STANDARDS FOR WOUND PREVENTION AND MANAGEMENT

Third Edition

WoundsAustralia

Standards for Wound Prevention and Management
3rd edition

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Disclaimer:
The Standards were developed by Wounds Australia. They represent the best available evidence at the time of publication related to wound prevention and management. The Standards reflect appropriate clinical practice, to be implemented by qualified health care professionals subject to their clinical judgment of each individual case and in consideration of the individual's personal preferences and local policies. The *Standards* should be implemented in a culturally aware and respectful manner in accordance with the principles of protection, participation and partnership.

Printed copies of *Standards for Wound Prevention and Management* (3rd edition) can be ordered from Wounds Australia: http://www.woundsaustralia.org.au/

Preface

Wounds Australia is an interdisciplinary professional association for individuals with an interest in wound prevention and management. The objectives of Wounds Australia are to raise awareness of the science and art of wound prevention and management, and to promote evidence based wound management practices.

The *Standards for Wound Prevention and Management* presented in this revised third edition provide a framework for promoting best practice in wound prevention and management as they reflect current evidence. The Standards are a valuable tool for guiding clinical practice and the development of policies, procedures and education programs. The aim of the Standards is to facilitate quality care outcomes for individuals with wounds or at risk of wounding

It is the ongoing vision of Wounds Australia that these Standards will continue to be adopted by health care professionals, health care workers, educators and service providers across Australia, and that the challenge associated with validating and embedding the *Standards* across all practice and educational settings be taken up enthusiastically.

Acknowledgement

The third edition of the *Standards for Wound Prevention and Management* has been revised by the Standards Subcommittee in consultation with Wounds Australia. An expression of appreciation is extended to the Standards Subcommittee:

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The third edition builds on the work completed for the first and second editions of the Standards. Appreciation and recognition is extended to previous subcommittee members for their contributions to the development of the 2002 and 2010 editions, which informed the third edition.

The contributions of Australian individuals, peak bodies and organisations who responded to the invitation to review the draft third edition of the Standards is acknowledged with gratitude.

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INTRODUCTION

Standards of care play a role in identifying expected levels of care that should be delivered to individual's receiving wound prevention and management. Standards contribute to ensuring that care delivery is of a consistent high level and that unwarranted variation is reduced. Standards play a role in improving safety of the individual and promoting positive outcomes of care (for example, and reducing avoidable wounds and promoting wound healing). The Standards presented in this document are intended for use by individual health care professionals and health care workers for monitoring their own care delivery standards and identifying areas for professional development. They may also be used by health care services to develop policies and procedures, design education programs, audit clinical care and undertake staff appraisal. The Standards may be used by individuals receiving care and their informal carers to identify the standard of care that they can expect when receiving wound prevention and management. The Standards should be used in conjunction with other clinical care standards, accreditation standards and professional standards.

There are seven core Standards in the third edition of *Standards for Wound Prevention and Management*. The Standards address key components of wound prevention and management, including the scope under which health care professionals and health care workers practice, working in collaboration, clinical decision making (two standards that focus on assessment, planning and practice), documentation, education and corporate governance. Each Standard outlines an expected level of care and includes a rationale and evidence criteria that demonstrate that the standard has been reached. A background and context is included as extended information.

The Standards presented in this third edition build on those in previous editions. A targeted literature search was undertaken in medical databases, legislature databases and Google Scholar to identify relevant references published since the previous edition in 2008. Relevant key documents were reviewed from other organisations (e.g. Australia Health Practitioner Regulation Agency and Australian Commission on Safety and Quality in Health Care) and relevant evidence-based clinical guidelines were reviewed. The references included in the previous editions were also reviewed for their ongoing relevance to current practice.

The third edition of *Standards for Wound Prevention and Management* underwent an extensive stakeholder review that was advertised on the Wounds Australia website. Over 30 key organisations (e.g. professional bodies, educational organisation and peak bodies) were also invited to review the Standards. All feedback was reviewed by the development team and incorporated into the *Standards for Wound Prevention and Management* as appropriate.

STANDARD 1

SCOPE OF PRACTICE

Safety and wound healing potential of the individual is enhanced by practice that respects and complies with legislation, regulations, scope of practice, service provider policies, current evidence and ethics.

Rationale

Practising within the legal boundaries of scope of practice and complying with legislation and regulations is a requirement of professional practice. Implementing wound prevention and management that reflects current best practice is associated with positive outcomes.

Criteria

Scope of practice includes:

1.1. Performance in accordance with legislation, regulations, scope of practice and service provider policies.[1-9]

Evidence Criteria

1.1.1. Function in accordance with the scope of practice as determined by regulatory authorities.

1.1.2. Accountability for practice.

1.1.3. Awareness of limitations of scope of practice for regulated and non-regulated practice.

1.1.4. Knowledge of, and compliance with, policies and procedures of relevant service providers.

1.2. Implementation of evidence-based wound prevention and management.[10-13]

Evidence Criteria

1.2.1. Ability to access current evidence from reputable sources to maintain a professional knowledge base.[2, 3, 7, 14]

1.2.2. Care decisions reflect evidence-based practice.[5, 9, 12]

1.2.3. Safe use of products, pharmaceuticals, therapies and devices in accordance with the manufacturers' instructions and the Therapeutic Goods Administration guidelines.[2, 5-7, 9, 12, 15]

1.3. Provision of care within an ethical practice framework.[2, 3, 5, 7, 15-17]

Evidence Criteria

1.3.1. Recognises the responsibility to prevent harm to the individual and their informal carers.

1.3.2. Recognises the rights and responsibilities of the individual, interprofessional team, health care workers and informal carers.

1.3.3. Delivers evidence-based wound prevention and management that is sensitive to beliefs, values, culture and dignity.

1.3.4. Addresses moral and ethical dilemmas in delivery of wound prevention and management.

Background and Context

Scope of practice

Scope of practice refers to the area of practice in which a health care professional or health care worker is educated, competent and legally permitted to perform services. The scope of practice for these individuals is determined by their educational background, status with an Australian health care registration body and the law and regulations pertaining to their clinical field.[2]

Standards for practice for health care professionals provide minimum expected standards for delivering health care to individuals across a range of clinical settings and include professional attributes that underpin competent performance in the health care domain.[2] The values, skills, knowledge and abilities expected of a health care professional are outlined in relevant national core competency standards.[1, 2, 4, 5, 7, 8]

Beyond the minimum education requirements, legal requirements, and competency standards, scope of practice may also be influenced by:[1, 2, 18]

- the level of competence and confidence a health care professional or health care worker has in performing specific clinical care, and
- policies and procedures put in place by the service provider.

Scope and standards of practice promote the respect, dignity, safety and wellbeing of the individual, interprofessional team, health care workers and informal carers.[1] It is recognised that the scope of practice varies according to the individual's role. For example, health care professionals work within a professional framework that requires ongoing development, self-reflection and professional judgement and decision making.[4, 7, 16, 18] While accountable for their practice, health care workers are not expected to have the same knowledge level, experience or decision making responsibilities as health care professionals.[18]

It is expected that all health care professionals and health care workers have a strong understanding of the scope and standards defining their own practice and that of their colleagues, and are able to identify and negotiate breaches of practice scope in order to ensure that the care provided to individuals meets expected standards.[1, 5, 7] Being aware of the limitations to the practice of others is particularly important for those who have delegation roles. When delegation is undertaken, both parties are responsible for ensuring appropriate assignment of care activities.[3-5]

Evidence-based practice

Health care professionals have a responsibility to engage in evidence-based practice through promotion of care strategies that have been shown to be efficacious. An important component of clinical practice is engagement in evidence-based practice. Evidence-based practice requires continuous professional development through the ongoing questioning of one's clinical practice, seeking out evidence from a range of reputable sources to inform and evaluate practice and, where possible, engaging in research activities to add to the body of evidence in wound prevention and management.[9, 10] Evidence based wound practice involves conscientious and judicious evaluation of the best available evidence to inform the way in which wound prevention and management is delivered.[9, 12-14]

Consideration should be given to meaningful outcomes for specific individuals with a wound or at risk of wounding, and selection of interventions that promote wound prevention and healing, maintenance wound management, quality of life, cost effectiveness and minimal risk.[7, 10] This requires a structured approach to wound prevention, assessment and management.[11] Clinical practice guidelines developed using evidence-based approaches provide one source by which the interprofessional team and health care workers can review evidence underpinning care options and recommendations for prevention and management of wounds.[11,19] However, implementation of evidence-based principles of wound prevention and management requires an interprofessional approach, with consideration to the knowledge and skills of the entire team, the individual's preferences, resources available, local policies and procedures and the context of care.[14, 20-22]

Evidence-based practice incorporates the safe and effective delivery of care.[9, 12] Members of the interprofessional team who take responsibility for prescription and delivery of pharmacological and non-pharmacological therapeutic interventions are accountable for ensuring therapies are selected in the best interest of individuals, and are delivered safely and in accordance with manufacturer directions, Therapeutic Goods Administration licensing and are evaluated for effectiveness.[2, 3]

Ethical practice

Ethical practice requires consideration of what is morally right and wrong, and the potential outcomes of actions.[17] The fundamental principle guiding health care is the recognition of the individual's rights and promotion of dignity. Guiding principles in delivering ethical care include valuing the individual, valuing respect and kindness and valuing diversity. Promoting access to quality wound prevention and management, informed decision-making on behalf of individuals, safety, privacy and sustainable wellbeing are core strategies by which the interprofessional team and health care workers can deliver ethical care.[16]

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STANDARD 2

COLLABORATIVE PRACTICE

Wound prevention and management is delivered using a collaborative approach between the individual, interprofessional team, health care workers and informal carers.

