AUSTRALIAN STANDARDS FOR WOUND PREVENTION AND MANAGEMENT

Fourth Edition

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Australian Standards for Wound Prevention and Management
Fourth edition

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Development of the Standards
Wounds Australia wishes to acknowledge that the Fourth Edition of the *Australian Standards for Wound Prevention and Management* has been produced through a unique collaboration by the Western Australian Health Translation Network (WAHTN), as part of the Australian Health Research Alliance (AHRA) National Wounds Initiative. It has been funded by the Federal Government through its Medical Research Future Fund. Wounds Australia's Third Edition of the Standards forms the basis for this edition.

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Disclaimer
The *Australian Standards for Wound Prevention and Management* (Fourth Edition) represent the best evidence at the time of the literature search. The *Australian Standards for Wound Prevention and Management* reflect best clinical practice, to be implemented by registered health professionals and unregulated health care workers subject to their scope of practice and skills, clinical judgement, local policies and in consideration of the personal preferences of the individual with or at risk of a wound. The *Standards for Wound Prevention and Management* should be implemented in a culturally aware and respectful manner in accordance with the principles of protection, participation and partnership.

Accessing the Standards
Electronic copies of the *Australian Standards for Wound Prevention and Management* (Fourth edition) can be downloaded from: www.woundsaustralia.org

Printed copies of the *Australian Standards for Wound Prevention and Management* (Fourth Edition) can be ordered from Wounds Australia at www.woundsaustralia.org

Foreword

Acute and chronic wounds constitute a considerable care challenge and a financial burden on the Australian health system. Every Australian with a wound should expect and receive the same standard of care regardless of who they are, where they are and who is treating them. The detrimental impacts of a wound on an individual's health status, activities of daily living, quality of life and wellbeing can be monumental, with flow-on adverse outcomes for their significant others and the community.

The *Australian Standards for Wound Prevention and Management* (Fourth edition), provide a contemporary, evidence-based framework for delivery of best practice in wound prevention and management. The aim of this document is to facilitate high quality and safe clinical practice that optimises outcomes for Australians with, or at risk of, wounds. The Standards are intended for use by professional wound practitioners, organisations with wound services, educators, researchers, unregulated health care workers, individuals and family/carers across Australia. The *Australian Standards for Wound Prevention and Management* foster a collaborative approach to wound management and will inform clinical practice, quality and safety initiatives, development and implementation of policies and procedures, and resourcing of wound services.

The partnership and leadership of Wounds Australia, the Western Australian Health Translation Network and the Australian Health Research Alliance, which led to this national initiative are acknowledged, as is the participation of Australian individuals, peak bodies and organisations who responded to the invitation to review draft editions of the Standards. It is anticipated that the *Australian Standards for Wound Prevention and Management* will indeed make a difference to the care and health outcomes of all Australians with, or at risk of, a wound.

Hayley Ryan
Chair, Wounds Australia

Professor Ian Everall
Executive Director, WAHTN

Acknowledgements

The fourth edition of the *Australian Standards for Wound Prevention and Management* builds on the work completed for previous editions. Appreciation and recognition are extended to past development teams for their contribution to previous editions of the *Australian Standards for Wound Prevention and Management*. The involvement of Australian individuals, peak bodies and organisations who responded to the invitation to review draft editions of this document are acknowledged with gratitude, as is the significant input of the Expert Reference Group that contributed to the fourth edition, who are listed below.

Wounds Australia wishes to acknowledge that the fourth edition of the *Australian Standards for Wound Prevention and Management* has been produced through a unique collaboration with the Western Australian Health Translation Network (WAHTN), as part of the Australian Health Research Alliance (AHRA) National Wounds Initiative. It has been funded by the Federal Government through its Medical Research Future Fund. Wounds Australia's Third Edition of the Standards forms the basis on which this edition has been developed.

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Introduction

The *Australian Standards for Wound Prevention and Management* outline quality care for people with a wound or at risk of sustaining a wound. Quality wound practice is outlined across eight core standards that exemplify wound management in the Australian context.

Terminology used in the *Australian Standards for Wound Prevention and Management*

A range of wound practitioners, from both registered health professional and unregulated health care worker groups, with different education and training levels are involved in wound prevention and management in different clinical settings. Throughout the document, the term *wound practitioner* is used to refer to any person employed in the care of individuals with a wound or at risk of sustaining a wound. The term encompasses both *registered health professionals* and *unregulated health care workers* who are involved in wound management as part of a health service. A *registered health professional* is any person who has completed professional education in a health discipline that is regulated in Australia such as medical practitioner, nurse practitioner, registered and enrolled nurses, or allied health professional.[1, 2] An *unregulated health care worker* is any person who is working in an unregulated role, such as an Aboriginal health worker, assistant in nursing, support worker, disability worker, aged care worker.[1] When referring to the full team of wound practitioners (across clinical disciplines and professions, and including unregulated health care workers) who deliver care to individuals, the term *collaborative care team* is used.

Throughout the document, the term *wound service provider* is used to refer to organisations, facilities and services that provide care to individuals with or at risk of sustaining a wound. Unless specifically stated, the term refers to any service provider with admitted/registered care recipients (e.g. community health services, primary health care services, residential aged care facilities, long term care facilities, day centres, hospitals).

The term *individual/s* has been used to refer to people receiving wound management and the term *family/carers* has been used to refer to family members, friends and/or other significant support people who provide care to the individual within the context of an existing relationship.

The term *wound management* has been used when referring to clinical processes used when preventing and treating wounds (i.e. screening, assessment, prevention and treatment). The term *wound treatment* has been used when referring to procedures describing direct care to treat a wound. There is an assumption that screening and assessment underpins both wound prevention and treatment.

Target audience

The *Australian Standards for Wound Prevention and Management* are relevant to individual wound practitioners and at the wound service (organisational) level. The target audience under the umbrella of wound practitioners includes:

- Wound specialists/experts (i.e. people with specialist qualifications, experience or clinical roles in wound management).

- Health professionals (registered health professionals with a health discipline qualification) with involvement in wound management.
- Unregulated health care workers with involvement in wound management.

This edition of the *Australian Standards for Wound Prevention and Management* includes standards that are targeted to health organisations delivering services to people with, or at risk of, wounds. The level of involvement a wound service provider has in wound management will influence the relevance and application of the Standards to the service.

Structure of the *Australian Standards for Wound Prevention and Management*

The *Australian Standards for Wound Prevention and Management* consists of eight core Standards addressing the key concepts/domains of professional and clinical practice, as outlined in Figure 1. These Standards should be considered and used in conjunction with other clinical care standards, accreditation standards and professional standards.

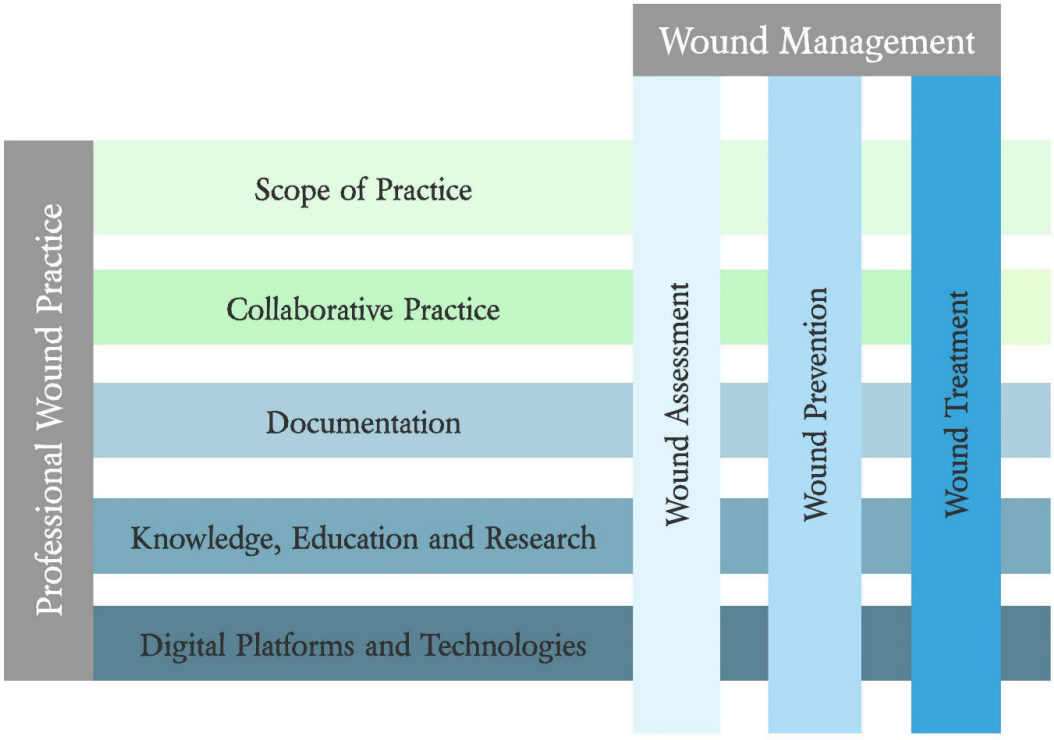

Figure 1. The eight core Standards

The eight core Standards address the ways in which wound practitioners deliver clinical wound practice, as well as expected standards for professional wound practice. These two areas of practice interact closely, as demonstrated in Figure 1. In this edition of the *Australian Standards for Wound Prevention and Management*, three core domains of wound management have been highlighted—wound assessment (including screening, assessment and evaluation), wound prevention

and wound treatment. These three Standards outline best practice in these domains based on current evidence. Exemplifying professional standards of care, which encompass practice within legal, moral and ethical frameworks as well as judiciously applying evidence, is core to delivering best wound practice.

Within the eight core domains, specific principles are outlined in 61 Standards (42 for wound practitioners and 19 for wound service providers), each of which details a level of care that reflects best practice and evidence criteria that demonstrate that the core Standard has been reached. Because the concepts throughout core domains are all closely related, some evidence criteria have been included in more than one Standard. For example, documentation requirements are specified in the *Documentation Standard*, and specific requirements for documenting wound assessments are also included as evidence criteria in the *Wound Assessment Standard.*

Each core Standard includes a rationale, criteria for achievement background and context as extended information, and a table of relevant resources that can be used to guide clinical performance that meets the core Standards. Resources were classified according to type and are coded throughout the document, as outlined in Table One.

Table 1. Resource types and coding

Type of document	**Code**
Standard or similar over-arching principle, including legislation	S
Evidence-based Clinical Practice Guideline	EBG
Consensus Document or Consensus-based Clinical Practice Guideline	C
Position Document	P
Primary Research	R

The relevance of the Standards to wound management in Australia

The *Australian Standards for Wound Prevention and Management* express attributes that reflect quality of wound practice applied across different contexts and clinical disciplines. They are not intended to be an exhaustive list of qualities that reflect best practice, but rather they are intended as contemporaneous guidance to the way wound management is considered, reflected upon and delivered for people in Australia. This edition of the *Australian Standards for Wound Prevention and Management* includes both professional standards and clinical governance standards.

What is a standard of practice?

A standard of practice is a statement that identifies an expectation regarding care that should be delivered to an individual. Standards of practice set out practices, procedures and behaviours that reflect exemplary ways in which registered health professionals and unregulated health care workers should deliver care. Standards define expectations of health service delivery, knowledge, competency and proficiency that promote safe, consistent and reliable health care.

The information outlined in a standard provides criteria by which the quality of health care can be evaluated. Standards provide a valuable tool, not only for guiding clinical practice, but also for informing the development of policies, procedures, education, research initiatives and continuous quality improvement programs (including auditing and staff appraisal). Standards therefore play an important role in improving the safety of the individual and promoting positive care outcomes.

However, standards cannot be used in isolation. A range of other important resources guide the way in which care is delivered safely and at a high standard by wound practitioners. Some of these resources are illustrated in Figure 2.

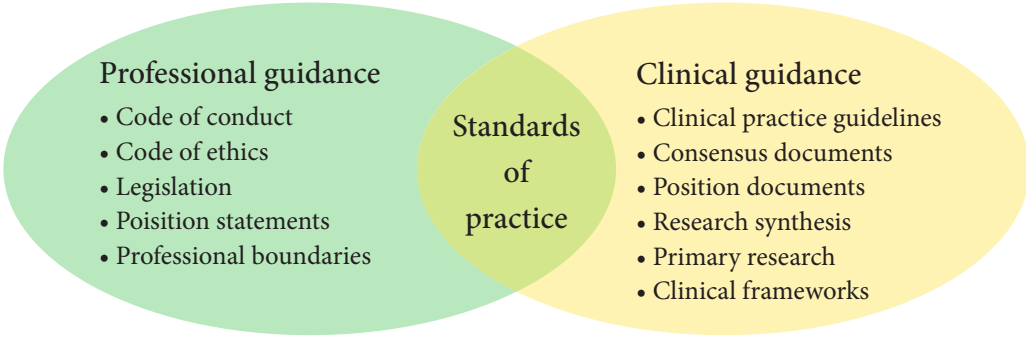

Figure 2. Resources for care delivery

Relevance of the Standards to wound practitioners

The level of involvement a wound practitioner has in delivering wound management will influence the relevance and application of the *Australian Standards for Wound Prevention and Management* to their clinical practice. The eight core standards acknowledge that the level of involvement in wound management varies widely across disciplines, clinical settings and clinical roles, and is influenced by education, training, and scope of practice. Level of experience also influences the relevance of each individual standard to the individual wound practitioner; a novice clinician may not be expected to meet each standard at the same level as a wound specialist with years of experience. The eight core Standards refer to various levels of responsibility, including direct wound management, facilitation and a referral role.

Regular review of performance against the eight core Standards can be conducted by wound practitioners seeking to evaluate their practice. When using the *Australian Standards for Wound Prevention and Management* for self or peer evaluation, application of judgement regarding the relevance to the individual wound practitioner is encouraged.

Relevance of the Standards to wound service providers

The eight core Standards acknowledge that the level of involvement in wound management varies widely across health services and is influenced by the function of the health service and its care agreement with the individual. Wound service providers should also consider the eight core Standards in the context of other

service standards (e.g. the *Aged Care Quality Standards,*[3] the *National Standards for Disability Services,*[4] *Standards for General Practice,*[5] and the *National Safety and Quality Health Service* (NSQHS) *Standards*).

At the organisation level, the *Australian Standards for Wound Prevention and Management* can be used within quality improvement and research activities to monitor the safety and quality of care being delivered by wound service providers. The Standards can be used as a component of accreditation and to inform local clinical governance standards and policy and procedure development. When using the *Australian Standards for Wound Prevention and Management* for evaluation of the wound service provider, application of judgement regarding the relevance to the particular service is encouraged.

Relevance of the Standards to individuals with or at risk of a wound

Individuals receiving wound management and their family/carers (i.e. family members, friends and/or other significant supports) may use the *Australian Standards for Wound Prevention and Management* to further understand the context and quality of wound management.

Relevance of the Standards to wound education

The *Australian Standards for Wound Prevention and Management* are relevant for use in the health education sector for advancing knowledge and skills, curriculum development, assessment and credentialing programs.

Development of the *Australian Standards for Wound Prevention and Management*

The *Australian Standards for Wound Prevention and Management* and the supporting evidence sources presented in this edition build on those in previous editions. For the Fourth Edition, a scoping review was undertaken to identify existing relevant standards, supporting clinical guidelines and other key evidence sources.

