CELLULITIS GUIDELINES FOR PEOPLE WITH LYMPHOEDEMA / CHRONIC OEDEMA IN NHS WALES

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The aim of these guidelines are to provide evidence based management of cellulitis for people with lymphoedema/ chronic oedema. Included within these guidelines are information on differential diagnoses, red flags, antibiotic pathways and a management plan.

This document has been approved by **Lymphoedema Wales Clinical Network Strategy Board,** the **National Lymphoedema Cellulitis Improvement Programme (NLCIP)** and the **All-Wales Antimicrobial Guidance Group (AWAGG)** October 2021 and has been acknowledged by the **All Wales Medicine Strategy Group (AWMSG)** March 2022**.**

What is cellulitis?

Cellulitis is a skin infection that can affect any area of the body and is usually caused when a break in the skin (i.e. a cut, ulcer, insect bite or dry cracked skin) allows bacteria to enter the body, causing an infection. Cellulitis rarely affects more than one area of the body at the same time. Thus, bilateral lower limb cellulitis is extremely rare. Cellulitis is normally caused by either staphylococcus or streptococcus bacteria and can be treated effectively with antibiotics. However, cellulitis can be potentially life threatening if left untreated leading to sepsis.

Introduction

Evidence suggests that 2-3% of all hospital admissions are due to cellulitis.[1] Studies have confirmed that the risk factors and likelihood for developing cellulitis include; lymphoedema (71 times more likely), wounds / fungal infection (24 times); venous insufficiency (3 times) and obesity (twice as likely).[2,3] Additionally, each cellulitis episode increases the likelihood of another and escalates the length of hospitalisation. At least 29% of all patients with lymphoedema have cellulitis each year, and a quarter of those have more than three episodes per annum. [2,3] The risk of having a cellulitis recurrence is between 10 - 50%.[4] The numbers of cellulitis admissions across NHS Wales has increased over the last few years. In 2019 in Wales 204,000 primary care contacts were due to cellulitis. [5] In 2019-20 there were over 7,000 Emergency Department attendances resulting in 4,600 admissions. The number of bed days occupied due to a primary cellulitis was 37,194 resulting in a mean length of stay of 10.8 days.

DIAGNOSING AND MANAGEMENT OF CELLULITIS

SIGNS	SYMPTOMS
• Increasing erythema • Pain in affected area • Demarcation line or diffuse area • Increasing oedema in affected area • Bullae, blisters, bruising, petechiae • Hot to touch • Rapid onset of signs and symptoms • Unilateral presentation in vast majority • Raised inflammatory/ bacterial markers (CRP, WBC).	• Nausea • Vomiting • Lethargy • Rigors

**Not all signs and symptoms may be present at once*

RED FLAGS

Consider admission or appropriate urgent referral if signs/ symptoms suggest complications:-

- Systemic toxicity / sepsis
- Deep vein thrombosis
- Tissue necrosis
- Uncontrolled co-morbidities
- Clinical concern

MANAGEMENT OF CELLULITIS

- Draw line around erythema to track rising signs of infection
- Antimicrobials are vital (see antimicrobial pathway on page 3)
- Appropriate analgesia (paracetamol, ibuprofen)
- Daily skin care i.e. cleansing and moisturising plus use cool compress to reduce discomfort
- Reduce or stop compression if painful but recommence as soon as tolerated
- If no improvement after 48 hours of antibiotics review antimicrobial pathway or escalation to appropriate clinician or pathway
- Identify the cause of the cellulitis if possible to reduce the risk of recurrence
- Contact the Lymphoedema Service if patient has oedema or associated skin changes
- If patient has had two or more episodes of cellulitis, consider the prophylactic antimicrobial pathway

Antimicrobial Cellulitis Pathway for people with Lymphoedema/ Chronic Oedema

Uncomplicated Cellulitis
(No clinical red flags identified)

Prescribe **Flucloxacillin** 500mg–1g 6 hourly (QDS) for 7-14 days*

Allergic to Penicillin - **Clarithromycin** 500mg 12 hourly (BD) for 7-14 days* or contact microbiology for suitable alternative

