

WOUND CURRICULUM FOR NURSES

POST-REGISTRATION
QUALIFICATION WOUND
MANAGEMENT
EUROPEAN
QUALIFICATION
FRAMEWORK
LEVEL 7



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1. Introduction

In recent years, the care of people with acute, chronic and palliative wounds has made enormous progress throughout Europe. To bring existing evidence-based and best-practice knowledge to all professional nurses (registered nurses in a specific country who are allowed to work independently) is a key objective of the European Wound Management Association (EWMA).

Recognising that the vocational qualifications in Europe are not all at the same level and the pre-registration curricula differ, EWMA has developed three curricula referring to different European Qualifications Framework (EQF) levels.¹

Curricula for EQF level 5 and level 6 have already been published.^{2,3} This document presents the last of the curricula and is intended for EQF level 7. The core competencies that form the basis of the level 7 curriculum are based on existing evidence that is considered to be fundamental to promoting nursing as a science in wound management.

Depending on the educational level of the undergraduate or postgraduate qualification of the participants the EWMA curricula can be adapted to meet the competencies expected at EQF levels 5, 6 or 7.



The EQF level 7 curriculum has been developed by senior educationalists and health professionals working within institutions and has been validated by members of the Teacher Network of the EWMA who are responsible for teaching and learning in wound management in their respective countries.

1.1 Scope, aims and objectives of the curriculum

The curriculum extends the scope of the previous curricula to reflect the expectations at Level 7. The focus is on the evidence underpinning practice and requires the student to interrogate existing research and question current approaches to the prevention, assessment and the management of wounds. The curriculum also introduces the notion of evidence-informed practice in recognition of the gaps in the evidence base for managing individuals with wounds.

The content of the curriculum reflects the need for students to be able to deal with complex situations and use problem-solving techniques. The curriculum has been expanded to incorporate leadership and management skills development as these are deemed to be fundamental to level 7 clinical practice. A core requirement of the level 7 curriculum is the submission of a final thesis/project/dissertation, the criteria for which needs to be defined at a local level.

A professional scope of practice and code of conduct are considered fundamental and essential components to guide nursing practice. Clear guidance should be provided and defined with regards to professional boundaries (the formal authorisation of a specific group of professionals to perform specific tasks, defined by national legislation). These boundaries are typically defined according to national or local recommendations or legislation and have therefore not been provided within the curriculum.

The intention of this curriculum is that it could be implemented or adapted depending on the local context, according to the professional scope of practice and code of conduct. The vision is that

this curriculum could act as a driver for change to standardise the provision of higher level wound care education across Europe.

The Quality Assurance Agency specifications (2014) were used as a framework for the curriculum.⁴

1.2 Format

The curriculum exemplifies the required learning goals and outcomes for level 7 study and builds upon the level 6 syllabus to reflect the need for students to be functioning at a higher level. Learning goals (outcomes) are presented under all the units in the following categories, with reference to Bloom's taxonomy:⁵

- Knowledge/cognitive (K)
- Pragmatic, psychomotor skills (P)
- Awareness/behaviour (A)

As this curriculum is proposed for incorporation into existing programmes in different European countries, specific details of the teaching and learning methods and assessment and evaluation methods are not included. These should follow the structure used by the education provider while incorporating the content and learning objectives provided in this curriculum according to local legislation and procedures (law and accreditation processes).

1.3 Target group

The minimum requirement is an officially recognised professional role as a general/registered nurse according to EU legislation,⁴ with or equivalent to a Bachelor of Nursing qualification in the relevant country. It is recommended that in order to study this curriculum, a nurse should preferably have 18–24 months' after

Master's degrees are awarded to students who have demonstrated:

- a systematic understanding of knowledge and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study or area of professional practice
- a comprehensive understanding of techniques applicable to their own research or advanced scholarship
- originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline
- conceptual understanding that enables the student;
 - to evaluate critically current research and advanced scholarship in the discipline
 - to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses.

Typically, holders of the qualification will be able to;

- deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences
- demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level
- continue to advance their knowledge and understanding, and to develop new skills to a high level

And holders will have;

- the qualities and transferable skills necessary for employment requiring:
 - the exercise of initiative and personal responsibility
 - decision-making in complex and unpredictable situations
 - the independent learning ability required for continuing professional development.

level 6 training, followed by at least 12 months of clinical practice in wound management.

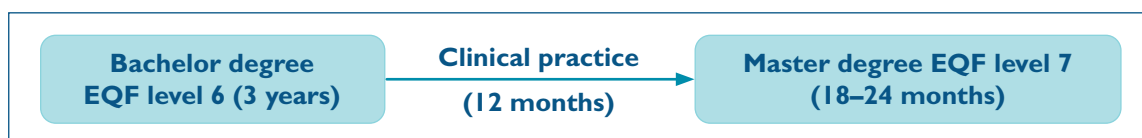


Table 1. Descriptors defining levels in the European Qualifications Framework (EQF)⁶

Each of the 8 levels is defined by a set of descriptors indicating the learning outcomes relevant to qualifications at that level in any system of qualifications.

Level	Knowledge	Skills	Responsibility and autonomy
relevant learning outcomes	In the context of EQF, knowledge is described as theoretical and/or factual.	In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).	In the context of the EQF responsibility and autonomy is described as the ability of the learner to apply knowledge and skills autonomously and with responsibility
1	Basic general knowledge	Basic skills required to carry out simple tasks	Work or study under direct supervision in a structured context
2	Basic factual knowledge of a field of work or study	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	Work or study under supervision with some autonomy
3	Knowledge of facts, principles, processes and general concepts, in a field of work or study	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems
4	Factual and theoretical knowledge in broad contexts within a field of work or study	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities
5^a	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others

1.4 Curriculum framework

The curriculum is designed in a modular structure. It is important to note that the units are in no particular order, rather they are designed to be fluid and flexible allowing them to be presented and undertaken as appropriate for each learning institution. The suggested number of European Credit Transfer and Accumulation System (ECTS)

hours and work experience are provided only as a guide and these can be changed and reviewed to meet the educational needs of Institutions. The curriculum is level 7 as such we encourage learners to take responsibility for their own learning and to understand and be actively involved in self directed learning.

Table I continued. Descriptors defining levels in the European Qualifications Framework (EQF)⁶

Level	Knowledge	Skills	Responsibility and autonomy
relevant learning outcomes	In the context of EQF, knowledge is described as theoretical and/or factual.	In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).	In the context of the EQF responsibility and autonomy is described as the ability of the learner to apply knowledge and skills autonomously and with responsibility
6^b	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups
7^c	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research. Critical awareness of knowledge issues in a field and at the interface between different fields	Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
8^b	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields	The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice	Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research

Compatibility with the Framework for Qualifications of the European Higher Education Area

The Framework for Qualifications of the European Higher Education Area provides descriptors for three cycles agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process. Each cycle descriptor offers a generic statement of typical expectations of achievements and abilities associated with qualifications that represent the end of that cycle.

^a The descriptor for the short cycle developed by the Joint Quality Initiative as part of the Bologna process, (within or linked to the first cycle), corresponds to the learning outcomes for EQF level 5.

^b The descriptor for the first cycle corresponds to the learning outcomes for EQF level 6.

^c The descriptor for the second cycle corresponds to the learning outcomes for EQF level 7.

^d The descriptor for the third cycle corresponds to the learning outcomes for EQF level 8.

The curriculum includes:

- 21 units of study with a minimum total of 162 hours of lectures/face-to-face teaching (of 45 minutes duration).
- Self-directed learning based on structured tasks within a healthcare related environment, equal to 50 hours of workload.

- Supervised practice in the workplace. This must take place in different healthcare institutions with clinical experience in the management of individuals with chronic wounds.

Workload (minimum number of hours):

Face-to-face teaching	162
Supervised practice	40
Work-based learning (self-directed learning)	68
Exam (including preparation)	160
In total:	430

To convert the workload in ECTS conversion tables are available. The accepted conversion is that one credit corresponds to approximately 25–30 hours of the students' workload.

Supervised practice should be undertaken by a recognised professional in wound management (according to local or national healthcare institution policies). The educational provider should define the minimum criteria for the recognised professional. Clinical practice should include a workload of 50 hours (40 hours for application of clinical practice and 10 hours for a written self-reflecting learning/evaluation report). Research-based practice should include a workload of 40 hours and will be based on the 21 units of study and will facilitate application of the knowledge and skills, leading to the final thesis.

The described learning outcome corresponds to the EQF level 7. The EQF is a translation tool that helps communication and comparison between qualifications systems in Europe.¹

References

- ¹ European Commission. How does the European Qualifications Framework (EQF) work. <https://tinyurl.com/hkca4mg> (accessed 10 October 2019)
- ² Pokorná A, Holloway S, Strohal R. Wound curriculum for nurses: post-registration qualification wound management—European Qualification Framework level 5. *J Wound Care* 2017; 26(12): Suppl 12. <https://doi.org/10.12968/jowc.2017.26.Sup12.S1>
- ³ Probst S, Holloway S, Rowan S, Pokorná A. Wound curriculum for nurses: Post-registration qualification wound management - European Qualification Framework level 6. *J Wound Care* 2019; 28(Suppl 2b):1-33 <https://doi.org/10.12968/jowc.2019.28.Sup2a.S1>
- ⁴ QAA UK Quality Code for Higher Education. Part A: Setting and Maintaining Academic Standards. The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies. https://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf?sfvrsn=170af781_16 (accessed 11 November 2019)
- ⁵ Bloom BS. The classification of educational goals. In: Taxonomy of educational objectives: I: Handbook I: cognitive domain. David McKay Company, 1956
- ⁶ European Commission: Learning Opportunities and Qualifications in Europe <https://ec.europa.eu/ploteus/en/content/descriptors-page> (accessed 13 November 2019)

2. Learning goals and outcomes

- K:** *Knowledge/theoretical skills will be tested in an examination*
- P:** *Pragmatic skills/application of knowledge will be tested in a practical manner as clinical skills*
- A:** *Awareness/behaviour will be assessed as an integrated part of the skills related to the practice*

It is expected that self-directed learning is undertaken as an integrated part of the learning process.

