Glossary of Terms

Adjuvant/adjunctive interventions: Therapies that are used to in addition to standard primary interventions for wound prevention and management. Adjuvant therapies are used to enhance the impact of primary wound care interventions and to achieve assist in achieving outcome measures beyond wound prevention and healing.

Angiography: A medical imaging technique used to investigate blockages, narrowing, inflammation or abnormal widening or bleeding in the blood vessels. Contrast medium is injected into the artery or vein to allow visualisation of blood vessels using x-ray.

Ankle brachial pressure index (ABPI): A non-invasive vascular test using Doppler ultrasound that identifies large vessel peripheral arterial disease in the leg. It is used to determine adequate arterial blood flow in the leg before use of compression therapy. Systolic blood pressure is measured at the brachial artery and at the ankle level. The ABPI is calculated as the highest systolic blood pressure from the foot arteries (either dorsalis pedis or posterior tibial artery) divided by the highest brachial systolic pressure, which is the best estimate of central systolic blood pressure. An ABPI of 0.8 to 1.1 is usually considered indicative of adequate arterial flow in the absence of other clinical indicators for arterial disease. An ABPI of less than 0.8 and a clinical picture of arterial disease should be considered as arterial insufficiency. An ABPI above 1.2 is suggestive of possible arterial calcification. Sometimes referred to as Doppler testing or Doppler ultrasound.[1, 2]

Antibiotic: A natural or synthetic medicine administered systemically or topically that has the capacity to destroy or inhibit bacterial growth.[3, 4]

Antimicrobial resistance: Antimicrobial resistance occurs when microorganisms change over time in ways that render the medications used to treat the infections they cause ineffective.[4, 5]

Antimicrobial stewardship: The supervised and organised appropriate use of antimicrobial agents in order to decrease the spread of infections that are caused by multidrug-resistant organisms and to improve clinical outcomes by encouraging optimised use of antimicrobials.[4, 6]

Antimicrobial tolerance: Antimicrobial tolerance occurs when microorganisms have a lower susceptibility to an antimicrobial.[4]

Antiseptic: An antiseptic is a topical agent with broad spectrum activity that inhibits multiplication of, or sometimes kills, microorganisms. Depending upon its concentration, an antiseptic may have a toxic effect on human cells. Development of resistance to topical antiseptics is uncommon.[4]

Asepsis: A state of being free from infectious (pathogenic) agents.[4, 7]

Aseptic technique: A practice framework that aims to prevent cross-infection of pathogenic microorganisms when performing a wound dressing procedure.[7] There are primarily two accepted standards of aseptic technique used for performing a wound dressing procedure: sterile/surgical aseptic technique and clean/standard aseptic technique. Selection of an aseptic technique is guided by a risk assessment of the patient, their wound and environmental factors; local policies and resources; and the context of care.[4]

Atrophie blanche: A morphological feature commonly seen in people with venous stasis and healed venous ulcers, presenting as porcelain, satellite scars with hyperpigmentation and peripheral telangiectasia.[8]

Biofilm: A form of infection that is more resistant to treatment than planktonic bacteria. Biofilm is thought to primarily compose of aggregated microorganism species (although single species biofilm have been observed) that co-exist in a manner that makes their eradication from a wound

more difficult. In *in vitro* conditions, biofilm has been observed as aggregated microorganisms that exist in an extracellular matrix.[4]

Biophysical therapy/biophysical agent: A therapy that is based on the delivery of biophysical energy to the wound using specially designed medical devices. Biophysical therapies are usually used as adjuvant therapy. Biophysical modalities include electromagnetic spectrum technologies (e.g., electrical stimulation, electromagnetic field therapy and phototherapy), acoustic technologies (e.g., low frequency ultrasound, high frequency ultrasound), mechanical/kinetic technologies (e.g., pulsatile lavage, vibration therapy), atmospheric technologies (e.g., negative pressure, suction, hyperbaric oxygen or topical oxygen) or a mix of these modalities.[9]

Biothesiometer: An instrument designed to measure the threshold of vibration an individual can perceive; in wound care the instrument is applied to identify and evaluate peripheral neuropathy. The amplitude is gradually lowered until the individual can no longer discern the vibration.