A search strategy was developed to identify free text terms associated with the key concepts/domains relevant to the Standards. Next, a search was undertaken in the National Library of Medicine (NLM) Medical Subject Headings (MeSH) Browser to identify MeSH terms associated with the free text terms. A limited search of PubMed was conducted using the MeSH terms and relevant papers were reviewed for additional keywords used by evidence sources that could further add to the search. The Expert Reference Group reviewed the search strategy and offered additional relevant search terms. The final search strategy was undertaken using MeSH terms in Medline and PubMed, and then adapted for Embase, Cumulative Index to Nursing and Allied Health Literature (CINAHL), the Cochrane Library, Google Scholar and JBI Database of Systematic Review and Implementation Reports to identify relevant references published since the previous edition in 2016. Additionally, a search was undertaken of websites of relevant professional bodies that publish standards, professional guidance and related regulatory documents, and any additional key documents recommended by the Expert Reference Group were also retrieved. Searches were conducted in September 2020 and updated in October 2021 (website material was also updated in February 2023). Sources identified in the search were imported into Endnote, duplicates removed and full texts were retrieved.

Each source was reviewed for its relevance as a supporting document for the core professional and practice domains. Additional prominent concepts/domains included in other standards and guidelines were also identified for potential inclusion

in this edition of the *Australian Standards for Wound Prevention and Management*. The Expert Reference Group reviewed the identified concepts and the authors' proposed domain structure to ensure their currency and reflection of wound practice. Next, identified sources were classified based on their level of relevance to the domains and goals of the Standards. The references included in the previous editions were also reviewed for their ongoing relevance to current practice. All evidence of the highest relevance has been included to support this edition of the *Australian Standards for Wound Prevention and Management*, with evidence of lower relevance used as a supporting citation when relevant.

The Expert Reference Group reviewed the draft version and comments were addressed. The revised *Australian Standards for Wound Prevention and Management* then underwent an extensive stakeholder review advertised on the websites and social media of Western Australian Health Translation Network, the Australian Health Research Alliance and Wounds Australia from November 2021 to February 2022. In addition to the open invitation to review the draft document, 119 key organisations (e.g. professional bodies, educational organisations and peak bodies) and individuals were directly invited to review the draft. Feedback was then reviewed by the authors and the Expert Reference Group and, where appropriate, incorporated into the final Fourth Edition of the *Australian Standards for Wound Prevention and Management*. A final review was undertaken by the Expert Reference Group before endorsing the document.

References

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2. Ahpra. Regulatory principles for the National Scheme. 2021. Available from: https://www.ahpra.gov.au/About-Ahpra/What-We-Do/Regulatory-principles.aspx [cited March 2022].
3. Aged Care Quality and Safety Commission. 2019. Aged Care Quality Standards. Australian Government: https://www.agedcarequality.gov.au/.
4. Department of Social Services. 2013. National Standards for Disability Services. Australian Government: https://www.dss.gov.au/.
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Overview

In this overview of the Standards, WP refers to Standards for Wound Practitioners, and WSP refers to Standards for wound service providers.

Standard 1: Scope of practice

Wound management is delivered in a way that respects and complies with legislation, regulations, scope of practice, local policies, current evidence and ethical decision making.

WP 1.1. Performs in accordance with relevant legislation, regulations, codes of conduct, scope of practice and policies of the wound service provider.

WP 1.2. Delivers evidence-based wound practice.

WP 1.3. Provides care within an ethical practice framework.

WSP 1.4. Defines and monitors the scope of practice associated with wound practitioner roles.

WSP 1.5. Endorses evidence-based wound practice.

WSP 1.6. Endorses ethical wound practice.

Standard 2: Collaborative practice

Wound assessment, prevention and management are delivered using a collaborative approach between the individual, their family/carers and the collaborative care team.

WP 2.1. Empowers the individual and their family/carers to participate in wound management.

WP 2.2. Practises person-centred wound management.

WP 2.3. Works collaboratively with the care team in respect to wound management.

WP 2.4. Communicates in a way that facilitates collaborative wound management.

WSP 2.5. Promotes person-centred care models in wound management.

WSP 2.6. Implements and supports a wound service model based on collaborative care.

WSP 2.7. Facilitates and supports a wound service environment of mutual respect.

Standard 3: Wound assessment

A comprehensive, ongoing assessment of the individual, their wound and their environment is performed and used to develop an individualised wound prevention and management plan.

WP 3.1. Conducts regular, comprehensive screening and assessment of the individual's risk of sustaining a wound, including factors that impact healing.

WP 3.2. Conducts a regular, comprehensive skin inspection.

WP 3.3. Conducts a lower limb assessment to identify skin, vascular, lymphatic, neuropathic and other deficits, if appropriate.

WP 3.4. Conducts and documents comprehensive and regular wound assessment.

WP 3.5. Conducts a comprehensive and regular assessment of the individual's wound-related pain.

WP 3.6. Uses valid, reliable and appropriate tools and/or frameworks when undertaking wound-related assessments.

WP 3.7. Uses diagnostic investigations to support wound assessment.

WP 3.8. Identifies factors in the environment that could impact on the risk of sustaining a wound, wound healing and/or care delivery.

WP 3.9. Establishes goals of care with the individual, their family/carers and the collaborative care team.

WP 3.10. Monitors and documents wound status, wound healing progress and effectiveness of the wound management plan.

WSP 3.11. Promotes a clinical governance framework that is consistent with individuals receiving a comprehensive clinical assessment.

Standard 4: Wound prevention

Wound prevention is practised according to the best available evidence to achieve optimal outcomes for the individual and their skin integrity.

WP 4.1. Promotes skin integrity and hygiene to reduce the individual's vulnerability to sustaining a wound.

WP 4.2. Optimises the individual's general physical health to reduce the risk of sustaining a wound.

WP 4.3. Implements individualised strategies to prevent wounds based on clinical assessment and identified need.

WP 4.4. Optimises the individual's cognitive and mental status, psychosocial health and knowledge to reduce the risk of sustaining a wound.

WSP 4.5. Supports and facilitates the delivery of individualised, evidence-based wound prevention strategies.

WSP 4.6. Supports and drives the implementation of organisation-level wound prevention programs.

Standard 5: Wound treatment

Wound treatment is delivered according to the best available evidence to achieve optimal outcomes for the individual and their wound.

WP 5.1. Interprets the findings from a comprehensive assessment to inform and develop an individualised wound treatment plan.

WP 5.2. Implements strategies to optimise the individual's wound-related quality of life.

WP 5.3. Implements strategies to optimise the individual's healing capacity.

WP 5.4. Implements strategies to optimise the wound and periwound area for healing.

WP 5.5. Attends wound cleansing in a manner that is appropriate to the individual, their wound and the clinical context.

WP 5.6. Prevents and manages wound-related infection and cross infection.

WP 5.7. Selects and uses products, pharmaceuticals and devices competently and safely.

WP 5.8. Considers adjunctive therapies and advanced innovations for stimulating wound healing when available, appropriate and recommended.

WSP 5.9. Supports and facilitates the delivery of individualised, evidence-based wound treatments.

WSP 5.10. Supports and facilitates wound infection prevention and control.

WSP 5.11. Provides an environment conducive to wound healing.

Standard 6: Documentation

Wound-related documentation provides a legal, comprehensive and chronological record of assessments, investigations, wound prevention and management planning and monitoring, and evaluation at the individual and organisation level.

WP 6.1. Maintains wound-related health records that meet legislative, regulatory and service provider requirements.

WP 6.2. Documents wound assessment, prevention and management comprehensively, chronologically and accurately.

WP 6.3. Consults with the individual and their family/carers regarding the use of health information.

WSP 6.4. Ensures that health and wound related records are maintained in a manner that meets legislative, regulatory and care provision requirements.

Standard 7: Knowledge, education and research

Wound-related knowledge, education and research capacity are maximised.

WP 7.1. Demonstrates knowledge, skills and critical thinking with respect to wound-related practice.

WP 7.2. Maintains current and evidence-based wound knowledge.

WP 7.3. Contributes to wound-related research, quality improvement activities and other opportunities to translate evidence into practice.

WP 7.4. Contributes to the wound-related professional development of the collaborative care team.

WP 7.5. Educates the individual and their family/carers regarding the wound management.

WSP 7.6. Identifies wound-related learning needs of the collaborative care team.

WSP 7.7. Promotes wound-related education for the collaborative care team, individuals and family/carers.

WSP 7.8. Facilitates the collaborative care team to evaluate evidence and translate it into practice.

WSP 7.9. Strives to achieve wound-related service level quality indicators.

Standard 8: Digital platforms and technologies

Digital platforms and technologies are used to facilitate the delivery of evidence based wound prevention and management.

WP 8.1. Accesses and delivers telehealth when appropriate in a manner consistent with professional standards and regulatory requirements.

WP 8.2. Delivers telehealth in a manner consistent with best practice in wound assessment, prevention and management.

WP 8.3. Implements digital technologies (e.g. photography) in a manner consistent with effective wound management.

WP 8.4. Uses social media and other digital platforms in a professionally responsible manner.

WSP 8.5. Facilitates access to telehealth when it is appropriate to enable access to wound assessment, prevention and management.

WSP 8.6. Facilitates use of digital technologies to enable accurate wound assessment, prevention and management.

WSP 8.7. Promotes responsible use of social media and other digital platforms.

STANDARD 1: SCOPE OF PRACTICE

Wound management is delivered in a way that respects and complies with legislation, regulations, scope of practice, local policies, current evidence and ethical decision making.

Rationale

Wound management should be delivered within the legal boundaries of scope of practice and must comply with legislation, regulations, and local policies of professional and ethical practice. Implementing wound management that reflects current best practice is associated with maximised wound healing potential, positive clinical outcomes, and safety.

Criteria for wound practitioners

To meet the criteria for the *Scope of Practice Standard*, the wound practitioner:

1.1 Performs in accordance with relevant legislation, regulations, codes of conduct, scope of practice and policies of the wound service provider.

Evidence Criteria

1.1.1 Functions in accordance with the relevant professional code of conduct and scope of practice as determined by regulatory authorities and within the scope of employment as defined by the wound service provider.[1-10]

1.1.2 Meets regulatory requirements of relevant registering authorities.[1-13]

1.1.3 Has appropriate education qualifications and clinical skills to perform practice role related to wound management.[1, 3-5, 9, 13-17]

1.1.4 Is accountable for practice.[1-5, 10, 11, 15, 17, 18]

1.1.5 Recognises limitations of scope of practice for regulated and non-regulated practice.[1-3, 5, 9, 11, 17, 19]

1.1.6 Has knowledge of, and compliance with, policies and procedures of the wound service provider.

1.2 Delivers evidence-based wound practice.

Evidence Criteria

1.2.1. Accesses current evidence from reputable sources in order to maintain a knowledge base appropriate to practice role.[1, 9, 10, 15, 19-21]

1.2.2. Makes care decisions that reflect evidence-based practice.[1, 2, 5, 9, 10, 15, 17]

1.2.3. Evaluates the benefits, risks and cost effectiveness of wound-related products, pharmaceuticals, therapies and devices.[1, 2, 16, 22, 23]

1.3. Provides care within an ethical practice framework.

Evidence Criteria

1.3.1. Minimises risk of harm to the individual and their family/carers.[1-5, 7, 8]

1.3.2. Recognises the rights and responsibilities of the individual, family/carers and members of the collaborative care team.[1-5, 17, 19, 24]

1.3.3. Delivers evidence-based wound practice that is sensitive to beliefs, values, ethnicity, culture and dignity.[1-5, 10, 11, 17, 18, 24, 25]

1.3.4. Considers moral and ethical issues when performing wound management.[1, 3-5, 10, 11, 26]

1.3.5. Maintains trust, privacy and confidentiality of the individual and family/carers.[3-5, 15, 17, 18]

1.3.6. Considers equitability and sustainability when performing wound management.[5, 21]

Criteria for wound service providers

To meet the criteria for the *Scope of Practice Standard*, the wound service provider:

1.4. Defines and monitors the scope of practice associated with wound practitioner roles within the wound service.

Evidence Criteria

1.4.1. Develops and regularly reviews roles and responsibilities that reflect scope of practice determined by regulatory authorities.[14, 18, 27-30]

1.4.2. Ensures an appropriate skills-mix within the work force to enable delivery of optimal wound management [12, 15, 16, 24, 30, 31]

1.4.3. Ensures staff access ongoing education and training appropriate to their professional and/or clinical role.[5, 14, 16, 18, 19, 29-31]

1.5. Endorses evidence-based wound practice.

Evidence Criteria

1.5.1. Provides access to contemporary, evidence-based, documented protocols to guide delivery of wound management within the wound service.[13,14,29]

1.5.2. Facilitates and supports access to evidence-based learning for the collaborative care team.[14, 29, 30]

1.5.3. Provides or facilitates access to the necessary resources for the implementation of cost effective, evidence-based practice in the care of individuals with or at risk of wounds.[13, 14, 16, 29, 32]

1.6. Endorses ethical wound practice.

Evidence Criteria

1.6.1. Recognises the rights and responsibilities of the individual, family/carers and the collaborative care team.[29,31,33]

1.6.2. Promotes respect of values, diversity and dignity throughout the wound service.[30, 31, 34]

1.6.3. Considers accessibility, equitability and sustainability in policies and procedures.[29-31, 34]

Related resources

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Background and Context

Scope of practice

Scope of practice refers to the area of practice in which a wound practitioner is educated and trained and is competent and legally permitted to perform. Scope

of practice is determined by educational background, status with an Australian health care registration body and the law and regulations pertaining to the clinical field. Scope of practice may be influenced by the level of competency and confidence of a wound practitioner in performing specific duties,[3-5, 17, 35] and may also be influenced by the workplace, with limitations defined by job description, roles and responsibilities provided by the wound service provider.[2, 14]

Standards for practice

Standards for practice outline the minimum expected quality of wound management delivered. Standards of practice primarily relate to registered health professionals, and include professional attributes that underpin competent performance in a health discipline.[2] The values, knowledge and skills expected of a registered health professional are outlined in relevant national core competency standards. The concepts reflected within professional standards of practice are ubiquitous, with professional regulatory bodies across health disciplines and countries with very similar professional expectations.[1, 2, 9, 10, 12, 21]

Beyond outlining the education, legal and competency requirements and scope of practice, standards of practice promote the respect, dignity, safety and wellbeing of the individual, their family/carers and the collaborative care team.[4, 5, 19, 25] It is recognised that the scope of practice varies according to clinical role, education and training. For example, registered health professionals work within a professional framework that requires ongoing development, self-reflection, professional judgement and decision making[1, 2, 9, 10, 12, 21] While accountable for their practice, unregulated health care workers are not expected to have the same knowledge level, experience or decision making responsibilities as registered health professionals.[36] It is expected that all wound practitioners have a strong understanding of the scope of practice 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 promote safe and quality wound management. Being aware of the limitations to the practice of others is particularly important for those who have delegation roles.[1, 2, 10]

Evidence-based practice

Registered health professionals have a responsibility to engage in evidence-based practice through implementing care strategies that have been shown to be efficacious. An important component of clinical practice is engagement in evidence-based practice. 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.[20, 22, 37] Implementation of evidence-based practice is dependent on the clinical experience and expertise of the wound practitioner and collaborative care team, and the perspectives of the person with a wound and their family/carers. 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 to add to the body of evidence in wound prevention and management.[37-40] Wound service providers have a crucial role in providing structures and processes that support evidence-based practice. Facilitating continuing professional development, ensuring allocation of required resources, supporting continuous quality improvement activities and

implementing root cause analysis are some ways in which wound service providers endorse evidence-based practice.[39, 41-44]

