



**EWMA Education Committee**

Module descriptor:  
Management of  
Traumatic Wounds



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Latest revision: October 2015



## **ABOUT THE EWMA EDUCATIONAL DEVELOPMENT PROGRAMME**

The Programme is designed to assist students and healthcare professionals who work with patients with wounds and related skin conditions and wish to develop and/or increase their knowledge and skills to meet patient needs.

Overall, the Programme aims to:

- Provide students and healthcare professionals with the knowledge and skills to equip them to perform their role in the delivery of optimal wound care.
- Provide contemporary, interdisciplinary, product/brand neutral wound management education that is endorsed by EWMA.
- Provide quality standards against which other organisations can evaluate existing wound management programmes.
- Achieve European acceptance by developing an educational framework that is in line with European Commission educational initiatives in order to disseminate best practice in wound care.

## **ABOUT THE CURRICULUM DEVELOPMENT PROJECT**

The Curriculum Development Project is at the heart of the Educational Development Programme. The aim of the Project is to develop a flexible curriculum, consisting of a number of modules.

All modules are based on a standard template but individually focused on a specific aspect of wound management. Each module is developed by a small group consisting of members of the EWMA Education Committee and/or affiliated wound care key specialists. For an updated list of the currently available modules please visit the education sub page at [www.ewma.org](http://www.ewma.org).

## **ABOUT THIS MODULE**

The Management of Traumatic Wounds module aims to:

- Broaden participant's knowledge and understanding management of traumatic wounds.
- Evaluate strategies to promote effective inter-professional collaborative working for patients with traumatic wounds.
- Participants will be able to gain insight into the theory and evidence available of traumatic wounds to manage them promptly. Participants will systematically treat traumatic wounds in line with evidence-based guidelines/ pathways.
- Participants will be able to audit traumatic injuries to ensure education and resources are targeted effectively



## MODULE CONTENT

### 1. Elaborating Body

European Wound Management Association (EWMA)

### 2. Date of production of module

April 2004

### 3. Latest review date

October 2015

### 4. Module intended learning outcomes

This module provides opportunities for health professionals and students to develop and demonstrate knowledge and understanding, skills and other attributes in the following areas:

#### **A. Intellectual Skills – Knowledge and Understanding**

Participants will have knowledge of the:

1. The mechanisms of injury (bleeding, shock, pathophysiology of acute wound repair)
2. Prevalence and incidence of acute traumatic wounds.
3. General assessment of the patient with acute traumatic wounds
3. Aetiology of the wound: mechanism of formation (stab, shot, contusion, laceration,..), energy impact (low/high), contamination, chemical influence
4. Assessment of the acute wound including: control of bleeding, anatomical location, size, , inspection, palpation, examination, (neuro)vascular assessment, and neurovascular examination, range of movement.
5. Treatment of the acute wound including: bleeding control, pain control, cleansing, debridement, possibilities and methods of closure, closure materials, dressings, use of antibiotics and tetanus prophylaxis.
6. Psychosocial impact wounding has on the individual and society (scar formation, chronic pain, working capacity, disability)
7. Organisation of accident and emergency and other services available for the assessment and management of patients with acute traumatic injuries.
8. Medico-legal issues relating to acute traumatic injury. (GCP, informed consent, etc.)
9. Health economics related to traumatic wounds.

#### **B. Practical Skills – Skills and Attributes:**

Participants will be able to:

1. Appropriately assess a patient with an acute, traumatic wound.
2. Appropriately assess the traumatic wound.



3. Differentiate a simple acute traumatic wound from a complicated acute, traumatic wound and wounds with hidden hazards
4. Make effective treatment decisions, initiate further investigations and know when and where to refer to specialist services, for example plastics team.
5. Monitor and evaluate treatment outcomes.
6. Identify the psychosocial impact that wounding has on the individual and society.
7. Navigate the organization of accident and emergency and other services available for the assessment and management of patients with acute, traumatic injuries.

