

Glossary

Acute wounds are a recent or sudden injuries before undergoing normal wound healing process.

Adaptive immunity is immunity acquired because of activated immune cells following exposure to antigen(s) in an immunocompetent individual.

Adipose-derived stromal/stem cells are adherent multipotent cells harvested from adipose tissue, expressing classical mesenchymal markers and able to differentiate into cells of mesenchymal lineage (adipocytes, osteocytes and chondrocytes).

AlloDerm™ is an acellular matrix derived from human cadaver skin, used as a scaffold for tissue regeneration.

Allogeneic is derived from antigenically dissimilar individuals from the same species.

Allograft are grafts derived from antigenically different individuals of the same species.

Apligraf® is a bioengineered skin substitute to treat chronic wounds. Contains an epidermal layer of human keratinocytes and a dermal layer composed of human fibroblasts in bovine collagen scaffold.

Appendages are outgrowths from an organism's body such as limbs, nails and hair.

Autografts are transplanted tissues from the same individual.

Basement membrane zone is a dynamic interface between epidermis and dermis, consisting of structural proteins.

Biobrane® is a temporary covering to facilitate wound healing following skin injury (burns, tissue grafts) not involving the dermal layer.

Biomaterial scaffolds are natural or synthetic substances used either to replace or repair injured tissue/organs.

Bullous pemphigoid antigen is a member of plakin family of cytolinker proteins, connects keratin intermediate filaments and hemidesmosomes within keratinocytes to maintain structural integrity of the cell.

Burn wounds are distinct from other skin tissue injury involving hyper-permeability of capillaries leading to fluid leakage.

Chronic wounds are tissue injuries of the skin and soft tissues that fail to progress through the stages of a normal healing process.

Coagulation is a process in which a liquid is converted into a semi-solid or solid state.

Collagen IV is a member of the collagen superfamily of proteins present exclusively in the basement membrane of the skin to provide a scaffold for other proteins.

Collagen VII is a major component of the anchoring fibrils which provide stability to the dermal-epidermal adhesion.

Cultured epithelial autograft comprises keratinocytes harvested and cultured from a patient's own skin for use as skin grafts.

Cytoskeleton is a dynamic and complex network of filaments and tubules composed of actin, tubulin, laminas, keratins and other proteins providing support for cell shape and movement, cellular signaling and division of cells.

De-epidermalized dermis is acellular dermis derived from cadaver skin with the epidermis and all cellular components chemically removed.

Deep fibroreticularis is a layer of basement membrane in continuity with the connective tissue.

Deep partial skin loss is skin loss including the epidermis and papillary and reticular dermis caused by burns.

Dermagraft® is a sterile, cryopreserved, human fibroblast-derived dermal substitute generated by the culture of neonatal dermal fibroblasts onto a bioresorbable polyglactin mesh scaffold.

Dermal matrix is decellularized tissue processed to remove all epidermal and dermal cells to obtain a bioactive scaffold used as graft to repair and regenerate skin.

Dermal papillae is a population of mesenchymal stem cells that reside just under the hair follicle which stimulate hair follicle stem cells proliferation.

Dermal regeneration templates is a 2-layer skin regeneration system composed of collagen-glycosaminoglycan scaffold to serve as an extracellular matrix analog to induce sequential regeneration of dermis, basement membrane and epithelial layers.

Dermal templates are biologic or synthetic scaffolds that provide support for regeneration of complete skin layers.

Dermis a layer of skin between epidermis and subcutaneous tissue.

Dermo-epidermal junction is an area of tissue that joins the epidermis and epidermal layers of skin, composed of hemidesmosomes, anchoring filaments and fibrils and type VII collagen.

Desmosomes are protein complexes present in the cytoplasm of a cell, responsible for cell-cell interaction and maintaining the mechanical integrity of the tissue.

Diabetic foot ulcer is a full-thickness skin wound that occurs in diabetic patients due to peripheral neuropathy associated with diabetes.

Epidermal sheets are cultured epithelial cells prepared in sheets for use as skin grafts during the treatment of large area burns.

Epidermis is the outermost epithelium covering of the skin composed of multiple keratinocytes filled layers and an innermost melanocyte filled basal layer next to the dermis.

Extracellular matrix remodeling is qualitative and quantitative changes in extracellular matrix mediated by specific enzymes.

Fibroblasts are spindle shaped cells of mesenchymal origin that synthesize extracellular matrix proteins and collagen to provide tissue integrity.

Fibronectin is a high molecular weight glycoprotein found in the extracellular matrix playing a vital role in tissue repair and regeneration.

Fibroplasia is the formation of fibrous tissue during the wound healing process.

Foreign body response is inflammatory response to artificial organs, medical devices or biomaterial in a host.

Full-thickness grafts are skin grafts that consist of complete epidermis and dermis.

Full-thickness skin equivalents is a tissue engineered model of human skin generated as an alternative method to animal testing.

Full-thickness skin loss is the damage to both the epidermal and dermal layers of the skin exposing cutaneous tissue.

Gene therapy is a therapeutic strategy that focuses on genetic modification of cells to modify or manipulate gene expression to alter a biologic response.