Evidence-based practice incorporates the safe and effective delivery of interventions.[22, 37] The collaborative care team are accountable for ensuring therapies are selected in the best interest of individuals, and are delivered safely and in accordance with manufacturer directions and Therapeutic Goods Administration licensing and are evaluated for effectiveness.[45]

When planning and implementing wound management, consideration should be given to achieving meaningful outcomes for individuals with a wound or at risk of sustaining a wound (e.g. preventing, healing and/or maintaining wounds, maximising quality of life, promoting cost effectiveness) while minimising adverse outcomes.[38, 46]

Clinical practice guidelines developed using evidence-based approaches provide one source by which the collaborative care team can review evidence underpinning care options and recommendations for prevention and management of wounds.[47] However, implementation of evidence-based principles requires an interdisciplinary or multidisciplinary approach, with consideration to the knowledge and skills of the entire team, the individual's preferences, the resources available, local policies and procedures and the context of care.[20, 46, 48]

Context of care includes contextual elements at the individual, community and global level. Consideration should be given to the care setting and to the individual's values, psychosocial status and experiences. At a higher level, consideration should also be given to health equity and sustainable wound management relevant to the local context.[49] Health equity seeks to prevent social determinants of health acting as a barrier to individuals achieving positive outcomes. Health equity requires the collaborative team and the wound service provider to ensure individuals do not experience poorer outcomes due to physical or psychosocial disadvantage.[39] Sustainable care achieves quality outcomes with minimal social, financial or environmental costs. Increasingly, evaluation of the impact of care delivery on the environment is expected of wound practitioners and wound service providers. Areas for consideration include waste production and management, energy use, care delivery models and procurement of resources.[21, 50]

Ethical clinical practice

Ethical clinical practice refers to application of the science and understanding of morality in health sciences with a goal of improving the quality of care.[51] Ethical clinical practice requires consideration of what is morally right and wrong, and the potential outcomes of actions.[26] Fundamental principles guiding wound prevention and management involve the recognition of the individual's rights and promotion of dignity. Guiding principles in delivering ethical clinical practice include valuing individual diversity. Advocating for individuals' access to quality wound prevention and management, informed decision-making, safety, privacy and wellbeing are core strategies that guide the collaborative teams delivery of ethical care.[1-5, 19, 52] The wound service provider has a pivotal role in ensuring the environment in which wound management is delivered is safe for all stakeholders, and that fundamental ethical and moral principles underpin the service's philosophy, policies and practices.[14]

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STANDARD 2: COLLABORATIVE PRACTICE

Wound assessment, prevention and management are delivered using a collaborative approach between the individual, their family/carers and the collaborative care team.

Rationale

Collaborative practice is associated with optimal outcomes in wound prevention and healing, quality of life, and cost-effective care delivery.[1-7]

Criteria for wound practitioners

To meet the criteria for the *Collaborative Practice Standard*, the wound practitioner:

2.1. Empowers the individual and their family/carers to participate in wound management.

Evidence Criteria

2.1.1. Recognises the diversity of the individual.[8,9]

2.1.2. Recognises the importance of family, community, partnership and collaboration in the wound-related decision-making of Aboriginal and/or Torres Strait Islander peoples. [10-12]

2.1.3. Recognises the individual's wishes with respect to individual participation and involvement of family/carers in wound management.[13]

2.1.4. Communicates in a manner that is consistent with the individual's values, preferences, culture, language and health literacy.[8-10, 12, 14-16]

2.1.5. Assesses and documents the health literacy of the individual and their family/carers, including their capacity to engage in informed decision making.[2, 10, 16]

2.1.6. Provides relevant information, education and support to the individual and their family/carers to enable informed participation in wound management planning and delivery and future care directives.[2-4, 15-21]

2.2. Practises person-centred wound management.

Evidence Criteria

2.2.1. Partners with individuals and their family/carers in planning, delivery and evaluation of wound management.[1, 17, 18, 22-24]

2.2.2. Respects the care goals, values, practices and preferences of the individual and their family/carers.[10 2, 3, 14, 16, 23, 25]

2.2.3. Assesses and engages the skills, knowledge and willingness of the individual and their family/carers to participate in care decisions, and self-care.[2, 6, 20, 26]

2.2.4. Uses information received from the individual and their family/carers in planning and delivering wound management, including decisions on responsibility for different aspects of care.[2, 10, 14, 16, 20, 22, 27]

2.3. Works collaboratively with the care team in respect to wound management.

Evidence Criteria

2.3.1. Uses a collaborative approach to wound assessment, planning, management and evaluation when appropriate.[1-3, 5, 14, 15, 20, 26, 28-32]

2.3.2. Makes appropriate referrals when necessary.[1-3, 10, 15, 18, 27, 28, 30]

2.4 Communicates in a way that facilitates collaborative wound management.

Evidence Criteria

2.4.1. Creates a positive and safe environment that respects the diversity of individuals, their family/carers and the collaborative care team to promote effective collaboration.[10, 16, 24, 25]

2.4.2. Regularly communicates with the individual and their family/carers regarding wound management.[10, 14, 25]

2.4.3. Regularly communicates with the collaborative care team regarding care planning, management and evaluation.[1, 10, 13, 14]

2.4.4. Engages in timely communication when there are changes that impact on the individual, their wound and/or their wound healing environment.[10, 13, 33]

Criteria for wound service providers

To meet the criteria for the *Collaborative Practice Standard*, the wound service provider:

2.5 Promotes person-centred care models in wound management.

Evidence Criteria

2.5.1 Outlines mission, goals and/or philosophy that focus on improving the experience of the individual.[8, 17, 23, 34]

2.5.2 Communicates with individuals and their family/carers in ways that support engagement in wound management.[23]

2.6. Implements and supports a wound service model based on collaborative care.

Evidence Criteria

2.6.1. Ensures access to services from a range of health disciplines.[1, 3, 8, 19, 22, 34, 35]

2.6.2. Implements structures that support collaborative interaction and communication across health sectors and within health disciplines.[1-3, 8, 19, 33, 34]

2.7 Facilitates and supports a wound service environment of mutual respect.

Evidence Criteria

2.7.1 Recognises the importance of family, community, partnership and collaboration in the wound-related decision-making of Aboriginal and/or Torres Strait Islander peoples.[8-11, 17, 36, 37]

2.7.2 Promotes an environment that accepts diversity among staff, individuals and family/carers.[8, 9, 18, 34, 37]

2.7.3 Promotes an environment and culture that focuses on satisfaction of staff, individuals and family/carers.[1, 8, 9, 17, 25, 34]

Related resources

Australian Commission on Safety and Quality in Health Care. (2021). The National Safety and Quality Health Service (NSQHS) Standards: Partnering with Consumers Standard. ACSQHC: https://www.safetyandquality.gov.au/standards/nsqhs-standards/partnering-consumers-standard	S
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Background and Context

Empowering individuals

The right of individuals to independence, choice, and control over their health care is enshrined in quality standards for acute care, sub-acute care, aged care and community-based care in Australia.[8, 9, 23, 38, 39] A person-centred approach to care requires the collaborative care team 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 self-care activities, individuals require an appropriate level of health literacy, education and support. Promoting quality care involves key strategies at a system, service, team and individual level.[17, 38] These strategies include, but are not limited to:[17, 23, 40]

- recognising and promoting roles and responsibilities of those involved in wound management, including the individual and their family/carers,
- developing service policies that promote partnerships with the individual and family/carers,
- assessing and promoting the individual's ability to engage in care decisions and self-care activities,
- providing education and support to allow individuals and family/carers to develop decision-making and self-care skills, and
- recognising the diverse backgrounds of individuals with or at risk of a wound.

Cultural awareness is recognised as a prerequisite for a strong collaborative care team and holistic care.[37, 41] Cultural awareness and partnerships are associated with improved perceptions of health services by people from culturally and linguistically diverse backgrounds, including Aboriginal and Torres Strait Islander people. Developing and implementing effective approaches to achieving cultural awareness in any health service requires an ongoing, planned strategic direction that is driven and modelled by all stakeholders.[37, 41]

Such a person-centred approach is associated with improved preventive care, improved functional status, increased engagement in wound management, reduced complication rates and fewer adverse outcomes.[17]

Collaborative care

Adopting a collaborative approach to care delivery is recognised as a core component of professional practice across health disciplines and clinical settings.[22, 42, 43] A collaborative approach to wound management that includes wound practitioners from a range of disciplines, the individual and their family/carers is considered to be a gold standard, and is fundamental to person-centred care models.[1, 44] Collaborative care can be delivered using various models of care, including person-centred care, team-based care, interdisciplinary care and multidisciplinary care.

A collaborative approach to wound management is associated with improved outcomes for individuals with, and at risk of, all types of wounds. Collaboration across health disciplines and skill sets is associated with:[1-7, 27, 45, 46]

- decreased incidence of preventable wounds,
- improved wound healing times,
- reduction in amputation rates,
- increased adherence to management plans,

- improved health-related quality of life, and
- cost-effective wound management.

Wound management is a multifactorial clinical domain that encompasses the scope of practice of numerous health disciplines. Wound practitioners from a range of health disciplines have the expertise to contribute to the assessment, prevention and management of wounds and related co-morbidities.[47] Evidence-based wound management guides collaboration between the individual, the collaborative care team and family/carers is as an essential component of high quality care.[7, 19, 20, 48]

Collaborative wound management promotes integration of complementary perspectives, philosophies and strategies derived from wound practitioners from a range of professional and clinical backgrounds.[28] This includes timely and appropriate address of intrinsic and extrinsic factors that influence an individual's wound healing, recognition of risk indicators and wound deterioration, prompt referral, and comprehensive documentation.[49] Significant direct and indirect cost savings have been noted, particularly when collaborative care is co-located, and referrals are streamlined.[45]

Working as a team

Successful collaboration requires individuals to work together as a group within and across health care disciplines and settings. Effective communication requires team members to: make appropriate and timely referrals; share information; negotiate, plan and implement; give and receive feedback; respect one another; and resolve conflict in order to achieve identified mutual goals and optimum outcomes for the individual with a wound or at risk of sustaining a wound.[1, 50]

Clinical expertise, communication, leadership skills and self-reflection are core facilitators to collaborative team work.[51, 52] Having a thorough appreciation and acknowledgement of the scope of practice and skills of other team members is a fundamental principle of successful collaboration.[28, 53] Supporting other members of the team in their professional development (e.g. through sharing of educational opportunities, research or professional development activities) is a part of successful collaboration.

Wound service providers play a significant role in supporting collaborative wound management. The model of care supported within the service drives the level of collaborative input to care.[35] Bringing together wound practitioners from a range of disciplines can be supported via recruitment policies, service delivery models, strategic partnerships, outreach programs and co-location arrangements.[35] Strong collaborative care requires an investment by the wound service provider in administrative systems to support communications, referrals, clinical care meetings and interdisciplinary education.

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STANDARD 3: WOUND ASSESSMENT

A comprehensive, ongoing assessment of the individual, their wound and their environment is performed and used to develop an individualised wound prevention and management plan.

Rationale

Clinical decision making is underpinned by screening and assessment of the individual and (when present) their wound. Screening is undertaken to determine areas of risk that require comprehensive assessment. Comprehensive assessment of factors that influence both the risk of sustaining a wound and the ability of a wound to heal are conducted based on initial screening, clinical judgement, recommendations, needs of the individual, and local policy. Screening and assessment are core components of wound management and should be facilitated with consideration to scope of practice and the services available. A comprehensive assessment of the individual, their wound or risk of wounding, and their environment is fundamental for planning, implementation and evaluation of wound management.

Criteria for wound practitioners

To meet the criteria for the *Wound Assessment Standard*, the wound practitioner:

3.1. Conducts regular, comprehensive screening and assessment of the individual's risk of sustaining a wound, including factors that impact healing.

Evidence Criteria

3.1.1. Regularly assesses the individual's general health and wellbeing, which may include:[1-13]

- Reason for presentation.
- Cultural sensitivities, language and need for interpreter service.
- Health literacy, health service access, socioeconomic status and wound-related knowledge.
- Health history and co-morbidities that impact wound healing.[14]
- Previous wound history, management and outcomes.
- Previous relevant diagnostic investigations.
- Age and specific age-related changes.
- Vital signs.
- Continence status.
- Mobility and activity.

- Prescription and over-the-counter medications or recreational drug use, skin and wound products,[13] and alternative preparations (e.g. homeopathic medication).
- Sensitivities and known allergies.
- Perceptions, preferences, goals, concerns and self-care ability.
- Capacity to heal.[15-18]

3.1.2. Undertakes or refers for nutritional screening and assessment,[6, 7, 19, 20] which may include:

- Quantity, quality and nutritional content of food and fluid intake.[19]
- Anthropometric measurements including weight history.[1, 19]
- Recognised metabolic rate or basal energy expenditure formulas.[19]
- Hair and skin changes.
- Factors that influence food and fluid intake, including need for assistance.[19]
- Additional specific biochemical tests (e.g. albumin, transferrin, zinc or vitamins).[19]

3.1.3. Undertakes or refers for cognitive and psychosocial screening and assessments, which may include:[4, 8, 9, 12, 21]

- Cognitive screening (e.g. screening for delirium and dementia).
- Psychological screening (e.g. screening for mood disturbance).
- Wellbeing, quality of life, social and wound impact assessments.

3.1.4. Undertakes or refers for screening and risk assessments that lead to loss of skin integrity as appropriate to the individual. These may include:[6, 7, 10, 13, 19, 22, 23]

- Pressure injuries.
- Falls.
- Skin tears.
- Incontinence-associated skin damage.
- Skin and hair infestations.
- Infection.
- Skin cancer.
- Self-harm.

3.2. Conducts a regular, comprehensive skin inspection.

Evidence Criteria

3.2.1. Conducts a comprehensive skin and tissue assessment, that may include:[7, 13, 19, 24-26]

- Presence and characteristics of lesions.
- Colour (e.g. Fitzpatrick Skin Type).
- Appearance and texture.

- Moisture and oedema.
- Temperature.
- Perfusion and vascular assessment.
- Sensation.
- Skin care/hygiene practices.

3.3. Conducts a lower limb assessment to identify skin, vascular, lymphatic, neuropathic and other deficits, if appropriate.

Evidence Criteria

3.3.1. Undertakes or refers for a lower limb assessment, that may include:[1, 3, 6, 8, 9, 19, 25, 27-371, 3, 11, 19, 27, 29, 30, 32, 40, 4]

- Clinical history.
- Limb temperature.
- Skin colour changes.
- Palpation of pulses.
- Leg and foot size and shape.
- Signs of venous insufficiency (e.g. oedema, hyperpigmentation, varicose eczema, atrophie blanche, lipomatodermatosis).
- Signs and symptoms of peripheral arterial insufficiency (e.g. claudication, pallor, coolness, loss of hair, neuropathy or weakness).[38]
- Signs of lymphatic insufficiency (e.g. pitting/non-pitting oedema, positive Stemmer sign).
- Mobility and ankle movement.
- Ankle brachial pressure index (ABPI) using handheld Doppler and/or toe brachial pressure index (TBPI) or resting systolic toe pressure to evaluate arterial insufficiency.[37, 39, 40]
- Photoplethysmography to determine venous refill time.
- Transcutaneous oxygen pressure to evaluate local tissue perfusion.[37]
- Referral for appropriate diagnostic investigations.
- Palpation of the foot to assess for bounding foot pulses and increased skin temperature indicative of autonomic neuropathy.[39, 40]
- Observation for callus, wounds, xerosis, foot deformity and joint mobility.
- Assessing for peripheral sensory neuropathy using a 10g or 5.07 Semmes-Weinstein monofilament to evaluate sensation or a 128 Hz tuning fork or biothesiometer to assess vibration perception.
- Assessing for peripheral motor neuropathy using a patella hammer to evaluate patella and Achilles' reflexes and muscle weakness.
- Referral for appropriate diagnostic investigations.