## 5. Teaching/learning methods & strategies

Acquisition of 4.A & 4.B (see above) is through a combination of lectures, small group workshops and learning in practice throughout the module. There is also the possibility of using e-learning in combination with traditional learning methods. Throughout, the student is encouraged to undertake independent study both to supplement and consolidate individual knowledge and understanding of the subject.

## 6. Assessment methods

Assessment methods will need to vary for each professional group. Understanding will be assessed in a variety of ways i.e. open discussion, formal written exercises, case studies, practice work-books. Throughout, the learner is expected to consolidate the development of practical skills / management skills in the clinical setting.

## 7. Unit content

Intellectual skills

### **A. Overview / epidemiology**

Incidence and prevalence data of aetiology of the wound, like for example cuts, abrasions, lacerations, bites, stab wounds, degloving injuries, crush injuries, non-accidental injuries, gunshot wounds,

Definition of traumatic wounds

National/International guidelines and targets

Health needs assessment

### **B. Anatomy**

The structure and function of the:

- Skin
- Muscular/skeletal system/internal organs
- Neurological system
- Vascular (micro-macro) system



### **C. Pathophysiology**

The mechanisms of injury, time relations and physiological response to shock  
Bleeding control, the physiology of acute wound healing, haemostasis and psychosocial

### **D. Principles of patient care**

Preliminary injury assessment – physical (time, force of injury), psychological, social,  
Identification of patient centred management objectives

Emergency interventions

Care planning and triage

Pain management

Universal precautions

Use of evidence-based practice/clinical guidelines

Evaluation of outcomes

Documentation

Referral criteria

Multidisciplinary team working, example physiohandtherapists, lymphotherapists

Medico- legal/professional issues

### **E. Assessment**

Initial patient assessment process (basic life support BLS, advanced trauma life support ATLS)

acute wound assessment process – time / type / force/ extent of injury, investigations

### **F. Traumatic wound management**

Pain management to ensure effective assessment and evaluation of outcomes including the use of analgesia and acute pain services

Assessment of wound bed by using a systematic framework for wound analysis, e.g. TIME (depths, structures involved, contact to body cavities), surrounding skin

Principles of wound cleansing, Selection of cleansing agents

Debridement and wound bed preparation including surgical debridement,

Method of wound closure (primary, delayed)

Wound closure materials

Dressing selection including product availability relative to local circumstances and different healthcare settings

Advanced wound care products/techniques/devices (Use of oxygen therapy (hyperbaric and other oxygen therapies)



Care of the periwound tissue

The use of guidelines and evidence-based practice to treat traumatic wounds

Management strategies for acute traumatic wounds including the use of wound management products and adjunct therapies

Maintenance of normovolemia (fluid replacement)

### **G. Management of infection**

The risk of infection in traumatic wounds and strategies for prevention.

Assessment /presentation –systemic and local clinical signs/symptoms, sub-clinical infection

Superficial infections, cellulitis, deep infection and sepsis

Surgical drainage

Negative Pressure Wound Therapy (NPWT)

Methods of identifying infecting agents - culture and swab techniques, biopsy

Radiological and other investigations – Isotope scans, Magnetic Resonance Scans

Use of topical antiseptics - indications, type and duration of treatment

Adjunct therapies: their relevance and practical application

### **H. Systemic and local pharmacological management**

Tetanus prophylaxis

Use of analgesia and anaesthetic agents

Use of steroids

Use of antibiotics

Use of thrombolytic therapy

### **I. Rehabilitation services**

Acute and remote trauma team management

Inter-disciplinary, multi-professional approach to emergency services

Patient follow-up services

### **J. Psychosocial aspects of care**

Impact acute wounds on individual & society

Factors affecting compliance with treatment

Munchhausen syndrome, self-harm or other type of harming

Education

K. Person-centered care, e.g., prevention, alcohol, substance abuse



## Documentation

Methods of documentation, wound databases, wound/patient assessment tools, care planning

### **K. Health economic aspects associated with traumatic wounds**

## **8. Unit specific learning resources**

### **Books/Book chapters**

Leaper DJ, Gottrup F. (1998); Surgical wounds. In: Leaper DJ, Harding KG (eds.). Wounds: Biology and management. Oxford: Oxford University Press. 23-40.