Body mass index (BMI): A measure of whether an individual's weight is in a healthy range based on their height. A BMI is calculated as the person's weight in kilograms divided by the square of the individual's height in metres.[10]

Bone scan: A nuclear imaging technique in which a small amount of radioactive dye is injected into bones to allow assessment of the bone and identification of bone regions in which metabolism is disrupted.[11]

Callus: Thickening of the stratum corneum (outer layer of skin). Calluses generally occur as a protective response to friction or pressure, most often forming on hands or feet.[12]

Chronic wound: A wound that makes slow progression through the healing phases or displays delayed, interrupted or stalled healing. Inhibited healing may be due to to intrinsic and extrinsic factors that impact on the person, their wound and their healing environment.[3, 4]

Cognitive impairment: A disruption to a person's mental process of learning, understanding and knowing. Cognitive impairment can impact knowledge, attention, memory, judgement, reasoning, decision-making, comprehension and language. The two most common forms of cognitive impairment are dementia (a form of progressive cognitive impairment) and delirium (a form of acute cognitive impairment).[13]

Computed tomography (CT scan): A form of x-ray that takes images of the body from different angles to produce cross sectional images, thereby providing a three-dimensional impression that is used for diagnostic or therapeutic purposes.[14]

C-reactive protein: A blood test that provides an indirect measure of inflammation activity; an early indicator of acute inflammatory stage of a range of different diseases, including wound infection.[15]

Cross infection: Transfer of microorganisms (e.g., bacteria, virus) from one person, object or location (e.g., anatomical location) to another person, object or location.

Debridement: The removal of devitalised (non-viable) tissue from or adjacent to a wound.[4] Debridement also removes exudate and bacterial colonies (e.g., biofilm) from the wound bed and promotes a stimulatory environment. Methods of debridement include autolytic debridement (promotion of naturally occurring autolysis), , surgical sharp debridement, conservative sharp debridement, enzymatic debridement, mechanical debridement (e.g., mesh pad), biological debridement (e.g., larval therapy) and low frequency ultrasonic debridement.[4, 16]

Desiccation: The drying of the wound bed and peri-wound.[17]

Dermatitis/Eczema: A reaction of the skin that often occurs rapidly (acute dermatitis/eczema), but may be gradual and long standing (chronic dermatitis/eczema). It is characterised by a red rash, often blistered and swollen, that may be surrounded by darker, thickened skin (in chronic

cases) and is generally dry and itchy. It may be caused by irritants (e.g., products, chemical or even friction) or allergic response, and can become infected.[18]

Devitalised tissue: Dead tissue presenting as necrotic tissue or slough.[19]

Duplex ultrasound: A non-invasive ultrasound that evaluates blood flow to detect adequate flow, clots or venous reflux.

Electrical stimulation: see *Biophysical technology.*

Electromagnetic field therapy: see *Biophysical technology.*

Erythrocyte sedimentation rate (ESR): A blood test that provides a non-specific indicator of inflammation activity in the body.[15]

Erythema: Superficial reddening of the skin.[9]

Eschar: Necrotic, devitalised tissue that appears black or brown, can be loose or firmly adherent and hard or soft, and may appear as leathery.[4, 9]

Exogenous: Originating outside the body.

Extrinsic factors: Originating outside of the body.

Exudate: Fluid that is released from tissue and/or capillaries in response to injury, inflammation and/or microbial burden. It is mainly comprised of serum, fibrin, proteins and white blood cells.[4] Exudate types include:

Serous: Clear, amber or straw coloured exudate that is thin and watery.[20]

Serosanguineous: Pink to light red exudate that is thin but slightly thicker than water.[20]

Sanguineous: Red exudate that is thin and watery, indicating presence of red blood cells.[20]

Seropurulent: Cloudy, creamy, yellow or tan exudate that has a thin consistency.[20]

Purulent: Opaque, milky, yellow or brown/green, pus that is thick and may have an offensive odour.[20]

Family carer: In this document a family carer refers to a person who provides support for an individual with a or at risk of a wound in an informal, supportive role, such as a relative, a friend, a neighbour or a colleague.