3.4. Conducts and documents comprehensive and regular wound assessment.

Evidence Criteria

3.4.1. Undertakes and documents regular wound assessments that include:[1, 8, 10, 11, 13, 17, 19, 25, 29, 32, 41-43]

- Type of wound (e.g. leg ulcer, pressure injury).
- Aetiology (e.g. venous insufficiency) and original mechanism of wounding (e.g. trauma).
- Duration of a wound.
- Anatomical location.
- Phase of wound healing (e.g. haemostasis, inflammation, reconstruction, maturation/remodelling).[15, 44]
- Measurement of wound dimensions:[8, 13, 15, 19, 32]
  - Length, width and depth (e.g. measured at the longest, widest and deepest parts of the wound perpendicular to one another using a ruler, or planimetry device or relevant technologies).
  - Wound area (e.g. measured by wound circumference tracing and planimetry or relevant technologies).
  - Wound volume (e.g. measured using sterile fluid or filler inserted into the wound, or relevant technologies).
- Probing to determine any undermined edges, or sinus tracking or underlying structures (e.g. bone).
- Clinical characteristics of the wound bed (e.g. non-granulation, granulation, hypergranulation epithelialisation, slough, necrosis/eschar, exposed bone or tendon, foreign body, unable to be visualised).
- Wound edge colour and characteristics (e.g. level, raised, rolled, undermined).
- Periwound and surrounding skin characteristics (e.g. colour, temperature, discolouration, erythema, oedema, induration, maceration, desiccation, dermatitis/eczema, callus, hyperkeratosis,).[13]
- Exudate characteristics:[10, 45, 46]
  - Type and colour (e.g. serous, haemoserous/serosanguineous, sanguineous, seropurulent, purulent).
  - Viscosity (e.g. thick, thin).
  - Amount.
  - Malodour.
- Clinical signs and symptoms of inflammation or infection.[1, 3, 20, 27, 29, 47-49]
- Extent of infection (e.g. local infection, spreading infection, systemic infection).[49]

3.4.2. Uses a validated tool for classifying wound types, where such a tool exists (e.g. pressure injuries, burns, skin tears, venous leg ulcers, diabetic foot ulcers).[1, 8, 9, 12, 19, 29, 42, 43, 50-52]

3.5. Conducts a comprehensive and regular assessment of the individual's wound-related pain.

Evidence Criteria

3.5.1. Conducts and documents initial and ongoing assessments of wound pain, which consider both verbal and non-verbal cues and include assessment of:[1, 6, 8, 17, 19, 22, 27, 29]

- Aetiology of pain (e.g. procedural versus non-procedural).
- 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.
  - 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.

3.6. Uses valid, reliable and appropriate tools and/or frameworks when undertaking wound-related assessments.

Evidence Criteria

3.6.1. Selects a valid and reliable tool and/or framework appropriate to the individual for undertaking assessments (when available), for example:[1, 2, 6, 8-11, 16, 19, 22, 23, 25-27, 53-58]

- Pressure injury screening and risk assessment tools (e.g. Braden Scale, Norton Scale, Waterlow Score, Braden-Q Scale, Glamorgan Scale).
- Wound assessment tools/frameworks (e.g. Pressure Ulcer Scale for Healing [PUSH]©, Bates-Jensen Wound Assessment Tool© [BWAT], Photographic Wound Assessment Tool© [PWAT], Tissue-Infection-Moisture-Edges [TIME], Rule of Nines, Artz's criteria, SINBAD wound classification system).
- Nutrition screening and assessment tools (e.g. Nutrition Risk Screening [NRS] 2002, Short Nutrition Assessment Questionnaire [SNAQ] Mini Nutritional Assessment® [MNA], Malnutrition Universal Screening Tool [MUST]).
- Cognitive screening tools (e.g. Mini Mental State Examination© [MMSE], Standardised MMSE [SMMSE], Modified Mini Mental State Examination [3MS], Cognitive Abilities Screening Instrument, Rowland Universal Dementia Assessment Scale [RUDAS]).
- Psychological screening tools (e.g. Hospital Anxiety and Depression Scale, Beck Depression Inventory©, Hamilton Rating Scale for Anxiety [HAM-A], Geriatric Depression Scale).

- Wellbeing and quality of life (QOL) assessment tools (e.g. Short Form 36™, World Health Organisation Quality of Life, Cardiff Wound Impact Schedule, VEINES-QOL, Chronic Venous Insufficiency QOL Questionnaire, Wound-QoL).
- Pain assessment tools (e.g. Numerical Rating Scale, Visual Analogue Scale, Wong-Baker FACES® pain rating scale, Verbal Rating Scale).

3.6.2. Uses a consistent assessment method to undertake repeat assessments to enable outcome monitoring over time.[6, 19, 22]

3.7. Uses diagnostic investigations to support wound assessment.

Evidence Criteria

3.7.1. Refers for diagnostic investigations when indicated (e.g. to attain a definitive diagnosis or to identify reasons for delayed wound healing) and documents the outcomes. These may include:

- Biochemical investigations, for example:[1, 11, 19]
  - Full blood count.
  - Blood glucose and HbA1c.
  - Haemoglobin.
  - Clotting factors.
  - Lipids.
  - Urea and electrolytes.
  - Rheumatoid factor.
  - Auto antibodies.
  - White cell count.
  - Inflammatory markers (e.g. C-reactive protein and erythrocyte sedimentation rate).
  - Vitamins/minerals and trace elements.
  - Liver function tests, including plasma albumin.
- Microbiology investigations, for example:[1, 6, 19, 47-49]
  - Wound swab for semi-quantitative and quantitative organisms.[49, 59, 60]
  - Needle aspiration for quantitative organisms.[49]
  - Wound/bone biopsy for quantitative organisms.[20, 49]
  - Blood cultures to evaluate systemic infection.[11, 49]
  - Skin scrapings/nail clippings for culture and microscopy.[49]
- Histopathology investigations (e.g. wound biopsy to identify pathological changes).[1, 11, 32, 52]
- Diagnostic imaging and infection investigations, for example:[1, 11, 19, 34, 35, 47]
  - Doppler or colour duplex ultrasound to evaluate venous and arterial disease.

- Photoplethysmography to evaluate venous disease.
- Angiography to evaluate arterial disease.
- Laser Doppler flowmetry or video microscopy to evaluate burn depths.[55]
- Plain x-ray (e.g. fracture, gas gangrene and osteomyelitis).
- Magnetic resonance imaging or positron emission tomography (e.g. osteomyelitis).[61]
- Bone scan (e.g. osteomyelitis if magnetic resonance imaging is contraindicated).
- Computed tomography (e.g. soft tissue infection).
- Sinogram and fistulogram to identify wound tracking.

3.8. Identifies factors in the environment that could impact on the risk of sustaining a wound, wound healing and/or care delivery.

Evidence Criteria

3.8.1. Undertakes/refers for assessment of environmental conditions and safety (e.g. hazards, temperature, humidity).[13]

3.8.2. Undertakes/refers for assessment of risk for wound contamination/ infection or cross-infection.

3.8.3. Undertakes/refers for assessment of individual's lifestyle factors that may impact on risk of sustaining a wound and/or wound healing.[13]

3.8.4. Establishes privacy and security of the environment.

3.9. Establishes goals of care with the individual, their family/carers and the collaborative care team.

Evidence Criteria

3.9.1 Works with the individual, their family/carers and the collaborative care team when establishing relevant goals of care (e.g. healing, reduction in wound size, pain reduction, etc.).[6, 8, 19, 25]

3.9.2 Documents goals that are relevant to wound management.[6, 8, 19, 43]

3.9.3 Addresses optimisation of healing and the individual's capacity to heal when establishing goals of care.[8, 17, 19, 42]

3.9.4 Addresses conservative/palliative wound management if appropriate when establishing goals of care.[19, 62, 63]

3.10 Monitors and documents wound status, wound healing progress and effectiveness of the wound management plan.

Evidence Criteria

3.10.1. Regularly screens for new wounds.[6]

3.10.2 Monitors wound healing outcomes (e.g. complete healing, wound deterioration, percent of healing over time).[6, 19, 22, 27, 42]

3.10.3 Monitors person-related outcomes (e.g. pain, quality of life, activities of daily living etc.).[22, 27]

3.10.4 Reviews and revises the wound management plan consistent with the changing status of the individual and their wound.[19, 22, 27, 42]

Criteria for wound service providers

To meet the criteria for the *Wound Assessment Standard*, the wound service provider:

3.11. Promotes a clinical governance framework that is consistent with individuals receiving a comprehensive clinical assessment.

Evidence Criteria

3.11.1. Develops and regularly reviews policies and procedures to guide wound-related screening and assessments.[3, 19]

3.11.2. Provides access to wound assessment tools, documentation systems, equipment and technology that is maintained according to manufacturers' directions.[8, 19, 33]

3.11.3. Identifies and supports wound practitioners who are responsible for conducting wound-related screening and assessments.[3, 19, 33]

3.11.4. Establishes and maintains clinical governance frameworks that promote access to screening, assessment and diagnostic investigations performed by appropriately qualified members of the collaborative care team.[3, 64]

Related resources

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Commons RJ, Charles J, Cheney J, Lynar SA. Malone M and Raby E. (2021). Australian Guideline on Management of Diabetes-related Foot Infection: Part of the 2021 Australian Evidence-based Guidelines for Diabetes-related Foot Disease, Version 1.0. Diabetes Feet Australia, Australian Diabetes Society: Brisbane.	EBG
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World Union of Wound Healing Societies. (2019). Consensus Document. Wound Exudate: Effective Assessment and Management. Wounds International: London.	C
Wounds UK. (2018). Best Practice Statement: Improving Holistic Assessment of Chronic Wounds. Wounds UK: London.	C
Wounds UK. (2019). Best Practice Statement: Ankle Brachial Pressure Index (ABPI) in Practice. Wounds UK: London.	C

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, care planning and ongoing evaluation.

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. Intrinsic factors include comorbidities, nutrition status, vascular status and infection, which influence skin and tissue health and reparative processes. They require appropriate investigation to inform the development of a wound prevention and/or management plan that will address underlying intrinsic factors that influence the risk of sustaining a wound and/or ability to heal.[1-11]

It is widely acknowledged that in addition to the physical factors that influence the healing, 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 are at risk of, a wound. Ascertaining the health literacy level, communication skills and cognitive ability of the individual is crucial in engaging the individual in both the assessment process, care decisions and management. 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.[1, 8, 9, 21]

Initial and ongoing wound assessment is critical to promotion of healing. Certain characteristics of the wound can provide key indicators to the collaborative care team as to the wound's changing status and the success or otherwise of a management plan. Accurate and well-documented assessment allows wound

practitioners to identify early, covert signs of infection (e.g. hypergranulation, friable granulating tissue, wound breakdown or epithelial bridging)[3, 19, 20, 27, 47, 49] and act accordingly. Regular documentation of the wound's dimension, appearance and characteristics allows monitoring of the wound healing progress, which can provide an indication of effectiveness of treatment or suggest potential complications that are hindering normal wound healing (e.g. biofilm).

Assessment of the care environment is crucial and influences prevention and management strategies. 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 engagement of individuals in prevention and management practices; for example, in a warm or humid environment, compression stockings or bulky wound dressings may impact on the individual's comfort.[1] 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).[65-68]

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 suggests that, where possible, wound practitioners use assessment tools that have been validated to guide a clinical assessment. 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.[69, 70]

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 assessment is measuring the characteristics as purported, and that any changes in the assessment results are not random.[69, 70]

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.[69] 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 wound practitioner's preferences, resources available and local policies and procedures.

Emerging and advanced wound assessment and measurement techniques

Advanced wound measurement technologies (e.g. digital photography, digital software planimetry, 3D wound mapping) are becoming ubiquitous in well-resourced areas.[27]

Contemporary wound assessment has been aided by techniques that allow for more detailed evaluation of skin and tissue characteristics.[27] Recent 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).[8, 32, 71-75] A range of digital technologies are becoming increasingly available to facilitate advanced wound assessment (see Standard 8). It is important that the collaborative care team selects technology that is scientifically demonstrated to provide valid and reliable assessment, and that wound practitioners receive education in training to ensure advanced wound evaluation strategies are implemented accurately.

Goals of care

Developing goals of care collaboratively with the individual and their family/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.[8, 76]

In individuals for whom the ability to heal is significantly compromised (e.g. palliative care, inadequately perfused wounds, distal gangrene, cachexia, advanced dementia), conservative wound management is an option.[8, 18, 62, 77] 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.[8] Aggressive sharp debridement may not be appropriate in palliative care or for wounds without the ability to heal.[62]

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STANDARD 4: WOUND PREVENTION

Wound prevention is practised according to the best available evidence to achieve optimal outcomes for the individual and their skin integrity.

Rationale

Prevention of wounds is an indicator of high quality clinical care. Wound prevention is performed at both the organisation level as a component of risk reduction and continuous quality improvement, and at the individual level in accordance with risks identified during screening and assessment.

Criteria for wound practitioners

To meet the criteria for the *Wound Prevention Standard*, the wound practitioner:

4.1. Promotes skin integrity and hygiene to reduce the individual's vulnerability to sustaining a wound.

Evidence Criteria

4.1.1. Implements a skin hygiene plan appropriate to the individual, with consideration to:[1-8]

- Particular attention to skin folds and foot hygiene.
- Avoidance of skin irritants.
- Moisturiser to manage dry skin.
- Use of pH appropriate skin cleanser.

4.1.2. Implements strategies to prevent moisture-associated skin damage (e.g. incontinence-associated dermatitis).[3, 4, 9, 10]

4.1.3. Avoids interventions associated with increased risk of sustaining a wound (e.g. massage/rubbing, inadequate repositioning and inappropriate manual handling techniques).[3, 10]

4.2. Optimises the individual's general physical health to reduce the risk of sustaining a wound.

Evidence Criteria

4.2.1. Manages and optimises systemic factors and comorbidities that may increase the individual's risk of wounding.[3, 7, 11-15]

4.2.2. Promotes adequate nutrition and hydration of individuals.[3-5, 8, 11, 16, 17]

4.2.3. Promotes health seeking behaviours and cessation of smoking.[11, 12, 18]

4.2.4. Encourages individuals to engage in regular mobility, activity and exercise as tolerated.[3, 7, 19, 20]

4.3. Implements individualised strategies to prevent wounds based on clinical assessment and identified need.

Evidence Criteria

4.3.1. Interprets the findings from a comprehensive assessment to inform, develop and document an individualised wound prevention plan.