Rationale

Collaborative practice in wound management is associated with wound prevention, improved wound healing time and other positive outcomes (e.g. improved quality of life) for the individual, interprofessional team, health care workers and the health care system.[1-8]

Criteria

Collaborative wound prevention and management includes:

2.1. Empowerment of the individual and their informal carers to participate in health care decisions and wound management.[1, 9-14]

Evidence Criteria

2.1.1. Assessment of the health literacy of the individual and their informal carers, including their capacity to engage in informed decision making.

2.1.2. Provision of information to the individual and their informal carer on:

- Rights and responsibilities in wound prevention and management.
- The purpose of and options for a comprehensive assessment.
- The outcomes from all assessments, including the ongoing progress of wounds.

2.1.3. Opportunities and information exchange that encourage and facilitate participation of the individual and their informal carers in wound prevention and management.

2.1.4. Individuals with non-concordant behaviours receive education, support and respect that will guide future care directives and access to service delivery.

2.2. Communication that facilitates collaboration and coordination of care.[1, 3, 9, 14-18]

Evidence Criteria

2.2.1. Communication is undertaken in a manner that is consistent with the individual's values, preferences, language and health literacy.

2.2.2. Regular, documented communication between the individual, interprofessional team, health care workers and informal carers.

2.2.3. Timely communication when there are changes that impact on the individual, their wound and/or their wound healing environment.

2.2.4. Discussion with the individual and their informal carer regarding preferences, ability and willingness to participate in care decisions and interventions.

2.3. Recognition of the skills, knowledge, and contributions of the individual, interprofessional team, health care workers and informal carers with respect to prevention and management of wounds.[1, 3, 16, 18-22]

Evidence Criteria

2.3.1. Awareness of the skills, knowledge and scope of practice of individual team members.

2.3.2. Referral to other members of the interprofessional team when care decisions or management are outside the skills, knowledge and scope of practice.

2.3.3. Support the ongoing professional development of other team members.

2.4. Recognition of the cultural diversity and setting of the individual, interprofessional team, health care workers and informal carers.[14]

Evidence Criteria

2.4.1. Assessment of the individual and their informal carers' cultural background and linguistic preferences.

2.4.2. Use of interpreter when required.

2.4.3. Cultural practice and preferences are acknowledged and respected.

Background and Context

Collaborative care

A collaborative team of individuals from a range of health care professions working with health care workers, the individual and their informal carer is considered to be a gold standard for wound prevention and management and is central to

collaborative care.[1, 15] Health care professionals and health care workers rarely work in complete isolation from peers within their service or others delivering health care to the same individuals with, or at risk of, wounds; however wound management is often delivered in an uncoordinated manner by a range of services.[23] Over 80% of Australian individuals with a leg ulcer will be managed in the primary care setting with involvement of a general practitioner and/or a general practice nurse.[23] Community nurses provide home-based or service-based care to individuals with wounds, usually following referral from a medical practitioner or hospital service, and sometimes in conjunction with a medical specialist.[23] Allied health care professionals also work with medical specialists or general practitioners to deliver wound prevention and management in community or primary care settings.[23] Adopting a collaborative approach to health care delivery is recognised as a core component of professional practice across health care disciplines and settings[9, 19, 23] and is encouraged as a cost-effective and safe model[23] that promotes the needs of both the individual and care providers.

Wound management is a multifactorial clinical issue that frequently encompasses the expertise of many health disciplines to prevent and manage wounds and to consider co-morbidities.[20] Evidence-based wound management guidelines highlight that collaboration between the individual, interprofessional team, health care workers and informal carers is as an essential component of good quality care.[24-27] Collaborative wound management promotes integration into wound assessment and management of complementary perspectives, philosophies and strategies that are derived from the expertise of interprofessional team members and health care workers from varying professional and clinical backgrounds.[22] This includes timely and appropriate address of intrinsic and extrinsic factors that influence an individual's wound healing, early consideration of risk indicators and wound deterioration, prompt referral, and comprehensive documentation.[2]

A collaborative approach to wound prevention and management is associated with decreased incidence of preventable wounds, improved wound healing times, reduced amputation rates, improved quality of life and more cost-effective care.[1-8,23] One comprehensive systematic review[1] explored evidence on collaborative wound management in inpatient and community health care settings in urban, rural and remote regions. Data from 76 studies that included care models for individuals with diabetic foot ulcers (DFUs), pressure injuries (PIs) and venous leg ulcers (VLUs) were reviewed. Studies reported a range of collaborative team models that were based on various conceptual models of wound prevention and management, with the expertise of team members and size and structure of teams varying significantly based on aetiology of the wound. Reported outcomes included decrease in amputation rates in individuals with DFU; reduction in PI incidence; faster average healing rates for DFUs, chronic wounds and recalcitrant VLUs; increased adherence to self-care management plans; improved satisfaction for individual's receiving care; and enhanced health-related quality of life. Cost savings reported in the included literature included reduced clinician time and consolidation of services.[1]

Empowering individuals

The right of individuals to independence, choice, and control over their health care are enshrined in quality standards for acute care, sub-acute care, aged care and community-based care in Australia.[10, 12-14] A patient-centred approach to care requires the interprofessional team and health care workers to maintain respect for individuals and support and promote engagement in their own care. In order to make choices about their wound management, to contribute to goal and care

planning and to actively engage in activities that promote prevention or healing of wounds. individuals require an appropriate level of health literacy, education and support. Promotion of quality care includes key strategies at a system, service, team and individual level.[11, 14] These strategies include (but are not limited to):[10-14]

- developing service policies that promote partnership with the individual and informal carers;
- assessment of the individual's ability to engage in care decisions and undertake self-care;
- provision of education and support to allow individuals and informal carers to develop the necessary skills to engage in care decisions and undertake self-care; and
- recognition of the diverse backgrounds of individuals that require consideration in delivery of wound prevention and management.

Such a patient-centred approach is associated with improved preventive care, increasing functional status, concordance in goals and wound management strategies, reduced complication and infection rates and fewer adverse outcomes.[11] However, the interprofessional team must uphold the right of individuals who choose alternative goals of care or wound management strategies despite the provision of education, support and guidance.

Working in a team

Successful collaboration requires individuals to work together as a group within and across health care settings to communicate effectively. Effective communication requires team members to make appropriate and timely referrals, share information; negotiate, plan and act; give and receive feedback; respect one another; and resolve conflict in order to achieve identified mutual goals and optimum outcomes for the individual at risk of, or with, wound.[16, 17, 28] Personal characteristics including clinical expertise, communication and leadership skills, and self-reflection are core facilitators to collaborative team work.[5, 18] Having a thorough appreciation and acknowledgement of the scope of practice and skills set of other wound management team members is a fundamental principle of successful collaboration.[21,22] Supporting other members of the team in their professional development (e.g. through sharing of educational opportunities, discussing research or supporting opportunity to engage in professional development activities) is a part of successful collaboration.

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STANDARD 3

CLINICAL DECISION MAKING: ASSESSMENT

A comprehensive, ongoing assessment of the individual, their wound and the healing environment is performed.

Rationale

Clinical decision making is underpinned by documented, comprehensive initial and ongoing assessment of intrinsic and extrinsic factors that influence the risk of wounding and the ability of a wound to heal. Ongoing assessment of the individual, their wound and the healing environment is required to monitor the efficacy of wound prevention and management interventions, and strategies used to promote the individual's health-related quality of life. Effective care planning is based on reliable clinical assessment.

Criteria

Comprehensive assessment is demonstrated through:

3.1. A comprehensive and ongoing assessment of the individual.

Evidence Criteria

3.1.1. Comprehensive and ongoing assessment of the individual's health and wellbeing related to wound healing and/or risk of wounding is conducted and documented, which may include:[1-6]

- Language and need for interpreter service.
- Cultural sensitivities.
- Reason for presentation.
- Cognitive ability.
- Health literacy.
- Wellbeing and socioeconomic status.
- Sensitivities and allergies.
- Age and specific age-related changes.
- Health history and co-morbidities that impact wound healing.
- Previous wound history, treatments and outcomes.

- Previous relevant diagnostics and investigations.
- Medication history, including prescription, over-the-counter medications (including vitamin supplements), recreational/social drug use and alternative preparations (e.g. homeopathic medication).
- Nutritional status.
- Pain.
- Vital signs.
- Perceptions, preferences, wound healing goals, and ability to participate in self-care.