Fibrin: A protein involved in clotting of blood. When wound bleeding occurs, fibrinogen in blood plasma is converted into fibrin by the action of a clotting enzyme called thrombin. Fibrin and thrombin combine with red blood cells and platelets at the wound site to create a mass that hardens and contracts into a blood clot. This clot prevents blood loss and promotes tissue regeneration by delivering erythrocytes, macrophages and fibroblasts around the wound.[21]

Fibrinous wound base/surface: A metabolic by-product of healing occurring as a layer that is loosely or firmly adherent to the wound bed. It is composed of serum and matrix proteins that may be white, yellow, tan, brown or green, and has a fibrous or gelatinous texture and appearance.[4]

Fistula: see *Sinus tract*.

Fistulogram: see *Sinogram.*

Foreign body: Presence in the wound of non-natural bodies that may be a result of the wounding process (e.g., gravel, dirt or glass) or arise from wound repair (e.g., sutures, staples, orthopaedic implants or drains).

Friable tissue: Fragile tissue that bleeds easily.[4]

Friction (frictional force): The contact force that is in a parallel direction relative to the skin and that occurs due to body weight loads (or a forces exerted by a device). Force is associated with shear deformations and stresses, and may be static (i.e., when no relative movement between the skin and the surface occurs) or dynamic (i.e., when there is movement between the skin and surface).[9, 22]

Gangrene: Gangrene is the death of localised body tissue. It may be wet (occurring due to necrotising bacterial infections)[23] or dry (occurring due to tissue ischaemia due to a range of causes including peripheral arterial disease, venous insufficiency, thrombosis, trauma frostbite or embolism).[24] Early signs of wet gangrene include blisters, bruising that precedes skin/tissue necrosis, crepitation and cutaneous numbness. These symptoms require urgent investigation.[23] In most cases a surgical consultation should be sought urgently.[25]

Granulation tissue: The pink/red, moist, shiny tissue that glistens and is composed of new blood vessels, connective tissue, fibroblasts, and inflammatory cells that fills an open wound when it begins to heal. It typically appears deep pink or red with an irregular, granular surface.[26]

Glycosylated haemoglobin (HbA1c): A test that indicates an individual's average blood glucose level over the life of the red blood cells, which is about 10 to 12 weeks. HbA1c is used an indicator of diabetic control.[15]

Harris-Benedict equation: An equation that is used to calculate a person's total daily energy expenditure based on their basal metabolic rate and activity level. This is used to determine nutritional needs.[27]

Health care worker: see *Unregulated health care worker.*

Health history: Past or concurrent diseases or comorbidities, trauma, surgical interventions, medication regimens, or other factors of relevance to current health status and wound prevention and management.

Health literacy: The cognitive and social skills that determine the ability of an individual to gain access to, understand and use information in ways which promote and maintain health, including the individual's motivation to seek out such information.[28]

Health professional: see *Regulated health professional*.

Hyperkeratosis: An increase in dead cells on the surface of the skin (stratum corneum) that may be referred to as scaling.[29]

Hypergranulation: Hypergranulation is an increase in the proliferation of granulation tissue such that the tissue progresses above or over the wound edge and inhibits epithelialisation. It presents as raised, soft/spongy, shiny, friable, red tissue. Also referred to as *over granulation*.[4]

Induration: Hardening of soft tissues.

Individual: In this document, individual refers to a person with or at risk of a wound (i.e. a patient, resident or client).