The educational level/learning outcomes are aligned to (or have been designed to meet) the EQF according to competence Level 7.⁷ On successful completion of the curriculum, the individual will have achieved 15 ECTS-credits in wound management and may be able to seek accreditation according to any additional local legislation in the respective country. For further information on the number of hours and credits please refer to Section 4.

References

- ⁷ European Commission. How does the European Qualifications Framework (EQF) work. <https://tinyurl.com/hkca4mg> (accessed 10 October 2019)

3. Topics/learning goals (units of study)

Unit 1: role of prevention in wound care

Aim

This unit of study aims to increase the advanced knowledge and understanding of the importance of prevention in relation to the risk factors for developing a chronic wound, including the different levels of prevention, in particular the risks of spreading infection.

Learning outcomes

On completion of the unit of study a student will be able to:

- K:** outline the different definitions of primary, secondary and tertiary prevention
- K:** apply the goals of the prevention of wounds in the chronic disease (diabetes, vascular diseases and others with higher risk of wound formation)
- P:** initiate preventive measures according to the type of chronic disease and the individual patient's situation
- P:** implement preventive strategies (e.g. basic hand hygiene and pressure relief)
- P:** prepare an individualised care plan for specific patients
- A:** be aware of the importance of prevention
- A:** analyse the significance of the nurse's role in wound prevention.

Unit of study content

- Stages of prevention and its measures (primary, secondary and tertiary prevention)
- Role of the nurse in the prevention of chronic wounds

- Requirements of prophylaxis in preventing the recurrence of secondary complications
- Skin care
- Pressure redistribution
- Compression therapy.

Unit 2: evidence and research-based practice in healthcare

Aim

This unit of study aims to deepen the knowledge of evidence-based and research-based practice. It also explores the concepts of evidence-informed and experience-based practice

Learning outcomes

On completion of the unit of study a student should be able to:

- K:** summarise the concepts of evidence-based practice, research-based practice, evidence-informed practice and experience-based practice
- K:** define what constitutes evidence
- K:** outline the role of research study evidence and the impact this has on clinical practice
- K:** appraise the range of existing evidence that informs clinical practice in relation to the accepted hierarchy (ies) of evidence (including qualitative evidence)
- K:** relate the concepts of the strength of evidence and quality of evidence to accepted frameworks and illustrate how this might be used to inform clinical practice
- P:** demonstrate an understanding of a body of scientific literature for a specific wound-related topic

- P:** determine the most appropriate critiquing frameworks/tools available to facilitate critical analysis
- P:** present an in-depth critical analysis of a research study (quantitative, qualitative or mixed-methods)
- P:** illustrate the application of evidence-based practice, research-based practice, evidence-informed practice and experience-based practice
- A:** accept the need for patients' preferences to be taken in consideration when making decisions about evidence
- A:** acknowledge the role that appropriate experience has in guiding clinical practice
- A:** recognise the strengths and weaknesses of evidence and experience
- A:** value the importance of questioning existing evidence and respect the need to interrogate current knowledge.

Unit of study content

- What is evidence
- Characteristics of research
- Hierarchies of evidence
- Role of experience in informing clinical practice
- Hierarchical systems of classifying evidence, levels of evidence
- Frameworks to assess quality of evidence
- Use of GRADE to assess clinical guidelines and aid clinical decision making
- Critiquing frameworks i.e. CASP, Joanna Briggs
- Methodology reporting guidelines including; CONSORT checklist for RCTs, PRISMA for systematic reviews and meta-analyses, STROBE for observational epidemiological studies, STARD for diagnostic studies, SPIRIT for interventional trials.

Unit 3: person-centred care and patient education

Aim

This unit of study aims to increase the advanced knowledge and understanding of case management in order to manage patient cases over the course of their therapy and care in different settings. This unit also aims to create an understanding of the importance of education in managing individuals with acute and chronic wounds. It also aims to improve the participant's ability to provide the patient and his/her relatives with information about their specific health status and self-care needs/opportunities based on the principles of person-centred care.

Learning outcomes

On completion of the unit of study a student should be able to:

Case management

- K:** appraise the options for case management taking into account the relevant legal basis of the particular healthcare system
- K:** explain the relevance of case management in relation to the holistic nursing process
- K:** analyse potential patient safety risks in the care of patients with acute and chronic wounds as well as strategies for overcoming these risks
- K:** contrast the principles of multidisciplinary and interdisciplinary teamwork and characterise the key considerations to implement collaborative working
- K/P:** determine appropriate strategies to prevent gaps/inequalities in care and illustrate the process of evidence-based care and interventions
- P:** evaluate the effectiveness of discharge planning as part of the case management of individuals with acute and chronic wounds
- P:** identify the problems that may occur due to inadequate management of the patient and devise solutions to overcome these

- P: establish a case management strategy that promotes interdisciplinary working
- P: evaluate the care process and the people involved in this to determine patient safety risks and devise processes to address these
- P: facilitate the involvement of different stakeholders, including relatives/carers, in the support process and define their specific tasks in the provision of care
- A: respond to problems that arise from inadequate case management to facilitate service improvement
- A: value his/her professional role in case management of individuals/patients with chronic wounds
- A: recognise the complexity of the patient's situation (medical status, social status, network etc.) in the context of case management.
- K: appraise the principles of self-care management in relation to individuals with acute and chronic wounds/disease

Person-centred education

- K: contrast the procedures for educating individuals with acute and chronic wounds based on an evaluation of different educational concepts
- K: summarise the requirements for developing an individualised education plan that is appropriate for a specific patient, taking the patient's disease and situation into consideration
- K: examine the use of different assessment tools in order to obtain information about the patient's knowledge of their condition and identify the patient's learning style
- K: differentiate between different approaches to promoting self-care for individuals with a wound
- P: specify relevant clinical questions based on an evaluation of the available research and the sources of research

- P: demonstrate the application of systematic diagnostic procedures to determine the most appropriate management in relation to individuals with acute and chronic wounds
- P: articulate the impact of psychosocial or behavioural factors that may influence the patient's response to their illness
- P: evaluate the documentation of the patient's ability to perform self-care on the basis of the goals defined in the patient education plan
- P: appraise the use of person-centred education plans based on an assessment of the individual's educational ability
- P: characterise the patient's understanding of his/her illness via an empathic and professional conversation
- P: determine the effectiveness of educational strategies for individuals with acute and chronic wounds, as well as their relatives/carers (where appropriate) to enable the patient to conduct self-care
- A: characterise the influence of a patient's fears and misconceptions of their body on their behaviour
- A: value the promotion of patient self-management and participation as an integrated part of patient education
- A: promote the need to include patients and their relatives/carers in the decision-making process.

Unit of study content

- Definition and philosophy of case management on an individual level
- Principles of multidisciplinary and interdisciplinary teamwork
- Specific needs of individuals with acute and chronic wounds
- Problems that may arise from breaks in the continuity of medical/nursing care on the part of the patient, other private caregivers and the healthcare system
- Role of private caregivers in the case management of patients with acute and chronic wounds

- Relatives/carers and their role in support of the patient
- The role of individual professions in the multidisciplinary/interdisciplinary team
- Role of the nurse in the patient education process in relation to individuals with wounds
- Educational needs of individuals with acute and chronic wounds
- Goals of education in wound care and the elements of the educational process
- Recognising an individual's (and/or their relatives/carers) ability to receive education
- Different elements of education and their differences concerning goals and application: information, training, instruction
- Educational tools (selection and use of resources/materials and various types of media)
- Evaluation of the educational process in patient management
- Goals of education to promote self-management
- The role of motivation and bonding in patient education
- The individual's understanding of their wound and/or disease
- The importance of the role of relatives and/or carers in the education process
- Promotion of self-care management (restrictions in activities of daily living (ADL) as a result of health restrictions by chronic wounds and consequences for self-care)
- Self-care concepts in the management of individuals with acute and chronic wounds
- Empowerment (based on a recognised health belief model)
- Assessment of self-care and QoL/health-related QoL for individuals with chronic wounds
- Chronic diseases and body acceptance/self-conception
- Common features of patients with chronic diseases
- Psychosocial consequences of chronic diseases and their complications
- Systematic nursing diagnostic systems, processes and taxonomy

- Difference between nursing diagnosis and medical/physician diagnosis
- Key terms
- Planning interventions based on the assessment of the diagnoses.

Unit 4: wounds and wound healing

Aim

This unit of study aims to advance the knowledge and understanding of the normal biology of wound healing as well as examining pathological wound healing.

