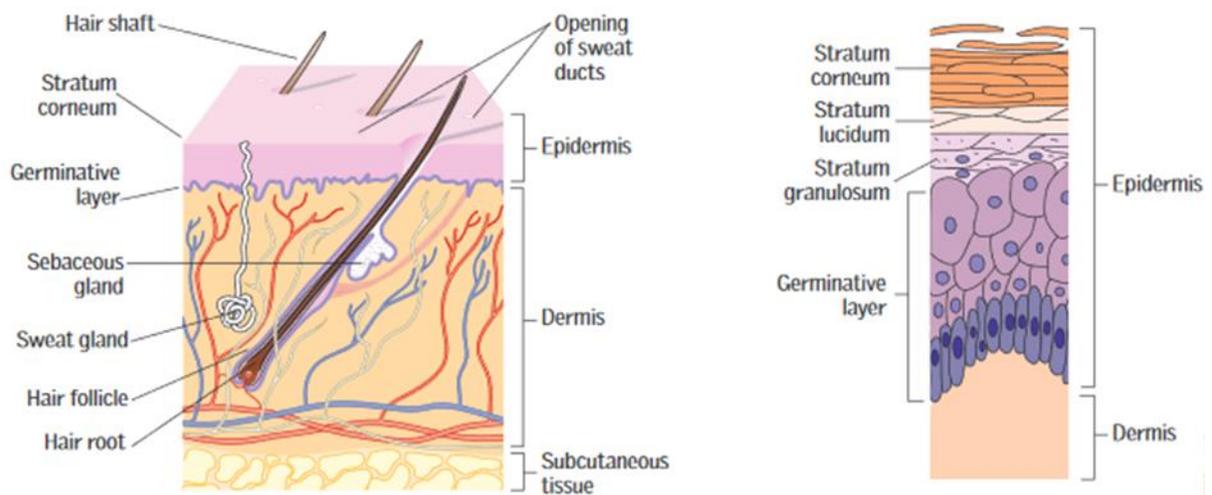
In conclusion, skin-related pathologies, conditions, and diseases are overwhelmingly prevalent in the US across a multitude of patient populations. Of all potential patient populations, older adults categorized within the geriatric population seem to be especially pre-disposed to skin-related pathologies, conditions, and diseases secondary to the normal, age-related changes of the integumentary system combined with excessive, extrinsic stressors and several, co-morbid health conditions. In addition to these components pre-disposing older adults to skin conditions, there are barriers to accessing routine, dermatologic medical care as well as healthcare disparities

and inequities if that care is successfully accessed. As evidenced by the abundance of challenges older adults face in relation to accessing and receiving routine, dermatologic medical care for their skin, older adults typically have less successful prognostic outcomes. Based on this information, it is indispensable to be sufficiently aware of the most common skin conditions older adults experience including skin tears, decubitus ulcers, dermatitis, and skin pre-malignancy or malignancy. Furthermore, it is essential to be aware of the pathophysiology of the condition, clinical presentation of the condition, and professional management of the condition by the physical therapist (PT) and the multi-disciplinary team.

Appendices

Appendix A – Anatomy of the Skin

Categorized as the main component of the integumentary system, the skin consists of the epidermis and dermis.^{23,25} Within the epidermis and dermis, there are various layers designed to have different functions.^{23,25} Below the dermis, there is a subcutaneous layer that is subdivided into superficial fascia and deep fascia.^{23,25} Reprinted from McLafferty et al. (2012).²⁵



Appendix B – Payne-Martin Skin Tear Classification System

The Payne-Martin Skin Tear Classification System denotes skin tears based on the category, amount of tissue loss, and clinical presentation.^{17,29,31,32} Reprinted from Guccione et al. (2012).¹⁷

| Category | Amount of Tissue Loss | Description |
|-----------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I | Skin tear without tissue loss | Linear type (epidermis and dermis layers separated in an incision-like lesion) Flap type (an epidermal flap that covers the dermis, and wound edges are within 1 mm width) of separation |
| II | Partial tissue loss | Scant tissue loss: < 25% epidermal flap lost Moderate to large tissue loss: > 25% epidermal flap lost |
| III | Skin tears with complete tissue loss | Epidermal flap completely gone |

Appendix C – Clinical Presentation of Skin Tears

This picture depicts the clinical appearance of a skin tear. Reprinted from Hersh et al. (2019).^{33,34}