3.2. A comprehensive and ongoing assessment of risk of wounding.

Evidence Criteria

3.2.1. Skin assessments as appropriate to the individual, which may include:

- Risk assessment for pressure injuries, falls, skin tears and incontinence.[1, 3]
- Lower leg vascular assessment that includes skin colour changes, palpation of pulses, an ankle brachial pressure index (ABPI) and/or toe brachial pressure index (TBPI), and transcutaneous oxygen pressure.[7]
- High risk foot assessment that includes testing loss of protective sensation (e.g. monofilament) or testing blunt/sharp pressure, touch, vibratory sensation (e.g. tuning fork or biothesiometer), and reflexes (e.g. patella hammer).[7, 8]

3.2.2. Risk assessments are conducted using reliable and valid risk assessment tools, and according to local policies and procedures.[1, 3]

3.3. A comprehensive and ongoing assessment of the individual's wound.

Evidence Criteria

3.3.1. Initial and ongoing comprehensive, documented wound assessments record, for example: [1-4, 9-15]

- Type of wound (e.g. leg ulcer, pressure injury).
- Aetiology and original mechanism of wounding (e.g. venous insufficiency, pressure).
- Duration of wounding.
- Anatomical location.
- Wound dimensions, for example:
  - o Length, width and depth measured at the longest/deepest part of the wound.
  - o Probing to determine any undermined edges or sinus tracking.

- Wound area measured by wound circumference tracing and planimetry.
- Wound volume measured using sterile fluid or filler inserted into the wound.

- Clinical characteristics of wound bed, (e.g. agranulation, granulation, hypergranulation epithelialisation, slough, necrosis/eschar, exposed bone or tendon, foreign body, fistula).
- Wound edge characteristics (e.g. level, raised, rolled, undermined, colour)
- Peri-wound and surrounding skin characteristics (e.g. erythema, oedema, induration, maceration, desiccation, dermatitis/eczema, callus, hyperkeratosis, changes in pigmentation, urticaria and temperature).
- Exudate, for example:
  - Type (e.g. serous, haemoserous, sanguineous, seropurulent, purulent).
  - Consistency (e.g. thick or thin).
  - Amount.
  - Odour.
- Phase of wound healing (e.g. haemostasis, inflammation, reconstruction, maturation/remodelling).
- Signs and symptoms of inflammation or infection.[16]
- Digital photography or technologies may be used to document wound size and appearance in conjunction with above assessments.[9]

3.3.2. Assessment of wound infection, for example:[1-5, 8, 10, 14]

- Extent of infection (e.g. local infection, spreading infection, systemic infection) based on clinical signs and symptoms and/or investigations (e.g. wound culture).

3.3.3. Classification of the wound using a validated tool for that wound type where such a tool exists (e.g. pressure injuries, burns, skin tears, venous leg ulcers and diabetic foot ulcers).[1-3, 14, 17-19]

3.3.4. Initial and ongoing assessment of wound pain, which considers both verbal and non-verbal cues and includes documented assessment of:[1-4, 7, 10, 11]

- Aetiology and presentation, for example:
  - Non-cyclic wound pain (e.g. associated with suture removal or debridement).
  - Cyclic wound pain (e.g. associated with change of wound dressings).

- Chronic wound pain (e.g. not related to intervention).

- Characteristics of pain, using a valid and reliable pain assessment tool and including:
  - Location, including any radiating or referred pain.
  - Character of the wound-related pain (e.g. burning, itching, stabbing, shooting).
  - Intensity of the wound-related pain (e.g. using a numerical rating scale, visual analogue scale or Wong-Baker FACES tool).
  - Duration of wound-related pain.
- Factors that contribute to wound-related pain (e.g. repositioning).
- Factors that relieve wound-related pain (e.g. warmth, quiet, positioning).
- Impact of pain on quality of life and well-being.

3.3.5. Evaluation of wound healing progress and capacity to heal.[4, 7, 15, 20-22]

3.4. A comprehensive and ongoing assessment of the individual's healing environment that identifies factors that could impact on confidentiality, safe performance of procedures, infection control or wound healing is performed.

Evidence Criteria

3.4.1. Assessment of the surrounding environment with respect to physical safety for the individual, informal carers and the interprofessional team.

3.4.2. Assessment of the hygiene of the surrounding environment and any risks to wound contamination or spread of infection.

3.4.3. Assessment of the individual's lifestyle and identification of factors that may impact on wound healing or risk of wounding.[10]

3.4.4. Assessment of the impact on wound healing of medications/drugs (prescribed, recreational and over-the-counter) and skin care products.

3.4.5. Assessment of environmental factors that may influence wound healing (e.g. temperature, humidity).

3.4.6. Assessment of the capacity for hygienic and secure, wound-related equipment, medications and topical preparations.

3.4.7. Assessment of the privacy offered with the environment (e.g. confidential storage of the individual's records and confidential communication).

3.5. Appropriate diagnostic investigations are performed when clinically indicated to ascertain a definitive diagnosis or identify reasons for delayed wound healing and the outcomes are documented.

Evidence Criteria

3.5.1. Biochemical analysis is used when indicated, for example:[1-3]

- Blood glucose and HbA1c.
- Haemoglobin.
- Plasma albumin.
- Lipids.
- Urea and electrolytes.
- Rheumatoid factor.
- Auto antibodies.
- White cell count.
- Erythrocyte sedimentation rate.
- C-reactive protein.
- Liver function tests.

3.5.2. Microbiology is used when indicated, for example:[1-3, 8, 23-25]

- Wound swab for semi-quantitative and quantitative organisms.
- Needle aspiration for quantitative organisms.
- Wound/bone biopsy for quantitative organisms.
- Skin and nail scrapings for culture and microscopy.

3.5.3. Histopathology is used when indicated, for example:[2, 14]

- Wound biopsy to identify pathological changes.

3.5.4. Diagnostic imaging is used when indicated, for example:[1-3, 5, 8, 26-28]

- Plain x-ray (e.g. fracture, gas gangrene and osteomyelitis).
- Magnetic resonance imaging (e.g. osteomyelitis).
- Bone scan (e.g. osteomyelitis if magnetic resonance imaging is contraindicated).
- Computed tomography (e.g. soft tissue infection, osteomyelitis).
- Sinogram and fistulagram to identify wound tracking.

3.5.5. Vascular assessment is conducted when indicated, for example:[2, 7, 14]

- Palpating pulses.
- Ankle brachial pressure index (ABPI) for vascular status of lower limb.
- Toe brachial pressure index (TBPI)/toe pressure for vascular status of foot.

- Duplex ultrasound for venous and arterial disease.
- Photoplethysmography for venous disease.
- Transcutaneous oxygen pressure for local tissue perfusion.
- Angiography for arterial disease.

3.5.6. Neurological foot assessment is conducted when indicated, for example:[7, 14, 29]

- Assessment for autonomic neuropathy by palpation of foot to assess for bounding foot pulses and increased skin temperature, observation for dry cracked skin integrity and foot deformity.
- Assessment for peripheral sensory neuropathy, for example using a10g or 5.07 Semmes-Weinstein monofilament to evaluate sensation and a 128 Hz tuning fork or biothesiometer for assessment of vibration perception.
- Assessment for peripheral motor neuropathy using a patella hammer to evaluate patella and Achilles' reflexes and muscle weakness.

3.5.7. Nutritional screening and, when indicated, a full nutrition assessment is conducted, for example:[1-3]

- Use of screening and assessment tools that are reliable and valid and appropriate to the individual (e.g. Mini Nutritional Assessment [MNA], MNA® short form, Malnutrition Universal Screening Tool [MUST]).[1]
- Assessment of the quantity, quality and nutritional content of food and fluid intake.
- Assessment of weight status, including weight history (e.g. weight loss ≥ 5% in 30 days or ≥ 10% in 180 days).[1]
- Anthropometric assessment, including:
  - Height.
  - Waist circumference.
  - Waist to hip ratio.
  - Objective estimates of subcutaneous fat (e.g. body mass index) and skeletal muscle stores.
- Formulas such as the Harris-Benedict equation to measure and evaluate Basal Metabolic Rate (BMR) or Basal Energy Expenditure (BEE).[1]
- Hair and skin changes.
- Ability to eat, including any assistance or diet requirements (e.g. thickened fluids or pureed food).
- Additional specific biochemical tests (e.g. albumin, transferrin, zinc or vitamins).[1]

3.5.8. Cognitive screening and psychosocial assessment is conducted, for example:[30, 31]

- Cognitive screening using tools that are reliable and valid (e.g. Mini Mental State Examination [MMSE], Modified Mini Mental State Examination [3MS], Cognitive Abilities Screening Instrument).[32, 33]
- Psychological screening using tools that are reliable and valid (e.g. Hospital Anxiety and Depression Scale, Beck Depression Inventory, Hamilton Anxiety Rating Scale).
- Wellbeing, quality of life, social and wound impact assessment using valid and reliable tools for specific health populations (e.g. Short Form 36, World Health Organisation Quality of Life, Cardiff Wound Impact Schedule, Chronic Venous Insufficiency Questionnaire).[2, 3, 6, 34]

Background and Context

A comprehensive and holistic assessment of the individual, their wound and the wound healing environment is an integral component of wound prevention and management. Assessment and diagnosis underpin decision-making in the development and ongoing evaluation of an individualised plan to prevent wound development and to promote healing of existing wounds.