Learning outcomes

On completion of the unit of study a student will be able to:

- K:** characterise the phases of wound healing
- K:** articulate different types of healing
- K:** determine the connection between wound healing and systemic (intrinsic), extrinsic or local factors
- K:** categorise acute and chronic wounds based on their characteristics and causes
- K:** debate the need for categorising a wound based on standardised criteria
- P:** identify disorders of wound healing and their consequences
- P:** appraise factors that promote and delay wound healing in relation to patient cases
- P:** illustrate the stages of normal healing to the clinical presentation of a wound
- P:** determine the characteristics of different wounds in relation to different disease presentations
- A:** argue the need for accurate assessment of wound healing (normal and pathophysiological) as an essential requirement for management
- A:** recognise the consequences of chronic wounds and the impact they have on ADL.

Unit of study content

- Definitions of primary, secondary wound healing and delayed primary closure
- Phases of normal wound healing including inflammation, proliferation and remodelling
- Haemostasis; blood vessel contraction, platelet haemostatic plug formation and blood coagulation
- Fibrinolysis
- Inflammation: immediate response (0–4 hours) restoration of the microbial barrier, intermediate response (4–96 hours) and the complement cascade
- Innate and adaptive immune response
- Diapedesis
- Apoptosis (programmed cell death)
- Role of inflammatory cells; neutrophils, monocytes/macrophages (M1 and M2)
- Phagocytosis
- Cytokines, growth factors, integrins and chemotaxis
- Extracellular matrix proteins: regulation and degradation
- Matrix metalloproteinases (MMP) and tissue inhibitors of matrix metalloproteinases (TIMP)
- Reactive oxygen/nitrogen species
- Role of fibroblasts and collagen synthesis
- Epidermal and dermal collagens and wound healing
- Role of myofibroblasts and theories of wound contraction
- Angiogenesis; regulators and role of endothelial cells
- Epithelialisation and role of the keratinocyte
- Remodelling and maturation
- Scar formation
- Pathophysiology of delayed wound healing
- Microbiology of wounds including biofilms
- Systemic, local and biopsychosocial/behavioural factors affecting healing
- Practical examples.

Unit 5: nutrition and wound healing

Aim

This unit of study aims to increase the nurse's skills and knowledge and understanding of the influence of nutrition on wound healing.

Learning outcomes

On completion of the unit of study a student will be able to:

- K:** analyse the importance of adequate nutrition for a patient with a wound
- K:** demonstrate the function of nutrients in the normal wound healing process
- K:** outline common conditions that affect an individual's nutritional requirements
- K:** propose the use of nutritional screening tools in the assessment
- K:** explain the influence of malnutrition on wound healing
- K:** discuss the role of the dietician in the management of patients with wounds
- K:** analyse the hospital-related factors which cause an altered food intake
- K:** assess risk of malnutrition in an inpatient and outpatient context
- P:** justify nursing-related measures to support the individual's food intake
- P:** conduct a nutritional assessment and prepare a nutrition plan for the patient
- P:** select the appropriate food supplements following a comprehensive assessment and in relation to difference outcome—relate the significance of effects of malnutrition on wound healing
- A:** acknowledge the importance of assessment of nutrition as an important element of wound therapy
- A:** accept and respect the individual's cultural beliefs, views and attitudes concerning their nutrition.

Unit of study content

- Calorific or other nutritional needs of patients with an acute or chronic wound
- Specific requirements of individuals with special chronic diseases (such as diabetes)
- Optimal nutritional composition to promote wound healing
- Function of macro and micro nutrients, including vitamins, proteins, and minerals
- Nutritional assessment and nutritional screening tools
- Effects of malnutrition on wound healing
- Assessment of nutritional status including signs and symptoms of dehydration and anthropometric measurements, also biochemical data and interpreting laboratory values
- Role of nutrition in the prevention of wounds
- Role of the dietician
- Influences on food intake such as hospitalisation, wound odour etc.
- Sociocultural influences on nutrition
- Parenteral and enteral forms of nutritional supplementation
- Preoperative carbohydrate loading
- Nutritional consideration in the Enhanced Recovery After Surgery (ERAS) programme
- Practical examples.

Unit 6: moist wound healing

Aim

This unit of study aims to evaluate the appropriate use of different wound dressings in relation to the phases of wound healing.

Learning outcomes

On completion of the unit of study a student will be able to:

- K:** analyse a phase-appropriate wound treatment with respect to local therapy
- K:** differentiate between types of dressings and outline the indications/contraindications for use
- K:** defend the criteria for the ideal use of wound care products and categorise these into different groups of products (dressings, solutions etc.)
- K:** explain the product characteristics and indications for wound therapy
- P:** apply the products correctly in an appropriate situation
- P:** analyse the products taking into account the patient's QoL
- P:** select the appropriate dressing from the available therapeutic products in practice, based on indications/contraindications, health economic aspects and the preferences of the individual patient
- P:** involve the patient (and/or carer/relative) in their wound care depending on his/her abilities and wishes
- P:** evaluate local wound therapy with the patient depending on the treatment goals
- A:** accept and value responsibility concerning economic aspects of wound healing (cost-effectiveness measures)
- A:** be aware of the coherence between local wound therapy and general treatment of overall condition and patient's QoL.

Unit of study content

- Principles of moist wound therapy (including the original work of George Winter) in relation to the phases of wound healing
- Contraindications to moist wound healing
- Principles of wound bed preparation and application of the TIME/TIMERS/ TIME-clinical decision tool frameworks
- Characteristics of an 'ideal' wound dressing (requirements for appropriate therapeutic materials)
- The role of traditional and advanced wound dressings in wound management
- Surgical material laboratory testing
- Use of water and wound cleansing solutions, e.g. wound irrigation solutions and antiseptics in the context of complex wound healing

Unit 7: microbiology, antimicrobial agents, hygiene and wounds

Aim

The aim of this study is to increase the understanding of the complex nature of infection. With an emphasis on interactions between microbes and host, symptomology and the impact of antimicrobial resistance and biofilm on prophylaxis and treatment.

Learning outcomes

On completion of this unit a student will be able to:

- K:** summarise the nature of infections in wounds
- K:** evaluate the severity of wound infection and case related risks
- K:** revise available treatment options depending on severity and progression of infection
- K:** determine the potential impact of wound infection for the patient
- K:** explain the risks associated with spreading infection potentially leading to sepsis
- K:** critically review benefits and limitations of traditional sampling methods
- K:** assess the nature of antimicrobial therapy and prophylaxis and its limitations
- K:** distinguish between when it is appropriate to use local antiseptics or systemic antibiotics
- P:** determine those wounds at high risk of infection and the likely factors which could cause infection
- P:** establish appropriate hygiene guidelines in practice with regards to wound care, dressing changes and hand hygiene
- P:** integrate hygienic and therapeutic measures for controlling multidrug resistant pathogens and infections including patient/family education
- P:** explain to patient/family what the warning symptoms of infection are and the appropriate response measures

- P:** select appropriate local, national or international evidence based guidelines to inform use of antimicrobial wound therapeutics in clinical practice
- P:** complete the correct procedure for obtaining a wound swab
- A:** recognise the potential impact of drug resistant microorganisms on wound healing.
- A:** be aware that the presence of biofilm might impact on antimicrobial susceptibility and treatment success
- A:** cultivate a responsible attitude and culture towards risk identification, hygiene, and detection of healthcare associated infections
- A:** appreciate the impact of multi drug resistant infections on patients and provide support to enable patients to manage e.g. lifestyle changes, special regimens, access to support services.

Unit of study content

- Contamination, colonisation and infection, local and systemic symptomatology
- Risk factors for wound infection, understanding balance between microbial load/diversity and host immunity
- Assessment and diagnosis of infection
- Multidrug resistant microbes, consequences for sterilisation, disinfection, antiseptic and antimicrobial treatment
- Hygiene and wound dressings
- Procedures for multidrug resistant bacteria e.g. methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin resistant enterococci (VRE)
- Prophylaxis and epidemiology of multidrug resistant bacteria
- Impact of biofilm in wounds
- Role and limitations of microbial culture and molecular techniques
- Antimicrobial stewardship
- Practical examples.

Unit 8: acute wounds

Aim

This unit of study aims to enhance the understanding of the assessment and management of acute wounds as well as to appreciate the difference between acute and chronic wounds. The unit will examine surgical, burn injuries and traumatic wounds to enable the participants to appraise the evidence underpinning patient assessment and management.

