



EWMA Educational Development Programme

Curriculum Development Project

Education Module:

Assessment and management of lymphoedema

First version: May 2018

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 Lymphoedema module aims to:

- Broaden participant's knowledge and understanding of the assessment and management of lymphoedema and associated diseases
- Evaluate strategies to promote effective inter-professional collaborative working for patients with lymphoedema

MODULE CONTENT

1. Elaborating Body

European Wound Management Association (EWMA)

2. Date of production of module

October 2012, revised May 2018

3. Latest review date

May 2018

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 and understanding of the:

1. Epidemiology of chronic lymphoedema.
2. Anatomy of the lymphatic system – lymphatic vessels and lymphatic organs.
3. Physiological function of the lymphatic system.
4. Pathophysiology of lymphoedema development.
5. Classification of peripheral lymphoedema.
6. Assessment of patients' condition, diagnosis and differential diagnosis.
7. Evidence based systemic and local lymphoedema management.
8. Structure and organisation of rehabilitation services.
9. Psychosocial impact of lymphoedema on the individual, their carers and the society.

B. Practical Skills – Skills and Attributes:

Participants will be able to:

1. Identify patients at lymphoedema risk.
2. Assess lymphoedema staging
3. Appropriately assess and document clinical signs of lymphoedema and measurements of oedematous extremities.
4. Identify and manage clinical signs of infection in lymphoedema patient.
5. Deduct effective treatment decisions, initiate further investigations and know when to refer to specialist services.

6. Understand the role of compression therapy, manual lymphatic drainage, exercise, skin care and surgery in the treatment of patients with lymphoedema.
7. Monitor and evaluate treatment outcomes.
8. Be able to take into account the quality of life of the patient and the patient's family
9. Patient education in self-management

5. Teaching/learning methods & strategies

Acquisition of 4A&B 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 workbooks. 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 lymphoedema

The difference between primary and secondary lymphoedema

National/international guidelines and targets related to lymphoedema care

Impact on health outcomes and costs related to lymphoedema care and treatment

B. Anatomy / morphology

Anatomy of the lymphatic system (lymphatic organs and vessels)

Normal lymphatic circulation and its function

The role of lymphatic system in the immune surveillance function

The role of skin and associated structures in the lymphatic system

C. Pathophysiology

Changes in the activity of the lymphatic system

Accumulation of tissue fluid, large molecules and blood cells in the interstitial space

Immunological changes

The role of infection in lymphoedema development (filariasis, erysipelas, cellulitis)

The role of radiation and lymphadenectomy in the development of lymphoedema

D. Classification of peripheral lymphoedema

Recognition of factors leading to primary (genetic) or secondary lymphoedema (recurrent infections, filariasis, surgery, obesity, radiation)

Recognition of disorders also attributing to fluid/high molecule accumulation (venous insufficiency, lipoedema, cardiac decompensation, hyper/hypo-thyreoidosis, diabetic angiopathy, immobilisation, vasculitis, renal insufficiency, AV malformations, etc.)

E. Assessment

Patient history, especially the history of swelling (family and individual)

Limb assessment (measurement of circumferences, pitting and non-pitting, Stemmer sign)

Assessment of skin changes (papillomatosis, hyperkeratosis, ulceration, maceration, eczema, elephantiasis nostras verrucosa)

Nutritional status assessment (including the Body Mass Index)

Assessment of infections (erysipelas, cellulitis, tinea infection)

Assessment of arterial circulation

Imaging studies in order to differentiate lymphoedema from other forms of thick limb

Clinical staging of lymphoedema (0, 1, 2, 3)

Laboratory tests: full blood cell count, liver function, urine analysis, albumin, urea, creatinine and C-reactive protein. Blood smear test for filarial if travel history to endemic areas

Skin biopsy if needed (to exclude malignancy)

General assessment of the patient including their general condition, pain/discomfort and Quality of Life (QoL)

F. Lymphoedema management

Identification of the patient at risk (e.g. obesity, immobility, family history, cancer therapy, recurrent limb infections)

Combined decongestive therapy:

- compression therapy: multilayer low-stretch bandages, inelastic bandaging, compression garments, intermittent pneumatic compression
- manual lymphatic drainage
- exercise regimen: aerobic, strength and flexibility related to patient's condition
- skin care and preventative strategies

Weight control and diet

Adequate patient and family education in order to achieve concordance

Evaluation of treatment outcomes

Appropriate referral to lymphoedema specialists

Surgery (debulking and reconstructive approaches)

Management of complications: lymphorrhoea, eczema, ulcers, bacterial and mycotic infections (erysipelas, cellulites, necrotizing fasciitis, tinea pedis)

