EXCERPT FROM "*BEST PRACTICE FOR THE MANAGEMENT OF LYMPHOEDEMA*" – INTERNATIONAL LYMPHOEDEMA FRAMEWORK
Pages 27 and 28 on cellulitis

http://www.lympho.org/wp-content/uploads/2016/03/Best_practice.pdf
Photos available in the original document

CELLULITIS/ERYSIPELAS

Patients with lymphoedema are at increased risk of acute cellulitis/erysipelas, an infection of the skin and subcutaneous tissues. The cause of most episodes is believed to be Group A β-haemolytic streptococci. It may also be caused by staphylococci or other bacteria. **Good skin care reduces the likelihood of cellulitis/erysipelas, and consequently the need for antibiotics.**

NOTE: CELLULITIS TERMINOLOGY

Cellulitis may also be known as:

- **erysipelas**
- **acute inflammatory episode**
- **lymphangitis**
- **dermohypodermal infection**
- **lymphoedema-related acute dermatitis**
- **dermatolymphangioadenitis (DLA)**

Symptoms are variable. Episodes may come on over minutes, grumble over several weeks or be preceded by systemic upset. Symptoms include pain, swelling, warmth, redness, lymphangitis, lymphadenitis and sometimes blistering of the affected part (Figure 24). More severe cases have a greater degree of systemic upset, eg chills, rigor, high fever, headache and vomiting. In rare cases, these symptoms may be indicative of necrotising fasciitis. The focus of the infection may be tinea pedis (athlete's foot), venous eczema, ulceration, ingrowing toe nails, scratches from plants or pets, or insect bites. Box 18 (page 28) outlines the principles involved in the management of acute cellulitis/erysipelas at home or in hospital.

Summary of guidelines for the management of cellulitis/erysipelas in lymphoedema[57]

The guidelines summarised here describe the indications for hospital admission and antibiotic therapy for acute and recurrent cellulitis/erysipelas in patients with lymphoedema. **Prompt treatment of cellulitis/erysipelas is essential to prevent further damage that can predispose to recurrent attacks.**

Criteria for hospital admission

The patient should be admitted to hospital if they show:

- signs of septicaemia (hypotension, tachycardia, severe pyrexia, confusion or vomiting)
- continuing or deteriorating systemic signs, with or without deteriorating local signs, after 48 hours of oral antibiotics
- unresolving or deteriorating local signs, with or without systemic signs, despite trials of first and second line oral antibiotics.

It is essential that patients with cellulitis/erysipelas, who are managed at home, are monitored closely, ideally by the general practitioner.

Antibiotic regimens

Antibiotic regimens for cellulitis/erysipelas in lymphoedema vary according to the clinical situation (Table 4). Antibiotics should be continued for at least 14 days after an acute episode has responded clinically to treatment. It may take one to two months of antibiotic treatment to achieve complete resolution.

Antibiotics 'in case'

The risk of further attacks of cellulitis/erysipelas in lymphoedema is high. It is recommended that patients who have had an attack of cellulitis/erysipelas carry a two week supply of oral antibiotics, particularly when away from home for any length of time, eg on holiday. Patients should be advised to start antibiotics immediately when familiar symptoms of cellulitis/erysipelas arise and to seek a medical opinion as soon as possible.

Recurrent cellulitis/erysipelas

Antibiotic prophylaxis should be offered to patients who have two or more attacks of cellulitis/erysipelas per year (Table 4). After two years of successful prophylaxis the antibiotics can be discontinued. However, if cellulitis/erysipelas recurs, lifelong antibiotic prophylaxis is required.

The risk of recurrent cellulitis/erysipelas can be reduced by controlling swelling, and by treating interdigital scaling, fungal infections, folliculitis, dermatitis, open wounds (including leg ulcers) and weeping lymphangiectasia.

BOX 18 Principles of home- or hospital-based management of acute cellulitis/erysipelas

Exclude:

■ other infections, eg those with a systemic component

■ venous eczema, contact dermatitis, intertrigo, microtrauma and fungal infection ■ acute deep vein thrombosis

■ thrombophlebitis

■ acute lipodermatosclerosis

■ lymphangiosarcoma (Stewart-Treves syndrome)

Swab any exudate or likely source of infection, eg cuts or breaks in the skin

Before commencing antibiotics establish:

■ extent and severity of the rash - mark and date the edge of the erythema

■ presence and location of any swollen and painful regional lymph nodes

■ degree of systemic upset

■ erythrocyte sedimentation rate (ESR) or C-reactive protein (CRP) and white cell count

Commence antibiotics as soon as possible (Table 4), taking into account swab results and bacterial sensitivities when appropriate

During bed rest, elevate the limb, administer appropriate analgesia (eg paracetamol or NSAID), and increase fluid intake

Avoid SLD and MLD

If tolerated, continue compression at a reduced level or switch from compression garments to reduced pressure MLLB

Avoid long periods without compression Recommence usual compression and levels of activity once pain and inflammation are sufficiently reduced for the patient to tolerate

Educate patient/carer - symptoms, when to seek medical attention, risk factors, antibiotics 'in case', prophylaxis if indicated

TABLE 4 Antibiotics for cellulitis/erysipelas in lymphoedema[57]

Situation	First-line antibiotics*	If allergic to penicillin*	Second-line antibiotics*	Comments*
Home care Acute cellulitis/erysipelas	Amoxicillin 500mg eight hourly +/- flucloxacillin 500mg six hourly†	Clindamycin 300mg six hourly	Clindamycin 300mg six hourly If fails to resolve, convert to iv regimen as for hospital admission	Treat for at least 14 days or until signs of inflammation have resolved
Hospital admission Acute cellulitis/erysipelas + septicaemia	Amoxicillin iv 2g eight hourly (or benzylpenicillin iv 1200-2400mg six hourly) plus gentamycin iv 5mg/kg daily	Clindamycin iv 1.2g six hourly	Clindamycin iv 1.2g six hourly (if poor or no response by 48 hours)	Switch to amoxicillin 500mg eight hourly when: ■ temperature down for 48 hours ■ inflammation much resolved ■ CRP <30mg/L
Prophylaxis to prevent recurrent cellulitis/erysipelas (≥two attacks per year)	Phenoxymethylpenicillin 500mg once daily (1g once daily if weight >75kg)	Erythromycin 250mg once daily	Clindamycin 150mg once daily or clarithromycin 250mg once daily	After one year, halve dose of penicillin to 250mg once daily (500mg once daily if weight >75kg)
Emergency supply of antibiotics, 'in case of need' (when away from home)	Amoxicillin 500mg eight hourly	Clindamycin 300mg six hourly	If fails to resolve, or constitutional symptoms develop, convert to iv regimen as for hospital admission	
History of animal bite	Co-amoxiclav 625mg six hourly	Ciprofloxacin 500mg twelve hourly	Consult microbiologist	Causes may be *Pasteurella multocida, Eikinella corrodens or Capnocytophaga canimorsus*

NB. Local guidelines may determine which antibiotics may be used. *Dosages are for oral treatment unless stated otherwise; iv = intravenously. †Add if infection with Staphylococcus aureus is suspected, eg if folliculitis, pus formation, and/or crusted dermatitis are present.