Assessing the individual, the wound and the healing environment

A comprehensive assessment of the individual acknowledges the contribution of a large range of intrinsic factors that influence both the risk of developing a wound and the ability of the individual to heal. Comorbidities, nutrition status, vascular status and infection all influence skin and tissue health and reparative processes. Appropriate investigation of overall health allows the interprofessional team to develop a management plan that will address underlying factors that influence the risk of wounding and/or ability to heal.[2, 3, 11]

It is widely acknowledged that in addition to the physical factors that influence the ability of the individual to heal, the cognitive and psychosocial status of the individual are important contributory factors to healing, wellbeing and quality of life for those who live with, or at risk of, a wound. Ascertaining the ability of the individual to communicate and understand factors relating to their general health and wound prevention and management is crucial in engaging the individual in both the assessment process and in ongoing decision making and management interventions. Assessment of multidimensional factors, including the individual's social support and engagement, psychological health and quality of life provides context to that person's resources, abilities to engage in potential interventions and additional assistance they may require to prevent or manage wounds.[2, 3, 11]

Initial and ongoing wound assessment is critical to promotion of healing. Certain characteristics of the wound can provide key indicators to the interprofessional team as to the wound's changing status and the success or otherwise of a management plan. Accurate and well-documented assessment allows health care professionals and health care workers to identify covert signs of infection (e.g. hypergranulation, friable granulating tissue, wound breakdown or epithelial bridging)[35-37] and act accordingly. Regular documentation of wound dimension, appearance and characteristics at each wound dressing change allows determination of wound progress, which can provide an indication of effectiveness of treatment or suggest potential complications that are hindering normal wound healing (e.g. biofilm).

The surrounding environment is crucial to wound healing, and strategies the interprofessional team might implement when managing the wound and in promotion of healing in general. Attention to the risk of infection from the environment (e.g. from air borne contaminants, unclean surfaces or equipment, ventilation or water sources) is most critical when the wound is exposed. Environmental factors can influence the concordance of individuals with prevention and management interventions, for example, in a warm or humid environment, compression stockings or bulky wound dressings may impact on the individual's comfort.[2] Assessment of the local environment in community settings may provide indicators to factors that could influence healing (e.g. non-hygienic conditions, access to equipment, storage and waste facilities, presence of pets).[38-41]

Assessment and measurement tools

The way in which a health assessment is conducted can influence the reliability and relevance of the information that is collected. Best practice requires that interprofessional team members and health care workers use assessment tools that have been scientifically validated when undertaking clinical assessments. Validity refers to the ability of an assessment tool or test to measure the factor that it purports to be assessing. Reliability of an assessment tool or test refers to the ability of the assessment strategy to produce the same result if it is administered repeatedly to the same individual.[42]

Reliability and validity are important considerations because strong psychometric qualities of the assessment tool ensure the diagnoses arising from the assessment are based on accurate information. If the tools used to conduct an assessment have strong validity and reliability there can be greater certainty that the interprofessional team and health care workers are measuring the characteristics they have targeted, and that any changes in the individual's assessment results are not random.[42]

Selection of assessment tools should be individualised. Many assessment tools are developed for specific populations, and may not be valid and reliable for measuring the same criteria in a different population.[42] For example, a tool designed to measure severity of pain that has been developed for adults, may not have strong psychometric qualities if it is used to measure pain in children or adults with cognitive impairment. Where possible, assessment strategies should be selected based on psychometric qualities, the individual's characteristics (e.g. age, cognitive status, health status and health literacy), the appropriateness of the items on the tool to that individual, the individual's and clinician's preferences, resources available and local policies and procedures.

Emerging and advanced wound assessment and measurement techniques

More advanced wound measurement technologies (e.g. digital photography, digital software planimetry, 3D wound mapping) are becoming more accessible.[7] Other digital technologies support telecommunications (e.g. telehealth) and have improved the access of individuals in rural and remote areas to specialised wound practitioner. It is important that the interprofessional team selects technology that is scientifically demonstrated to provide accurate assessment, and that individual members of the team receive education in training to ensure advanced wound evaluation strategies are implemented accurately.

Wound assessment in recent times has been aided by techniques that allows for more detailed evaluation of numerous skin and tissue characteristics.[7] Research has explored the use of physical markers (e.g. skin and tissue moisture, wound and

tissue temperature, and pressure), biochemical markers (e.g. pH and odour) and molecular markers (e.g. proteases, DNA of micro-organisms, RNA, genes and their function).[1, 14, 43, 44] Advances in biomarker and molecular technology hold increasing promise for more comprehensive healing assessment and diagnostics.[45-47]

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STANDARD 4

CLINICAL DECISION MAKING: PLANNING AND PRACTICE

Wound prevention and management is practised according to the best available evidence for optimising outcomes for the individual, their wound and their healing environment.

Rationale

The goal of wound management is to prevent wounding and to maximise healing potential. Strategies to both prevent and manage wounds are guided by assessment outcomes and selected according to evidence and efficacy in meeting the goals of care.

Criteria

Scope of practice includes:

4.1. Goals of care are established with the individual, the interprofessional team, health care workers and informal carers and reflect evidence-based practice and the preferences of the individual.[1, 2]

Evidence Criteria

4.1.1. Goals of care are established in conjunction with the individual and interprofessional team.

4.1.2. Goals of care are clearly defined and documented.

4.1.3. Goals of care address optimisation of healing and the individual's capacity to heal.[2]

4.1.4. Goals of care address conservative/palliative wound management where appropriate.

4.2. Strategies to prevent wound development are implemented according to comprehensive individual assessment.[3-12]

Evidence Criteria

4.2.1. A wound prevention plan appropriate to the individual is documented and includes:

- Preventive skin care.
- Application of compression therapy for chronic venous insufficiency.

- Strategies to manage pressure, friction and shear.
- Strategies to manage skin moisture, including incontinence.
- Strategies to avoid trauma.
- Strategies to maximise nutrition status.
- Use of protective footwear and off-loading devices.
- Referral for assessment of skin lesions.

4.3. The ability of the individual to heal is optimised.

Evidence Criteria

4.3.1. Systemic factors and comorbidities that may impair wound healing are managed and optimised.[1, 13, 14]

4.3.2. The individual receives adequate nutrition and hydration, with consideration to nutritional requirements for optimal wound healing and correction of nutritional deficits.[1, 13]

4.3.3. Medications that impair wound healing are reviewed with consideration to benefit versus risk.[13]

4.3.4. Cessation of smoking is promoted.[13]

4.3.5. Mobility, activity and exercise as tolerated are encouraged.[3, 5]

4.3.6. Psychosocial factors that may hinder optimal wound healing are addressed including mental health conditions and access to psychosocial support.[1, 15]

4.4. The type of aseptic technique selected when performing a wound dressing procedure is appropriate to the individual, their wound and their healing environment.[16]

Evidence Criteria

4.4.1. Selection of surgical aseptic technique or standard aseptic technique is consistent with policies and procedures of the service provider.[17]

4.4.2. Surgical aseptic technique is implemented when performing a wound dressing procedure that:

- Is technically complex.[18-21]
- Penetrates a sterile body cavity (e.g. nephrostomy or central venous line).
- Involves an extensive wound.[18]

- Is anticipated to be a longer procedure (i.e. > 20 minutes of wound exposure).[18, 19]

- Requires insertion of dressing material or a device into a wound sinus or cavity where the base cannot be entirely visualised.

4.4.3. Surgical aseptic technique is implemented when managing a wound in the operating theatre.[17, 18, 20]

4.4.4. Standard aseptic technique is implemented when the wound healing environment is not compromised and the criteria for surgical aseptic technique outlined in 4.4.2. to 4.4.3. is not demonstrated. For example, standard aseptic technique may be implemented when:

- The procedure is technically simple.[18]

- The procedure is anticipated to be shorter in duration (i.e. < 2o minutes of wound exposure).[18, 20, 21]

4.5. Aseptic techniques are performed in a manner consistent with best available evidence.

Evidence Criteria

4.5.1. Performance of surgical aseptic technique or standard aseptic technique is consistent with policies and procedures of the service provider.[22]

4.5.2. Appropriate hand hygiene is attended before, during and after wound dressing procedures, regardless of the use of gloves.[18, 19, 21, 23]

4.5.3. Exposure to airborne contaminants is avoided during wound dressing procedures.[21]

4.5.4. Surgical aseptic technique is performed using, sterile gloves and a critical aseptic field.[17-19, 24]

4.5.5. Standard aseptic technique is performed using non-sterile gloves and a general aseptic field.[17, 25]

4.5.6. Contaminated waste is disposed of appropriately at the completion of a wound dressing procedure.[18, 19, 21]

4.6. Showering or washing of approximated incisions and lacerations[18, 26-31] and chronic wounds[28, 32, 33] is only performed after a risk assessment and in a manner consistent with best available evidence.