Learning outcomes

On completion of the unit of study a student will be able to:

- K:** discuss the definition of an acute wound
- K:** appraise the key principles of wound management according to the type and aetiology of an acute wound
- K:** evaluate adjunctive interventions that may be used in the management of a patient with an acute wound such as negative pressure wound therapy (NPWT), skin grafting, skin replacement
- K/P:** relate the impact of intrinsic and extrinsic factors on the normal, acute wound healing response
- K:** outline the characteristics of wounds healing by primary and secondary intention
- K:** give examples of when delayed primary closure may be appropriate to use
- P:** justify the appropriate method of acute wound cleansing based on existing evidence and wound aetiology
- K:** appraise the principles of surgical incisions and wound repair
- K:** explain the principles of surgical reconstruction and the reconstructive toolkit
- K/P:** explain the principles of risk assessment to identify surgical site infection (SSI) and demonstrate appropriate application of a classification systems for SSI to determine the severity
- K/P:** relate risk factors for SSI to appropriate preventive strategies based on current guidelines

- K/P:** appraise the principles of preoperative, intraoperative and postoperative care
- K:** give examples of the different causes of burn injury i.e. fire/flame, scalding thermal and chemical
- K:** evaluate the first aid measures for each type of burn injury
- K:** discuss the features of a traumatic wound
- K:** explain the principles of traumatic wound management including first aid measures according to the classification of injury i.e. abrasions, lacerations, crush wounds, penetration and puncture wounds
- P:** produce a comprehensive management plan based on the assessment of a patient and their wound/injury taking into account the classification of wound such as surgical, trauma or burn injuries
- P:** educate patients and their relatives/carers in the principles of management of surgical/trauma wounds and burn injuries.
- P:** justify the most appropriate methods of debridement in relation to the aetiology of the wound
- A:** value the importance of the principles of asepsis and hygiene in the management of patients with acute wounds (including isolation nursing/barrier system of care)
- A:** summarise the patient's concerns regarding their wound and employ strategies to address these
- A:** justify the need for appropriate surveillance and preventative measures for acute wounds.

Unit of study content

- Epidemiology of acute wounds
- Definitions
- Classification of acute wounds i.e surgical, trauma and burn injuries including aetiology and symptomatology
- Classification of burns by depth and severity (including chemical and electrical burns)

- Wounds related to burns—donor site wounds and grafted wounds
- Paediatric burns and wounds seen in burns intensive care
- Management of burns and scarring and wounds related to burns
- Psychosocial issues related to burns
- Prevention of burns
- Wound healing by primary and secondary intention
- Delayed primary closure/tertiary intention
- Factors affecting wound healing (in relation to acute wounds)
- Principles of asepsis and antisepsis and hygiene in relation to acute wounds (including isolation nursing/barrier system of care)
- Surgical incisions and principles of wound closure
- Trauma wounds (abrasions, lacerations, crush wounds, penetration and puncture wounds)
- Burn injuries (fire/flame, scalding and thermal)
- First aid treatment for traumatic wounds and burn injuries
- Principles of history taking and examination of acute wounds—surgical, trauma and burn injuries
- Principles of management of minor and major traumatic wounds
- SSI: prevention, definition, assessment and surveillance strategies
- Debridement options for acute wounds—surgical, trauma and burn injuries
- Adjunctive therapies/devices for acute wounds such as NPWT
- Reconstructive ladder and principles of surgical reconstruction
- Cosmesis and function in acute wounds
- Practical examples.

Unit 9: debridement of complex wounds

Aim

This unit of study aims to increase the understanding of the role of debridement as an integrated part of wound management and the role of specialist nurses in different types of debridement (related to competencies based on national law).

Learning outcomes

On completion of the unit of study a student will be able to:

- K:** understand, explain and justify the reasons for use of debridement and risk factors in practice
- K:** compare the various types of debridement techniques and give examples of when these can be used
- P:** perform a comprehensive wound assessment to evaluate whether wound debridement is required
- P:** evaluate different debridement methods and their effectiveness
- P:** use different methods of debridement based on the range of therapy options, patient situation and scope of practice
- P:** demonstrate ability to undertake debridement in a painless manner, if necessary by administering analgesia or local anaesthetics
- P:** perform appropriate aftercare following an appropriate debridement procedure
- A:** appreciate the importance of professional accountability and limitations of clinical practice
- A:** recognise the patient's concerns during the debridement process
- A:** recognise a patient's non-verbal signs of pain
- A:** advocate for different methods of debridement based on the range of therapy options, patient situation and scope of practice.

Unit of study content

- Introduction to debridement: definition and indications
- Mechanical debridement
- Autolytic, enzymatic debridement (including honey)
- Larval therapy (maggot debridement therapy; MDT)
- Sharp and surgical debridement provision
- Technical solutions—its benefit and potential risks
- Pain management (local/systemic analgesia) as part of the debridement procedure
- Monitoring of the effect of the different types of debridement
- Practical examples.

Unit 10: adjunctive and advanced therapies in wound management

Aim

This unit of study aims to examine the evidence based supporting the use of existing adjunctive therapies. The unit will also explore the opportunities to, and challenges of, implementing advanced therapies in clinical practice. The therapies discussed include technologies based on cellular and tissue therapies, as well as new treatment based on physical therapies and digital technology.

Learning outcomes

On completion of the unit of study a student will be able to:

- K:** outline the evidence supporting the use of a range of commonly used adjunctive therapies
- K:** discriminate between the appropriate use of adjunctive therapies
- K:** appraise the evidence supporting the use of advanced therapies in wound management
- K:** justify the use of advanced therapies in managing individuals with different wound aetiologies

- P:** illustrate when it might be appropriate to consider the use of an advanced treatment option in clinical practice
- P:** produce a business case to support the introduction of a new adjunctive or advanced therapy
- P:** establish a clinical pathway or clinical protocol for the use of a new adjunctive or advanced therapy
- A:** recognise the concerns of health professionals, patients and their carers regarding the use of an advanced therapy
- A:** appreciate the risks and benefits of advanced therapies taking into professional accountability and limitations of clinical practice
- A:** value the regulatory procedures that control the approval of advanced therapies, dressings, drugs and devices

Unit of study content

- Negative pressure wound therapy (NPWT)
- Laser therapy
- Hyperbaric oxygen therapy
- Topical oxygen therapy
- Ultrasound therapy
- Cell and tissue based therapies
- Electrical stimulation
- Practical examples.

Unit 11: pressure ulcers

Aim

This unit of study aims to increase the understanding of the diagnosis, prevention and treatment and monitoring of pressure ulcers- PU (also called pressure injuries—PI, or decubitus ulcers).

Learning outcomes

On completion of the unit of study a student will be able to:

- K:** understand the pathophysiological mechanisms of pressure ulcer (PU/PI) development

- K:** identify the level of risk of patient in pressure ulcers development (ability to use appropriate tools and scales)
- K:** select the appropriate preventive strategies for PU depending on the patient situation
- K/P:** categorise PU/PI according to the levels defined by the European Pressure Ulcer Advisory Panel (EPUAP), National Pressure Injury Association Panel (NPIAP), Pan-Pacific Pressure Injury Alliance (PPPIA)
- K:** select the available therapeutic options for PU treatment, depending on the patient situation
- K/P:** examine factors that predispose an individual to pressure damage
- K:** define risk factors related to specific types of patients
- K:** define and identify risk for Medical Devices Related (MDR) damage/pressure ulcers
- K:** analyse the possible case-related causes of a PU
- K:** select appropriate methodology for data collection in pressure ulcers monitoring (incidence and prevalence data)
- K/P:** define cut off point for quality of care evaluation based on hard data collection (patient in risk ratio, staff/bed ratio, staff/patient ratio)
- K/P:** prepare and manage individual care plan in management of PU
- K/P:** identify need for patients referral and manage MDT approach in PU management
- P:** discriminate between different types of skin damage in order to differentiate damage due to pressure or other causes, for example moisture lesion, moisture-associated skin damage, mechanical device-related damage
- P:** use appropriate pressure redistributing equipment and evaluate their effectiveness with the use of objective measures
- P/A:** assess the needs of patients with respect to pressure relief and pressure redistribution and movement
- P/A:** understand and accept impact of PUs on the patients quality of life (QoL)
- P/A:** advocate for use of less harmful materials when using medical devices
- P:** educate the patients and their relatives in the principles of pressure ulcer prevention and management
- A:** appreciate the risks of the development of a PU to an individual, especially those of a high category
- A:** appreciate the effects of a PU on the individual's psychosocial/behavioural situation
- A:** recognise the importance of nursing intervention and interactions on pressure prevention and appreciate multidisciplinary in preventive measures.
- A:** understand and appreciate the need for active patient participation in care planning.

Unit of study content

- Epidemiology and monitoring of PUs – quality control related to the PU
- Pathophysiology of PUs
- Risk factors
- Prevention strategies for PUs
- Classification of pressure damage (NANDA-I/ EPUAP/NPUAP/PPIAP)
- Differential diagnoses (incontinence associated dermatitis (IAD) resp. moisture associated dermatitis (MAD), mycosis, burn) and its monitoring in collaboration with MDT members
- Repositioning strategies
- The role of positioning and pressure redistributing equipment (e.g. pressure relief mattress)
- The adequate supportive (preventive or treatment) position
- Education and movement motivation (keep moving strategy)
- Therapeutic principles (see examples below)
- Comprehensive approach in PU management (nutrition, pain management, infection control and quality of life evaluation, algorithms for referral)
- Conservative therapy
- Pressure relieving therapy

- Surgery and necrectomy (such as debridement) aftercare
- Advanced therapies in PU management
- Practical examples.

Unit 12: diabetic foot ulcers

Aim

This unit of study aims to increase the understanding of the diagnosis, therapy, and prevention of diabetic foot disease (DFD).