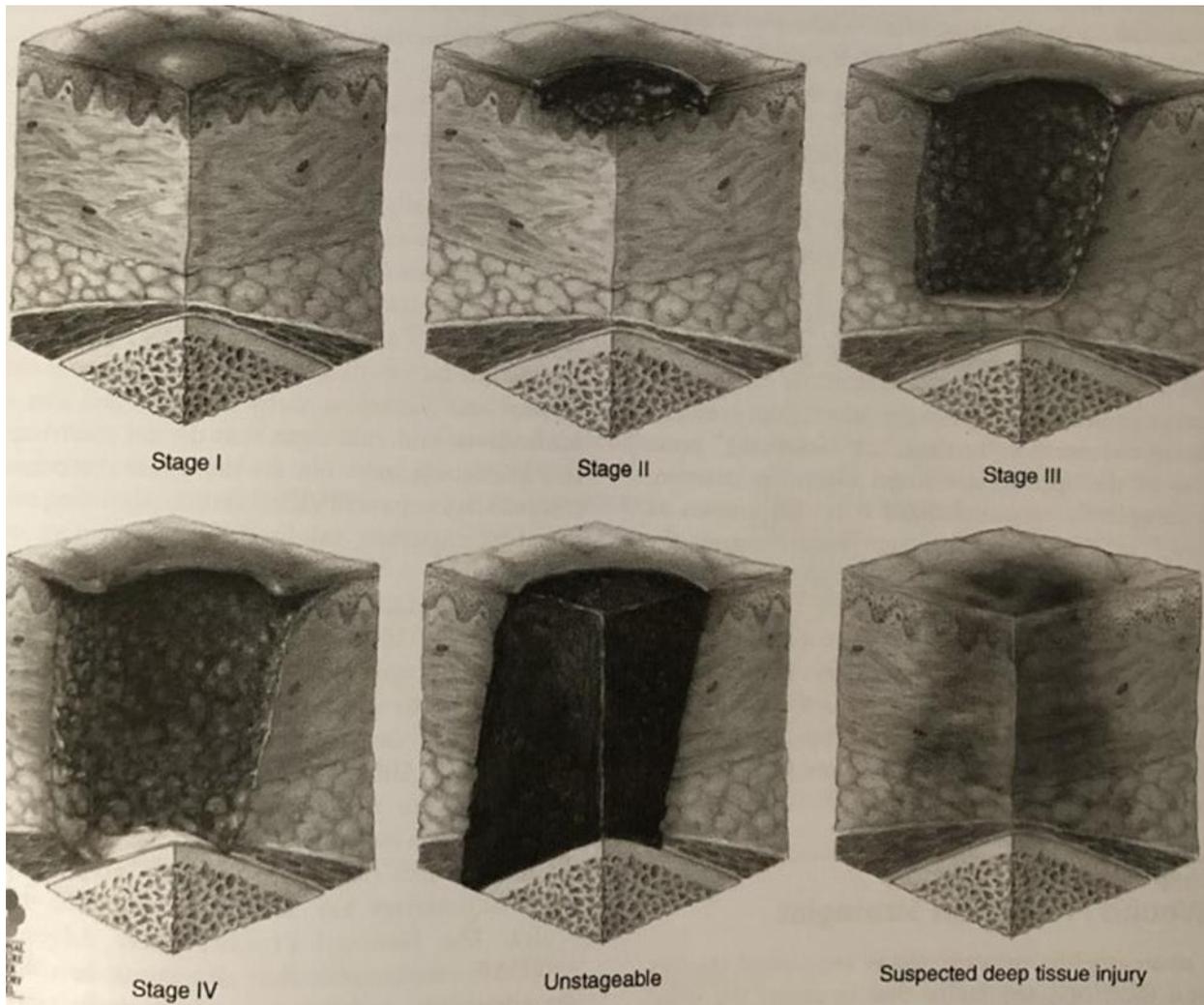
Appendix D – National Pressure Ulcer Advisory Panel: Pressure Ulcer Stages

The National Pressure Ulcer Advisory Panel: Pressure Ulcer Stages classifies decubitus ulcers based on the stage and clinical presentation.^{17,25} Reprinted from Guccione et al. (2012).¹⁷

| Stage | Description |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suspected Deep Tissue Injury | Purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer, or cooler as compared to adjacent tissue. |
| Stage I | Intact skin with nonblanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area. |
| Stage II | Partial-thickness loss of dermis presenting as a shallow open ulcer with a red-pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled blister. |
| Stage III | Full-thickness tissue loss. Subcutaneous fat may be visible but bone, tendon, or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling. |
| Stage IV | Full-thickness tissue loss with exposed bone, tendon, or muscle. Slough or eschar may be present on some parts of the wound bed. Often include undermining and tunneling. |
| Unstageable | Full-thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green, or brown) and/or eschar (tan, brown, or black) in the wound bed. |

Appendix E – Clinical Presentation of Decubitus Ulcers

This picture depicts the clinical appearance of the stages of a decubitus ulcer. Reprinted from Guccione et al. (2012).¹⁷



Appendix F – Clinical Presentation of Dermatitis

This picture highlights atopic dermatitis. Reprinted from MayoClinic (2020).⁴⁶



This picture highlights contact dermatitis. Reprinted from MayoClinic (2020).⁴⁷



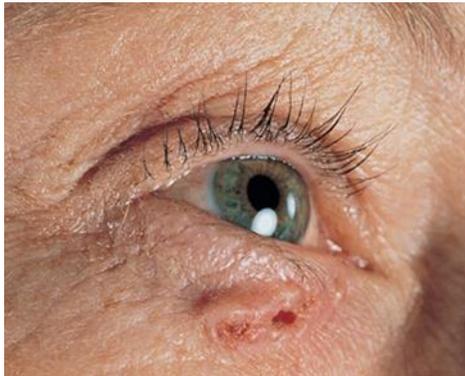
Appendix G – Clinical Presentation of Basal Cell Carcinoma, Squamous Cell Carcinoma, and Melanoma

Basal Cell Carcinoma

This picture highlights basal cell carcinoma. Reprinted from American Academy of Dermatology (AAD) Association (2020).⁵²



This picture highlights basal cell carcinoma. Reprinted from Mayo Clinic (2019).⁵³



Squamous Cell Carcinoma

This picture highlights squamous cell carcinoma. Reprinted from American Academy of Dermatology (AAD) Association (2020).⁵²



This picture highlights squamous cell carcinoma. Reprinted from Mayo Clinic (2019).⁵³



Melanoma

This picture highlights melanoma. Reprinted from American Academy of Dermatology (AAD) Association (2020).⁵²



This picture highlights melanoma. Reprinted from Mayo Clinic (2019).⁵³



Appendix H – Asymmetry (A), Border (B), Color (C), Diameter (D), and Evolving (E)

Mnemonic



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