Evidence Criteria

4.6.1. The showering or washing of approximated incisions[18, 26-31] or chronic wounds[28, 32, 33] is consistent with policies and procedures of the service provider.[22]

4.6.2. If the showering of approximated incisions or lacerations[18, 26-31] or chronic wounds[28, 32, 33] is assessed as appropriate, potable water is used.

4.6.3. If washing of chronic wounds[28, 32, 33] is assessed as appropriate, potable water and non-sterile gloves are used.

4.7. Wound bed tissue is protected and optimised for wound healing.

Evidence Criteria

4.7.1. Devitalised or infected tissue is removed from the wound bed using an appropriate cleansing or debridement method with consideration to:[1, 5, 14, 34, 35]

- Wound assessment outcomes.
- Arterial insufficiency.
- Spreading or systemic infection.
- Uncontrolled comorbidities.
- Access to sterile equipment.
- Clinical competence.

4.7.2. Foreign bodies are removed from the wound bed.[34]

4.7.3. Aggressive wound cleansing is avoided, except when the goal of care is debridement.[5, 36]

4.7.4. Known allergens and agents that are toxic to tissue are avoided.[35-37]

4.7.5. Products, pharmaceuticals, devices and interventions that traumatise the wound bed are avoided.[36, 38, 39]

4.7.6. Products, pharmaceuticals, devices and/or irrigation are avoided in sinus tracking for which dimensions cannot be visualised without further investigations.

4.7.7. Products, pharmaceuticals, drainage tubes or devices inserted into a sinus are in one continuous piece, are able to be visualised and are secured at the wound surface.[40]

4.7.8. Products, pharmaceuticals, drainage tubes or devices inserted into the wound are documented and removed in entirety.

4.7.9. The wound bed, peri wound/surrounding tissues are protected from pressure, shear and friction through:[3, 5, 11, 41]

- Avoiding tight or excessive packing that may damage the wound bed.
- Using preventive strategies (e.g. prophylactic dressings) when medical devices (e.g. drainage tubes) are in use.

- Using pressure offloading strategies including repositioning, pressure redistributing support surfaces and heel devices, particularly for plantar foot wounds and pressure injuries.
- Using appropriate repositioning techniques to avoid shearing.

4.8. Wound-related infection and cross infection are prevented and managed.

Evidence Criteria

4.8.1. Adequate and regular hand hygiene is practised and is consistent with universal precautions.[21, 23]

4.8.2. Personal protective equipment (e.g. plastic apron, mask and goggles) is used when there is a risk of contamination to the individual or the interprofessional team or health care workers.[21, 42-44]

4.8.3. The individual's immune response is optimised through management of other health conditions and nutritional deficits.[1, 3-5]

4.8.4. The risk of wound bed contamination by exogenous microorganisms is reduced through:[1, 39]

- Using appropriate aseptic technique.
- Performing wound dressing procedures with appropriate frequency.
- Performing adequate wound cleansing.
- Performing adequate debridement using an appropriate technique for the wound bed condition.

4.8.5. Products, pharmaceuticals, devices and interventions that are used are supported by evidence.[3-5, 40]

4.8.6. Use of systemic antibiotics (and, rarely, topical antibiotics) is consistent with the policies and procedures of service providers, relevant guidelines, and the principles underpinning antibiotic stewardship.[14, 45-47]

4.8.7. When clinical indicators of biofilm, covert or overt signs of local wound infection are present, appropriate management is initiated, for example:[1, 3-5]

- Frequent and adequate cleansing and debridement of the wound bed.
- Prudent and discriminate use of tissue friendly topical antiseptic products (e.g. cadexomer iodine, silver products, wound-grade honey, polyhexamethylene biguanide [PHMB]).
- Selection of topical therapies made with consideration of the evidence and the risk of adverse effects.

4.8.8. When signs and symptoms of spreading infection and/or systemic infection and/or osteomyelitis are present, appropriate management is initiated, for example: [3-5, 47, 48]

- Consideration of pathological and radiological investigations (e.g. semi-quantitative swab culture, wound biopsy, peptide nucleic acid fluorescent *in situ* hybridisation [PNA-FISH], light and electron microscopy, plain x-ray, magnetic resonance imaging, bone scan) and clinical assessment outcomes in determining causative organisms.
- Prudent and discriminate use of tissue friendly topical antiseptics in combination with targeted systemic antibiotic therapy.
- Appropriate referral to interprofessional team members (e.g. infectious diseases team).

4.9. An optimal wound moisture balance is maintained and the peri-wound/ surrounding tissue is protected from moisture.[2-5, 35, 49-55]

Evidence Criteria

4.9.1. A moist wound healing environment is promoted, except in the following situations where this is clinically contraindicated:[1, 3, 5, 34, 54]

- In the presence of dry, stable eschar with insufficient blood flow to the affected body part to support wound healing and immune responses to infection.
- In conservative wound management when healing is not a realistic goal and eschar protects underlying vascular structures and tissues against bleeding or infection.

4.9.2. Products, pharmaceuticals, devices and interventions are selected based on their ability to maximise moisture balance while adequately managing exudate.[1, 2, 34, 50, 54]

4.9.3. Products, pharmaceuticals, devices and interventions that desiccate the wound bed and/or surrounding tissue are avoided.

4.9.4. Wound dressings are changed with sufficient frequency to prevent maceration from wound exudate.[2, 35]

4.9.5. Drainage of wound exudate from the wound bed is promoted (e.g. avoid excessive or tight wound packing).

4.10. An optimal wound temperature is maintained when performing a wound dressing procedure.[54, 56]

Evidence Criteria

4.10.1. Wound exposure is minimised.[57]

4.10.2. Exposure of the wound to cool temperatures, including cooled products, solutions, wound dressings, pharmaceuticals, therapies or devices is avoided.[57, 58]

4.10.3. Cleansing solutions are warmed to body temperature before application to the wound bed.[42, 59, 60]

4.10.4. Extremes in body and intact skin temperatures are prevented by:[5, 58, 61]

- Limiting skin contact with plastic bed and pillow protectors and plastic lined garments.
- Avoiding overheating with clothing, bed linen or heating devices.
- Promoting adequate hydration.
- Maintaining a stable and comfortable environmental temperature.

4.10.5. Advice on maintaining normal body and skin temperature is provided.

4.11. An optimal wound pH is maintained when performing a wound dressing procedure and skin care.[56, 62-67]

Evidence Criteria

4.11.1. A neutral or slightly acidic wound pH is promoted by avoiding the use of alkaline soaps, cleansers and other agents.[3, 5]

4.11.2. Desiccation of the wound bed/peri wound, which increases wound alkalinity, is avoided.[65]

4.12. Potential and actual impact of wound-related pain is minimised.

Evidence Criteria

4.12.1. Causative factors of pain (e.g. infection, activities or devices) are identified and managed.[1, 3-5, 68-71]

4.12.2. Wound dressings, pharmaceutical products and devices that minimise trauma on application and removal are selected.[1, 5, 35, 72-74]

4.12.3. Non-pharmacological adjunctive interventions to prevent, minimise and manage wound-related pain are implemented and regularly reviewed.[1, 3-5, 72, 73, 75-78]

4.12.4. When non-pharmacological interventions are insufficient to control pain, an analgesia regimen is prescribed, implemented and regularly reviewed.[1, 3-5, 72, 79]

4.13. Innovations for stimulating wound healing, including biophysical technologies and treatments that alter the biology of the wound, are considered with respect to the evidence base demonstrating their efficacy in similar populations and the potential risks of treatment.[14, 34]

Evidence Criteria

4.13.1. Biophysical technologies that purport to stimulate wound healing (e.g. electrical stimulation, ultrasound and electromagnetic treatment) are used as adjunctive therapies, and do not replace accepted standards of wound management.

4.13.2. Therapies that purport to change the biology of the wound (e.g. biological dressings, growth factors and topical oxygen) are used as adjunctive therapies, and do not replace accepted standards of wound management.

4.14. Products, pharmaceuticals and devices are used in accordance with licensing acts, regulations and manufacturer guidelines and their integrity is maintained.[80, 81]

Evidence Criteria

4.14.1. Products, pharmaceuticals and devices are used for the indications approved by the Therapeutic Goods Administration or, when used as a component of a research protocol, with appropriate ethics approval.

4.14.2. Products, pharmaceuticals and devices are used, stored and maintained according to the manufacturer's instructions.

4.14.3. Products, pharmaceuticals and devices are changed or replaced as frequently as required to perform their designated function.

