

WOUND CURRICULUM FOR NURSES:

POST-REGISTRATION
QUALIFICATION WOUND
MANAGEMENT -
EUROPEAN
QUALIFICATION
FRAMEWORK
LEVEL 6



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I. 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). For this reason, EWMA has developed a curriculum for nurses which aligns with the EWMA curriculum on wound healing for physicians which was approved by the European Union of Medical Specialists (UEMS) in April 2015.¹

Since the vocational qualifications in Europe are not all at the same level and the pre-registration curricula may differ, three curricula referring to different European Qualifications Framework (EQF) levels are under development. Curriculum for EQF level 5 has already been developed and was published in December 2017. This curriculum is intended for EQF² level 6. Curriculum intended for EQF level 7 will be available in due course.

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



I.1 Scope, aims and objectives of the curriculum

This curriculum takes into account that individuals with chronic wounds have very specific therapy and care needs related to their clinical presentation and the challenges related to multiple comorbidities. In the following, the term ‘chronic wounds’ explicitly includes non-healing wounds (or hard-to-heal wounds). Moreover, it includes wounds that do not fall into the category of chronic wounds because of duration but are considered to be a chronic wound and therefore have a higher probability of following a chronic course (i.e. pressure ulcers). To be able to apply a holistic approach to and provide effective management of individuals with wounds, the nurse must therefore have specific knowledge, practical skills and awareness about patient safety, local wound care, the overall patient status and multidisciplinary teamwork. The nursing process provides the overarching framework for the curriculum and takes into account the outcomes of the interventions in the course of care (prevention, diagnostics and treatment).

The curriculum explores a range of comprehensive nursing interventions such as the assessment, planning, interventions and evaluation related to individuals with acute and chronic wounds. It should allow the students to extend their knowledge of wound care to obtain specific competencies. This constitutes explicit knowledge of the relationships between the underlying diseases with the onset of chronic wounds, as well as their guideline-based care in terms of causal, local and concomitant therapy.

Finally, the curriculum also aims to support the

development of the nurse's ability to assess the psychosocial and behavioural aspects of patients with wounds and to promote the patient's quality of life (QoL). The curriculum aims to provide the students with theoretical and practical skills to support appropriate decision-making (evidence-based nursing and practice, problem-based learning and practical-based learning). There is a particular focus on the ability of nurses to develop an individualised nursing care plan that takes into account the patient's unique circumstances and comorbidities.

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), for example, in relation to interventions such as wound debridement. These boundaries are typically defined according to national or local recommendations or legislation and have therefore not been provided within the curriculum.

1.2 Format

The curriculum summarises the required learning goals related to the multidisciplinary approach related to managing individuals with wounds that is suggested for inclusion in the broad post-registration qualification. The curriculum could be included or adapted in other relevant post-registration and postgraduate training programmes.

Learning goals (outcomes) are presented under

Descriptors defining levels in the European Qualifications Framework (EQF) ^{4*}			
	Knowledge	Skills	Responsibility and autonomy
	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
Level 5 [‡] The learning outcomes relevant to Level 5 are:	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
Level 6 [¶] The learning outcomes relevant to Level 6 are:	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
[*] 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 [‡] ; [‡] 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; [¶] The descriptor for the first cycle corresponds to the learning outcomes for EQF level 6			

all the units in the following categories, with reference to Bloom's taxonomy:³

- 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 ideally have a minimum of six months' vocational training after completion of their basic training.

1.4 Curriculum framework

The curriculum is designed in a modular structure. It includes:

- Nineteen units of study with a minimum total of 116 learning units (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

Workload (minimum number of hours):

Face-to-face teaching	116
Supervised practice	50
Work-based learning (self-directed learning)	59
Exam (including preparation)	50
In total:	275

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

take place in different healthcare institutions with clinical experience in the management of individuals with chronic/non-healing wounds. Supervised practice should be undertaken by a recognised professional in wound management (according to local or national healthcare institution policies). It should include a workload of 50 hours (40 hours for practical skills training and 10 hours for a written report).