Learning outcomes

On completion of the unit of study a student will be able to:

- K:** understand the relationship between pathophysiological processes and changes in the foot
- K/P:** identify and anticipate the differences between vascular and neurological manifestations
- K/P:** analyse and evaluate the influence of pressure on the development of malum perforans/neurotrophic ulcers
- K/P:** categorise changes in the foot using suitable assessment instruments, tools and/or scales
- K:** differentiate between various types of wounds related to DFD
- P:** initiate and apply investigative and assessment methods and diagnostic measures and analyse the results of the investigation
- P:** select and evaluate appropriate tools for reducing pressure on the foot and apply them professionally in collaboration with physiotherapist/podiatrist
- P:** facilitate multidisciplinary person-centred discussions
- P:** evaluate the principles of MDT management that takes into account the multifactorial nature of the treatment depending on the type, site, cause of ulcer and comorbidities
- P:** perform gait analyses and evaluate those with the patient in relation to local competencies and policy (law)

- P:** design individualised educational programmes for patients (and their family/carers) to include foot self-care to prevent ulceration and wearing appropriate footwear to offload pressure
- P:** design educational programmes for caregivers (MDT, wound care nurses, etc) to include a comprehensive approach to the care of patients with DFD.
- P:** educate and train the patients to use a pressure minimising gait
- A:** recognise prevention of amputations as an important goal for treatment
- A:** recognise the opportunities and limitations related to podiatric treatment (As the educational background of medical staff entitled podiatrist varies between European countries, the opportunities and limitations should be defined according to the competencies of this group within a specific national setting)
- A:** recognize the risks related to reduced perception of the patient (e.g. due to cognitive function impairment) when patient self-care engagement is needed in relation to the DFD management.
- A:** value the importance of evaluating self-care options and participation for these patients
- A:** realise the risks of sepsis and gangrene and value the importance of preventative strategies.
- A:** value the importance of multi/inter-disciplinary teamwork as an integral aspect of the management of individuals with DFD

Unit of study content

- Epidemiology of DFD
- Risk factors for ulceration or amputation
- Prevention of complication
- Pathways to ulceration and amputation
- Costs of DFD and amputation treatment including follow-up costs
- Pathophysiology

- Neuropathy
- Ischaemia
- Glucose metabolism and glycaemic control
- Clinical presentation of acute and chronic Charcot neuroarthropathy
- Infection
- Classification
- Basic and more advanced diagnostics
- MDT therapy
- Healthcare services for patients with DFS and the importance of communication
- Principles of therapy
- Pressure relieving and off-loading options, for example, total contact casting (TCC)
- Management of microbiology
- Revascularisation
- Amputation and aftercare following minor and major amputation
- Prevention and podiatric care
- Identification and education of high-risk patients
- Podology and podiatric management
- Supportive care and medical devices
- Person-centred educational strategies
- Practical examples.

Unit 13: lower leg ulcers

Aim

This unit of study aims to increase the understanding of the common causes of leg ulceration including; venous, and arterial (angiology) factors influencing the diagnosis and treatment of lower leg ulcers.

Learning outcomes

On completion of the module a student will be able to:

- K: understand the most important aetiological causes for diagnosis and treatment of lower leg ulcers
- K: analyse and differentiate between the signs and symptoms related to different clinical presentations of ulcers on the lower leg

K/P: differentiate between indications for use and range of available options for compression therapy

K: appraise the regulations concerning the use of compression systems, including supplementary materials

K: identify when to refer patients for a specialist consultation/diagnosis

P/K: assess different manifestations of leg ulcers and differentiate between their aetiologies

P/K: select/evaluate appropriate classification systems to describe a wound/disease

P/K: apply and evaluate different types of compression systems based on the specific patient situation and be aware of the potential complications

P: interpret the result of an ankle brachial pressure index (ABPI) assessment taking into account the patient's clinical signs and symptoms

A: appreciate the specific therapy of the underlying disease as a basic part of the treatment

A: recognise the need for different actions/interventions depending on the aetiology of a leg ulcer.

Unit of study content

- Classification of types of leg ulcers
- Varicose veins and varicosities
- Peripheral arterial occlusive disease
- Chronic venous insufficiency
- Mixed pathology
- Venous oedema
- Lymphatic oedema
- Pyoderma gangrenosum
- Rare causes of lower leg ulcers
- Prophylaxis/prevention
- The fundamentals of compression therapy (hosiery and bandages)
- Different techniques of compression therapy and practical learning
- Advanced treatment options (e.g. Endovenous

- laser therapy, bioengineered skin, electrical stimulation)
- Local therapeutic options
- Role of drugs/medication in treatment
- Vascular assessment including how to perform an ABPI using a range of methods
- Surgery
- Practical examples.

Unit 14: skin tears

Aim

This unit of study aims to enhance the knowledge and understanding of the prevention and management of skin tears. The unit will also examine risk factors for skin tears to enable the participants to appraise the evidence underpinning the assessment, prevention and management of skin tears.

Learning outcomes

On completion of the module a student will be able to:

- K:** discuss the definition of a skin tear
- K:** explain the epidemiology of skin tears and its impact on health service provision
- K:** correlate the anatomy and function of the skin to how skin tears occur
- K:** appraise the relevant risk factors that predispose an individual to the development of skin tears
- P:** implement strategies to reduce the risk of skin tears (including role of patients, healthcare provider and setting)
- P:** create a skin tear prevention plan for individuals at risk of a skin tear
- P:** evaluate the current approach to the assessment of individuals with a skin tear
- P:** appraise the use of a recognised skin tear classification system
- P:** develop a strategy to facilitate the appropriate use of topical treatments (including appropriate product selection) for individuals with a skin tear
- A:** value the importance of challenging existing practices that may increase the risk of skin tears occurring
- A:** promote approaches to facilitate the monitoring and evaluation of treatment outcomes for individuals with a skin tear
- A:** nurture a culture that recognises the importance of skin tears as a risk factor for infection development
- A:** foster an approach to clinical practice that addresses the psychosocial impact of skin tears on an individual and its impact on their HRQoL

Unit of study content

- Pathophysiology of skin tears development (related to comorbidity, age of patients)
- Prevalence and incidence of skin tears across different health-care settings
- National/international evidence-based practice/clinical guideline
- The structure and function of the skin, including changes to the skin during the aging process, and differences between newborn, elderly, acutely ill and healthy skin in relation to the skin tears
- Skin failure at life's end
- Identification of risk factors for skin tears
- Assessment: physical, psychological, social (including pain, wound and nutritional assessment)
- Preventive measures, including skin tear reduction protocols and programmes
- Importance of nutrition and hydration by consultation of dietician in relation to the skin tear management
- Patient moving handling techniques and equipment in patients with higher risk of skin tears
- Patient environment and fall precaution programmes to reduce risk of falls
- Product selection for skin tear management, including products that are not recommended

- Education of healthcare professionals, individuals and caregivers
- Identification of patient-centered management objectives, care planning and evaluation of outcomes
- Inter-disciplinary working in skin tear management.

Unit 15: palliative wound care

Aim

This unit of study aims to increase the knowledge, skills and understanding of a holistic approach of the management of palliative wounds.

Learning outcomes

On completion of the module a student will be able to:

- K:** define palliative wound care
- K:** demonstrate the difference between palliative wound care and chronic wound care
- K:** relate the pathophysiology of palliative wounds to the proposed management of the patient
- K:** integrate the communication to the difficult situations
- K:** discuss the importance of the psychosocial aspects of living with a palliative wound
- P:** identify and apply strategies to reduce the burden of symptoms relating to palliative wounds
- P:** justify an individualised management plan within an MDT
- P:** perform a holistic assessment of a patient with a palliative wound
- P:** perform a holistic assessment of the overall patient situation (informal carers, socio-economic status etc.)
- P:** apply adapted communication skills
- P:** support patients and relatives in finding and effectively using coping strategies
- P:** justify the appropriate topical treatments (including appropriate product selection) for a patient with a palliative wound

- A:** accept the need for appropriate communication skills or transmit messages in difficult situations
- A:** recognise the importance of evaluating treatment outcomes for individuals with a palliative wound
- A:** value the psychosocial impact of palliative wounds on an individual.

Unit of study content

- Difference between a chronic wound and a palliative wound
- Prevalence of palliative wounds across all healthcare settings.
- National/international evidence-based practice/clinical guidelines
- Integrated palliative wound care model
- Preventive measures including skin care and environmental care
- Assessment: physical, psychological, social and spiritual (including exudate, pain, odour, pruritus, bleeding, psychosocial impact)
- Products appropriate for the management of palliative wounds and its selection (benefits and risks)
- Communication with individuals and informal carers
- Identification of patient-centred management objectives, care planning and evaluation of outcomes
- Working as a team in difficult situations.

Unit 16: atypical wounds

Aim

This unit of study aims to increase the understanding of the heterogenous group of atypical wounds and to provide skills when to suspect an atypical wound and to refer the patient to a specialist.

Learning outcomes

On completion of the module a student will be able to:

- K:** understand the most important aetiological causes for diagnosis and treatment of atypical wounds
- K:** differentiate between the most typical signs and symptoms related to different clinical presentations of atypical wounds
- K:** understand and explain the special requirements of local therapy of atypical wounds
- K:** appraise the special needs for the treatment of atypical wounds, including immunosuppressive therapy and avoiding mechanical debridement in the acute inflammatory stage
- K:** explain when to refer patients to specialist consultation/diagnosis
- P/K:** recognise different manifestations of atypical wounds and differentiate between their aetiologies
- P:** use appropriate classification systems to describe an atypical wound/comorbidity
- P:** apply different types of local therapy and compression systems based on the specific patient situation, diagnosis and be aware of the potential complications
- P:** interpret the result of an atypical wound diagnosis into a holistic approach of the patient
- A:** appreciate the specific therapy of the underlying disease as a basic part of the treatment
- A:** be aware of the need for different actions/interventions depending on the aetiology of an atypical wound.