4.14.4. Compatibility and efficacy is evaluated when using products in conjunction with one another.

Background and Context

Goals of care

Developing goals of care collaboratively and with input from the individual and their informal carers is intrinsic to successful wound prevention and management. Goals of care should be specific, measurable, attainable, relevant and time bound. They should consider the individual's specific circumstances and the resources available. Goals that are measurable and time bound can be tracked and reviewed to determine the efficacy of interventions and review the management plan.[82]

In individuals for whom ability to heal is significantly compromised (e.g. palliative care, inadequately perfused wounds, distal gangrene), conservative wound management is an option.[2, 35, 83] Management of symptoms that concern the individual (e.g. pain and odour) and prevention of further skin breakdown are appropriate interventions for maintenance of non-healing wounds. Aggressive

sharp debridement is not appropriate in palliative care or for wounds without the ability to heal.[2]

Evidence based practice

Development of a prevention and management plan is underpinned by the individual's preferences, wound and/or risk assessment and the established goals of care. Prevention and management decisions should ideally be based on scientific evidence that provides objective data indicating the efficacy of the intervention. Maintaining a scientific and evidence-based approach when making clinical decisions regarding wound management and prevention is associated with superior clinical outcomes and more cost-effective care.[84] However, it is important that evidence is not used in isolation. A body of evidence on specific interventions requires interpretation and evaluation by the care team and individual team members to determine its appropriateness to the individual e.g. personal preferences), the interprofessional team (e.g. skill level) and the local setting (e.g. resources).[84, 85]

Advances in knowledge, technologies and emerging wound therapies are ongoing, and the interprofessional team and health care workers are advised to seek best evidence for their implementation. Systematic reviews and clinical practice guidelines are sources of evidence that can provide comprehensive and concise guidance for health care professionals and health care workers. These sources generally compile the best available evidence for interventions and develop recommendations for best clinical practice based on the strength of the body of scientific evidence. However, as highlighted in many wound prevention and management guidelines,[3-5, 86] the current evidence base for many wound prevention and management strategies is limited in quality and/or quantity, and the availability of new evidence is ongoing.[85] The interprofessional team and health care workers therefore have an obligation to maintain a contemporary knowledge base and to develop skills in evaluating and translating evidence into relevant clinical practice that is applicable to specific individuals in their care.[87]

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STANDARD 5

DOCUMENTATION

Documentation will provide a legal, comprehensive, chronological record of assessments and progress, investigations of the individual's wound and risk of wounding, wound management and/or prevention plans, and the outcome of care.

Rationale

Accurate, comprehensive and chronological health records promote the safety of the individual, continuity of care delivery and ability to determine if the care plan is effectively meeting the goals of care. Maintenance of health records in an accurate and clear manner is a legal requirement that protects the individual, their informal carer and the interprofessional team.

Criteria

Appropriate documentation includes:

5.1. Maintenance of a legible health record (e.g. health history and wound management plan) that meets legislative, regulatory and service provider requirements.

Evidence Criteria

5.1.1. The service provider has a documentation policy detailing the way in which health and wound information will be collected and stored.

5.1.2. Handwritten records are legible and interprofessional team members complete each health record entry with their name, designation, signature and date.

5.1.3. Electronic records (e.g. wound assessments) are stored in a manner consistent with privacy legislation (including records stored by offshore third party service providers) and are backed up on a regular basis.[1, 2]

5.1.4. Records are maintained, stored and transferred according to legislative, regulatory and service provider requirements.[1-7]

5.1.5. Notification of transfer of records is given to individuals in accordance with local legislation.[3-5, 8]

5.1.6. Old health records are destroyed in a secure manner.[3-6, 8]

5.1.7. Documentation systems are maintained in a format that facilitates audit, research and evaluation of care.[7, 9-14]

5.1.8. Health records associated with wound prevention and management are provided to the new interprofessional team if the individual transfers to a new health care service, with the consent of the individual.

5.2. Documented consultation with the individual and their informal carer regarding the use of their health information.

Evidence Criteria

5.2.1. The individual and/or their informal carer are provided with information relating to collection of health-related information and to whom access to documentation is given.[2]

5.2.2. Informed consent is obtained for performance of clinical interventions.[15, 16]

5.2.3. Informed consent is obtained for wound assessments or management reviews performed via telehealth.

5.2.4. Informed consent is obtained prior to the recording and use of wound images.[16]

5.3. The individual's health record is documented comprehensively, chronologically and accurately.

Evidence Criteria

5.3.1. The individual's health record contains documented wound-related assessment; including:[9, 14, 17, 18]

- Comprehensive assessment of the individual, the wound and the environment.
- Diagnostic investigations and results.
- Individual's expectations.
- Long and short term goals of care.
- The individual and their informal carer's preference, ability and willingness to participate in care decisions and interventions.[15]

5.3.2. The individual's health record contains documented wound management planning, including:

- Evidence of interprofessional communication and collaborative care.[15, 19]
- Evidence that the individual and his/her informal carer receive information about care options in a manner that is considerate of their age, cognitive status, health literacy and culture that is used in care planning decisions.[15, 18]

- Documented care decisions and management plan that includes evidence based interventions to manage the individual and the wound.[14, 18, 19]

5.3.3. The individual's health record contains documented review and evaluation of wound management and progress toward goals of care, including:[14, 18]

- Wound healing and health outcomes (e.g. pain management, management of infection, psychosocial outcomes).
- Any adverse effects associated with management.
- Any changes to the wound prevention and/or management plan, including rationales.

Background and Context

Documentation of wound prevention and management is important from a variety of perspectives. The individual's health record details the efficacy of the management plan and the progress toward care goals. It is a method through which the interprofessional team and health care workers can communicate with each other regarding the individual's progress and any issues that may arise in care delivery. Documentation also records interprofessional referrals and forms an ongoing legal account of the care provided.

Maintaining legible and lawful health records

Legible records are important to ensure continuity of care, and are required from a medico-legal perspective. Record entries should be signed and dated, and the identity of the team member completing the record should be legible. Documentation should be accurate, specific and use only standard abbreviations. Documented health records should not be altered or erased. If changes are required, additional information can be added to a record (and dated) or information can be deleted by ruling through the mistaken entry and initialling and dating changes.[20, 21] These principles promote continuity of care and protect the individual and interprofessional team and health care workers in the event of complaints or legal action.[14]

Under Australian Privacy Principle One[2] health service providers are required to clearly express how health-related information will be collected and managed. This information should be available for the individual, informal carers and members of the interprofessional team and health care workers. The kind of information that should be included in the health service's privacy policy includes the kind of information that is collected and how it is used, for what purposes information is disclosed to other people or service providers, the process for an individual to access their documented medical record, and how individuals can make a complaint if their privacy is breached.[2] Other Commonwealth and State legislation includes guidance on ways in which medical records must be stored, who may access records, the length of time records must be stored and how records are transferred or destroyed.[1, 3-6, 8, 22]

Documenting patient decision making

The right to engage in decisions regarding one's care is a foundation health care principle. Informed consent requires the individual to have engaged in an informed

decision making process with the support of the interprofessional team and his or her informal carers. Counselling the individual about the role and outcome of assessment of a wound or the risk of wounding and options for care based on the assessment should be thoroughly documented in the individual's health record, including the education with which the individual was provided, the individual's goals for care, alternative care strategies that have been discussed, and the choices the individual has made with respect to ongoing care planning and delivery. This documentation serves as a both a legal record, and communication to the interprofessional team and health care workers regarding the education and consultation that has been undertaken.[15]

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STANDARD 6

EDUCATION

Opportunities for advancing self-knowledge and skills in wound prevention and management are maximised.

Rationale

Engaging in continuous professional development promotes knowledge of the latest wound prevention and management practices and enables adoption of an evidence based approach to clinical care.

Education of the individual and their informal carer maximises their ability to participate in care decisions and activities.

Criteria

Maximised education opportunity includes:

6.1. Learning needs of members of the interprofessional team and health care workers in wound prevention and management are identified.[1-6]

Evidence Criteria

6.1.1. A continuous professional development plan is developed and reviewed annually.

6.2. Opportunities for advancing knowledge and skills in wound prevention and management are undertaken.[1-5]

Evidence Criteria

6.2.1. Evidence-based educational strategies relevant to individual needs are undertaken.

6.3. The learning needs of the interprofessional team are supported.[3, 7-9]

Evidence Criteria

6.3.1. Individual team members demonstrate positive role modelling.

6.3.2. Individual team members share their knowledge and skills with the interprofessional team and health care workers.

6.4. The interprofessional team regularly identifies, critiques, implements and evaluates evidence for wound prevention and management.

Evidence Criteria

6.4.1. The interprofessional team has access to contemporary wound prevention and management research and best practice.

6.4.2. The interprofessional team has collaborative processes through which new evidence is critiqued and introduced into clinical practice.

6.4.3. The service provider supports adoption of new practice.

6.4.4. New evidence is implemented in the care of individuals with or at risk of wounds and outcomes are regularly reviewed.

