

## MODULE V: NEONATAL AND PEDIATRIC WOUND CARE: BEST PRACTICES FOR OUR SMALLEST PATIENTS

**Acute pain** – see nociceptive pain; Pain that begins quickly but lasts a short or definitive time.

**Adult skin** – quality is age-related: decreased dermal thickness & epidermal regeneration.

**Autolysis** - disintegration or liquefaction of tissue or of cells by the body's own mechanism, such as leukocytes and enzymes.

**Childhood** - starts at 1 year of age and extends until teenage years of 13.

**Chronic pain** -A persistent state of pain that lasts for an extended period of time.

**Collagen** – major structural protein found in the dermis and is secreted by dermal cells; main protein of connective tissue; makes up to 25%-35% of the whole body's protein content.

**Cyclic acute pain** -Periodic pain that recurs due to repeated treatments or interventions.

**Dermal** – related to skin or dermis; synonym is “integumentary”.

**Dermal-Epidermal Junction** – the area that separates the epidermis from the dermis; also referred to as the basement membrane zone.

**Dermis** – inner layer of the skin that lies under the epidermis; contains blood vessels, lymph vessels, hair follicles, glands and nerves.

**Dermatitis** – dermatological condition, inflammation of the skin.

**Desiccate** – to dry out.

**Dressings** – Materials applied to a wound for protection, absorption and drainage:

- Hydrogel dressing- glycerin, saline or water-based dressings
- Gauze dressing -usually made of cotton or synthetic that is absorptive and permeable to water, water vapor, and oxygen. The gauze may be impregnated with sodium chloride, petrolatum, antiseptics, or other agents.
- Hydrocolloid dressing - formulations of elastomeric, adhesive, and gelling agents. Semi-occlusive and impermeable to fluids and bacteria.
- Polyurethane film dressing- semi-permeable, transparent and non-absorptive, polymer-based adhesive dressing.
- Foam dressing- cellulose or polyurethane dressing that may be impregnated or coated with other material and has some absorptive properties. May have adhesive or soft silicon borders or be non-bordered.
- Composite dressing-a non-adherent contact layer covered with an absorbent material and water-proof backing.
- Alginate dressing – highly absorbent, biodegradable dressing derived from seaweed
- Hydrofiber dressing-highly absorbent, with gelling properties derived from carboxymethylcellulose.
- Contact layer – applied next to the wound bed to protect from trauma; some have absorptive properties and are coated with soft silicone.
- Soft Silicon dressing- unique material that does not adhere to the wound because it does not contain traditional adhesive; Available in many forms, such as a contact layer, absorptive foams, or impregnated dressings.

**Edema** – presence of abnormally large amounts of fluid in the interstitial space.

**Elastin** – protein found in the dermis; provides the skin's elastic recoil.

**Epidermis** – outermost layer of the skin.

**Epidermolysis bullosa (EB)** – genetic disorder characterized by skin and mucosal blistering. Three types: simplex, junctional, and dystrophic.

**Epithelial migration** – the movement of epithelial cells across the wound bed in the resurfacing or repair process.

**Epithelial stripping** – (skin stripping) the remove of the epidermis by mechanical means; denude.

**Epithelialization** - regeneration of the epidermis across a wound surface.

**Exudate** – any fluid that has been extruded from a tissue or its capillaries, such as fluid, cells, or cellular debris, which has escaped from blood vessels and has been deposited in tissue surfaces.

**Extravasation** – leakage of a vesicant from the vein into surrounding soft tissue.

**Fetal skin** – gelatinous and extremely thin skin; produces scarless healing of wounds due to special dermal proteins (hyaluronan, collagen, transforming growth factor beta).

**Fibroblast**- a cell that is responsible for building collagen and granulation tissue.

**Fissure** –a groove or deep furrow in the skin.

**Friction** – the force of two surfaces moving across one another, such as the mechanical force exerted when skin is dragged across a coarse surface.

**Full-term skin** - full development (36-40 weeks gestational period): is relatively same as post-term skin.

**Granulation tissue** – pink to red, moist tissue that contains new blood vessels, collagen, fibroblasts, and inflammatory cells that fills an open, previously deep wound when it begins to heal.

**Growth factors** - proteins that stimulate the deposition of collagen and matrix formation in a wound; called cytokines, stimulate cell-activity.

**Infant** - 30 days to 1 year of age.

**Infant skin** - thinner skin & nails, collagen and elastin more rapidly produced than in adults.

**Infection** – the presence and growth of a microorganism that produces tissue damage.

**Keratinocytes** – cells in the skin that synthesize keratin; (the outer layer of cells) forms the epidermal barrier.

**Maceration** – over-hydration or softening of the stratum corneum.

**NPUAP** – National Pressure Ulcer Advisory Board, [www.npuap.org](http://www.npuap.org).

**Neonate/Newborn** - the time from delivery to 30 days delivery.

**Neonatal skin** - immature stratum corneum, far fewer cell layers, and increased permeability, especially first 2 weeks; fibroblasts present in greater numbers than in adults.

**Neuropathic pain** - Pain that originates from nervous system damage or malfunctioning nerve fibers; burning or electric shock-like.

**Nociceptive pain** - Pain arising from stimulation of pain receptors; a normal pain response to injury or tissue damage; acute pain

**Noncyclic pain** -Single episode pain, usually acute pain.

**Occiput** – the back part of the skull.

**Pain** - An unpleasant sensory or emotional experience associated with actual or potential tissue damage.

**Pediatric** – concerning the treatment of children.

**Peristomal** - the skin surrounding a stoma.

**Pressure ulcer** - is a localized injury to the skin and or underlying tissue, usually over a bony prominence that is a result of pressure, or pressure in combination with shear and friction.

**Pre-term skin (premature)** - before term or full development (before the normal 36-40 weeks gestational period; epidermis is thin and a weak protective barrier.

**Procedural pain** – pain that occurs due to a procedure and usually stops after procedure completed.

**Rete ridges or pegs** - fingerlike projections in the epidermis that interlock with upward projections of papillary dermis; helps anchor the epidermis to the dermis

**Sepsis** – the spread of an infection from its initial site to the blood stream.

**Shear** – the mechanical force that is parallel rather than perpendicular to the surface area of the body; trauma caused by tissue layers sliding against each other, results in disruption or angulation of blood vessels.

**Skin Tear** - result of friction alone or shearing and friction forces that separate the epidermis from the dermis or that separate both the epidermis and dermis from underlying structures.

**Stratum Corneum** – the outermost horny layer of the epidermis.

**Subcutaneous tissue** - superficial fascia, forms beneath the dermis; also referred to as hypodermis.

**Syndactylism** – a fusion of two or more digits.

**Toddler/Childhood skin** - fast epidermal turnover time, granulation tissue forms more quickly than in adults

**Wound bed** – uppermost viable tissue layer of the wound; may be covered with slough or eschar.

Sources:

Taber's Cyclopedic Medical Dictionary

Acute & Chronic Wounds: Bryant and Nix, 3rd edition

WOCN Clinical Practice guidelines: Volume 2

Wound Care Essentials: Practice Principles, Baranoski, Ayello, 2nd edition