4.3.2. Implements a wound prevention plan appropriate to the individual, that may include:[2-8, 10, 12-17, 19, 21-28]

- Regular screening and/or risk assessment for:
  - Malnutrition.
  - Pressure injuries.
  - Burns.
  - Diabetic foot ulcers.
  - Leg ulcers.
  - Falls.
  - Skin cancer.
  - Moisture-associated skin damage.
  - Skin tears.
  - Self-harm.
- Skin inspection on admission to or transfer from/within the wound service, with a change in clinical status and regularly during care delivery.
- Strategies to prevent:
  - Pressure, friction and shear.
  - Device-related pressure injuries.
  - Falls and skin trauma.
  - Burns
  - Moisture-associated skin damage.
  - Malnutrition and dehydration.
- Appropriate manual handling techniques.
- Application of twice daily moisturiser to the extremities of elderly individuals.
- Application of compression therapy.
- Protective footwear and off-loading devices (if applicable).
- Sun safe activities.
- Referral for assessment of skin lesions.

4.4. Optimises the individual's cognitive and mental status, psychosocial health and knowledge to reduce the risk of sustaining a wound.

Evidence Criteria

4.4.1. Undertakes or refers for screening for mental health, cognitive and social factors that could impact sustaining a wound.[29]

4.4.2. Facilitates access to specialist and support services if appropriate.[3]

4.4.3. Collaborates with the collaborative care team to reinforce preventive strategies addressing cognitive status and psychosocial health (including mental health conditions) that may hinder the individual's ability to implement optimal wound prevention.[3]

4.4.4. Provides the individual and their family/carers with relevant education about wound prevention strategies.[3, 26, 27]

Criteria for wound service providers

To meet the criteria for the *Wound Prevention Standard*, the wound service provider:

4.5. Supports and facilitates the delivery of individualised, evidence-based wound prevention strategies.

Evidence Criteria

4.5.1. Maximises environmental safety to reduce the risk of accidentally sustaining a wound.[19, 30, 31]

4.5.2. Provides adequate human resources to undertake preventive care activities (e.g. appropriate staff-patient ratios and appropriate skills mix).

4.5.3. Provides systems that promote the implementation of individualised, evidence-based wound prevention strategies.[3]

4.5.4. Provides access to a range of products for maintaining optimal skin health.[3]

4.5.5. Provides access to medical equipment, products and devices used to prevent wounds.[3, 32]

4.6. Supports and drives the implementation of organisation level wound prevention programs.

Evidence Criteria

4.6.1. Facilitates interventions aimed at reducing incidence and prevalence of wounds across the wound service.[3, 16]

Related resources

Australian Wound Management Association and New Zealand Wound Care Society. (2012). Australia and New Zealand Clinical Practice Guideline for Prevention and Management of Venous Leg Ulcers. Cambridge Media: Osborne Park, WA.	EBG
Beeckman D, Campbell K, LeBlanc K, Campbell J, Dunk AM, Harley C, Holloway S, Langemo D, Romanelli M, Tariq G, and Vuagnat H. (2020). Best practice Recommendations for Holistic Strategies to Promote and Maintain Skin Integrity. Wounds International: London.	C
European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance. (2019). Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline, Haesler E. (ed). EPUAP/NPIAP/PPPIA.	EBG
Kaminski MR, Golledge J, Lasschuit JWJ, Heinz-Schott K, Charles J, Cheney J and Raspovic A. (2021). Australian Guideline on Prevention of Foot Ulceration: Part of the 2021 Australian Evidence-based Guidelines for Diabetes-related Foot Disease. Version 1.0. Diabetes Feet Australia, Australian Diabetes Society: Brisbane, Australia.	EBG
Romanelli M, Tariq G, and Vuagnat H. (2020). Best Practice Recommendations for Holistic Strategies to Promote and Maintain Skin Integrity. Wounds International: London.	C

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van Netten JJ, Lazzarini PA, Armstrong, D. G, Bus SA, Fitridge R, Harding K, Kinnear E, Malone M, Menz H. B, Perrin B. M, Postema K, Prentice J, Schott K. H, Wraight PR, Diabetic Foot Australia Guideline on Footwear for People with Diabetes. J Foot Ankle Res, 2018; 11: 2.	EBG
Wounds UK. (2018). Best Practice Statement Maintaining Skin Integrity. Wounds UK: London.	C
World Union of Wound Healing Societies. (2018). Consensus Document. Surgical Wound Dehiscence: Improving Prevention and Outcomes. Wounds International: London.	C

Background and Context

Minimising harm

Minimising harm to individuals is a fundamental component of the *Australian National Safety and Quality Health Service Standards.* Preventing avoidable wounds is an important component of preventing harm to the individual and therefore is a concept enshrined in national service accreditation standards.[21]

Harm minimisation is delivered at the individual and the organisation level. At the individual level, a proactive clinical approach that relies on assessment and identification of risk factors for wounds should be used by wound practitioners to inform the development of an individualised wound prevention plan. For some individuals, prevention of wounds focuses on disease and comorbidity management (e.g. chronic venous insufficiency and diabetic foot disease). The prevention of wounds requires intensive education and skills development of the individual and their family/carers to address systemic disease, as well as promoting skin health. Individuals at an increased risk of preventable wounds (e.g. pressure injuries, moisture associated skin damage or skin tears) require similar prevention education and strategies.[5, 10]

Wound prevention programs delivered at the organisation level seek to prevent harm to all individuals within the facility. Organisation-wide wound prevention programs focus primarily on preventable wounds such as pressure injuries and skin tears.[3, 33, 34] Organisation-level wound prevention programs require commitment and resources, and motivation for change at all levels. Surveying and analysing the factors within an organisation that are contributing to preventable wounds is the first step in designing a wound prevention program. Establishing a monitoring committee that regularly analyses, publishes and responds to wound incidence and prevalence results provides a driving force to maintain the program and inform organisation-specific interventions.[3, 35] Preventive initiatives that are supported by current evidence are generally multi-faceted and require engagement of team members with a range of skills and qualifications. Staff and consumer education, environmental surveillance, review of available equipment and resources and innovative use of technology are recommended components of wound prevention programs.[3, 33, 34]

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STANDARD 5: WOUND TREATMENT

Wound treatment is delivered according to the best available evidence to achieve optimal outcomes for the individual and their wound.

Rationale

Wound treatment aims to maximise healing potential and outcomes for the individual. Wound treatment is guided by comprehensive assessment (see Standard 3) and the implementation of evidence-based treatments designed to meet the goals of care.

Criteria for wound practitioners

To meet the criteria for the *Wound Treatment Standard*, the wound practitioner:

5.1. Interprets the findings from a comprehensive assessment to inform and develop an individualised wound treatment plan.

Evidence Criteria

5.1.1 Develops a wound treatment plan consistent with the assessment of the individual and their wound.[1-5]

5.1.2 Develops a wound treatment plan consistent with the individual's goals of care.[2, 6, 7]

5.1.3 Develops a wound treatment plan consistent with the clinical context.

5.2 Implements strategies to optimise the individual's wound-related quality of life.

Evidence Criteria

5.2.1. Implements a plan to minimise pain,[1, 2, 8-11] including for example:

- Non-pharmacological interventions (e.g. moist wound healing, psychological interventions, adjunctive treatments etc.)[2, 8, 12-17]
- Use of atraumatic wound dressings, pharmaceutical products and devices.[2, 8, 12, 13, 18-21]
- Topical analgesia (e.g. impregnated wound dressings, anaesthetic creams).[2, 8, 22]
- When non-pharmacological interventions and/or topical analgesia are insufficient to control pain, use of a systemic analgesia regimen.[2, 8, 13, 20, 23]
- Referral to members of the collaborative care team where appropriate (e.g. chronic pain management team).

5.2.2. Implements a plan to minimise wound-related signs and symptoms, including pruritus, odour and exudate, including for example:[11, 14, 17]

- Environmental interventions (e.g. temperature and odour control etc.).[2, 13]

- Judicious selection of skin and wound products.[13, 14, 17, 21]
- Advising the individual on appropriate clothing and laundering.[13]
- Promotion of health seeking behaviours.
- Referral to members of the collaborative care team where appropriate (e.g. dermatologist, immunologist, etc.).

5.2.3. Implements strategies to promote the individual's wellbeing and quality of life,[9] including for example:

- Informing the individual about what to expect regarding wound prevention and management.[17]
- Promoting relaxation and stress management.[13]
- Facilitating access to information and resources to promote role maintenance and socialisation.[13]
- Referral to the collaborative care team (e.g. psychologist, social worker, counsellor, etc.).[2]

5.3. Implements strategies to optimise the individual's healing capacity.

Evidence Criteria

5.3.1. Makes referrals to other members of the collaborative team when appropriate.

5.3.2 Manages and optimises systemic factors and comorbidities that may impair wound healing (e.g. diabetes, incontinence, etc.).[9, 11, 24-33]

5.3.3. Addresses psychosocial factors that may hinder optimal wound healing, including mental health conditions and cognitive impairment.[2, 25, 26]

5.3.4. Promotes adequate nutrition and hydration.[2, 7, 11, 13, 24-28, 30, 33, 34]

5.3.5. Promotes cessation of smoking.[24, 29, 30, 32, 35]

5.3.6. Encourages individuals to engage in regular mobility, activity and exercise as tolerated.[2, 25]

5.3.7. Ensures that medications that could impair wound healing are reviewed with consideration to benefit versus risk.[11, 24]

5.4. Implements strategies to optimise the wound and periwound area for healing.

Evidence Criteria

5.4.1. Promotes an optimal wound moisture balance.[2, 12-14, 16, 17, 20, 21, 26, 29, 30, 34, 36-40]

5.4.2. Protects the periwound area and surrounding tissue from moisture and other sources of damage.[2, 9, 12, 13, 16, 21, 25, 30, 36, 37, 39-42]

5.4.3. Protects the wound bed tissue from toxins, pressure, friction, shear and other injury.[2, 12-14, 17, 21, 23, 27-30, 33, 34, 40, 43-46]

5.4.4. Promotes an optimal wound temperature.[2, 14, 17, 37, 47]

5.4.5. Promotes an optimal pH of the wound and periwound area.[17, 21, 47-52]

5.4.6. Removes devitalised or infected tissue from the wound bed using appropriate cleansing and/or debridement methods with consideration to:[2, 7, 9-12, 19, 20, 25, 28, 29, 33, 34, 40, 46, 53]

- Pain.
- Clinical competence and scope of practice.
- Clinical contraindications to removing eschar.
- Wound assessment outcomes.
- Arterial insufficiency.
- Uncontrolled comorbidities.
- Access to sterile equipment.
- Preferences and goals of the individual.

5.5. Attends wound cleansing in a manner that is appropriate to the individual, their wound and the clinical context.

Evidence Criteria

5.5.1. Performs a risk assessment before selecting an appropriate wound cleansing method,[14, 29, 54, 55] with consideration to:

- Size and location of the wound.[56, 57]
- Extent of visualisation of the wound bed.[56, 57]
- Complexity of the procedure, including its anticipated duration.[56, 57, 58]
- Clinical environment in which the procedure will be performed.[56, 57]
- Immune status of the individual.[57, 59]

5.5.2. Selects a wound cleansing method that is appropriate to the individual, their wound and the clinical context, for example:[56, 58]

- Washing/showering.
- Standard aseptic non-touch technique (ANTT™).
- Surgical ANTT™.

5.6. Prevents and manages wound-related infection and cross infection.

Evidence Criteria

5.6.1. Implements appropriate infection prevention and control when caring for the individual and their wound.[56, 58, 60-63]

5.6.2. Optimises the individual's immune response through management of other health conditions and nutritional deficits.[9, 16, 63]

5.6.3. Reduces the risk of wound bed contamination by:[2, 10, 11, 19, 26, 29, 30, 56, 58, 63, 64]

- Managing potential sources of infection (e.g. incontinence).
- Performing appropriate and adequate wound cleansing and debridement.
- Using an appropriate technique to perform wound-related procedures.
- Changing wound dressings with appropriate frequency.

- Educating the individual and their family/carers regarding wound treatment.

5.6.4. Initiates investigation when wound infection/biofilm is suspected and the wound fails to respond to appropriate treatment, to confirm presence of infection and/or to determine causative organisms, such as:[2, 6, 26, 56]

- Assessment of clinical signs and symptoms.
- Biochemical analysis (e.g. inflammatory markers (e.g. CRP).
- Microbiological, pathological and radiological investigations as appropriate and available (e.g. blood cultures, needle aspiration, wound tissue/bone biopsy, peptide nucleic acid fluorescent *in situ* hybridisation [PNA-FISH], light and electron microscopy, plain x-ray, magnetic resonance imaging, bone scan).

5.6.5. Initiates appropriate treatment in the presence of clinical indicators of wound infection/biofilm, such as:[2, 6, 10, 11, 16, 19, 25, 26, 28-30, 33, 34, 56, 61, 63-73]

- Frequent and adequate wound cleansing and debridement.
- Use of topical antiseptics and/or antimicrobial dressings consistent with local policies and procedures, relevant guidelines and the principles underpinning antimicrobial stewardship.
- Biofilm-based wound care.
- Use of topical or systemic antibiotics consistent with local policies and procedures, relevant guidelines and the principles underpinning antimicrobial stewardship.
- Urgent referral to members of the collaborative care team (e.g. medical practitioner, infectious diseases team, etc.) in the presence of signs and symptoms of spreading infection and/or systemic infection and/or osteomyelitis.
- Other appropriate topical therapies.

5.7. Selects and uses products, pharmaceuticals and devices competently and safely.

Evidence Criteria

5.7.1. Selects and uses products, pharmaceuticals, therapies and devices in accordance with:

- Goals of care and clinical needs.[2, 9, 13, 14, 20, 23, 28, 29, 33, 45, 53]
- Current evidence.[66]
- The risk-benefit profile for the individual.[4, 5, 74-76]
- Local policies and procedures (e.g. antimicrobial stewardship program, wound dressing selection guidelines).[6, 56]
- The manufacturer's instructions.[2]
- Indications approved by the Therapeutic Goods Administration.[77]

- Appropriate ethics approval when used as a component of a research protocol.[78]
- Accessibility and cost.[2, 9]
- Preferences of the individual.[41]

5.7.2. Evaluates compatibility and efficacy when using products, pharmaceuticals, therapies and devices in conjunction with one another.[9]

5.7.3. Stores and maintains products, pharmaceuticals and devices in accordance with the manufacturer's instructions.

5.8. Considers adjunctive therapies and advanced innovations for stimulating wound healing when available, appropriate and recommended.