Contraindications of complex decongestive physiotherapy: acute inflammation, active infection, systemic malignancy, acute deep vein thrombosis, uncompensated congestive heart failure, uncontrolled hypertension

Documentation of patient response to therapy (recommendation every 3 to 6 months)

G. Systemic and local pharmacological management

Antibiotic therapy for infections - indications, type and duration of systemic treatment

Treatment of comorbidities (e.g. hypertension, type II diabetes, cardiac failure, obesity, renal insufficiency, metastatic cancer, AV fistulas/malformations)

Skin care (moisturizers, keratolytics, antifungal creams, corticosteroid creams)

Weight reducing diet

Antiparasitic treatment of filariasis

Pain management

H. Rehabilitation services

The multidisciplinary and multi-professional approach

Provision of lymphoedema services with lymphoedema specialists

Patient follow-up services (for example lymphoedema camps for children)

I. Psychosocial aspects of care

Effective patient and family education including skin care, compression therapy, exercise, weight control, signs warranting medical consultation and coping strategies

Psychosocial support for individuals and their carers

Difficulties in adherence to treatment (how to engage patients in the process of self-management)

J. Practical skills - assessment

General assessment e.g. definition of early clinical signs of lymphoedema (across the life span)

Identifying the patients at risk: knowledge of the causes of lymphoedema and associated risk factors

Early detection of lymphoedema by excluding other causes of swelling

Testing for pitting and non-pitting and Stemmer sign

Measurement of circumferences and volume of oedematous extremities

Documentation and establishing treatment goals

Staging of lymphoedema

Recognising skin changes and early signs of complications e.g. papillomatosis, lymphorrhoea, hyperkeratosis, lymphangiectasis, ulceration, skin maceration, erysipelas, cellulitis, stasis dermatitis, fungal infections

Nutritional assessment

Evaluation of pain and Quality of life (usage of validated questionnaires)

K. Practical skills - management

Weight control and exercise education

Skin care:

- maintenance of skin integrity (dry skin, skin folds)
- careful management of skin problems/complications
- recognizing skin infections and knowledge how to treat them

Ability to perform compression therapy (Or knowledge about who to refer to)

Education of patients to practice simple lymphatic massage, compression bandaging

8. Unit specific learning resources

Papers/reviews:

1. Chang CJ, Cormier JN. Lymphedema interventions: exercise, surgery, and compression devices. *Semin Oncol Nurs* 2013;29:28-40.
2. Cormier JN, Askew RL, Mungovan KS et al. Lymphedema beyond breast cancer: a systematic review and meta-analysis of cancer-related secondary lymphedema. *Cancer* 2010; 116:5138-5149.
3. Ezzo J, Manheimer E, McNeely M et al. Manual lymphatic drainage for lymphedema following breast cancer treatment. *Cochrane Database Syst Rev*. 2015;(5):CD003475.

4. Garfein ES, Borud LJ, Warren AG, Slavin SA. Learning from a lymphedema clinic: an algorithm for the management of localized swelling. *Plast Reconstr Surg* 2008;121:521-528.
5. Gillespie SH. Basic lymphedema management: treatment and prevention of problems associated with lymphatic filariasis. *Int J Infect Dis* 2004;5:321.
6. Grada AA and Phillips TJ: Lymphedema. Pathophysiology and clinical manifestations. *J Am Acad Dermatol* 2017; 77:1009-20.
7. Grada AA and Phillips TJ: Lymphedema. Diagnostic workup and management. *J Am Acad Dermatol* 2017; 77: 995-1006.
8. Moffatt CJ, Franks PJ, Doherty CJ et al: Lymphoedema: an underestimated health problem. *QJM*. 2003;96:731-738.
9. Morgan PA, Franks PJ, Moffatt CJ. Health-related quality of life with lymphoedema: a review of the literature. *Int Wound J* 2005;2:47-62.
10. Mortimer P.: Differential diagnosis of chronic swelling of the limb. In: *Diseases of the lymphatics*. Edit.: Browse N, Burnand KG, Mortimer PS. Arnold, 2003, pp: 157-166

Consensus documents and guidelines:

1. International Lymphoedema Framework, various publications, <https://www.lympho.org/publications/> (Accessed June 2018)
2. International Society of Lymphology. The diagnosis and treatment of peripheral lymphedema: 2013 Consensus Document of the International Society of Lymphology. *Lymphology* 2013; 46:1-11.

Books

1. Greene AK, Slavin SA, Brorson H, eds. *Lymphedema: Presentation, Diagnosis, and Treatment*. Cham, Switzerland: Springer;2015.