The described learning outcome corresponds to the EQF level 6. The European Qualifications Framework (EQF) is a translation tool that helps communication and comparison between qualifications systems in Europe.²

References

- 1 European Union of Medical Specialists. Training Requirements Wound Healing for all Medical Specialties, which include Wound Healing in their Curricula. 2017; <https://tinyurl.com/yaa23uy9> (accessed 28 January 2019)
- 2 European Commission. How does the European Qualifications Framework (EQF) work. <https://tinyurl.com/hkca4mg> (accessed 28 January 2019)
- 3 Bloom BS. The classification of educational goals. In: Taxonomy of educational objectives: I: Handbook I: cognitive domain. David McKay Company, 1956
- 4 Keighley T. European Union Standards for Nursing and Midwifery: Information for Accession Countries. (2nd edn) 2009. <https://tinyurl.com/ya4ufmd9> (accessed 28 January 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 European Qualifications Framework (EQF) according to competence Level 6¹. On successful completion of the curriculum, the individual will have achieved 11 ECTS-credits (European Credit Transfer and Accumulation System) in wound management and may be able to seek accreditation according to any additional local legislation in the respective country.

References

¹ European Commission. How does the European Qualifications Framework (EQF) work. <https://tinyurl.com/hkca4mg> (accessed 28 January 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 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:** define the different definitions of primary, secondary and tertiary prevention
- K:** describe 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:** appreciate 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 (prevention and prophylaxis are also dealt with in a number of other units: 2, 6, 8, 13, 14 and 15):
 - Skin care
 - Pressure redistribution
 - Compression therapy.

Unit 2: Evidence-based nursing/ evidence-based practice

Aim

This unit of study aims to deepen the knowledge of evidence-based nursing (EBN) and implement the findings into practical cases.

Learning outcomes

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

- K:** define the key points of and goal setting in EBN
- K:** examine the range of evidence currently available that describes wound management interventions and evaluate the strength of these as sources of information
- K/P:** examine scientific literature about wound care according to its date of publication, relevance and evidence levels
- K/P:** differentiate between the available

assessment instruments, tools and/or scales and their potential use and areas of application

K: discuss the theoretical grounds that apply to wound prevention

K: debate the current status of and defined challenges related to evidence-based nursing in wound management

K: discuss and apply evidence-based wound prevention strategies and measures

K: discuss the different study designs

K: define a clinically relevant research question

K/P: apply a corresponding study design to a clinically relevant research question

P: critique a range of existing wound care literature

P: make decisions based on internal and external evidence, and in consideration about patients' preferences and the local clinical and legal situation (internal evidence includes healthcare institution-based quality improvement projects, outcome management initiatives and clinical expertise; external evidence includes systematic reviews, randomised control trials, best practice, and clinical practice guidelines that support a change in clinical practice)

P: perform tasks in wound care based on an analysis of the situation related to specific patient cases using evidence based solutions

P: assign practical measures to EBN scientific findings

P: initiate preventive measures with different orientations according to the chronic disease and the individual situation

P: use existing wound-related assessment instruments, tools and/or scales designed for specific target groups and interpret the results

P: select and use wound care-related instruments

for different patient groups, compare different values and resolve conflicts with EBN findings and practical daily routine in nursing care—be able to ask questions and use critical thinking

A: recognise the need to keep up to date with new scientific knowledge and question existing knowledge

A: be aware of the advantages and disadvantages of assessment instruments in EBN.

Unit of study content

- The principles of EBN
- Steps required to practice EBN
- The influence of EBN on the care of individuals with chronic wounds
- Classification of evidence according to a recognised hierarchy of evidence
- Critical analysis of research studies
- Clinical trials in wound care
- Reviewing published literature
- National and international institutions relating to EBN and chronic wounds (i.e. guidelines, recommendations) for example NPUAP/EPUAP, EWMA position documents
- Introduction to the different types of assessment instruments, tools and/or scales as well as the recommended use and limitations of these instruments.

Unit 3: Patient education and promoting self-care

Aim

This unit 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 patient-centred care.

Learning outcomes

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

K: discuss the principles of self-care management in relation to individuals with chronic wounds/disease

K: appraise the procedures for educating individuals with acute and chronic wounds based on an evaluation of different educational concepts

K: define 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: recommend 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/P: formulate relevant clinical questions based on an evaluation of the available research and the sources of research

K: define nursing diagnosis (e.g. with reference to diagnosis procedures recommended by NANDA International (NANDA-I)¹ and compare it to medical diagnosis 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 alternative systems. The terminology should be adapted to the diagnostic terminology applied within a specific country.