Unit of study content

- Classification of types of atypical wounds
- Typical signs of atypical wounds
- Pyoderma gangrenosum
- Vasculitides
- Occlusive vasculopathies
- Martorell hypertensive ischaemic leg ulcer (HYTILU) ulcer
- Calciphylaxis
- Hidradenitis suppurativa
- Malignant wounds

- Artefactual ulcers
- Ecthyma and ecthyma gangrenosum
- Other types of atypical wounds
- The basics of histology of atypical wounds
- Topical therapy of atypical wounds
- Role of drugs/medication in treatment
- Compression therapy in atypical wounds
- Classification of types of atypical wounds
- MDT in managing atypical wounds
- Practical examples.

Unit 17: moisture-associated skin damage

Aim

This unit of study aims to increase the knowledge and understanding of the epidemiology, associated risk factors and prevention and management of the various types of moisture-associated skin damage (MASD).

Learning outcomes

On completion of the module a student will be able to:

- K:** understand the etiological causes for MASD and differentiate between the various types
- K:** understand the risk factors for the various types of MASD
- K:** differentiate between typical signs and symptoms related to the various types of MASD
- K:** understand and explain topical interventions of the various types of MASD
- K:** appraise the special needs for the treatment of MASD, including antifungal therapy, continence care, nutrition and weight-loss, and skin hygiene
- K:** explain when to refer patients to specialist consultation/diagnosis
- P/K:** recognise different manifestations of MASD and differentiate between their aetiologies
- P:** use appropriate classification systems to describe the various types of MASD

- P:** consider different treatment options based on the specific patient situation, diagnosis and be aware of the potential complications
- A:** appreciate the selection of specific interventions to treat the underlying condition as a basic part of the prevention and treatment
- A :** be aware of the need for different actions/ interventions depending on the aetiology of MASD.

Unit of study content

- Definition of MASD and overview of the various types and aetiologies

Incontinence-associated dermatitis:

- Epidemiology
- Risk factors
- Diagnostic criteria
- Classification
- Prevention
- Treatment

Periwound skin damage:

- Epidemiology
- Risk factors
- Diagnostic criteria
- Classification
- Prevention
- Treatment

Intertriginous dermatitis:

- Epidemiology
- Risk factors
- Diagnostic criteria
- Classification
- Prevention
- Treatment

Peristomal MASD:

- Epidemiology
- Risk factors,
- Diagnostic criteria
- Classification
- Prevention
- Treatment.

Unit 18: healthcare delivery and health economics

Aim

The aim of this unit is to examine the legal, financial, governance and management issues from a content perspective. The unit also explores the principles of health economics and how this applied in healthcare

Learning outcomes

On completion of the module a student will be able to:

- K:** understand epidemiology; health inequalities; health demands in the context of their own country
- K:** discuss how commissioning of healthcare is organised and the legislative procedures informing this
- K:** outline and apply the basic principles of health economics
- K:** critically discuss how and why the concepts of health economics and health technology assessment contributes to healthcare decision making
- K:** critically analyse the different methods and techniques used in economic evaluation of wound management
- K:** critically evaluate the approaches taken by health economics to aid prioritisation and resource allocation decisions in wound management
- P:** demonstrate implementation of evidence-based clinical guidelines
- P:** interpret and present data to inform decision-making in relation to one aspect of wound care
- P:** prepare a business case for change based on a quality improvement framework for one aspect of wound care
- A:** value the important of professional and public dimensions of quality
- A:** accept the need for evaluation and sustainability in healthcare.

Unit of study content

- Epidemiology; health inequalities; demand
- Commissioning policies and legislative procedures
- Evidence based guidelines
- Presentation and interpretation of data to inform decision making
- Building the case for change to include quality improvement approaches/service evaluation/option appraisal/business case development
- Leading and managing change
- Evaluation and sustainability
- Professional and public dimensions of quality
- Total quality management and clinical governance principles to include approaches to commissioning; private finance initiatives; public-private partnerships etc
- Basic concepts of health economics
- Health Technology Assessment
- Welfare, Extra-welfare, Equity
- Methods of economic evaluation (Cost effectiveness analysis, cost utility analysis, cost benefit analysis, cost consequences)
- Outcomes research: Identification, measurement and valuation of outcomes including the use/interpretation of the quality adjusted life year (QALY)
- Identification, measurement and valuation of resource use
- Dealing with uncertainty in economic evaluation
- Practical examples

Unit 19: documentation

Aim

This unit of study aims to increase the ability to understand and meet the specific documentation requirements related to nursing processes in wound management.

Learning outcomes

On completion of the module a student will be able to:

- K/A:** explain and apply the requirements for assessment and documentation related to wound management according the latest literature
- K:** evaluate critically different documentation systems (paper and electronic) as well as different objective scales and tools for their usefulness and practicality in different clinical settings
- K/P:** advocate the need for, and create standardised and systematic wound-related information in referral letters to other specialities
- K/P:** engage in wound related communication with other institutions with need for nursing documentation, e.g. insurance companies and legal courts (witness statements)
- P:** document the wound characteristics in a particular case according to the specifications
- A:** recognise the need for a consistent approach to documentation using objective scales and tools (where possible based on the available literature) within the team and the wider MDT/stakeholders
- A:** accept and review the documentation as an important administrative task
- A:** value the importance of documentation as a significant legislative protection tool.

Unit of study content

- The relevant minimum data set (MDS)
- Parameters of written documentation (objective scales and their use)
- Non-digital measurement of the wound
- Photography
- Computer-assisted systems (electronic wound registries)
- Exchange of documentation
- Legal issues of data protection
- Practical examples.

Unit 20: leadership and management skills

Aim

This unit of study aims to increase the knowledge and understanding of the leadership and management skills required to function at an advanced level. It will address topics that should help to increase financial capability and liability in wound management. The content includes managing change, leadership styles, working within budgets and business planning skills to integrate these into clinical workplace.

Learning outcomes

On completion of the unit of study a student will be able to:

- K:** identify areas for change in their own clinical area that require a business case
- K:** identify and deal with barriers to change selecting approaches to manage the change
- K:** critically explore management and leadership styles
- K:** interpret budgetary constraints and implement plans to overcome these
- K:** monitor and review progress making appropriate adaptations
- P:** use and/or adapt techniques/processes/terminology to write a business case
- P:** formulate specific problems or questions based on experiences in daily professional practice to improve professional practice
- P:** look for and evaluate relevant evidence-based/best practice in the professional literature from this specific problem or question
- P/A:** create and motivate a project group
- P:** write a business case
- A:** accept the importance of the need for evidence and research to support development and implementation of a successful business plan
- A:** manage and evaluate a project.

Unit of study content

- Change theories
- Exploration of business plans
- Writing a business case to include timelines, GANTT charts
- Identifying and Involving Stakeholders
- Change management tools - e.g. Strengths, weaknesses, opportunities and threats (SWOT), Political, Economic, Sociological, Technological, Legal and Environmental (PESTLE) GAP analysis, force field analysis
- Cost analysis
- Lean methodology
- Managing a budget
- Managing conflict
- Project management
- Evidence Based Practice
- How to write a business case
- Quality improvement strategies
- Motivational interviewing
- Implementation strategies
- Practical examples.

Unit 21: final thesis/project/dissertation

Aim

This unit of study aims to demonstrate the required level of student assessment in relation to a level 7 wound curriculum.

Learning outcomes

On completion of the module a student will be able to:

- K:** present an argument of the evidence base and theories for a specific aspect of wound care
- K/P:** formulate a practice based clinical research question
- K/P:** apply an appropriate research/review methodology to answer the formulated research question

- K/P:** explain and justify the reason(s) for the chosen methodology
- K:** describe relevant results
- K:** contrast the results with existing literature
- K:** formulate recommendations for clinical wound care practice, policy-makers and further research
- K/A/P:** defend arguments of their thesis (where appropriate).

Unit of study content

- What is a thesis/dissertation
- Defining an appropriate topic
- Research and review methodologies (for example systematic, narrative reviews)
- Planning a thesis/project/dissertation: including research, review and quality service improvement approached (for example clinical audit and service evaluation)
- Writing a research/review proposal/protocol
- Ethical principles and applying for ethical approval
- Research Governance and Good Clinical Practice in research
- Formulating a clinical question using different tools: PICO, PICOS, PICOT, SPIDER (qualitative Research)
- Practicalities of writing a thesis
- Requirements for submission (depending on local regulations)
- Defending a thesis.