Singer AJ, Clark RAF. (1999). Cutaneous wound healing. *N Engl J Med*, 738-746.

Stephen-Haynes J, Downing P.I. (2003). The development and implementation of an acute traumatic wound guideline. *British Journal of Community Nursing*, Vol. 8, Iss. 3, Suppl., pp 8 – 16.

Section 4 (2004). Surgical intervention in wounds. In Teot L, Banwell PE, Ziegler UE (eds.) *Surgery in wounds*. Springer-Verlag, Berlin. pp. 131-216.

Gottrup, F. (2007) Wound Debridement. In: Shukla VK, Mani R, Teot L, Pradhan S, eds. *Management of wound healing*. Jaypee, New Delhi, pp. 107-119.

Gottrup, F., Jensen, SS, Andreasen JO. (2007); Wound Healing subsequent to Injury. In: *Textbook and Colour Atlas of Traumatic Injuries to the Teeth*. (Andreasen JO, Andreasen FM, Andersson L. eds. Blackwell, Oxford, pp.1-61.

Gottrup F. (2008) Wound healing and principles of wound closure. In: Kuokkanen H, Holmström H, Åbyholm FE, Drzewiecki KT (eds). *Scandinavian Plastic Surgery, Studentlitteratur, Lund*. Page 31-58.

Li J., Chen J., Kirsner, R. (2007) Pathophysiology of acute wound healing. *Clinics in Dermatology*. Volume 25, Issue 1, Pages 9–18.

Lee K. L., Hansen S. L. (2009) Management of Acute Wounds. *Surgical Clinics of North America*. Volume 89, Issue 3, June 2009, Pages 659–676

Bovill, E., Banwell, P. E., Teot, L., Eriksson, E., Song, C., Mahoney, J., Gustafsson, R., Horch, R., Deva, A. and Whitworth, I. (2008), Topical negative pressure wound therapy: a review of its role and guidelines for its use in the management of acute wounds. *International Wound Journal*, 5: 511–529. doi: 10.1111/j.1742-481X.2008.00437.x

Bret A., Nicks, Ayello A. E, Woo K., Nitzki-George D., Sibbald, R. G. (2010) Acute wound management: re-visiting the approach to assessment, irrigation, and closure considerations. *Int J Emerg Med*. 2010 Dec; 3(4): 399–407.



Greaves NS, Ashcroft KJ, Baguneid M, Bayat A. (2013) Current understanding of molecular and cellular mechanisms in fibroplasia and angiogenesis during acute wound healing. *J Dermatol Sci.* 2013;72: 206–217. doi: 10.1016/j.jdermsci.2013.07.008. pmid:23958517

Demidova-Rice T. N., Hamblin M. R., Herman I. M. (2012) Acute and Impaired Wound Healing: Pathophysiology and Current Methods for Drug Delivery, Part 1: Normal and Chronic Wounds: Biology, Causes, and Approaches to Care. *Adv Skin Wound Care.* 2012 Jul; 25(7): 304–314.

Demidova-Rice T. N., Hamblin M. R., Herman I. M. (2012) Acute and impaired wound healing: pathophysiology and current methods for drug delivery, part 2: role of growth factors in normal and pathological wound healing: therapeutic potential and methods of delivery. *Adv Skin Wound Care.* 2012 Aug;25(8):349-70.

European Resuscitation Council Guidelines for Resuscitation (2015) Section 2: Adult basic life support and automated external defibrillation

European Resuscitation Council Guidelines for Resuscitation (2015) Section 3: Adult advanced life support

NICE Guideline (2016) Major trauma: assessment and management of airway, breathing and ventilation, circulation, haemorrhage and temperature control