A/K: appreciate/explain the impact of psychosocial or behavioural factors that may influence the patient's response to their illness

K: perform a systematic evaluation the patient's ability to perform self-care on the basis of the goals defined in the patient education plan

P: apply the standardised terminology (e.g. NANDA)¹ in relation to specific nursing diagnostics, relevant for patients with wounds

P: create a patient-centred education plan based on an assessment of the patient's educational ability

P: comprehend the patient's understanding of his/her illness via an empathic and professional conversation

K: discuss the appropriateness and use of self-care for individuals with a wound

P: undertake responsibility for the education of a patient with a chronic wound as well as their relatives/carers where appropriate to enable the patient to conduct self-care

A: appreciate the influence of a patient's fears and misconceptions of their body on their behaviour

A: recognise the promotion of patient self-management as an integrated part of patient education

A: accept the need to include patients and their relatives/carers in the decision-making process.

Unit of study content

- 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 brochures and various types of media)
- Evaluation of the educational process
- Goals of education to promote self-management
- The role of motivation and bonding in patient's 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 as a result of health restrictions by chronic wounds and consequences for self-care):
 - Self-care concept in the management of individuals with chronic wounds based on the principles proposed by Orem's Model²
 - 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 (Chronic diseases are not passed from person to person. They are of long duration and generally slow progression)³
 - Typical psychosocial consequences of chronic diseases and their complications)
- Standardised nursing taxonomy⁴ (see e.g. literature for NANDA or OMAHA or other nursing diagnostic system)^{4,5}
- Difference between nursing diagnosis and medical/physician diagnosis
- Systematic and diagnostic process using standardised nursing taxonomy e.g. NANDA
- Key terms
 - Groups/kinds of standardised nursing taxonomy^{1,6,7} diagnosis (risk-problem-focused diagnoses, axis)
 - Relevant standardised nursing taxonomy e.g. NANDA nursing diagnosis, concerning for people with chronic wounds as examples
 - Planning interventions based on the assessment of the following diagnoses (with reference to the standardised nursing taxonomy e.g. NANDA^{1,6} classes or similar standardised terminology systems):
- Class circulation: (risk of) ineffective peripheral tissue perfusion
- Class skin/tissue: (risk of) pressure ulcer, impaired tissue integrity
- Risk of vascular trauma
- Risk of peripheral neurovascular dysfunction
- Class self-concept: disturbed body image
- Class comfort: acute/chronic pain
- Class coping: ineffective activity planning
- Class physical ability: impaired mobility

- Class energy balance: activity intolerance
- Class social function: risk of loneliness
- Class self-care: deficit of self-care in relationship of measures in the context with the wound therapy
- Class health promotion: ineffective health management, protection, deficit of knowledge
- Class health hazard: risk of infection, bleeding, late surgical recovery.

Several of these diagnoses may be combined with different clinical pictures. They may be used as a basis for developing plans for patient self-care and education. It should be noted that 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).

Unit 4: Case management (patient-centred care)

Aim

This unit of study aims to increase the knowledge and understanding of case management in order to manage patient cases over the course of their therapy and care in different settings.

Learning outcomes

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

- K:** justify the need for case management regarding the current situation of the patients and other stakeholders
- K:** explain the options for case management taking into account the relevant legal basis of the particular health-care system

K: recognise the relevance of case management in relation to the holistic nursing process

K: identify potential patient safety risks in the care of patients with chronic wounds as well as strategies for overcoming these risks

K/P: identify and provide/deduce appropriate strategies to prevent gaps/inequalities in care and promote the process of evidence-based care and interventions

K: recognise the importance of discharge planning as part of the case management of an individual with a chronic wound

K: analyse the problems that may occur due to inadequate management of the patient

P: manage the care process and the people involved in this to prevent patient safety risks

P: involve different stakeholders, including relatives/carers, in the support process and define their specific tasks in the provision of care

A: be aware of the problems that arise from inadequate case management

A: recognise his/her professional role in case management of individuals/patients with chronic wounds

A: be aware of the complexity of the patient's situation (medical status, social status, network etc.) in the context of case management.

Unit of study content

- Definition and philosophy of case management on an individual level
- Specific needs of individuals with 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 chronic wounds
- Relatives and their role in support of the patient

- The role of individual professions in the multidisciplinary team (MDT).

Unit 5: Wounds and wound healing

Aim

This unit of study aims to increase the knowledge and understanding of physiological and pathological wound healing.