References and notes

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- ² Orem DE. Nursing: concepts of practice (6th ed.). Mosby-Year Book Inc, 2001
- ³ WHO Noncommunicable Diseases <https://tinyurl.com/jaztskp> (accessed 13 November 2019)
- ⁴ Nanda International. Nursing Diagnoses. Definitions and Classification, 2018-2020. Thime, 2017
- ⁵ Martin KS. The Omaha System: A Key to Practice, Documentation, and Information Management. Health Connections Press, 2005
- ⁶ The Office of the National Coordinator for Health Information Technology. Standard nursing terminologies: a landscape analysis. 2017. https://www.healthit.gov/sites/default/files/snt_final_05302017.pdf (accessed 13 November 2019)
- ⁷ NANDA-I works to facilitate the development, refinement, dissemination and use of standardised nursing diagnostic terminology. The systematic diagnostic procedures defined by NANDA-I are widely used in Central Europe, while other countries use alternatives systems. The terminology should be adapted to the diagnostic terminology applied within a specific country. www.nanda.org
- ⁸ EWMA. Antimicrobial Stewardship project: <https://tinyurl.com/yb6s2rf8> (accessed 13 November 2019)

4. Estimated hours and learning methods

The table below provides an overview of the number of hours needed for lectures and practical work under the core units listed in the curriculum:

Table 2. Units of study and expected workload

Unit	Expected workload* per unit of study			
	Lectures	Self-directed learning	Practical work** Patient cases	Exam and preparation
Unit 1: role of prevention in wound care	4	2	Practical work in special wound clinics/ centres*** or by guiding wound patients (i.e. home care agencies providing wound care)	
Unit 2: evidence and research-based practice in healthcare	16	8	Practical work in special wound clinics/ centres or by guiding wound patients (i.e. home care agencies providing wound care)	40 hours
Unit 3: Person-centred care and patient education	8	4		
Unit 4: Wounds and wound healing	6	3		
Unit 5: nutrition and wound healing	4	2		
Unit 6: moist wound healing	4	2		
Unit 7: microbiology, antimicrobial agents, hygiene and wounds	6	6		
Unit 8: acute wounds	6	4		
Unit 9: debridement and wounds	4	2		
Unit 10: adjunctive and advanced therapies in wound management	8	4		
Unit 11: pressure ulcers	8	4		
Unit 12: diabetic foot syndrome	8	4		
Unit 13: lower leg ulcers	8	5		

The duration of the curriculum is recommended to have a duration of 1–2 years from commencement.

Unit 14: skin tears	4	2		
Unit 15: palliative wounds	4	2		
Unit 16: atypical wounds	8	4		
Unit 17: moisture-associated skin damage	4	2		
Unit 18: healthcare delivery and health economics	4	2		
Unit 19: documentation	4	2		
Unit 20: leadership and management skills	12	6		
Unit 21 : final thesis/ project/dissertation	30	–	Final	120
TOTAL	162	68	40	160
Total hours	430 = 15 ECTS			
<p>* Workload is an indication of the time students typically need to complete all learning activities required to achieve the expected learning outcomes and will include: self-study and examinations in addition to the lectures and practical work already detailed above. The number of hours can be extended according to local didactical requirements, including the pedagogical assessment of the individual study group and individual student needs.</p> <p>** A student is expected to work in a wound management unit or similar service for a minimum of 3 months to gain the relevant level of experience.</p> <p>*** Wound management unit / institution – this should be a recognised health-care facility that is responsible for managing patients with wounds. This may include healthcare services in primary and secondary care.</p>				

Estimated learning hours (UK credit framework system)

It is recognised that students will spend time on a range of teaching and learning activities as part of their programme including:

- Classroom-based lectures/seminars/tutorials
- Online lectures/seminars/tutorials
- Skills based sessions/workshops
- Work-based learning
- Scheduled examination/assessment
- Self-directed learning.

In the UK the convention is that 1 credit equates to 10 learning hours.

For a full-time Masters students are required to complete 180 credits over a 1-year period, which equates to 1800 hours of teaching and learning activities. For part-time programmes over 2–3 years the number of credits taken per year may vary but the total amount of credits required for

a Masters award via a part-time route is the same i.e. 180 credits (1800 hours). Normally the final project/dissertation equates to 60 credits (600 hours) for a Masters (full-time or part-time).

It is recognised that there are a number of educational institutions across the UK which already provide existing wound management programmes at Masters level. The intention of this curriculum document is to facilitate an informal mechanism for those institutions wishing to validate their existing provision with the proposed core EWMA curriculum. Where appropriate the whole curriculum and/or individual units of study can be embedded into the existing course as appropriate. Equally for those wishing to develop and deliver a new programme of study the curriculum provides an overall framework for consideration. It is the responsibility of the educational provider to allocate the number of hours per unit of study taking into account the range of learning activities.

5. Curriculum contributors

The following individuals authored specific units of study

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7. Recommended reading

The following list is not an exhaustive list of literature but includes potential literature for inclusion in the course.

Textbooks

- Ayello EA, Baranoski S. Wound care essentials: practice principles (4th edn). Wolters Kluwer, 2015
- Armstrong DG, Lavery LA. Clinical care of the diabetic foot (3rd edn). American Diabetes Association, 2016
- Bryant R, Nix D. Acute and chronic wounds: current management concepts (5th edn). Elsevier, 2016
- Edwards-Jones, V. (Ed.), Essential Microbiology for Wound Care. Oxford, UK: Oxford University Press, 2016
- Hess KT. Clinical Guide to Skin and Wound Care (Clinical Guide: Skin & Wound Care) (7th edn). Wolters Kluwer, 2019
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- Krasner D. Chronic wound care: the essentials. HMP Communications, 2014
- Peate I and Wyncross G. Wound care at a glance. Wiley Blackwell, 2015
- Probst S. Wound Care Nursing, A person-centered approach (3rd edn). Elsevier, 2020
- Veves A et al. The diabetic foot: medical and surgical management (3rd edn). Humana Press, 2012
- Wilkinson J. Nursing, process—a critical thinking approach (5th edn) Addison-Wesley Nursing, 2012

Doughty BD. Wound, Ostomy and Continence Nurses Society Core Curriculum: Wound Management. Wolters Kluwer, 2016

Online resources

- American Board of Wound Healing (ABWH) <https://abwh.net/> (accessed 3 February 2020)
- Agency for Healthcare Research and Quality. Guidelines and Measures <https://tinyurl.com/yesh3tx8> (accessed 31 January 2020)
- Cochrane Library. <https://www.cochranelibrary.com/> (accessed 31 January 2020)
- Debra International: <http://www.debra-international.org> (accessed 3 February 2020)
- EWMA. <http://ewma.org/resources/for-professionals/ewma-documents-and-joint-publications/> (accessed 31 January 2020)
- EWMA e-learning Course in Basic Wound Management. <http://ewma.org/what-we-do/education/ewma-e-learning/> (accessed 31 January 2020)
- European Pressure Ulcer Advisory Panel, National Pressure Injury Association Panel, Pan-Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers/Injuries Quick Reference Guide. Emily Haesler (Ed). EPUAP/NPIAP/PPPIA 2019.
- European Commission: learning opportunities and qualifications in Europe. Information about courses, work-based learning and qualification. <https://ec.europa.eu/ploteus/en/content/descriptors-page> (accessed 31 January 2020)
- European Commission: European Credit Transfer and Accumulation System (ECTS). https://ec.europa.eu/education/resources-and-tools/european-credit-transfer-and-accumulation-system-ects_en (accessed 31 January 2020)
- ECTS users guide. 2015 https://ec.europa.eu/education/ects/users-guide/docs/ects-users-guide_en.pdf (accessed 31 January 2020)

- Future Learn Online Courses (accessed 31 January 2020); <https://www.futurelearn.com/courses/antimicrobial-stewardship>; <https://www.futurelearn.com/courses/infection-control-antimicrobial-resistance>
- International Lymphoedema Framework <https://www.lympho.org/> (accessed 3 February 2020)
- International Skin Tear Advisory Panel. <http://www.skintears.org/> (accessed 3 February 2020)
- National Institute of Health and Care Excellence. Pressure ulcers: prevention and management. 2014 <http://www.nice.org.uk/guidance/cg179> (accessed 31 January 2020)
- National Pressure Injury Advisory Panel. <https://npiap.com> (accessed 31 January 2020)
- Scottish Intercollegiate Guideline Network. <https://www.sign.ac.uk/our-guidelines.html> (accessed 31 January 2020)
- Welsh Wound Network. <http://www.welshwoundnetwork.org> (accessed 31 January 2020)
- World Alliance for Wound & Lymphedema Care (WAWLC) <https://wawlc.org/> (accessed 3 February 2020)
- World Union Wound Healing Societies. <https://www.wuwhs.com/web/> (accessed 31 January 2020)
- World Wide Wounds <http://www.worldwidewounds.com/> (accessed 3 February 2020)
- Wounds Australia <https://www.woundsaustralia.com.au/> (accessed 3 February 2020)
- Wounds International. <https://www.woundsinternational.com/> (accessed 31 January 2020)
- Wounds UK. <https://www.wounds-uk.com/> (accessed 31 January 2020)
- EWMA documents**
- European Wound Management Association (EWMA). Position Document: Management of wound infection. MEP Ltd, 2006
- European Wound Management Association (EWMA). Position Document: Identifying criteria for wound infection. MEP Ltd, 2005
- European Wound Management Association (EWMA). Position Document: Wound Bed Preparation in Practice. MEP Ltd, 2004.
- Franks P, Barker J, Collier M et al. Management of patients with venous leg ulcer: challenges and current best practice. *J Wound Care* 2016; 25(Suppl 6): S1–S67. <https://doi.org/10.12968/jowc.2016.25.Sup6.S1>
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- Gottrup P, Apelqvist J, Price P. Outcomes in controlled and comparative studies on non-healing wounds: recommendations to improve the quality of evidence in wound management. *J Wound Care* 2010; 19(6):237–68. <https://doi.org/10.12968/jowc.2010.19.6.48471>
- Isoherranen K, Jordan O'Brien J, Barker J et al. EWMA document: Atypical wounds. Best clinical practice and challenges. *J Wound Care* 2019, *Journal of Wound Care* Vol. 28, No. Sup6 <https://doi.org/10.12968/jowc.2019.28.Sup6.S1>
- Pokorná A, Holloway S, Strohal R. Wound curriculum for nurses: post-registration qualification wound management—European Qualification Framework level 5. *J Wound Care* 2017; 26(12): Suppl 12. <https://doi.org/10.12968/jowc.2017.26.Sup12.S1>
- Probst S, Holloway S, Rowan S, Pokorná A: Wound curriculum for nurses: Post-registration qualification wound management - European Qualification Framework level 6, *J Wound Care* 2019; 28(Suppl 2b):1-33 <https://doi.org/10.12968/jowc.2019.28.Sup2a.S1>
- Price P, Gottrup F, Abel M. EMWA Study recommendations for clinical investigations in leg ulcers and wound care. *J Wound Care* 2014; 23(Suppl 5): S1–S36. <https://doi.org/10.12968/jowc.2014.23.Sup5c.S1>