Infection: when the quantity of microorganisms in a wound become imbalanced such that the host response is overwhelmed and wound healing becomes impaired.[30] Transition from non-infected to infected is a gradual process determined by the quantity and virulence of microbial burden and the individual's immune response.[3] The transition that can be categorised as:

> **Contamination:** Contamination refers to the presence within the wound of microorganisms that are not proliferating. No significant host reaction is evoked and no delay in wound healing clinically observed.[4]
>
> **Colonisation:** Colonisation refers to the presence of microorganisms within the wound that are undergoing limited proliferation. No significant host reaction is evoked and no delay in

wound healing clinically observed. [4]

Local infection: Local infection refers to the presence and proliferation of microorganisms within the wound that evoke a response from the host that often includes delayed wound healing. Local infection is contained within the wound and the immediate periwound region (less than 2cm). Local infection often presents as subtle (covert) signs that may develop into the classic (overt) signs of infection.[4]

Spreading infection: Systemic infection arising from a wound refers to microorganisms spreading from the wound into adjacent or regional tissues, evoking a response in the host in the structures in the anatomical area beyond the periwound region. Signs and symptoms of spreading infection include diffuse, acute inflammation and infection of skin or subcutaneous tissues. [4]

Systemic infection: Systemic infection arising from a wound refers to microorganisms spreading throughout the body via the vascular or lymphatic systems, evoking a host response that affects the body as a whole. Signs of systemic infection include a systemic inflammatory response, sepsis and organ dysfunction. [4]

Informal carer: see *Family carer*.

Multidisciplinary team: In this document, the multidisciplinary team is a collaborative team of regulated health professionals and unregulated health care workers who work together the individual and their family carers to agree upon the goals of care and deliver wound care.

Intrinsic factors: Originating within the body.

Linear healing rate: Linear healing rate describes healing that occurs at a standard speed (i.e., wound healing progresses by the same amount each day). Although not all wounds heal in a linear fashion, in general linear healing rate is shown to be a reliable indicator of healing.[31, 32]

Maceration: Maceration refers to wrinkled, soggy and/or soft peri-wound skin occurring due to exposure to moisture. Macerated peri-wound skin usually presents as white/pale and is at increased risk of breakdown.[4]

Magnetic resonance imaging (MRI): A non-invasive medical imaging technique that uses magnetic field and radio frequency pulses to create images of the internal body.[33] In contrast to x-ray, MRI creates more detailed image of organs and soft tissues, as well as bone and other internal structures.

Monofilament testing: A test that is conducted to detect loss of sensation (e.g. occurring due to peripheral neuropathy). Calibrated nylon threads/monofilaments (i.e. a 10-g Semmes-Weinstein monofilament) are placed on the individual's skin (usually the foot), with force applied until the filament buckles. The individual indicates when the buckling sensation cannot be felt.[34]

Necrotic tissue/necrosis: Dead (devitalised) tissue that is dark in colour and comprised of dehydrated, dead tissue cells. Necrotic tissue acts as a barrier to healing by preventing complete tissue repair and promoting microbial colonisation. It is usually managed with debridement, but only after a comprehensive assessment of the individual and their wound.[19, 35, 36]

Non-concordance: When there is no agreement or partnership between an individual and the multidisciplinary team regarding goals of care or the way in which care will be planned and undertaken.[37]

Oedema: Oedema is swelling of the tissues causes by accumulation of fluid. Oedema is classified as pitting or non-pitting. When pitting oedema is pressed with the finger, an indentation remains after pressure is released. An indentation does not persist after pressure release if the oedema is non-pitting.

Offload: To remove pressure from any area.[9]

Osteomyelitis: Infection of the bone that occurs through infection of the bloodstream (including infection from another point in the body that travels in the bloodstream) or from a wound or injury that allows bacteria to directly reach bone.

Over granulation: see *Hypergranulation*.

Palliative care: Care focused on holistically supporting the individual for comfort and enhancing the quality of living rather than actively seeking to cure or heal the wound. This may or may not also include end-of-life care.[38, 39]

Peri-wound: The skin and tissue immediately adjacent to the wound edge extending out 4cm and including any skin and tissue under the wound dressing. [40] The peri-wound region can be affected by moisture (e.g., maceration and excoriation) or may be dry, or develop hyperkeratosis, callus or eczema.[40] The condition of the peri-wound region is often a result of wound management strategies (e.g., contact dermatitis in response to a wound dressing), but may also be related to the wound type (e.g., dermatological problems are particularly associated with venous ulcers).[40, 41] The peri-wound region can also be indicative of the wound condition (e.g., erythema, warmth and swelling indicates potential wound infection)[40] or of overall health issues influencing wound healing (e.g., pale or bluish skin can indicate poor vascular supply).

pH: A measure on a scale from 0 to 14 of acidity or alkalinity, with 7 being neutral, greater than 7 being more alkaline and less than 7 being more acidic. The skin has a natural pH of around 5.5.