Learning outcomes

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

- K:** differentiate between the phases of wound healing
- K:** define different types of healing
- K:** explain the connection between wound healing and systemic (intrinsic), extrinsic or local factors
- K:** define chronic wounds based on their characteristics and causes
- K:** outline disorders of wound healing and their consequences
- K:** analyse factors that promote and delay wound healing in relation to patient cases
- P:** relate the stages of normal healing to the clinical presentation of a wound
- P:** recognise the characteristics of different wounds in relation to different chronic diseases; such as diabetes (diabetic foot ulcers, DFU) and vascular diseases (leg ulcers, LU)
- P:** categorise the wound based on standardised criteria
- A:** value the wound healing pathophysiology as a starting point for treatment, recognition of type of wound bed etc.
- A:** be aware of the consequences of chronic wounds and the impact they have on a patient's daily life.

Unit of study content

- Physiology of normal wound healing

- Blood coagulation (effect of anticoagulation substances on wound healing)
- Phases of wound healing, i.e. inflammation, proliferation and remodelling
- Primary wound healing
- Secondary wound healing (a repair process), delayed primary closure
- Pathophysiology and microbiology of chronic wound healing
- Factors affecting healing (such as infection and reduced perfusion)
- Wound diagnosis
- *Practical examples.*

Unit 6: Nutrition and wound healing

Aim

This unit of study aims to increase the nurse's 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:** discuss the importance of adequate nutrition for a patient with a wound
- K:** discuss the function of nutrients in the normal wound healing process
- K:** outline common conditions that affect an individual's nutritional requirements
- K:** outline 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: explain the hospital-related factors which cause an altered food intake

K: discuss risk of malnutrition in an inpatient and outpatient context

P: apply 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 (i.e. diabetes)
- Optimal nutritional composition to promote wound healing
- Function of 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
- *Practical examples.*

Unit 7: Moist wound healing

Aim

This unit of study aims to increase the understanding of the appropriate use of different wound dressings in relation to the phase of wound healing.

Learning outcomes

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

K: understand the principles of phase-appropriate wound treatment with respect to local therapy

K: differentiate between types of dressings and outline the indications/contraindications for use

K: explain the criteria for the ideal use of wound care products and categorise these into different groups of products (dressings, solutions etc.)

K: define the product characteristics and indications for wound therapy

P: apply the products correctly in an appropriate situation

P: evaluate and select 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 in relation to the phase of wound healing
- 'Ideal' wound dressings (requirements for appropriate therapeutic materials)
- Review the role of gauze in wound management
- Water and wound cleansing solutions, e.g. wound irrigation solutions and antiseptics
- Dressing categories with different material properties: indications, contraindications and application
 - Contact layer/wound gauze
 - Transparent polyurethane
 - Alginates
 - Foams (fine-pored polyurethane foam dressings)
 - Hydrogels (see debridement)
 - Hydroactive dressings
 - Hydrofibers
 - Hydrocolloids
 - Hydropolymers
 - Superabsorbent dressing
- Active dressings containing (see examples below)
 - Glycosaminoglycans
 - Hyaluronic acid
 - Collagen
- Specialised active agents
 - Topical antiseptics (antiphlogistics)
 - Topical antibiotics
 - Agents supporting initiation of granulation tissue
- Specific wound situations (see examples below)
 - Pain in relation to dressing change
 - Control of wound odour (e.g. activated charcoal)
 - Exudate management (type, level, and amount)
 - Combating biofilm and bioburden
- Signs and symptoms of local and systemic infection (see examples below)
 - Bleeding
 - Contact and irritant dermatitis
- *Practical examples.*

Unit 8: Microbiology and wounds

Aim

This unit of study aims to increase the understanding of the nature of infections in wounds with special focus on prevention and symptomatology of complications of infection.

Learning outcomes

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

- K:** explain the nature of infections in wounds
- K:** recognise and define the severity of the wound infection
- K:** identify the requirements for different treatment depending on the severity of wound infection
- K:** analyse the case-related risks of wound infection
- K:** discuss the potential consequences of wound infection for the patient
- K:** explain the risks associated with spreading infection and a possible sepsis
- P:** identify wounds with high risk of infection and typical causes of infection
- P:** initiate hygienic and therapeutic measures for multidrug-resistant germs including patient and family education
- P:** undertake/carry out the correct procedure to take a wound swab
- P:** educate the patients and their relatives/carers to recognise warning symptoms of infection and appropriate measures to take
- A:** appreciate the significance of resistant germs in wound healing
- A:** develop a responsible attitude towards risk identification and early detection of healthcare associated infections
- A:** be aware of the need for support in case of multiresistant pathogen infections—need for special regimen, lifestyle changes etc.