Evidence Criteria

5.8.1. Evaluates the appropriateness of incorporating adjunctive biophysical technologies used to stimulate wound healing (e.g. negative pressure wound therapy, electrical stimulation, ultrasound and electromagnetic treatment) into the individual's wound management plan.[2, 7, 9, 14, 15, 19, 29, 30, 45, 46, 53, 72, 79, 80]

5.8.2. Evaluates the appropriateness of incorporating advanced innovations used to change the biology of the wound (e.g. skin grafts, biological dressings, growth factors) into the individual's wound management plan.[2, 6, 13-15, 19, 29, 30, 46, 53, 72, 79]

5.8.3. Refers individuals for surgical interventions.[2, 19, 28-31, 33, 34, 45, 72]

Criteria for wound service providers

To meet the criteria for the *Wound Treatment Standard*, a wound service provider:

5.9. Supports and facilitates the delivery of individualised, evidence-based wound treatments.

Evidence Criteria

5.9.1. Supports an organised system of care for individuals with a wound. [2, 28, 33, 72]

5.9.2. Provides access to registered health professionals from a range of disciplines to support the multifactorial needs of individuals with a wound.[2, 28, 33, 81, 82]

5.9.3. Provides systems that promote the implementation of individualised, evidence-based wound treatments.[2, 81]

5.9.4. Supports a system of care that promotes assessment, prevention and treatment of wound-related pain.

5.9.5. Procures and provides access to a range of contemporary wound treatment products that are evidence-based and cost-effective.[9]

5.10. Supports and facilitates wound infection prevention and control.

Evidence Criteria

5.10.1. Initiates a comprehensive and evidence-based infection surveillance and control program within the wound service.[56, 81]

5.10.2. Monitors key performance indicators related to infection prevention and control. [56, 61, 64, 72, 73, 81, 83, 84]

5.10.3. Establishes roles and responsibilities related to infection surveillance, prevention and control outcomes.[56, 82]

5.10.4. Promotes an organisational culture that strives to prevent and control wound infection. [56, 72, 73, 81, 82]

5.11. Provides an environment conducive to wound healing.

Evidence Criteria

5.11.1. Provides an environment that is conducive to healing (e.g. temperature and humidity control, cleanliness).[2, 81]

5.11.2. Maximises appropriate storage of wound-related equipment and products within the service.[2]

5.11.3. Maximises privacy of the environment.[81, 82, 85, 86]

Related resources

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Background and Context

Evidence-based practice

Development of a wound management plan is underpinned by the individual's preferences, clinical history, wound and/or risk assessment and the goals of care. Wound prevention and treatment 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 treatment is associated with superior clinical outcomes and more cost-effective care.[87] However, it is important that evidence is not used in isolation. A body of evidence on specific interventions requires interpretation and evaluation by the collaborative care team and individual team members to determine its appropriateness to the individual (e.g. co-morbidities, personal

preferences), the team (e.g. skill level) and the local setting (e.g. clinical setting, environment and resources).[87, 88]

Advances in knowledge, technologies and emerging wound therapies are ongoing. The collaborative care team should seek out the best evidence on effectiveness and implementation. Systematic reviews and evidence-based clinical practice guidelines are sources of evidence that provide comprehensive and concise guidance. These sources generally compile the best available evidence for interventions in a systematic manner and/or develop recommendations for clinical practice based on the strength of the body of scientific evidence. However, guidelines typically provide an interpretation of the available body of scientific evidence and their relevance to a specific individual should be evaluated by wound practitioners.

As highlighted in many wound guidelines and research,[2, 16, 89, 90] the current evidence base for many wound treatments is limited in quality and/or quantity, and the availability of new evidence is ongoing.[2, 88] Wound practitioners 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 their clinical context and the individuals in their care.[90, 91]

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STANDARD 6: DOCUMENTATION

Wound-related documentation provides a legal, comprehensive and chronological record of assessments, investigations, wound prevention and management planning and monitoring, and evaluation at the individual and organisation level.

Rationale

Accurate, comprehensive and chronological health records promote the safety of the individual, continuity of care 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 family/carers and the collaborative care team. A comprehensive wound-related documentation system facilitates service-level monitoring and auditing.

Criteria for wound practitioners

To meet the criteria for the *Documentation Standard*, the wound practitioner:

6.1. Maintains wound-related health records that meet legislative, regulatory and service provider requirements.

Evidence Criteria

6.1.1 Implements local documentation policies and procedures when collecting, storing, accessing, transferring and/or destroying health and wound-related information.

6.1.2 Maintains, stores, transfers and accesses health records in a manner consistent with relevant legislation.[1-7]

6.1.3 Maintains legible written health records that include name, designation, signature and date.[8-11]

6.2. Documents wound assessment, prevention and management comprehensively, chronologically and accurately.

Evidence Criteria

6.2.1 Documents assessments, care planning, care delivery and care evaluation[8, 9, 12-16] related to wound management,[10, 17-21] including:

- A comprehensive initial and ongoing assessment of the individual, the wound and the environment.[10, 13, 14, 17, 19]
- Diagnostic investigations and results.[9, 17, 19, 22]
- An evidence-based wound management plan.[10, 12-14, 17, 19]
- Evaluation of progress towards goals of care[23] using valid and reliable documentation methods (e.g. assessment and monitoring tools, electronic records, digital photography) and effectiveness of the wound care plan.[6, 11, 24-30]

- Any changes to the wound care plan, including the rationale.[13, 14, 23]
- Any adverse effects or risks associated with wound management.[16]

6.2.2 Documents collaboration between the individual, their family/carers, their legal delegates and the collaborative care team, including:[8, 13, 14]

- The individual and their family/carers' ability and willingness to participate in care decisions.
- The individual and their family/carers' care preferences, expectations, goals of care and care decisions.[13, 14, 16]
- The individual and their family/carers' ability and willingness to participate in care delivery.[21, 31]
- A record of collaborative care team meetings/care reviews.[31]
- Provision of information and education to the individual and their family/carers.[8, 19, 31]

6.3 Consults with the individual and their family/carers regarding the use of health information.

Evidence Criteria

6.3.1 Provides the individual and/or their family/carer with information relating to collection, storage and transfer of health information and its use by the collaborative care team.[5, 9]

6.3.2 Obtains and documents informed consent relating to wound assessment (e.g. photography) and care delivery.[9, 31, 32]

Criteria for wound service providers

To meet the criteria for the *Documentation Standard*, the wound service provider:

6.4. Ensures that health and wound-related records are maintained in a manner that meets legislative, regulatory and care provision requirements.

Evidence Criteria

6.4.1. Develops and regularly reviews documentation policies and procedures that include the ways in which health and wound-related information will be collected, recorded, accessed, and stored.[20, 21, 23, 27, 28, 33, 34]

6.4.2. Provides for storage, access, and transfer of health records according to relevant legislative and regulatory requirements.[1-7, 34]

6.4.3. Provides a wound-related documentation system that facilitates wound management, monitoring and evaluation, auditing and research.[21, 23, 33-35]

6.4.4. Provides for health records stored in a manner consistent with privacy legislation, with back-up mechanisms in place.[34, 36-38]

6.4.5. Ensures that wound documentation is accessible to current and future collaborative care teams.[11, 23, 27, 28, 39]

Related resources

Relevant Federal and jurisdictional legislation (Health Records Act, Health Privacy Principles, Health Records Regulations, Health Care Act, Privacy Act and/or Freedom of Information Act), including: Commonwealth Government of Australia, Privacy Act 1988, Compilation No. 86, 17 February 2021, Schedule 1: Australian Privacy Principles. 2021. https://www.legislation.gov.au/Details/C2021C00139 Australian Capital Territory Legislative Assembly, Health Records (Privacy and Access) Act 1997, Schedule 1: The Privacy Principles. Republication 27, Effective 01 April 2016. 2016. https://www.legislation.act.gov.au/a/1997-125/default.asp New South Wales Government, Health Records and Information Privacy Act 2002, No 71. 2020, New South Wales Government. https://legislation.nsw.gov.au/view/html/inforce/current/act-2002-071 Queensland Government, Information Privacy Act 2009, Reprint current from 1 July 2019. 2019. https://www.legislation.qld.gov.au/view/html/inforce/current/act-2009-014 Victorian Government, Health Records Act 2001, Version No. 046, No. 2 of 2001, amendment 27 August 2020, in 046. 2020. http://www.austlii.edu.au/au/legis/vic/consol_act/hra2001144/sch1.html	S
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Wounds UK. 2018. Best Practice Statement: Improving holistic assessment of chronic wounds. Wounds UK: London.	C

Background and Context

Documentation of wound assessment, 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 one of many methods through which the collaborative care team communicate with each other regarding the individual's progress and any issues that may arise in care delivery and referrals. Documentation also 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.[40, 41] These principles promote continuity of care and protect the individual, registered health professionals and unregulated health care workers in the event of complaints or legal action.[6]

Under Australian Privacy Principle One[5] 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, family/carers and members of the collaborative care team. 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.[5] 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, 5, 7, 36]

Documenting decision making

The right to engage in decisions regarding one's care is a foundational health care principle. Informed consent requires the individual to have engaged in an informed decision-making process with the support of the collaborative care team and their family/carers. Counselling the individual about the role and outcome of wound assessment, risk assessment and options for care should be thoroughly documented in the 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 registered health professionals and unregulated health care workers regarding the education and consultation that has been undertaken.[31]

Documentation systems

An advanced documentation system provides a wound service with advantages in achieving best practice in wound management continuous quality improvement. Many facilities have introduced, or are developing, electronic medical records that provide the opportunity to integrate best practice into documentation, care planning and quality improvement. Evidence suggests that an advanced (and specifically, electronic) medical record is associated with more effective care delivery and superior outcomes for the individual.[42] An ideal comprehensive documentation system includes standardised assessment and monitoring tools, clinical decision tools or flow charts and flagging or alert systems to draw attention to assessment outcomes that are of concern (e.g. identified as having a high risk of pressure injuries).[43] An electronic documentation system ensures that wound assessment is stored in one place, ensuring care continuity across the collaborative care team.[24, 43] More advanced documentation systems integrate wound photography, healing trajectory for wounds, consumer education material and relevant clinical guidelines and/or recommendations. Organisation level wound prevalence and incidence rates and healing outcomes can also be derived from wound documentation systems and are therefore useful for quality improvement planning and reporting.[43]

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STANDARD 7: KNOWLEDGE, EDUCATION AND RESEARCH

Wound-related knowledge, education and research capacity are maximised.

Rationale

Delivery of the highest standard of wound practice requires expert knowledge and skills. Formal education, research, continuous professional development and continuous quality improvement activities promote attainment of contemporary, evidence-based knowledge for wound practitioners and the collaborative care team. Maximising the knowledge and skills of the individual and their family/carers facilitates their participation in care decisions and activities.

Criteria for wound practitioners

To meet the criteria for the *Knowledge, Education and Research Standard*, the wound practitioner:

7.1 Demonstrates knowledge, skills and critical thinking with respect to wound-related practice.

Evidence Criteria

7.1.1 Demonstrates knowledge of wound assessment, prevention and management at a level commensurate with scope of practice, education background and experience.[1]

7.1.2 Demonstrates proficiency in contemporary wound management.[2]

7.1.3 Thinks critically and analyses wound practice.[3-5]

7.1.4 Engages in reflective practice.[1, 3]

7.2 Maintains current and evidence-based wound knowledge.

Evidence Criteria

7.2.1 Identifies own wound-related learning needs and professional goals.[4,6-8]

7.2.2. Engages in wound-related education and skills acquisition that reflects best practice.[2, 4, 8-10]

7.3. Contributes to wound-related research, quality improvement activities and other opportunities to translate evidence into practice.

Evidence Criteria

7.3.1. Engages in collaborative processes to identify needs for improvement in wound-related clinical care delivery.[1, 5, 11]

7.3.2. Engages in collaborative processes to evaluate wound-related clinical practice and quality indicators.[5, 11]

7.3.3. Engages in collaborative processes through which new evidence is critiqued and introduced into clinical practice.[1, 5, 12]

7.4. Contributes to the wound-related professional development of the collaborative care team.

7.4.1. Contributes to the education and learning opportunities of the collaborative care team.[3-5, 7, 13]

7.4.2. Demonstrates effective supervision, teaching and performance appraisal, as applicable. [1, 2, 5, 14-17]

7.4.3. Demonstrates effective role modelling and mentoring with respect to wound management.[1, 4, 5, 14, 15, 17]

7.5. Educates the individual and their family/carers regarding the wound management.

Evidence Criteria

7.5.1. Assesses and documents the wound-related learning needs of the individual and their family/carers.[18, 19]

7.5.2. Provides relevant and appropriate wound-related education, skills development and learning opportunities to individuals and their family/carers.[1, 3, 5, 7, 13, 18-26]

7.5.3. Provides individuals and their family/carers advice on accessing evidence-based wound-related information and support.[20]

Criteria for wound service providers

To meet the criteria for the *Knowledge, Education and Research Standard*, the wound service provider:

7.6. Identifies wound-related learning needs of the collaborative care team.

Evidence Criteria

7.6.1. Records and regularly reviews the knowledge and skills set of the collaborative care team.[27, 28]

7.6.2. Facilitates a professional development review process that incorporates wound-related learning needs.[27, 28]

7.7. Promotes wound-related education for the collaborative care team, individuals and family/carers.

Evidence Criteria

7.7.1. Facilitates access to wound-related education.[9, 23, 29-34]

7.7.2. Provides opportunity for the collaborative care team to share their knowledge and skills.[20, 28]

7.7.3. Promotes the education of individuals and their family/carers on wound prevention and management.[9, 20-22, 31, 35-37]

7.8. Facilitates the collaborative care team to evaluate evidence and translate it into practice.

Evidence Criteria

7.8.1. Facilitates access to contemporary wound-related research and evidence-based practice guidance.[12, 27, 31]

7.8.2. Implements a wound-related quality improvement program.[11,20,31,32,38]

7.8.3. Facilitates processes through which the collaborative care team critique and implement new evidence to practice.[11, 12, 28, 31, 32]

7.8.4. Facilitates wound-related research.

7.9. Strives to achieve wound-related service level quality indicators.

7.9.1. Identifies appropriate service-level wound-related quality indicators (e.g. reduction in wound prevalence).[20, 28, 31]

7.9.2. Implements a wound-related quality improvement program.[20, 31, 32]

7.9.3. Establishes systems through which wound-related quality indicators within the wound service are monitored and regularly evaluated.[31, 39-41]

Related resources

Australian Commission on Safety and Quality in Health Care. (2017). The National Safety and Quality Health Service (NSQHS) Standards: Comprehensive Care Standard. ACSQHC. https://www.safetyandquality.gov.au/standards/nsqhs-standards	S
Aged Care Quality and Safety Commission (2019). Aged Care Quality Standards. Australian Government. http://www.agedcarequality.gov.au/	S
European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. (2019). Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline, Haesler. E. (ed.): EPUAP/NPIAP/PPPIA.	EBG
Holloway S, Pokorna A, Janssen A, Ousey K, and Probst S. Wound Curriculum for Nurses: Post-registration qualification wound management-European qualification framework level 7. J Wound Care, 2020. 29(Supplement 7a): p. S1-S39.	R
Team V, Bouguettaya A, Richards C, Turnour L, Jones A, Teede H and Weller CD. Patient education materials on pressure injury prevention in hospitals and health services in Victoria, Australia: Availability and content analysis. Int Wound J, 2020. 17(2): p. 370-379.	R
Nursing and Midwifery Board of Australia. (2021). Nurse Practitioner Standards for Practice. Nursing and Midwifery Board of Australia: Melbourne.	S
Nursing and Midwifery Board of Australia. (2016). Registered Nurses Standards for Practice. Nursing and Midwifery Board of Australia: Melbourne.	S
World Union of Wound Healing Societies. (2020). Evidence in Wound Care. Wounds International: London.	P
World Union of Wound Healing Societies. (2020). Strategies to Reduce Practice Variation in Wound Assessment and Management: The T.I.M.E. Clinical Decision Support Tool. Wounds International: London.	P

Background and Context

Education for the collaborative care team

It is essential that members of the collaborative care team have the skills they need to undertake evidence-based practice required to optimise outcomes for the individual. It is a professional responsibility to ensure that one's clinical skill set is contemporary, evidence-based and competent, and appropriate to the clinical context in which one practises. Many individuals who sustain wounds have complex health care issues that influence their risk of wounds and ability to heal. These individuals require access to wound practitioners with specialist skills to intervene appropriately to optimise healing.[42, 43]

Specialist wound practitioners are those who have undertaken additional education and qualification in wound management.[44] Specialist wound practitioners not only perform advanced wound assessment and management, but also have a significant role in mentoring, role modelling and providing education to other members of the collaborative care team.[14, 42, 45] International research demonstrates that wound service providers that engage specialist-trained tissue viability/wound/ostomy and continence nurses have lower rates of adverse skin events and improved healing outcomes for individuals with wounds.[31, 45, 46]

Optimising knowledge for individuals and family/carers

Low health literacy has been associated with an increased risk of developing a wound in individuals at risk.[47] Without knowledge of factors associated with the prevention, development and management of a wound, the individual is limited in their ability to actively engage in wound management. Understanding the knowledge needs of the individual and their family/carers provides the collaborative care team with a foundation for planning and delivering education. Learning needs extend beyond practical skills and include knowledge regarding the influence of comorbidities and lifestyle on wound prevention and healing.