Pharmaceutical: A product or preparation that contains a medicinal drug that is used either topically or systemically in the management of individuals or their wounds. In Australia, the Therapeutic Goods Administration is responsible for monitoring and licensing the sale and use of pharmaceuticals and other therapeutic goods.

Photoplethysmography (PPG): A non invasive test that measures venous refill time by using a small light probe that is placed on the surface of the skin just above the ankle. The test requires the patient to perform calf muscle pump exercises for brief periods followed by rest.The PPG probe measures the reduction in skin blood content following exercise. This determines the efficiency of the musculovenous pump and the presence of abnormal venous reflux.[1, 42]

Pigmentation changes: Changes in the colouring of the skin.

Pocketing: Pocketing occurs when granulation tissue does not grow in a uniform manner across the entire wound base, leading to a dead space that can potentially harbor microorganisms.[4]

Potable water: Water that is of a quality suitable for drinking, cooking and bathing. Unless the water supply is known to be of potable quality (i.e. safe for consumption), it should be considered non-potable. Tank water, pool water and dam water may or may not be of potable quality.[43]

Pressure injury: A localised injury to the skin and/or underlying tissue as a result of pressure or pressure in combination with shear. Pressure injuries usually occur over a bony prominence or in association with a medical device/other object.[9]

Prevalence: The proportion/percentage of individuals in a defined population who have a wound within a defined period of time.[9]

Prophylactic/preventive dressing: A dressing that is placed onto the skin before any skin damage becomes evident, with a goal of preventing skin breakdown due to pressure, shear and alternations in the skin's microclimate.[9] Features such as an elastic adhesive type (e.g., silicone), the number of layers used in construction of the prophylactic dressing, and the size of the selected dressing are considered to contribute to its ability to protect the skin.[9, 44]

Quality of life: A subjective, qualitative measure of one's ability to lead an holistic and fulfilling

life. Concepts that are often included in a quality of life assessment include psychosocial, emotional and physical wellbeing. When specifically measuring the impact of health, the measure is sometimes referred to as health-related quality of life (HRQOL).[45]

Reliability: The consistency of a measure, scale or assessment. Test-retest reliability evaluates how a measure performs over time, internal consistency evaluates how consistent a measure is across items, and inter-rater reliability evaluates how well a measure performs when applied by different people.[46] See also: *Validity***.**

Regulated health professional: An individual who has completed a professional degree and works within a branch of health care or in a role that is regulated by the Australian Health Practitioner Regulation Agency.

Risk assessment: An assessment that is conducted to identify the presence of factors known to be associated with a specific condition.[9, 26]

Screening: An evaluation of an individual undertaken for the purpose of determining if they would benefit from a more in-depth assessment. A screening is usually fairly rapid and identifies 'red flags' that can indicate a person might be at risk of a condition and requires a more targeted and detailed health evaluation.[47] Specific screening tools are available for some purposes (e.g. e.g. nutritional risk).[1, 9] For other conditions (e.g., risk of pressure injuries) knowledge of demographic-specific risk factors and clinical judgement is applied by a regulated health professional to rapidly identify people requiring a prompt formal risk assessment.[9]

Sinus tract: A track or path of tissue destruction, sometimes called a *tunnel*, occurring in any direction from the surface or edge of a wound. It results in dead space with a potential for abscess formation.[26, 48]

Sinogram: An x-ray procedure in which contrast medium is injected into a sinus tract in order to create a visual image of the path of tissue destruction. Also referred to as a fistulogram.