Unit of study content

- Contamination, colonisation and local and systemic infection symptomatology
- Risk factors for wound infection. Balance of bacterial load and immunological status of patient
- Commensal and saprophytic bacteria
- The nature of multidrug-resistant bacteria
- Procedures for meticillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant enterococci (VRE) and other multidrug-resistant bacteria
- Prophylaxis and epidemiology with regard to MRSA, VRE and other multidrug resistant bacteria
- Assessment and diagnosis of infection
- Biofilm
- Role of microbiological culture techniques
- *Practical examples.*

Unit 9: Antimicrobial agents, hygiene and wounds

Aim

This unit of study aims to increase the nursing understanding of the nature of antimicrobial therapy and prophylaxis with special focus on safety guidelines.

Learning outcomes

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

- K:** discuss the nature of antimicrobial therapy and prophylaxis

K: explain the different indications for use of local antiseptics as well as when systemic antibiotic therapy is indicated

P: Use local, national or international evidence-based guidelines for the use of antimicrobial wound therapeutics in clinical practice appropriately

P: perform all hygienic measures related to wound care

P: follow the hygiene guidelines with regards to dressing changes and hand hygiene

A: Appreciate the responsibilities for different aspects of hygiene.

Unit of study content

- Disinfection and sterilisation
- Antiseptics
- Antimicrobial wound dressings
- Hygiene and dressing changes
- Antimicrobial stewardship⁸
- Systemic antibiotic
- *Practical examples.*

Unit 10: Acute wounds

Aim

This unit of study aims to increase the understanding of the assessment and management of acute wounds (including surgical and traumatic wounds as well as burn injuries).

Learning outcomes

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

K: define an acute wound

K: characterise wounds healing by primary and secondary intention

K: identify when delayed primary closure may be appropriate to use

K: explain the characteristics of a surgical wound

K: discuss the principles of surgical incisions and wound repair

K: understand the principles of the reconstructive ladder and surgical reconstruction

K: describe the features of a traumatic wound

K: discuss 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

K: identify the different causes of burn injury i.e. fire/flame, scalding thermal and chemical

K: summarise the first aid measures for each type of burn injury

K: identify the key principles of wound management according to the type and aetiology of an acute wound

K: describe adjunctive interventions that may be used in the management of a patient with an acute wound i.e. negative pressure wound therapy (NPWT), skin grafting, skin replacement

K/P: examine intrinsic and extrinsic factors which may impact on acute wound healing

K/P: define and identify surgical site infection (SSI) and use appropriate classification systems to determine the severity

K/P: describe risk factors for SSI and apply appropriate preventive measures

K/P: explain the principles of preoperative, intraoperative and postoperative care

P: select the most appropriate method of wound cleansing/irrigation in relation to the type and aetiology and symptomatology of an acute wound

P: apply the principles of wound assessment taking into account the classification of wound i.e. 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: discriminate between the most appropriate methods of debridement in relation to the type of acute wound

A: recognise 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: appreciate the patient's concerns and presence of pain

A: be aware of the need for appropriate surveillance and preventative measures.

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 i.e. NPWT
- Reconstructive ladder and principles of surgical reconstruction
- Cosmesis and function in acute wounds
- *Practical examples.*

Unit 11: Debridement and 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 nurses in different types of debridement.

Learning outcomes

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

K: explain 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 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.

Unit of study content

- Introduction to debridement: definition and indications
- Mechanical debridement

- Autolytic, enzymatic debridement (including honey)
- Larval therapy (maggot therapy)
- Technical solutions
- Sharp and surgical debridement
- Pain management (local/systemic analgesia) as part of the debridement procedure
- *Practical examples.*

Unit 12: Alternative or unconventional treatment options for wounds

Aim

This unit of study aims to increase the understanding of the potential and limitations of new or alternative treatment methods (in relation to the competencies), with special focus on technical equipment and advanced products. These treatments include emerging therapies and treatment options under development.

Learning outcomes

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

K: discuss the potential and limitations of new alternative treatments for wound management

K: evaluate novel/alternative interventions to manage an individual with a wound

P: apply indications for use of alternative/unconventional treatment options

P: use alternative treatment options in clinical practice where appropriate

P: facilitate the education of patients, carers and relatives about the use of alternative/

unconventional treatment options

A: recognise the limitations and benefits of alternative treatment options, also taking into consideration the legal and ethical aspects

A: be aware of the potential side-effects or adverse events that may occur with the use of alternative/unconventional treatment options.