Individuals and their family/carers should have access to contemporary wound-related knowledge. This may be in the form of one-to-one or group formats,[48-50] and may be delivered using a range of strategies (e.g. face-to-face, web-based, pre-recorded, interactive).[51, 52] However, evidence indicates that written education material reinforces verbal education and enhances ongoing learning. In developing written resources, consideration should be given to the format (e.g. hard copy, digital, website, mobile app, etc.), language, cognitive ability and reading level of the intended audience, and inclusion of visual tools.[36, 53] Australian studies have shown that accessible consumer education on health and wound topics generally fails to deliver content at an appropriate reading level with helpful information and appropriate contributors and endorsements.[36, 53, 54]

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STANDARD 8: DIGITAL PLATFORMS AND TECHNOLOGIES

Digital platforms and technologies are used to facilitate the delivery of evidence-based wound prevention and management.

Rationale

Digital health platforms and technologies are rapidly advancing. This includes physical technologies that are used to perform wound assessment, prevention and management, as well as technologies that transmit and broadcast wound-related information on a one-to-one basis (e.g. telehealth consultations) or more broadly (e.g. social media). It is important that wound practitioners and wound service providers navigate the moral, ethical and social responsibilities associated with using digital technologies, as well as attain proficiency in using new technologies as they emerge.

Criteria for wound practitioners

To meet the criteria for the *Digital Platforms and Technologies Standard*, the wound practitioner:

8.1. Accesses and delivers telehealth when appropriate in a manner consistent with professional standards and regulatory requirements.

Evidence Criteria

8.1.1. Assesses the individual and the clinical situation to determine the appropriateness of using a digital telehealth platform, including the acceptability to the individual.[1-5]

8.1.2. Implements telehealth consultations in a way that enables consent, privacy, confidentiality and data security.[1, 4, 6-9]

8.1.3. Documents telehealth care using a structured approach that promotes integrity of data.[1, 4, 6, 7]

8.2. Delivers telehealth in a manner consistent with best practice in wound assessment, prevention and management.

Evidence Criteria

8.2.1. Uses telehealth platforms in a way that promotes evidence-based wound assessment, prevention and management.[2]

8.2.2. Integrates telehealth consultations with in-person wound management to achieve optimal clinical outcomes.[2, 4, 6]

8.2.3. Delivers telehealth in a manner that promotes collaborative and therapeutic relationships.[2-6, 10]

8.3. Implements digital technologies (e.g. photography) in a manner consistent with effective wound management.

Evidence Criteria

8.3.1. Evaluates safety and efficacy of new technologies before implementing them in wound management.[4]

8.3.2. Undertakes training before using digital devices/technologically advanced equipment.[4, 5, 7]

8.3.3. Considers the consent, dignity and privacy of the individuals when undertaking digital recording/photography.[7]

8.3.4. Performs digital photography/recording in a manner consistent with achieving a repeatable and comparable image for initial assessment and ongoing monitoring.[7]

8.3.5. Ensures individuals and family/carers performing digital photography have appropriate knowledge and skills.

8.3.6. Records and stores the digital wound assessment accurately and securely.[7]

8.3.7. Uses a consistent method to assess a wound via digital record, particularly when the wound was not also evaluated in-person (e.g. when comparing serial wound photographs or assessing wounds documented via telehealth).[11]

8.4. Uses social media and other digital platforms in a professionally responsible manner.

Evidence Criteria

8.4.1. Protects the privacy of the individual, their family/carers, colleagues and employers when using social media and other digital platforms.[8, 12-14]

8.4.2. Observes ethical and professional boundaries and obligations (e.g. follows consent processes) when using social media and other digital platforms.[8, 12-15]

Criteria for wound service providers

To meet the criteria for the *Digital Platforms and Technologies Standard*, the wound service provider:

8.5. Facilitates access to telehealth when it is appropriate to enable access to wound assessment, prevention and management.

Evidence Criteria

8.5.1. Has policies and procedures outlining the context in which telehealth will be used, including guidance outlining its implementation, including consent processes.[1, 6, 16, 17]

8.5.2. Maintains technology systems that ensure that telehealth can be delivered securely, privately and confidentially.[1, 2, 5]

8.5.3. Provides access to technology support services.[3-6]

8.5.4. Facilitates education on delivery of telehealth, including use of supportive digital technologies (e.g. cameras).[1-3, 6]

8.6. Facilitates use of digital technologies to enable accurate wound assessment, prevention and management.

Evidence Criteria

8.6.1. Supports the use of evidence-based digital technologies in the wound service.[4, 7]

8.6.2. Evaluates safety and efficacy of new technologies before introducing their use for wound management.[4]

8.6.3. Provides access to reliable photographic and recording equipment, and appropriate digital storage systems.[7]

8.6.4. Facilitates education and training when introducing new digital technologies to the wound service.[4]

8.7. Promotes responsible use of social media and other digital platforms.

Evidence Criteria

8.7.1. Provides guidance on the use of personal devices, social media and other digital platforms within the wound service.

Related resources

Australian Nursing Federation, Telehealth Standards: Registered Nurses. 2013, Australian Nursing Federation: Australia.	S
Ahpra and National Boards, Social media: How to meet your obligations under the National Law. 2019, Ahpra: https://www.ahpra.gov.au/Publications/Social-media-guidance.aspx	P
Chen L, Cheng L, Gao W, Chen SD, Wang C and Ran X. Telemedicine in chronic wound management: Systematic review and meta-analysis. JMIR Mhealth Uhealth,2020;8 (6): p. e15574.	R
Moore Z, Angel D, Bjerregaard J, O'Connor T, McGuiness W, Kroger K, Schnack Brandt Pasmussen B and Bonnet Yderstraede K. eHealth in Wound Care: From conception to implementation. J Wound Care, 2015. 24(5): p. S1–S44.	P
Piaggesi A, Läuchli S, Bassetto F, Biedermann T, Marques A, Najafi B, Palla I, Scarpa C, Seimetz D, Triulzi I, Turchetti G and Vaggelas A. EWMA document: advanced therapies in wound management: cell and tissue based therapies, physical and bio-physical therapies smart and IT based technologies. J Wound Care, 2018. 27 (6 Suppl 6).	P

Background and Context

The rapid development of technologies in all areas of life is mirrored in health care and wound management. Technological advance offers opportunities for more cost effective and timely wound management, with potential to eliminate redundancy, reduce variability, reduce errors, increase data access and promote greater time for the wound practitioner to establish a therapeutic relationship with the individual and their carer.[18]

The *Digital Platforms and Technologies Standard* refers specifically to digital technologies that are commonly used in Australian wound practice at the time of publication. Recent reviews indicate that the most used digital technologies are photography and other digital imaging, and telehealth.[3, 4] Advanced wound measurement technologies (e.g. digital photography, digital software planimetry, 3D wound mapping) are becoming ubiquitous in well-resourced areas.[19] Other digital technologies that support telecommunications (e.g. telehealth) have also improved the access of individuals in rural and remote areas to specialised general and wound-related care. However, many other emerging technologies are being explored and adopted; for example, sensorised wound dressings, biophysical therapies, and nanotechnology-based therapy.[3] The broad principles outlined above, including maintaining professional, legal and ethical obligations, developing frameworks and guidelines for new resources and ensuring appropriate education and training, remain relevant to the introduction of other new technological advances.

The intersection between wound management and telehealth

Increasingly, digital technologies are being used to enable access to health care, including wound management.[3] Telehealth uses telecommunication technologies to facilitate remote delivery of health advice and health care.[2-4, 20] Telehealth presents an opportunity to connect more personally with an individual and their family/carers when it is not possible to physically meet. As audio-visual technologies rapidly advance, and telecommunication technologies improve in ability to rapidly transmit data, telehealth is being used across Australia to connect wound practitioners with consumers.[21] Telehealth services provide an option for people living in rural and remote regions, people living in regions with poor access to specialists, out-of-hours care and in more exceptional circumstances (e.g. during pandemics). Telehealth may be delivered in real-time (e.g. using secure web-conferencing platforms) or as a "store and forward" consultation.[3] A recent systematic review that included world-wide data demonstrated that wound models of care that include a level of telehealth (e.g. some or all consultation conducted remotely) are associated with no significant difference in clinical outcomes compared with in-person wound management, including no statistically significant difference in wound healing and amputation rates.[21] However, the use of telehealth should be balanced with the potential impact on the accuracy of assessment, delivery of wound treatments and the therapeutic relationship.[20, 22] For wound practitioners and wound service providers, video conferencing and other internet-based platforms also offer opportunity for increased connectedness with colleagues, peers and other specialists for consultation and education.[3]

Although telehealth provides opportunities for greater connectedness with individuals with a wound, family/carers and the collaborative care team, the use of digital platforms does not change the obligation to maintain professional

and clinical standards in wound management.[6] As noted in the *Digital Platforms and Technologies Standard* above, additional safeguards may be required to maintain privacy and confidentiality. Consideration of the physical environment, technological capabilities and education needs for all telehealth participants should be addressed when establishing services.

Digital information

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 registered health professionals and unregulated 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.[23]

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Glossary of Terms

Absolute toe pressure: See *Resting systolic toe pressure*.

Acute wound: A wound that proceeds though the reparative process in an orderly and timely manner to achieve restored skin integrity.[1]

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

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

Ankle brachial pressure index (ABPI): ABPI is sometimes referred to as Doppler testing or Doppler ultrasound. A non-invasive vascular test using Doppler ultrasound that identifies large vessel peripheral arterial disease in the leg. It is used to determine adequate arterial blood flow in the leg before use of compression therapy. Systolic blood pressure is measured at the brachial artery and at the ankle level. The ABPI is calculated as the highest systolic blood pressure from the foot arteries (either dorsalis pedis or posterior tibial artery) divided by the highest brachial systolic pressure, which is the best estimate of central systolic blood pressure. An ABPI of 0.8 to 1.1 is usually considered indicative of adequate arterial flow in the absence of other clinical indicators for arterial disease. An ABPI of less than 0.8 and a clinical picture of arterial disease should be considered as arterial insufficiency. An ABPI above 1.2 is suggestive of possible arterial calcification.[2, 3]

Anthropometric measurement: Non-invasive measurements of the body, typically including weight, height, head/body circumference, body mass index (BMI) and skinfold thickness.[4]

Antibiotic: A natural or synthetic medicine administered systemically or topically that has the capacity to destroy or inhibit bacterial growth.[5]

Antimicrobial resistance: Antimicrobial resistance occurs when microorganisms change over time in ways that render the medications used to treat the infections they cause ineffective.[5, 6]

Antimicrobial stewardship: The supervised and organised appropriate use of antimicrobial agents in order to decrease the spread of infections that are caused by multidrug-resistant organisms and to improve clinical outcomes by encouraging optimised use of antimicrobials.[5, 7]

Antimicrobial tolerance: Antimicrobial tolerance occurs when microorganisms have a lower susceptibility to an antimicrobial.[5]

Antiseptic: An antiseptic is a topical agent with broad spectrum activity that inhibits multiplication of, or sometimes kills, microorganisms. Depending upon its concentration, an antiseptic may have a toxic effect on human cells. Development of resistance to topical antiseptics is uncommon.[5]

Asepsis: A state of being free from infectious (pathogenic) agents.[5, 8]

Aseptic technique: A practice framework that aims to prevent cross-infection of pathogenic microorganisms when performing a wound dressing procedure.[8] Selection of an aseptic technique is guided by a risk assessment of the individual, their wound and environmental factors; local policies and resources and the context of care.[5]

Assessment: The process of undertaking a structured investigation and evaluation to determine if the individual has any health conditions and to elicit information that will assist the collaborative care team to plan and deliver care. An assessment can include both subjective information (e.g. gathered from sets of questions) and objective information (e.g. gathered during physical examination).[9]

Atrophie blanche: A morphological feature commonly seen in people with venous stasis and healed venous ulcers, presenting as porcelain, satellite scars with hyperpigmentation and peripheral telangiectasia.[10]

Biofilm: A form of infection that is more resistant to treatment than planktonic bacteria. Biofilm is thought to primarily compose of aggregated microorganism species (although single species biofilm have been observed) that co-exist in a manner that makes their eradication from a wound more difficult. In *in vitro* conditions, biofilm has been observed as aggregated microorganisms that exist in an extracellular matrix.[5]

Biophysical therapy/biophysical agent: A therapy that is based on the delivery of biophysical energy to the wound using specially designed medical devices. Biophysical therapies are usually used as adjuvant therapy. Biophysical modalities include electromagnetic spectrum technologies (e.g. electrical stimulation, electromagnetic field therapy and phototherapy), acoustic technologies (e.g. low frequency ultrasound, high frequency ultrasound), kinetic technologies (e.g. pulsatile lavage, vibration therapy), atmospheric technologies (e.g. negative pressure, suction, hyperbaric oxygen or topical oxygen) or a mix of these modalities.[11]

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

Body mass index (BMI): A measure of whether an individual's weight is in a healthy range based on their height. A BMI is calculated as the person's weight in kilograms divided by the square of the individual's height in metres.[12]

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.[13]

Callus: Hyperkeratosis 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.[14]

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.[1, 5]

Claudication: Muscle pain, cramping or discomfort in the leg (e.g. calf or thigh) or buttocks that occurs during activity and resolves when resting. The pain may be accompanied by numbness, weakness or a heavy/tired feeling. Claudication is a symptom of peripheral arterial insufficiency.[15]

Cognitive impairment: A disruption to a person's mental process of learning, understanding and knowing. Cognitive impairment can impact knowledge, attention, memory, judgement, reasoning, decision-making, comprehension and language. The two most common forms of cognitive impairment are dementia (a form of progressive cognitive impairment) and delirium (a form of acute cognitive impairment).[16]

Collaborative care: Involving two or more people and/or disciplines working together. Collaborative care involves working with health practitioners involved in the care of the individual and their family/carers to develop a prevention and management plan with which the individual is comfortable.[17] Collaborative care is an umbrella term to describes a variety of care models that involve collaboration, including multidisciplinary care and interdisciplinary care.[18]

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.[19]

C-reactive protein: A blood test that provides an indirect measure of inflammation activity; an early indicator of acute inflammatory stage of a range of different diseases, including wound infection.[20]

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

Debridement: The removal of devitalised (non-viable) tissue from or adjacent to a wound.[5] Debridement also removes foreign matter, exudate and bacterial colonies (e.g. biofilm) from the wound bed and promotes a stimulatory environment. Methods of debridement include autolytic debridement (promotion of naturally occurring autolysis), surgical sharp debridement, conservative sharp debridement, enzymatic debridement, mechanical debridement (e.g. mesh pad), biological debridement (e.g. larval therapy) and low frequency ultrasonic debridement.[5, 21, 22]

Desiccation: The drying out of the wound bed and periwound area.[23]

Dermatitis/Eczema: A reaction of the skin that often occurs rapidly (acute dermatitis/eczema) but may be gradual and long standing (chronic dermatitis/eczema). It is characterised by a red rash, often blistered and swollen, that may be surrounded by darker, thickened skin (in chronic cases) and is generally dry and itchy. It may be caused by irritants (e.g. products, chemical or even friction) or allergic response, and can become infected.[24]

Devitalised tissue: Dead tissue presenting as necrotic tissue or slough.[25]

Diversity: Variation in personal, social and economic characteristics including culture and identity.[26]

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

Electrical stimulation: see *Biophysical therapy*.

