



EWMA Educational Development Programme

Curriculum Development Project

Education Module:

Management of Traumatic Wounds

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 in order 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.

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.



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. Pathophysiology of acute wound repair, shock, bleeding and the mechanisms of injury.
2. Prevalence and incidence of acute traumatic wounds.
3. General assessment of the patient with acute traumatic wounds including: aetiology, time since injury and circumstances, e.g. clean vs. dirty.
4. Assessment of the acute wound including: anatomical location, size, control of bleeding, inspection, palpation, examination, (neuro)vascular assessment, and neurovascular examination, range of movement.
5. Treatment of the acute wound including: cleansing, debridement, methods of closure, closure materials, use of antibiotics and tetanus prophylaxis.
6. Psychosocial impact wounding has on the individual and society.
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.
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. Differentiate a simple acute traumatic wound from a complicated acute, traumatic wound.



3. Make effective treatment decisions, initiate further investigations and know when and where to refer to specialist services.
4. Monitor and evaluate treatment outcomes.
5. Identify the psychosocial impact that wounding has on the individual and society.
6. Evaluate the provision 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 learner is encouraged to undertake independent study both to supplement and consolidate what is being taught and to broaden 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

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,

National/International guidelines and targets

Health needs assessment

Health economic aspects associated with traumatic wounds

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

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

Interdisciplinary team working

Medico- legal/professional issues

E. Assessment

Initial patient assessment process (basic life support)

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

F. Traumatic wound management

Continuing assessment of patient and wound and assessment of the injured part of the body

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

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

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

Principles of wound cleansing

Selection of cleansing agents

Debridement and wound bed preparation including surgical debridement, dressings promoting autolytic 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

Care of the periwound tissue

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

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

Use of oxygen therapy (hyperbaric and other oxygen therapies)

Maintenance of normovolemia (fluid replacement)

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



Munchausen syndrome, self harm or other type of harming

Effective patient education strategies e.g. prevention, alcohol, substance abuse

8. Unit specific learning resources

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: revisiting 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