Unit of study content

- Negative pressure wound therapy (NPWT)
- Laser therapy
- Hyperbaric oxygen therapy
- Topical oxygen therapy
- Ultrasound therapy
- Genetically modified wound healing factors
- Electrical stimulation
- Plasma therapy
- *Practical examples.*

Unit 13: Pressure ulcers

Aim

This unit of study aims to increase the understanding of the diagnosis, prevention and treatment of pressure ulcers (also called pressure injuries 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 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 pressure ulcer depending on the patient situation

K/P: categorise pressure ulcers according to the levels defined by the European Pressure Ulcer Advisory Panel (EPUAP/NPUAP/PIA) in theory and clinical practice

K: select the available therapeutic options for pressure ulcer 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: analyse the possible case-related causes of a pressure ulcer (decubitus)

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

P/A: assess the needs of patients with respect to pressure relief and pressure redistribution and movement

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 pressure ulcer to an individual, especially those of a high category

A: appreciate the effects of a pressure ulcer 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.

Unit of study content

- Epidemiology of pressure ulcers
- Pathophysiology of pressure ulcers

- Risk factors
- Prevention strategies for pressure ulcers
- Classification of pressure damage (NANDA/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)
 - Conservative therapy
 - Pressure relieving therapy
 - Surgery and necrectomy (e.g. debridement) aftercare
- *Practical examples.*

Unit 14: Diabetic foot syndrome

Aim

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

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 the differences between vascular and neurological manifestations

K/P: recognise 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 DFS

P: apply investigative and assessment methods and diagnostic measures and analyse the results of the investigation

P: select/evaluate appropriate tools for reducing pressure on the foot and apply them professionally in collaboration with physiotherapist/podiatrist

P: apply the principles of MDT management that takes into account the multifactorial nature of the treatment depending on 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: educate and train the patients to use a pressure minimising gait

A: recognise prevention of amputations as an important goal for treatment

A: be aware of 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: be aware of 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 DFS management.

A: be aware of the risks of sepsis and gangrene.

Unit of study content

- Epidemiology of DFS
 - Risk factors for ulceration or amputation
 - Prevention of complication
 - Pathways to ulceration
 - Pathways to amputation
 - Costs of DFS and amputation treatment including follow-up costs
- Pathophysiology
 - Neuropathy
 - Ischaemia
 - 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
- *Practical examples.*

Unit 15: Lower leg ulcers

Aim

This unit of study aims to increase the understanding of the common causes of leg ulceration including; diabetic, venous, and arterial (angiopathy) 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: differentiate between the signs and symptoms related to different clinical presentations of ulcers on the lower leg

K: understand and explain indications for use and range of available options for compression therapy

K: appraise the regulations concerning use of

compression systems, including supplementary materials

K: explain when to refer patients to specialist consultation/diagnosis

P/K: recognise different manifestations of venous ulcers and differentiate between their aetiologies

P: use appropriate classification systems to describe a wound/disease

P: apply 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: be aware of 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

- Local therapeutic options

- Role of drugs/medication in treatment

- Surgery

- *Practical examples.*

Unit 16: Skin tears

Aim

This unit of study aims to increase 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 identify and categorise/type skin tears to aid in consistent documentation.

Learning outcomes

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

K: define a skin tear

K: outline the epidemiology of skin tears and its impact on health service provision

K: relate the anatomy and function of the skin to how skin tears occur

K: discuss the relevant risk factors that predispose an individual to the development of skin tears

P: identify strategies to reduce the risk of skin tears (including role of patients, healthcare provider and setting)

P: develop and evaluate a skin tear prevention plan for an individual at risk of a skin tear

P: perform an assessment of an individual with a skin tear

P: document the assessment using a recognised skin tear classification system

P: select the appropriate topical treatments

(including appropriate product selection) for an individual with a skin tear

A: develop a responsible attitude towards questioning existing practices that may increase the risk of skin tears occurring

A: recognise the value of monitoring and evaluating treatment outcomes for individuals with a skin tear

A: accept the importance of skin tears as a risk factor for infection development

A: appreciate the psychosocial impact of skin tears on an individual and its impact on QoL.

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 setting
- 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
- 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 programs
- 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 individuals and caregivers
- Identification of patient-centered management objectives, care planning and evaluation of outcomes
- MDT working in skin tear management.