6.5. Learning needs of the individual and their informal carers are supported.[10-14]

Evidence Criteria

6.5.1. Learning needs of the individual and their informal carers are assessed and documented.

6.5.2. Relevant learning opportunities are provided to individuals and their informal carers in a manner that is appropriate to age, cognitive status, health literacy, language and culture.

6.5.3. Individuals and their informal carers are provided with advice on how and where to access evidence-based health information and support.

Background and Context

Education for the interprofessional team

It is essential that the interprofessional team have the skills they need to undertake evidence based care required to optimise wound healing. Many individuals who sustain wounds have complex health care issues that influence their ability to heal and these individuals require health care professionals with advanced skills to intervene appropriately to optimise healing outcomes.[7] It is a professional responsibility to ensure that one's clinical skill set is contemporary, evidence based and competent.

Specialised wound practitioners not only perform advanced wound assessment and management, but also have a significant role in role modelling and providing education to other members of the interprofessional team.[5, 7, 15] International research demonstrates that facilities that engage a specialist trained tissue viability/wound/ostomy and continence nurse have lower rates of adverse skin events and improved healing outcomes for individuals with wounds.[15-19]

Optimising knowledge for individuals and informal carers

Without knowledge of factors associated with the prevention and development of a wound and strategies to prevent and manage wounds, the individual is limited in

their ability to actively participate in health planning and delivery. Understanding the knowledge needs of the individual and their informal carers provides the interprofessional team with a foundation for planning and delivering education. Learning needs extend beyond practical wound prevention and management skills and include knowledge regarding the influence of comorbidities and lifestyle on wound prevention and healing.

Individuals and their informal carers should have access to contemporary wound prevention and management knowledge. This may be in the form of one-to-one education or group education.[20-22] Provision of written education material reinforces verbal education. In developing such resources, consideration should be given to the language and reading level. Recent studies have shown that less than 1% of government prepared health education material for patients is targeted at a reading level below grade 8, which is the Australian average.[23]

A significant number of individuals access information via the internet; however, sources are not always complete, accurate, reliable or evidence based. An important role for health care professionals and health care workers is educating individuals in appraising the reliability of information sources, identifying sound educational websites (e.g. government, university or health care organisation sites) to access, and discussing information that individuals have located to ensure it is reliable and accurately understood.[24]

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STANDARD 7

CORPORATE GOVERNANCE

The service provider framework supports evidence based wound prevention and management.

Rationale

Service providers are accountable to individuals receiving care in the system and to the interprofessional team and health care workers. Service providers have a responsibility to ensure continuously improving service quality that promotes excellent clinical care.

Criteria

The service provider supports wound prevention and management through:

7.1. Evidence based practice is endorsed.[1-6]

Evidence Criteria

7.1.1. Access to evidence based, documented protocols to guide wound prevention and management within the organisation is ensured.

7.1.2. Access to evidence based learning for the interprofessional team is facilitated.

7.1.3. Access to the necessary resources for the implementation of cost effective, evidence based practice in the prevention and management of individuals with wounds is provided or facilitated.

7.2. Resources to ensure systematic collection of information are provided.[4, 6-16]

Evidence Criteria

7.2.1. A systematic process for the collection and security of wound related health records is in place.

7.2.2. Audits of quality activities for the delivery of best practice in wound prevention and management are conducted on a regular basis and the outcomes are actively used to improve care delivery.

7.2.3. Wound surveillance and prevalence surveys are conducted on a regular basis and the outcomes are actively used to improve care delivery.

7.2.4. Research activities are facilitated and endorsed when appropriate.

Background and Context

Effective clinical governance requires collaboration between services, staff members and individuals whom the facility serves. Strategies that are shown to successfully promote strong clinical governance include establishing and maintaining links with both similar and linked organisations (e.g. ambulatory care services, paramedicine, pharmacies, general practices, long term care facilities and wound clinics).[17, 18] Establishing and nurturing peer networks increases access to resources and proliferates effective clinical governance strategies at the management level and evidence based practice at the clinical level. Leveraging external supports (e.g. state or regional organisations) is also associated with strong clinical governance.[17]

Promoting excellence in knowledge and practice

Effective continuous quality improvement programs incorporate multiple strategies to achieve reductions in preventable wounds and promote wound healing. Engaging the interprofessional team in continuous quality improvement initiatives is an imperative. Recent literature suggests that skin and wound programs that incorporate a specialised wound practitioner assigned to deliver wound education, assist the interprofessional team and health care workers in managing wounds and take responsibility for wound surveillance/skin assessments is a highly successful strategy.[4, 19] Wound "champions" can play a significant role in teaching, role modelling and disseminating evidence based practice.[4, 19]

Consumer participation in health care

Consumer participation in ensuring the service provides high quality care is an effective component of clinical governance and enshrined in the national standards.[6, 20] Partnering with individuals whom the organisation services is demonstrated through sharing of information; treating individuals with dignity and respect; and engaging individuals, their informal carers and members of the community in policy development and safety and quality projects. Promoting rights and responsibilities of individuals, maintaining transparent communication and responding to the diverse needs of individuals are important components of ensuring individuals participate in their own health care and quality improvement within the service.[18, 21, 22] This expectation underpins the *Wound Management and Prevention Standard* on *Collaborative Practice*.

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GLOSSARY OF TERMS

Adjunctive/adjuvant interventions: Therapies that are used to enhance the healing effect of standard wound prevention and management interventions. Adjuvant therapies include biophysical agents (see *Biophysical technology*), biological agents (e.g. cytokines, growth factors and collagen), pressure offloading devices, pressure redistribution support surfaces and dietary supplements (e.g. vitamins and minerals).

Angiography: A medical imaging technique to investigate blockages, narrowing, inflammation or abnormal widening or bleeding in the blood vessels. Contrast medium is injected into 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.[1] 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.[2]

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

Antiseptic: An agent that kills microorganisms.[5]

Asepsis: "Freedom from infection or infectious (pathogenic) material,"[6, p. 81] a standard of wound management that can practicably be achieved in typical healthcare settings and the community (as compared to sterile, which can only be achieved in controlled environments).[7]

Aseptic technique: A wound management technique that aims to prevent introduction into the wound of pathogenic microorganisms in quantity sufficient to cause infection.[7]

> **Surgical aseptic technique:** required for complex or longer wound dressing procedures (i.e. longer than 20 minutes) involving larger open wounds, multiple wounds, or wounds without entirely visible wound beds. Sterile gloves, non-touch technique and a critical sterile field are used to protect key sites and key parts.[7]
>
> **Standard aseptic technique:** used for simple wound dressing procedures that are shorter in duration (less than 20 minutes) and involve few key sites or key parts. Non-sterile gloves can be used, and a non-touch technique and general aseptic field are used to protect key sites and key parts.[7]

Biofilm: A structured community of genetically diverse microbes that creates behaviours and defenses that produce unique chronic infections. Essentially microbe cells stick to both each other, and the surface to which they adhere, producing an extracellular matrix that contributes to the robust biological structure of a biofilm. These characteristics significantly increase its tolerance to antibiotics and biocides and protect it from host immunity.[8]

Biophysical technology: A therapy used to deliver a specific technological treatment agent/energy to a wound. Biophysical energies are delivered using specially designed medical devices that require specialized training before use. Biophysical modalities can be classified in the following categories, although some treatments deliver more than one energy form.[9] Also referred to as adjunctive therapies and biophysical agents. Categories of biophysical technologies includes:

> **Electromagnetic spectrum technologies:** (e.g. electrical stimulation, electromagnetic field therapy and phototherapy) Electrical and magnetic fields are two component properties of electromagnetic radiation. Properties of these two fields may be altered by the device design so that one or other is dominant. The therapies use different electromagnetic field frequencies or wave lengths and create similar physiological responses.[9]
>
> **Acoustic technologies:** (e.g. low frequency ultrasound, high frequency ultrasound) Acoustic technologies deliver sound waves to the tissues to stimulate healing. Ultrasound devices combine the delivery of sound waves with kinetic energy from pressure waves causing molecules within tissues to vibrate or oscillate.[9, 10]
>
> **Mechanical or kinetic technologies:** These include therapies that apply subatmospheric (e.g. negative pressure or suction), kinetic (e.g. pulsatile lavage or vibration therapy) or atmospheric (e.g. hyperbaric oxygen or topical oxygen) modalities directly or indirectly to the wound bed with a goal of promoting tissue healing.[9]

Biothesiometer: An instrument designed to measure the threshold of vibration an individual can perceive. The amplitude is gradually lowered until the individual can no longer discern the vibration.

Body mass index (BMI): An individual's weight in kilograms divided by the square of the individual's height in metres.

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.

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, and are painless.[11]

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.[12]

Cognition: Mental process of learning, understanding and knowing that is a result of thought, experience and the senses. It includes knowledge, attention, memory, judgement, reasoning, decision making, comprehension and language.

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.

C-reactive protein: A blood test that provides an indirect measure of inflammation activity in the body.