Glycosaminoglycans are long and linear, negatively charged polysaccharides with repeating disaccharide units present in every mammalian tissue.

Good clinical practice is an international quality standard to provide a framework of principles that ensure safety of participants in a research study and validity and integrity of the collected data.

Green sheets are cultured epithelial cells prepared in sheets for use as skin grafts during the treatment of large area burns. The culture technique was developed by H. Green and colleagues in the 1970s.

Hayflick limit is the number of times a normal, somatic cell can multiply before cell division stops and the cell enters senescence.

Hemidesmosomes are specialized protein complexes present in epithelial cells that help in attachment of epithelial cells to the basement membrane.

Human mesenchymal stem cells are multipotent stromal cells that can differentiate into a variety of cell types, including osteoblasts, chondrocytes, myocytes and adipocytes

Immunological rejection is an organism's reaction aimed to destroy the transplanted organ or tissue.

Induced pluripotent stem cells are a type of pluripotent stem cells that can be generated directly from somatic cells

Innate immunity is one of the two main immunity strategies found in vertebrates, consists of physical, chemical and cellular defenses against foreign antigen.

Integra® is a double-layer dermis regeneration complex. Acting as the skin's epidermis and a scaffold for dermal skin cell regeneration.

Intermediate densa is an electron-dense component of the basement membrane zone between the epidermis and dermis of the skin, consists of type IV collagen, anchoring fibrils made of type VII collagen, and dermal microfibrils.

Keraheal™ is grafting rate enhancer composed of cultured human epidermal keratinocytes.

Keratinocytes are the primary type of cells found in the epidermis.

Keratins – Intermediate filament proteins of epithelia containing molecular diversity to make up scales, hair, nails, feathers, horns, claws, etc.

Lamellar (Pacinian) corpuscles – nerve endings in the skin that function as rapidly adapting, low-threshold mechanoreceptor sensitive to vibration and pressure.

Laminin – Protein network in the basement membrane which provides cell and tissue support and acts as a platform for complex signaling.

Langerhans cells – Macrophages of the skin

Lucida is an approximately 40-nanometre wide electron-lucent zone between the plasma membrane of the basal cells and the lamina densa.

Melanocytes are melanin-producing neural crest-derived cells located among various cell types and primarily responsible for skin color.

Merkle cells are vital mechanoreceptors for light touch sensation.

Niche is a microenvironment within a specific anatomic location responsible for cell fate regulation.

Papillary dermis is the uppermost layer of the dermis, composed of fine and freely arranged collagen fibers.

Pressure ulcers are traumas to the skin and underlying tissue caused by prolonged pressure on the skin.

Proteoglycans are proteins that have one or more covalently attached long linear polysaccharides.

Recell® is a device that enables skin sample procession into a cell suspension to treat acute thermal burns.

Reticular dermis is a dense irregular connective tissue which gives the skin its overall strength and elasticity.

Rhinoplasty is a plastic surgery procedure for altering and reconstructing the nose.

Ruffini corpuscles are slowly adapting mechanoreceptors located in the cutaneous tissue between the dermal papillae and the hypodermis.

Skin equivalents are bioengineered tissue substitutes

Skin replacement products or skin substitutes are a heterogeneous group of biological, synthetic, or biosynthetic materials for temporary or permanent open wound protection.

Spincare™ is a single-patient polymer-based sterile solution that enables fast and less painful healing through real-time printing of a localized nanofibrous matrix directly onto a wound.

Split-thickness is a graft containing the epidermis and a fraction of the dermis.

Stem cells are undifferentiated or partially differentiated cells that can differentiate into various types of cells and proliferate indefinitely to produce more of the same stem cell.

Stratum basale is deepest layer of the epidermis containing dividing cells.

Stratum corneum is the outermost layer of the epidermis which serves as an initial barrier against pathogens in the organism.

Stratum granulosum is a thin layer located between stratum lucidum and stratum spinosum containing keratohyalin granules.

Stratum spinosum is located between stratum granulosum and stratum basale and initiates keratinization process.

Subcutaneous tissue or hypodermis is the innermost layer of skin, consists of fat and connective tissues to host larger blood vessels and nerves while insulating to help regulate body temperature.

Superficial partial skin loss is partial-thickness loss of dermis presenting as a shallow open ulcer with a red, pink wound bed without slough.

T cells are white blood cells of the adaptive immune system.

Terminal differentiation(-ing) (maturation) is the final differentiation step of epidermal keratinocyte where a special mode of programmed cell death results formation of corneocytes (Rigid cell remnants without intracellular organelles).

Type I and type III collagen are two major collagen types found in the body tissues. Both play a key role in the formation of the extracellular matrix, characterize tissue's tensile strength, and influence cell attachment and migration.

Venous leg ulcers are wounds that are thought to occur due to improper functioning of venous valves

Wound contracture is physical deformity characterized by skin constriction and restrictions of functions during tissue recovery.

Wound healing is the mutually coordinated series of biochemical processes aimed at tissue restoration.

Xenografts are transplants of an organ, tissue, or cells to an individual of another species.

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