Unit 17: Palliative wound care

Aim

This unit of study aims to increase the knowledge 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:** define 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:** relate the communication to the difficult situations
- K:** discuss the importance of the psychosocial aspects of living with a palliative wound
- P:** identify strategies to reduce the burden of symptoms relating to palliative wounds
- P:** develop 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, socioeconomic status etc.)

- P:** apply adapted communication skills
- P:** support patients and relatives in finding and effectively using coping strategies
- P:** select the appropriate topical treatments (including appropriate product selection) for a patient with a palliative wound
- A:** accept the need for appropriate communication skills o 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 care
- 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 18: Health care delivery and health economics

Aim

This unit of study aims to increase the ability to explore the legal, financial, and ethical issues related to providing a wound care service, examine the principles of evidence-based practice (EBP), and understand the organisational needs for treating individuals with wounds, including the fundamentals of cost-effective care.

Learning outcomes

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

- K:** understand the resources required to deliver an effective wound care service
- K:** recognise the importance of health economics and providing cost-effective care
- K:** identify current legislation governing the provision of wound care
- K:** discuss the importance of reimbursement and its impact on the quality of care
- K:** understand and explain the role of nurses in clinical trials
- K:** explore the role of the wound care industry and the potential for collaboration between health care providers and manufacturers
- K:** explore the ethical issues surrounding the management of individuals with wounds
- K/P:** identify legal requirements for specific cases
- A:** appreciate the process of using different types of dressing in an appropriate way to save costs.

Unit of study content

- Health economics, cost-effectiveness and budgeting
- Laws governing the provision of healthcare
- Reimbursement and regulation of healthcare
- The role of the wound care industry

- Ethics
- Wound management guidelines, standards, and algorithms (local, national, and international)
- Quality improvement strategies
- Principles of research / clinical trial management
- *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:** explain 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:** advocate the need for 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:** accept and review the documentation as an important administrative task

A: recognise and understand documentation such as 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.*

References and notes

- 1 NANDA International. Defining the knowledge of nursing. www.nanda.org (accessed 28 January 2019)
- 2 Orem DE. Nursing: concepts of practice (6th ed.). Mosby-Year Book Inc, 2001
- 3 WHO Noncommunicable Diseases <https://tinyurl.com/jaztskp> (accessed 28 January 2018)
- 4 Nanda International. Nursing Diagnoses. Definitions and Classification, 2018-2020. Thime, 2017 <http://www.nanda.org/nanda-i-publications/nanda-international-nursing-diagnoses-definitions-and-classification-2018-2020/> (accessed 28 January 2019)
- 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://tinyurl.com/y7zlywrlf> (accessed 28 January 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 28 January 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:

Unit	Expected workload* per unit of study (hours)			
	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)	50 hours=
UNIT 2: Evidence-based nursing/evidence-based Practice	8	4	Practical work in special wound clinics/centres or by guiding wound patients (i.e. home care agencies providing wound care) 50 hours	
UNIT 3: Patient education and promoting self-care	12	6		
UNIT 4: Case management (patient centred care)	8	4		
UNIT 5: Wounds and wound healing	6	3		
UNIT 6: Nutrition and wound healing	4	2		
UNIT 7: Moist wound healing	4	2		
UNIT 8: Microbiology and wounds	4	2		
UNIT 9: Antimicrobial agents, hygiene and wounds	4	2		
UNIT 10: Acute wounds	6	4		
UNIT 11: Debridement and wounds	4	2		
UNIT 12: Alternative treatment options for wounds	6	3		
UNIT 13: Pressure ulcers	10	5		
UNIT 14: Diabetic foot syndrome	8	4		
UNIT 15: Lower leg ulcers	10	5		
UNIT 16: Skin tears	4	2		
UNIT 17: Palliative wound care	6	3		
UNIT 18: Healthcare delivery and health economics	4	2		
UNIT 19: Documentation	4	2		
TOTAL	116	59	50	50

Table content specifications

* 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.

** A student is expected to work in a wound management unit or similar service for a minimum of three months to gain the relevant level of experience.

*** Wound management unit/institution—this should be a recognised healthcare facility that is responsible for managing patients with wounds. This may include healthcare services in primary and secondary care.

