



EWMA Education Committee

Module descriptor:
Assessment and Management of
the Diabetic Foot



Latest review: March 2017



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 Assessment & Management of the Diabetic Foot module aims to:

- Broaden participants' knowledge and understanding of the prevention, assessment and management of diabetic foot complications.
- Evaluate strategies to promote effective inter-professional collaborative working for patients with diabetic foot complications.



MODULE CONTENT

1. Elaborating Body

European Wound Management Association (EWMA)

2. Date of production of module

January 2003

3. Latest review date

March 2017

4. Module intended learning outcomes

This module provides opportunities for health professionals 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 the diabetic foot.
2. Assessment and diagnosis of the “at risk foot”, including prevention
3. Importance of diabetes management and cardiovascular risk factor modification on the diabetic foot.
4. Management strategies for diabetic foot ulceration including: wound bed preparation; dressing choice; pain management; skin care; off loading; footwear provision & preventative interventions.
5. Evidence based treatments available for the management of diabetic foot complications.
6. Organisation of diabetic foot services and interdisciplinary team working.

B. Practical Skills – Skills and Attributes:

Participants will be able to:

1. Differentiate between ischemia and neuropathy in the diabetic foot.
2. Identify characteristics of the “at risk foot”.
3. Identify and manage clinical signs of infection in the diabetic foot.
4. Make effective treatment decisions, initiate further investigations and know when to refer to specialist services.



5. Identify the psychological impact that the diabetic foot has on the individual and society.

6. Evaluate the provision of local diabetic foot services, including multi-disciplinary services.

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 for diabetes and diabetic foot complications

National/International guidelines

Health needs assessment

Economic costs

B. Anatomy of foot and lower limb

Skeletal - foot architecture/ function in health and disease, e.g. Charcot foot

Neurological - neuroanatomy of the lower limb, nerve fibre types

Vascular - macro-circulation, micro-circulation

Skin and associated structures

C. Pathophysiology

Neurological – pathological changes

Vascular – macro-circulation, micro-circulation



Foot architecture/ function in health and disease, e.g. Charcot foot

Biomechanics of the foot – pressure profiling, foot shape, gait/walking pattern, off-loading and footwear

D. Principles of patient care

Assessment – physical, psychological, social

Identification of patient-centred management objectives

Care planning

Evaluation of outcomes

Use of evidence based practice/clinical guidelines

Referral criteria for diagnostics and treatment process based on local/national policy/guidelines

Inter- and multi-disciplinary team working

E. Assessment of the “at risk foot”

General assessment process – (e.g. Wagner classification, University of Texas Wound Classification system, PEDIS¹, IDSA² and other communication aids for the diabetic foot)

Differential diagnosis and inter-relationship of ischemia and neuropathy

Neurological testing - use of objective measuring tools, monofilaments and the biothesiometer, vibration perception, tactile sensation, temperature testing and reflexes

Vascular assessment – palpation of pulses, use of the hand-held Doppler, ABPI and toe pressures and (trans cutaneous oxygen pressure (TcPO₂) Assessing arthropathy - deformities, bony prominences and joint mobility

Investigations – probe to bone, plain radiographs, Magnetic Resonance scans and isotope bone scans

Assessing skin and callus including nails, presence of dryness, cracking and inter-digital maceration

Assessment of footwear and hosiery

F. Risk factor management

Diabetic control

Assessment of renal function

¹ Diabetic foot ulcer classification system for research purposes

² The Infectious Diseases Society of America (IDSA)



Nutritional assessment/management

Management of oedema - prevention and symptomatic control

Neuropathy management - prevention and symptomatic control

Vascular management – smoking, lipids, hypertension

Skin & callus management - prevention of skin cracking and callus formation

Patient education – hygiene, inspection, temperature and trauma avoidance

G. Wound management for diabetic foot ulcers

Management strategies for diabetic foot ulcers including the use of wound management products and adjunct therapies

The use of guidelines and evidence-based practice to treat diabetic foot ulcers

Assessment of wound bed, surrounding skin and associated structures

Principles and selection of cleansing and debriding agents

Debridement and wound bed preparation including surgical debridement, dressings promoting autolytic debridement, use of bio surgery and topical negative pressure therapy Dressing selection including product availability relative to local circumstances and different healthcare settings

Management of odour/exudates

Advanced wound care products/techniques, e.g. hyperbaric oxygen therapy (HBOT) and Stem Cell Therapy

Pain management - importance of pain control even in presence of neuropathy

Care of the surrounding skin - protection and prevention of maceration.