Electromagnetic field therapy: see *Biophysical therapy*.

Erythrocyte sedimentation rate (ESR): A blood test that provides a non-specific indicator of inflammation activity in the body.[20]

Erythema: Superficial reddening of the skin.[11, 22]

Eschar: Necrotic, devitalised tissue that appears black or brown, can be loose or firmly adherent and hard or soft, and may appear as leathery.[5, 11]

Evidence-based (wound) practice: Integration of clinical expertise, the perspective of the individual and research evidence to make decisions about the most appropriate way to deliver wound management to that particular individual.[27]

Exogenous: Originating outside the body.

Extrinsic factors: Originating outside of the body.

Exudate: Fluid that is released from tissue and/or capillaries in response to injury, inflammation and/or microbial burden. It is mainly comprised of serum, fibrin, proteins and white blood cells.[5] Exudate types include:

Serous: Clear, amber or straw coloured exudate that is thin and watery.[28]

Haemoserous/serosanguineous: Pink to light red exudate that is thin but slightly thicker than water.[28, 29]

Sanguineous: Red exudate that is thin and watery, indicating presence of red blood cells.[28]

Seropurulent: Cloudy, creamy, yellow or tan exudate that has a thin consistency.[28]

Purulent: Opaque, milky, yellow or brown/green, pus that is thick and may have an offensive odour.[28]

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

Fibrin: A protein involved in clotting of blood. When wound bleeding occurs, fibrinogen in blood plasma is converted into fibrin by the action of a clotting enzyme called thrombin. Fibrin and thrombin combine with red blood cells and platelets at the wound site to create a mass that hardens and contracts into a blood clot. This clot prevents blood loss and promotes tissue regeneration by delivering erythrocytes, macrophages and fibroblasts around the wound.[30]

Fibrinous wound base/surface: A metabolic by-product of healing occurring as a layer that is loosely or firmly adherent to the wound bed. It is composed of serum and matrix proteins that may be white, yellow, tan, brown or green, and has a fibrous or gelatinous texture and appearance.[5]

Fistula: An abnormal tunnel-like connection forming between two organs or vessels in the body that do not usually connect.[31] This can lead to draining of bodily fluid (e.g. faeces, urine) between organs or from an organ to an opening in the skin, if the fistula is cutaneous.[31, 32]

Fistulogram: see *Sinogram*.

Fitzpatrick Skin Type: Classification of skin based on its response to sunlight exposure (i.e. the amount of melanin in the skin). The classification system includes six types, each of which is described by its lightness/darkness of skin and its ability to tan/burn.[33]

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

Friable tissue: Fragile tissue that bleeds easily.[5]

Friction (frictional force): The contact force that is in a parallel direction relative to the skin and that occurs due to body weight loads (or a force exerted by a device). Force is associated with shear deformations and stresses, and may be static (i.e. when no relative movement between the skin and the surface occurs) or dynamic (i.e. when there is movement between the skin and surface).[11, 34]

Gangrene: Gangrene is the death of localised body tissue. It may be wet (occurring due to necrotising bacterial infections)[35] or dry (occurring due to tissue ischaemia due to a range of causes including peripheral arterial disease, venous insufficiency, thrombosis, trauma frostbite or embolism).[22, 36] Early signs of wet gangrene include blisters, bruising that precedes skin/tissue necrosis, crepitation and cutaneous numbness. These symptoms require urgent investigation.[35] In most cases a surgical consultation should be sought urgently.[22, 37]

Granulation tissue: New connective tissue and microscopic blood vessels[38, 39] that appears as pink/red, moist, shiny tissue that glistens, with a granular or 'cobblestone' surface.[39, 40] Granulation tissue extracellular matrix contains fibroblasts, keratinocytes, endothelial cells and immune cells (e.g. neutrophils, macrophages).[38]

Glycosylated haemoglobin (HbA1c): A test that indicates an individual's average blood glucose level over the life of the red blood cells, which is about 10 to 12 weeks. HbA1c is used an indicator of diabetes control.[20]

Harris-Benedict equation: An equation that is used to calculate a person's total daily energy expenditure based on their basal metabolic rate and activity level. This is used to determine nutritional needs.[41]

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

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

Health literacy: The cognitive and social skills that determine the ability of an individual to gain access to, understand and use information in ways which promote and maintain health, including the individual's motivation to seek out such information.[42]

Health professional: see *Registered health professional*.

Hyperkeratosis: Thickening of the outer surface of the skin (stratum corneum).[43]

Hypergranulation: Hypergranulation is an increase in the proliferation of granulation tissue such that the tissue progresses above or over the wound edge and inhibits epithelialisation. It presents as raised, soft/spongy, shiny, friable, red tissue. Also referred to as *over granulation*.[5]

Induration: Hardening of soft tissues.

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

Infection: when the quantity of microorganisms in a wound become imbalanced such that the host response is overwhelmed and wound healing becomes impaired.[22, 44] 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.[5, 22] The transition that can be categorised as:

> **Contamination:** Contamination refers to the presence within the wound of microorganisms that are not proliferating. No significant host reaction is evoked and no delay in wound healing clinically observed.[5]
>
> **Colonisation:** Colonisation refers to the presence of microorganisms within the wound that are undergoing limited proliferation. No significant host reaction is evoked and no delay in wound healing clinically observed.[5]
>
> **Local infection:** Local infection refers to the presence and proliferation of microorganisms within the wound that evoke a response from the host that often includes delayed wound healing. Local infection is contained within the wound and the immediate periwound region (less than 2cm). Local infection often presents as subtle (covert) signs that may develop into the classic (overt) signs of infection.[5]
>
> **Spreading infection:** Systemic infection arising from a wound refers to microorganisms spreading from the wound into adjacent or regional tissues, evoking a response in the host in the structures in the anatomical area beyond the periwound region. Signs and symptoms of spreading infection include diffuse, acute inflammation and infection of skin or subcutaneous tissues.[5]
>
> **Systemic infection:** Systemic infection arising from a wound refers to microorganisms spreading throughout the body via the vascular or lymphatic systems, evoking a host response that affects the body as a whole. Signs of systemic infection include a systemic inflammatory response, sepsis and organ dysfunction.[5]

Informal carer: see *Family/carer*.

Interdisciplinary care: A collaborative care team of registered health professionals and unregulated health care workers who work with the individual and their family/carers to agree upon the goals of care and perform wound management. Team members combine their knowledge and skills to work more closely (compared with multidisciplinary care models) to deliver care.[18]

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.[45, 46]

Lesion: A lesion is any area of altered skin or underlying tissue, usually caused by disease or

trauma.[47] Macules, bullae, pustules, rashes, plaques, vesicles, wounds, ulcers, purpura, scars, erosions and telangiectases are some examples of lesions.[48]

Maceration: Maceration refers to wrinkled, soggy and/or hyperhydrated soft periwound skin occurring due to excessive exposure to moisture. Periwound skin presenting as white/pale in the context of excessive moisture is at increased risk of breakdown.[5, 49]

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.[50] In contrast to x-ray, MRI creates more detailed image of organs and soft tissues, as well as bone and other internal structures.

Monofilament testing: A test that is conducted to detect loss of sensation (e.g. occurring due to peripheral neuropathy). Calibrated nylon threads/monofilaments (i.e. a 10-g Semmes-Weinstein monofilament) are placed on the individual's skin (usually the foot), with force applied until the filament buckles. The individual indicates when the buckling sensation cannot be felt.[51]

Multidisciplinary care: A collaborative care team of registered health professionals and unregulated health care workers who work with the individual and their family/carers to agree upon the goals of care and perform wound management. Team members treat the individual independently and share information with one another.[18]

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.[22, 25, 52, 53]

Non-granulation: Moist, red non-pebbled tissue.[54]

Oedema: Oedema is swelling of the tissues causes by accumulation of fluid.[22] 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.[11]

Osteomyelitis: Infection of the bone with involvement of bone marrow[22] that occurs through infection of the bloodstream (including infection from another point in the body that travels in the bloodstream) or from a wound or injury that allows bacteria to directly reach bone.

Over granulation: see *Hypergranulation*.

Palliative care: Care focused on holistically supporting the individual for comfort and enhancing the quality of living rather than actively seeking to cure or heal the wound. This may or may not also include end-of-life care.[55, 56]

Periwound: The skin and tissue immediately adjacent to the wound edge extending out 4cm and including any skin and tissue under the wound dressing.[57, 58] The periwound region can be affected by moisture (e.g. maceration and excoriation) or may be dry, or develop hyperkeratosis, callus or eczema.[57] The condition of the periwound region is often a result of wound management strategies (e.g. contact dermatitis in response to a wound dressing), but may also be related to the wound type (e.g. dermatological problems are particularly associated with venous ulcers).[57, 59] The periwound region can also be indicative of the wound condition (e.g. erythema, warmth and swelling indicates potential wound infection)[57] or of overall health issues influencing wound healing (e.g. pale or bluish skin can indicate poor vascular supply).

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

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

Photoplethysmography (PPG): A non-invasive test that measures venous refill time by using a small light probe that is placed on the surface of the skin just above the ankle. The test requires the individual to perform calf muscle pump exercises for brief periods followed by rest. The PPG probe measures the reduction in skin blood content following exercise. This determines the efficiency of the musculovenous pump and the presence of abnormal venous reflux.[2, 60]

Pigmentation changes: Changes in the colouring of the skin.

Pocketing: Pocketing occurs when granulation tissue does not grow in a uniform manner across the entire wound base, leading to a dead space that can potentially harbor microorganisms.[5]

Potable water: Water that is of a quality suitable for drinking, cooking and bathing. Unless the water supply is known to be of potable quality (i.e. safe for consumption), it should be considered non-potable. Tank water, pool water and dam water may or may not be of potable quality.[61]

Pressure injury: A localised injury to the skin and/or underlying tissue as a result of pressure or pressure in combination with shear. Pressure injuries usually occur over a bony prominence or in association with a medical device/other object.[11]

Prevalence: The proportion/percentage of individuals in a defined population who have a wound within a defined period of time.[11]

Primary health care: Health services delivered in community settings including but not limited to general practices, community health centres, Aboriginal health services and allied health practices.

Pruritus: Itchy skin.[62]

Prophylactic/preventive dressing: A dressing that is placed onto the skin before any skin damage becomes evident, with a goal of preventing skin breakdown due to pressure, shear and alternations in the skin's microclimate.[11] Features such as an elastic adhesive type (e.g. silicone), the number of layers used in construction of the prophylactic dressing, and the size of the selected dressing are considered to contribute to its ability to protect the skin.[11, 63]

Psychometric quality: The validity and reliability of an assessment or measurement tool. See also: *Validity*, *Reliability*.

Quality of life: A subjective, qualitative measure of one's ability to lead an holistic and fulfilling life. Concepts that are often included in a quality of life assessment include psychosocial, emotional and physical wellbeing. When specifically measuring the impact of health, the measure is sometimes referred to as health-related quality of life (HRQOL).[64]

Reliability: The consistency of a measure, scale or assessment. Test-retest reliability evaluates how a measure performs over time, internal consistency evaluates how consistent a measure is across items, and inter-rater reliability evaluates how well a measure performs when applied by different people.[65] See also: *Validity*.

Registered health professional: An individual who has completed (or is working toward completion of) a health professional degree and works within a branch of health care or in a role that is regulated by the Australian Health Practitioner Regulation Agency (Ahpra).[66, 67]

Resting systolic toe pressure: A non-invasive test that measures arterial perfusion in the toes and feet, particularly in individuals with incompressible arteries due to calcification.[68] A toe cuff is applied to the hallux (or second toe if amputated) and systolic pressure measured with a sphygmomanometer[69] or using a PPG probe.[68]

Risk assessment: An assessment that is conducted to identify the presence of factors known to be associated with a specific condition.[11, 40]

Role maintenance: Maintaining ability to perform one's usual roles in life and society.

Screening: An evaluation of an individual undertaken for the purpose of determining if they would benefit from a more in-depth assessment. A screening is usually fairly rapid and identifies 'red flags' that can indicate a person might be at risk of a condition and requires a more targeted and detailed health evaluation.[70, 71] Specific screening tools are available for some purposes (e.g. nutritional risk).[2, 11] For other conditions (e.g. risk of pressure injuries) knowledge of demographic-specific risk factors and clinical judgement is applied by a regulated health professional to rapidly identify people requiring a prompt formal risk assessment.[11]

Sinus tract: A tract or path of tissue destruction, sometimes called a *tunnel*, occurring in any direction from the surface or edge of a wound and ending in dead space. The dead space has a potential for pus to collect (i.e. abscess formation).[32, 40, 72]

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

Skin hygiene: Bathing practices undertaken to promote skin health and integrity. Skin hygiene includes practices to keep the skin clean and moist.[73]

Slough: Slough is nonviable tissue of varying colour (e.g. cream, yellow, greyish or tan) that may be loose or firmly attached, slimy, stringy or fibrinous.[5]

Stemmer sign: A physical examination used to diagnose lymphoedema by pinching the skin on the dorsum of the hand or foot. When the examiner cannot pinch the skin, Stemmer sign is considered positive for presence of lymphoedema.[74]

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.[75, 76]

Telangiectasia: Small, visible linear red blood vessels indicating broken capillaries.[77]

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 systolic pressure measured with a sphygmomanometer. To calculate the TBPI, the hallux systolic pressure is divided by the highest brachial systolic pressure.[69] The TBPI is used to measure arterial perfusion in the feet and toes of individuals with incompressible arteries due to calcification as may occur in individuals with diabetes and renal disease.[2, 3]

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 therapy/biophysical agent.*

Undermining: An area of tissue destruction extending under intact skin along the periphery of a wound. It can be distinguished from a sinus tract in that it involves a significant portion of wound edge.[40, 72]

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

care worker roles include assistant in nursing, personal care attendant, aged care worker, disability worker and health services assistant.[78]

Urticaria: Skin reaction characterised by swelling, hives or welling with hives. Acute urticaria lasts six weeks or less, while chronic urticaria 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.[79]

Validity: The extent to which a specific measure, scale or assessment measures or evaluates what it purports to be measuring or evaluating. Different types of validity (e.g. face validity, construct validity, criterion validity, etc.) refer to a range of different ways in which how well a specific measure, scale or assessment evaluates different aspects of concept can be tested.[65] See also: *Reliability*.

Venous leg ulcer: An ulcer on the lower extremity that is caused by venous disease. A venous leg ulcer is a chronic wound that is generally considered to result from venous occlusion, incompetent calf muscle pump function or venous valvular failure, giving rise to 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.[80]

Wound: Any disruption in skin integrity.[1, 58]

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.[37, 81]

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

Wound 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.[57]

Wound management: Used in this document to refer to clinal practice related to wounds, encompassing wound-related screening and assessment, wound prevention and wound treatment.

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

Wound practitioner: Used in this document to refer to any person employed in the care of individuals with a wound or at risk of sustaining a wound. The term encompasses both registered health professionals and unregulated health care workers who deliver wound management in a health service.

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

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