Probst S, Seppänen S, Gethin G et al. EWMA document: Home care-wound care. *J Wound Care* 2014; 23(5 Suppl): S1–S44. <https://doi.org/10.12968/jowc.2014.23.Sup5a.S1>

Strohal R, Apelqvist J, Dissemond J et al. EWMA document: debridement. *J Wound Care* 2013; 22(Suppl 1):S1–S52. <https://doi.org/10.12968/jowc.2013.22.Sup1.S1>

Stryja J, Sandy-Hodgetts K, Collier M et al. EWMA document: Surgical site infection: preventing and managing surgical site infection across health care sectors. *J Wound Care* 2020; 29: 2, Suppl 2b, S1–S69 <https://doi.org/10.12968/jowc.2020.29.Sup2b.S1>

EWMA Podcasts

<https://ewma.org/what-we-do/ewma-podcasts/>

8. Glossary

Assessment:

In this curriculum, assessment refers to the clinical patient and wound assessment that will encompass history taking and overall holistic examination of a patient with a wound as well as local status (wound and periwound skin).

Angiology:

A medical specialty which studies the diseases of the circulatory system and of the lymphatic system, such as arteries, veins and lymphatic vessels and its diseases.

Antiphlogistic:

An agent that reduces inflammation.

Case management:

Case management is a general term referring to the facilitation of treatment plans to assure the appropriate medical care is provided.

Charcot neuroarthropathy:

Charcot neuroarthropathy refers to progressive degeneration of a weight bearing joint, a process marked by bony destruction, bone resorption and eventual deformity.

Debridement:

The process of removing non-vital tissue from different types of wounds (such as PUs and burns) and others.

Evidence-based nursing (EBN):

An approach based upon personal clinical expertise in combination with the most current, relevant research available on the topic. The goal of EBN is to improve the health and safety of patients while also providing care in a cost-effective manner to improve the outcomes for both the patient and the health-care system.

Evidence-based practice:

The goal of this approach is to integrate the implementation of the best-research evidence with clinical expertise and patient values.

European Credit Transfer and Accumulation System (ECTS):

ECTS is a standard for comparing the study attainment and performance of students of higher education across the EU and other collaborating European countries. One academic year corresponds to 60 ECTS credits that are normally equivalent to 1500–1800 hours of total workload, irrespective of standard or qualification type.

European Qualifications Framework (EQF):

EQF aims to relate different countries' national qualifications systems to a common European reference framework and to compare the qualifications levels of different countries and different education and training systems. Since 2012, all new qualifications issued in Europe carry a reference to an appropriate EQF level (https://ec.europa.eu/ploteus/search/site?f%5B0%5D=im_field_entity_type%3A97).

European Wound Management Association (EWMA):

A European not-for-profit umbrella organisation, linking national wound management organisations, individuals and groups with interest in wound care. Central to EWMA's objectives is to support implementation of interdisciplinary and cost-effective wound care of high quality (www.ewma.org).

European Pressure Ulcer Advisory Panel (EPUAP):

A European organisation working for European research, education and advocacy for pressure ulcer prevention and treatment. The mission is to provide relief for persons suffering from or at risk of PU, in particular through research and

the education of the public and by influencing pressure ulcer policy in all European countries towards an adequate patient centred and cost effective pressure ulcer care (www.epuap.org).

Incontinence associated dermatitis (IAD):

Inflammation of the skin that occurs when urine and/or stool comes into contact with the skin.

Moisture associated dermatitis (MAD):

Inflammation and erosion of the skin caused by prolonged exposure to moisture and its contents, including urine, stool, perspiration, wound exudate, mucus or saliva.

Maggot debridement therapy (MDT):

Also called bio-knife, this is a type of biotherapy involving the introduction of live, disinfected maggots (fly larvae, *Lucilia sericata*) into the non-healing skin and soft tissue into a wound for the purpose of cleaning out the necrotic tissue within a wound (debridement) and disinfection.

Malum perforans:

Malum perforans, also known as neurotrophic ulcer, is a long-lasting, usually painless ulcer that penetrates deep into or through the skin, usually on the sole of the foot. It is often a complication in diabetes and other conditions affecting the nerves.

Minimal data set (MDS):

A list of names, definitions and sources of data items needed to support a specific purpose.

Meticillin-resistant Staphylococcus aureus (MRSA):

An infection caused by a type of *Staphylococcus* bacteria that has become resistant to many of the antibiotics used to treat ordinary staph infections.

NANDA International:

An international organisation providing standardised terminology/NANDA International

Nursing Diagnosis Glossary of Terms for use in nursing practice (www.nanda.org/).

Nosocomial infection:

A nosocomial infection, also known as a hospital-acquired infection (HAI), is an infection that is acquired in a hospital or other health care facility.

National Pressure Injury Advisory Panel (NPIAP):

A US based independent not-for-profit professional organisation dedicated to the prevention and management of pressure injuries (www.npuap.org).

Negative pressure wound therapy (NPWT):

Negative-pressure wound therapy is a therapeutic technique using a vacuum dressing to promote healing in acute or chronic wounds and enhance healing. In several types of either acute or chronic wounds.

Nursing diagnoses:

The nursing diagnosis drives interventions and patient outcomes, enabling the nurse to develop the patient care plan. Diagnosis procedures are provided by different professional organisations e.g. NANDA International.

Podiatrist/podiatric management:

In many countries, the term podiatrist refers to allied health professionals who specialise in the treatment of the lower extremity, particularly the foot. Podiatrists in these countries are specialists in the diagnosis and treatment of foot pathology but not through surgical means. In the US and some other countries, Doctors of Podiatric Medicine are physicians and surgeons who practice on the lower extremities, primarily on feet and ankles.

Podology:

The specialty concerned with the diagnosis and/or medical, surgical, mechanical, physical, and adjunctive treatment of the diseases, injuries and

defects of the human foot. May also be referred to as chiropody.

Post-graduate education:

Post-graduate refers to education taking place following the finalisation of a general nurse education (see registered nurse).

Pan Pacific Pressure Injury Alliance (PPIAP):

PPIAP has contributed to the European and US (with EPUAP and NPIAP) publishing of the International Pressure Ulcer Guidelines.

Pyoderma gangrenosum:

A rare skin condition that causes tissue to become necrotic. Major symptoms include small pustules that develop into large ulcers at various sites on the body. It may or may not be associated with other illnesses. It often, but not invariably, reflects underlying systemic disease.

Registered nurse:

The definition of a registered nurse across Europe is governed by European Union (EU) law through directives/EU legislation (Directive 2005/36/EC on the recognition of professional qualifications). A registered nurse is a nurse who has graduated from a nursing programme and met the requirements outlined by a country, state, province or similar licensing body in order to obtain a nursing license.

A registered nurse's scope of practice is determined by legislation and is regulated by a professional body or council.

Total contact casting (TCC):

A specially designed cast designed to take weight off of the foot (off-loading) in patients with diabetic foot ulcers (see *Wounds*).

Ulcer:

Typically refers to a chronic wound; e.g. a PU, a diabetic foot ulcer or a leg ulcer (venous/arterial/

mixed). An ulcer is defined as a discontinuity or break in a bodily membrane that impedes the organ of which that membrane is a part from continuing its normal functions. An ulcer is often accompanied by the disintegration of tissue and ulcers often become infected.

The European Union of Medical Specialists (UEMS):

UEMS is the representative organisation of the National Associations of Medical Specialists in the European Union and its associated countries (www.uems.net).

Undergraduate nursing education:

Undergraduate nursing education refers to educational programmes for pre-registration nurses.

Wound:

This curriculum covers the management of both chronic and acute wounds.

Acute wounds occur as a result of surgery or trauma. They move through the stages of healing within the predicted timeframe. The acute wound becomes a chronic wound when it does not follow the healing stages resulting in a lengthened recovery.

Chronic, non-healing or chronic wounds refers to wounds that for various reasons do not heal normally/are characterised by a delayed healing process which may be caused by different aetiologies. The most common types of chronic/non-healing/chronic wounds include:

- Leg ulcers (arterial, venous, mixed)
- PU (also referred to as pressure injuries, pressure sores or decubitus)
- Diabetic foot ulcers (DFU).