Off loading with open wounds - available methods including total contact cast (TCC) and Aircast Footwear - appropriateness, foot shape and fitting.

H. Management of infection

Assessment / presentation – e.g. clinical signs/symptoms, silent infection, IDSA/PEDIS guidelines

Superficial infections, cellulitis and presence of fungal nail infection

Deep infections - surgical drainage

Methods of identify infecting organisms - culture and swab techniques, biopsy

Radiological and other investigations, e.g. Plain X-ray, Magnetic Resonance Scans (MRS) and Isotope scans

Systemic antibiotic therapy - indications, type and duration of treatment



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

Adjunct therapies and their relevance and practical application, e.g. larva therapy

Surgery - indications

I. Specialist Interventions

Vascular investigations and management

Corrective orthopaedic surgery

Plastic and reconstructive surgery

Amputation

Rehabilitation services

Multidisciplinary team management

J. Systematic and local pharmacological management

Use of:

- ACE inhibitors, antiplatelet agents, statins

- Analgesia

- Antibiotics/antimicrobials

- Emollients and barrier creams.

K. Foot care services

Structure and management of foot care services

Integrated hospital and community care

Database and recall systems

Multi-disciplinary, multi-professional approach

Follow-up stratified policy according to risk

Patient and/or carer involvement in care

L. Psychosocial aspects of care

Impact of diabetic foot on individual & society

Factors affecting adherence to treatment

Effective patient education strategies - smoking, diet, lipids, hypertension, foot care, footwear



Quality of life issues, including depression

8. Unit specific learning resources

Books/Book chapters

Edmonds M and Foster A (2012) *Managing the Diabetic Foot: 3rd Edition*. Publisher Wiley-Blackwell (an imprint of John Wiley & Sons Ltd) ISBN 9780470655054

Boulton etl; *The Diabetic Foot*

Journals

Diabetes

Diabetic Medicine

Diabetes Care

Diabetologia

Diabetes Metabolism: Research and Reviews

International Journal of Lower Extremity Wounds (Sage Scientific Publications)

The Foot in Diabetes

The Diabetic foot

EWMA Documents

- 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
- Moore, Z., Butcher, G., Corbett, L. Q., et al. AAWC, AWMA, EWMA Position Paper: Managing Wounds as a Team. *J Wound Care* 2014; 23 (5 Suppl.): S1–S38
- Strohal, R., Apelqvist, J., Dissemond, J. et al. EWMA Document: Debridement., *J Wound Care*. 2013; 22 (Suppl. 1): S1–S52.

Web links

IWGDF Guidance on the management and prevention of foot problems in diabetes 2015,
[http://iwgdf.org/guidelines/NICE guidelines](http://iwgdf.org/guidelines/NICE_guidelines) (National Institute for Health and Care Guidelines,
<https://www.nice.org.uk/guidance>



<http://www.diabetic-foot-consensus.com/>

<http://www.diabeticfoot.org.uk/>

<http://www.show.scot.nhs.uk/sign/guidelines/fulltext/55/section7.html>

<http://www.nlm.nih.gov/medlineplus/tutorials/diabetesfootcare/db029101.html>

<http://www.nursing-standard.co.uk/archives/vol14-12/cpd.pdf>

<http://www2.york.ac.uk/inst/crd/ehc54warn.htm>

9. EWMA specific regulations

In order to achieve EWMA accreditation/certification the following conditions must be satisfied and the following provided:

- Suitable teaching venue i.e. educational institution, hospital, clinic;
- Adequate learning resources i.e. audio-visual aids;
- Delivery pattern suitable to target audience i.e. day release, evening, study blocks;
- A module/course leader who is responsible for overall management/ organisation;
- Appropriate administrative support;
- All presenters must have appropriate expertise to deliver content pertinent to the specialist area;
- Educational content must present a balanced overview of all aspects of treatment modalities;
- Educational content and materials must be product/brand neutral;
- Educational content must be separated from any promotional activity;
- A register of attendance must be maintained by the local host;
- Participants will only be eligible for a certificate of attendance if they have attended the entire taught component and have completed an evaluation form.