**use clinical judgement and amount of oedema when considering strength of dose and duration*

Cellulitis resolving to oral antibiotics

- After completion of antimicrobial course if no further signs of bacterial infection, no further antimicrobials necessary
- If signs of inflammation after antimicrobial course, consider topical steroid treatment- *skin can take some time to return to what is normal for the patient*

Complicated Cellulitis
(Clinical red flags identified)

Requires appropriate referral or consider OPAT Service *(Outpatient Parenteral Antimicrobial Therapy)* for IV antibiotics required or close monitoring after medical review

Poor response to antibiotics after 48 hours or possible systemic toxicity

- Consider second line **Clindamycin** 300mg–450mg 6 hourly (QDS) for 7-14 days
- Discuss with Microbiology if plateau of symptoms/ Clindamycin unsuitable
- Consider swabbing wounds if present
- **Consider escalation if signs of systemic toxicity at any stage of treatment**

If the patient has had at least two cellulitis episodes in 12 months consider the Cellulitis Prophylactic Pathway

Important - if the patient has lymphoedema / chronic oedema or has repeated cellulitis please refer to the local Lymphoedema Service on this link:

Lymphoedema Service Referral Form

Prophylactic Antimicrobial Cellulitis Pathway for people who have Lymphoedema / Chronic Oedema

Considerations - has the patient:

- Had at least two episodes of cellulitis in the past 12 months
- Been under the care of the local Lymphoedema Service
- Had all obvious causes for recurring cellulitis addressed e.g. wounds, chronic skin conditions
- Had a swab result that is MRSA negative if wound present.
- Had information on prophylaxis and consents to treatment

YES

First line Antimicrobial

- Penicillin V 250 mg BD for 6 months if BMI < than 33
- Penicillin V 500 mg BD for 6 months if BMI > than 33
- Review after 3 months for progress
- Discontinue at 6 months if no further episodes

Allergic to Penicillin

- Clarithromycin 250mg OD for 6 months
- Consider Microbiology advice for alternative to Clarithromycin
- Review at 3 months for progress.
- Discontinue at 6 months if no further episodes of cellulitis

NO

Continue Lymphoedema Management:

- Daily skin care,
- Weight management,
- Compression
- Activity and movement

Further episodes of cellulitis

- Treat all reversible risk factors appropriately (lymphoedema, wounds etc.)
- Refer to the appropriate specialisms as indicated
- Seek advice from Microbiology if further information or assessment is required

Lymphoedema patients with a history of recurring cellulitis may require a RESCUE PACK of antibiotics to ensure prompt treatment. The need for a rescue pack of antibiotics will be based on collaboration between lymphoedema services, primary care and individual patients.

References

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[4] Thomas et al, U.K. Dermatology Clinical Trials Network's PATCH I Trial Team (2013) Penicillin to Prevent Recurrent Leg Cellulitis N Engl J Med 2013; 368:1695-1703 DOI: 10.1056/NEJMoa1206300

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[6.] Royal College of Physicians (2017) National Early Warning Score (NEWS) 2 https://www.rcplondon.ac.uk/projects/outputs/national-early-warning-score-news-2 (accessed 22.07.2021)

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[8.] Nice Guidance on Cellulitis management and erysipelas: antimicrobial prescribing (2019) https://www.nice.org.uk/guidance/ng141 (accessed 22.07.2021)

[9.] Consensus Document on the Management of Cellulitis in Lymphoedema (2016) British Lymphology Society https://www.thebls.com/documents-library/consensus-document-on-the-management-of-cellulitis-in-lymphoedema (accessed 22.07.2021

Any questions?

If you have any questions, please contact:

Karen Morgan
National Lymphoedema Education Lead

Joanne Browne
National Lymphoedema Cellulitis Improvement Programme (NLCIP) Lead

Developed by Lymphoedema Wales Clinical Network in conjuntion with our partners

01639 862767

LymphoedemaNetworkWales@wales.nhs.uk

@LymphNetWales