Slough: Slough is nonviable tissue of varying colour (e.g., cream, yellow, greyish or tan) that may be loose or firmly attached, slimy, stringy, or fibrinous.[4]

Support surface: A specialised device (e.g. mattress, cushion or overlay) for pressure redistribution designed for management of tissue loads, microclimate, and/or other therapeutic functions.[49, 50]

Telangiectasia: Small, visible linear red blood vessels indicating broken capillaries.[51]

Toe brachial pressure index (TBPI): A non invasive test that measures arterial perfusion in the toes and feet. A toe cuff is applied to the hallux (or second toe if amputated) and the pressure is divided by the highest brachial systolic pressure. The TBPI is used to measure arterial perfusion in the feet and toes of patients with incompressible arteries due to calcification as may occur in patients with diabetes and renal disease.[1, 2]

Transcutaneous oxygen pressure: The amount of oxygen reaching the skin through blood circulation. Transcutaneous oxygen pressure is measured via transcutaneous oximetry, which involves electrodes placed on the skin that create a local hyperaemia that intensifies blood perfusion and maximises oxygen pressure (mmHg). Usually measurement is made at more than one site to achieve a good clinical picture.[1]

Tunneling: See *Sinus tract*.

Ultrasound (therapeutic): see *Biophysical therapy/biophysical agent.*

Undermining: An area of tissue destruction extending under intact skin along the periphery of a wound. It can be distinguished from a sinus tract in that it involves a significant portion of wound edge.[26, 48]

Unregulated health care worker: In this document, unregulated health care worker refers to a person employed in a role to deliver assistance in managing personal care and health under the direction of a regulated health professional. An unregulated health care worker has not completed a professional degree and does not work in a role that is regulated by the Australian Health Practitioner Regulation Agency. Some examples of unregulated health care worker roles includes assistant in nursing, personal care attendant, aged care worker and health services assistant.[52]

Urticaria: Skin reaction characterised by swelling, hives or welling with hives. Acute urticaria lasts six weeks or less, while chronic urticarial is longer than six weeks in duration with daily reaction. Urticaria may occur spontaneously, or in response to systemic or topical contact with an allergen, infection, vaccination or bee/wasp stings. It occurs due to release of chemical mediators from tissue mast cells as an immune response.[53]

Validity: The extent to which a specific measure, scale or assessment measures or evaluates what it purports to be measuring or evaluating. Different types of validity (e.g., face validity, construct validity, criterion validity, etc.) refer to a range of different ways in which how well a specific measure, scale or assessment evaluates different aspects of concept can be tested.[46] See also: *Reliability*.

Venous leg ulcer: An ulcer on the lower extremity that is caused by venous disease. Venous ulceration is a chronic condition that is generally considered to result from venous occlusion, incompetent calf muscle pump function or venous valvular failure, giving rise venous hypertension.[1]

Wellbeing: A dynamic matrix of factors, including physical, social, psychological and spiritual. Wellbeing is inherently individual, will vary over time, is influenced by culture and context, and is independent of wound type, duration or care setting.[54]

Wound culture: A sample of tissue or fluid taken from the wound bed and placed in a sterile container for transportation to the laboratory. In the laboratory the sample is placed in a substance that promotes growth of organisms and the type and quantity of organisms that grow is assessed by microscopy. Wound cultures are used to determine the type and quantity of microorganisms in a wound.[25, 55]

Wound dressing: A material applied to a wound for a variety of reasons, including prevention or management of infection; optimisation of moisture balance, temperature and wound pH; protection; absorption or drainage of exudate; control of odour or to reduce pain. Wound dressings include primary dressings (those in direct contact with the wound bed) or secondary (applied over a primary dressing for added protection or absorption). Wound dressing types are generally defined by their composition and function.

Wound dressing procedure: The process of undertaking therapeutic cleansing, preparation of the wound bed for healing and protection of the wound with a wound dressing (i.e., the process referred to as "changing a wound dressing"). The procedure, which can be performed with differing considerations to asepsis, includes distinct steps and phases.[56]

Wound edge: The external margin or rim of the wound. The wound edge may be well defined or have unclear margins, and its condition is an indicator of wound healing progression. A healthy wound edge is moist, intact and level with the base of the wound. An unhealthy wound edge may be macerated, dehydrated, undermining or have rolled edges.[40]

Wound service provider: Any organisation, institution, facility or company that is responsible for provision of wound care or related services.

Xerosis: Dry skin, occurs due to lack of moisture in the stratum corneum.

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