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

5. Suggested literature

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. (2nd edn) American Diabetes Association; 2010
Bowker JH, Pfeifer MA, Levin, O'Neal's. The diabetic foot (7th edn). Mosby Elsevier; 2008
Bryant R, Nix D. Acute and chronic wounds: current management concepts. (5th edn) Elsevier; 2016
Percival S, Cutting K. Microbiology of wounds. CRC Press, Taylor Francis Group; 2011
Nanda International. Nursing Diagnoses. Definitions and Classification, 2018-2020. Thime; 2017
Flanagan M. Wound healing and skin integrity: principles and practice. Wiley-Blackwell; 2013
Kifer ZA. Fast fact for wound care nursing. Springer Publishing Company; 2012
Krasner D. Chronic wound care: the essentials. HMP Communications; 2014
Phillips CJ. Health economics: an introduction for health professionals. BMJ Books, Blackwell; 2005
Veves A et al. The diabetic foot: medical and surgical management. 3rd Edition. Humana Press; 2012
Wilkinson J. Nursing, process—a critical thinking approach. Addison-Wesley Nursing; 1996

Reviews

Broughton G, Janis JE, Attinger CE. Wound healing: an overview. Plast Reconstr Surg 2006; 117: 1e-S–32e-S. <https://doi.org/10.1097/01.prs.0000222562.60260.f9>
Venus M, Waterman J, McNab I. Basic physiology of the skin. Surgery 2011; 29(10):469–472. <https://doi.org/10.1016/j.jmps.2010.07.011>

Online resources

Agency for Healthcare Research and Quality. Guidelines and Measures <https://tinyurl.com/ycsh3tx8> (accessed 29 January 2019)
Australian Wound Management Association Guidelines. <https://tinyurl.com/y9chkoon> (accessed 29 January 2019)
Cochrane Library. <https://www.cochranelibrary.com/>
EWMA. <http://ewma.org/resources/for-professionals/ewma-documents-and-joint-publications/>
EWMA e-learning Course in Basic Wound Management. <http://ewma.org/what-we-do/education/ewma-e-learning/>
European Pressure Ulcer Advisory Panel. <http://www.epuap.org/pu-guidelines/>
International Skin Tear Advisory Panel. <https://tinyurl.com/y8czs9wm> (accessed 29 January 2019)
National Institute of Health and Care Excellence. Pressure ulcers: prevention and management. 2014 <http://www.nice.org.uk/guidance/cg179> (accessed 29 January 2019)

National Pressure Ulcer Advisory Panel. <http://www.npuap.org/> (accessed 29 January 2019)
Scottish Intercollegiate Guideline Network. <https://www.sign.ac.uk/our-guidelines.html>
Welsh Wound Network. <https://tinyurl.com/yay7564w> (accessed 29 January 2019)
World Union Wound Healing Societies Consensus Guidelines. <https://tinyurl.com/ycy9zzgn> (accessed 29 January 2019)
Wounds International Clinical Guidelines. <https://tinyurl.com/yb2mcpwp> (accessed 29 January 2019)
Wounds UK Best Practice Statements. <https://tinyurl.com/jexrqhm> (accessed 29 January 2019)
European Commission: learning opportunities and qualifications in Europe. Information about courses, work-based learning and qualification. <https://tinyurl.com/ychze6xu> (accessed 29 January 2019)
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
ECTS users guide. 2015 <https://tinyurl.com/y7xe5z7e> (accessed 29 January 2019)
National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Quick reference guide. Haesler E (ed). Cambridge Media; 2014

EWMA documents

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>
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>
Price P, Gottrup F, Abel M. EWMA 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.Sup5.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>
Gottrup F, Apelqvist J, Bjansholt T et al. EWMA document: antimicrobials and non-healing wounds—evidence, controversies and suggestions. J Wound Care 2013; 22(5 Suppl): S1–S92. <https://doi.org/10.12968/jowc.2013.22.Sup5.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>
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>
European Wound Management Association (EWMA). Position Document: Management of wound infection. London: MEP Ltd, 2006
European Wound Management Association (EWMA). Position Document: Identifying criteria for wound infection. London: MEP Ltd, 2005
European Wound Management Association (EWMA). Position Document: Wound Bed Preparation in Practice. London: MEP Ltd, 2004.

6. 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, i.e. arteries, veins and lymphatic vases 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 (e.g. pressure ulcers, 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 (EBP):

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 pressure ulcers, 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 therapy:

Also called bio-knife, this is a type of biotherapy involving the introduction of live, disinfected maggots (fly larvae, *Lucilia serricata*) 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 Ulcer Advisory Panel (NPUAP):

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/non-healing 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 NPUAP) 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/non-healing wound; e.g. a pressure ulcer, 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/non-healing/hard-to-heal 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 hard-to-heal 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/hard-to-heal wounds include:

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