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 wound bed of and promotes a stimulatory environment. Methods of debridement include autolytic debridement (promotion of naturally occurring autolysis), biological debridement (e.g. larval therapy), conservative sharp debridement, enzymatic debridement, mechanical debridement, low frequency ultrasonic debridement and surgical sharp debridement.[13]

Desiccation: The drying of the wound bed and peri-wound.[14]

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 my 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.[15]

Devices: Equipment used in the management of wounds that may include (but are not limited to) ostomy and wound management appliances, negative pressure wound drainage collection apparatus, tubes, catheters, drains, stents, topical negative pressure wound systems, pressure garments, orthotics and pressure redistribution equipment.

Devitalised tissue: Dead tissue presenting as necrotic tissue or slough.[16]

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 an indirect measure of inflammation activity in the body.

Erythema: superficial reddening of the skin.[9]

Eschar: Black or brown necrotic, devitalised tissue that can be loose or firmly adherent and hard or soft, and may appear as leathery.[3, 13]

Exogenous: Originating outside the body.

Extrinsic factors: Originating outside of the body.

Exudate: fluid that is excreted from the wound bed as part of the inflammatory response and is composed of serum, fibrin and white blood cells. Exudate has a healing function, for example through providing a barrier to restrict bacteria and debris entering the wound.[17, 18] Exudate types include:

Serous: Thin, watery and clear exudate.[17, 18]

Haemoserous: Thin, watery and pink exudate.[17]

Sanguineous: Bloody red drainage, fresh bleeding.[17]

Seropurulent: Murky, yellow or brown exudate with a thick or creamy consistency.[17]

Purulent: Thick, opaque pus with an offensive odour.[17]

Fibrin: A protein involved in clotting of blood. When wound bleeding occurs, the fibrinogen in blood plasma is converted into fibrin by the action of the clotting enzyme 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.[19]

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: Fragile, easily injured tissue.

Friction (frictional force): The resistance to motion in a parallel direction relative to the common boundary of two surfaces (e.g. when skin is dragged across a surface, such as bed linen).[9, 20, 21]

Gangrene: Gangrene is the death of localised body tissue. It may be wet (occurring due to necrotising bacterial infections)[22] or dry (occurring due to tissue ischaemia due to a range of causes including peripheral arterial disease, venous insufficiency, thrombosis, trauma frostbite or embolism).[23] Early signs of wet gangrene include blisters, bruising that precedes skin/tissue necrosis, crepitation and cutaneous numbness. These symptoms require urgent investigation.[22]

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.[3]

Glycosylated haemoglobin (HbA1c): A test that indicates an individual's average blood glucose level over the preceding 10 to 12 weeks.

Health care worker: In this document, a health care worker is an individual employed in a role to deliver assistance in managing health but who has not completed a professional degree or who does not work in a role that is regulated by the Australian Health Practitioner Regulation Agency.

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.[24]

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

Hyperkeratosis: An increase in dead cells on the surface of the skin (stratum corneum) that may be referred to as scaling.[25]

Hypergranulation: Also referred to as over granulation. Hypergranualtion is present when there is excess granulation tissue such that the tissue progresses above the base layer of the wound bed, presenting as raised, soft, shiny, friable red tissue that lacks the granule appearance of granulated tissue. Hypegranulation inhibits the migration of epithelial cells resulting in slowing of the healing process. [26]

Induration: Hardening of soft tissues.

Individual: In this document, individual refers to a person with 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.[27] 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.[12] The transition that can be categorised as:

Contamination: The presence of bacteria within the wound without bacterial multiplication[28] and with no impairment to health or obvious clinical signs of infection.[29] A wound swab and quantitative evaluation is required to detect the presence of bacteria.

Colonisation: The replication of microorganisms on the surface of the wound without invasion into wound tissue and without host immune response.[30] A wound swab and quantitative evaluation is required to detect the presence of bacteria.[12]

Local infection (covert): (previously known as critical colonisation) early local infection in which increased microbial burden is characterised by covert signs and symptoms including static/delay in wound healing, rolled edges, changes in granulation tissue (e.g. bright friable hypergranulation or pocketing), bridging of tissues, increased exudate and pain/discomfort.[12]

Local infection (overt): local infection in which increased microbial burden is characterised by classic signs and symptoms of infection including pain, tenderness, warmth/heat, erythema, oedema and purulent exudate.[12]

Spreading infection (e.g. cellulitis): Bacteria and/or their products have invaded adjacent or regional tissues causing diffuse, acute inflammation and infection of skin or subcutaneous tissues.[3, 29]

Systemic infection (e.g. sepsis, bacteremia): host response to infection includes systemic signs and symptoms in body systems beyond the skin and surrounding tissues. Signs and symptoms include loss of appetite, general malaise, pyrexia, increased white cells and raised C-reactive protein.[27]

Informal carer: In this document an informal carer refers to a non-employed person who provides support for an individual with a wound (e.g. a family member).

Interprofessional team: In this document, the interprofessional team is a collaborative team of health care professionals (e.g. nurses, medical practitioners, surgeons, physiotherapists, dietitians), who all work together with health care workers, the individual and informal carers to develop and implement a care plan aimed at achieving mutually agreed upon the goals of care.[31, 32]

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.[33, 34]

Maceration: Softening of skin occurring as a result of excessive moisture exposure that can lead to skin break down, particularly when moisture exposure is accompanied by friction or shearing force. Macerated skin has a wrinkled, white, soggy and soft appearance.

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. 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. Calibrated nylon threads/monofilaments (sometimes called Semmes-Weinstein mono-filaments) that 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 detected.[35]

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.[16]

Non-concordance: Disagreement between an individual and members of the collaborative team regarding goals of care of the way in which care will be undertaken.

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, 21]

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. Infection is usually the result of bacteria with gram positive *S. aureus* accounting for up to 90% of cases.[36]

Palliative care: Care focused on holistically supporting the individual for comfort rather than cure, or healing of the wound, while enhancing the quality of living and dying.[37, 38]

Peri-wound: The area immediately adjacent to the wound edge extending out 4cm, and including any skin under the wound dressing. [39] The peri-wound and surrounding skin can be affected by moisture (e.g. maceration and excoriation) or may have dryness, hyperkeratosis, callus or eczema.[39] The condition of the peri-wound and surrounding skin is often a result of management strategies (e.g. contact dermatitis in response to a wound dressing), but can also be related to the wound type (e.g. dermatological problems are particularly associated with venous ulcers).[39, 40] The

peri-wound and surrounding skin can also be indicative of the wound condition (e.g. erythema, warmth and swelling indicates potential wound infection)[39] or of overall health issues influencing wound healing (e.g. pale or bluish skin can indicate poor vascular supply).

Peptide nucleic acid fluorescent *in situ* hybridisation (PNA-FISH): A laboratory-based method of detecting of bacteria and yeast species directly from positive blood culture bottles using fluorescent microscopy.[41]

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.[9]

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.[42] 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.[2]

Pigmentation changes: Changes in the colouring of the skin.

Pocketing: This occurs when granulation tissue does not grow in a uniform manner across the entire wound or when healing does not progress from the bottom up to the top of the wound. Pockets can harbor bacteria.

Potable water: Water that is fit for consumption by humans and animals.

Pressure injury: A localised injury to the skin and/or underlying tissue, usually over a bony prominence, as a result of pressure or pressure in combination with shear. Previously referred to as a pressure ulcer, pressure sore, bedsore and decubitus ulcer.[9, 21]

Prevalence: The proportion/percentage of individuals in a defined population who have a wound at a specified point in time.

Prophylactic dressing: A dressing that is placed onto the skin before any skin damage is evident with a goal of preventing skin breakdown due to pressure, shear and alternations in the skin's microclimate. Features such as an elastic adhesive type (e.g. silicone), the number of dressing layers and their construction, and the size of the selected dressing all contribute to its ability to protect the skin.[43]

Quality of life: An individualised and qualitative measure of the impact of disease and/or disability and treatment on the individual's ability to lead a fulfilling life.[44]

Risk assessment: An assessment that is conducted to determine the presence of factors known to be associated with a condition (e.g. pressure injuries, incontinence).[3]

Service provider: Any organisation, institution, facility or company that is responsible for provision of wound management or related services.

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.[3, 45]

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: Soft, generally moist, devitalised (non-viable) tissue. It may be white, yellow, tan, or green, and it may be loose or firmly adherent.[3]

Specialised wound practitioner: In this document, a health care professional who has undertaken a specialist education course in wound prevention and management.

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.[9, 21]

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.[2, 46]

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.[2]

Tunneling: See *Sinus tract*.

Ultrasound (therapeutic): see *Biophysical technology*.

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.[3, 45]

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.[47]

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.[2]

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.[48]

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.[49]

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 can be defined as primary (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 include (but are not limited to) antimicrobial agents (e.g. silver or honey impregnated), alginates, collagen matrix, composites, foam, hydrocolloid, hydrogels, silicone and transparent films.[50]

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.[39]

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