SKIN AND SOFT TISSUE INFECTIONS
Cellulitis

(Cellulitis – acute, CKS Jan 23)

Cellulitis is an acute bacterial infection of the dermis and subcutaneous tissue. The infected area is characterised by pain, warmth, swelling, and erythema. Blisters and bullae may form. Fever, malaise, nausea, and rigors may accompany or precede the skin changes.
Erysipelas is difficult to distinguish from cellulitis but as the causative organisms are Group A streptococci, treat as for cellulitis.

If there is cellulitis from an infected skin break send a swab for culture and review empirical treatment with swab culture results.

Organisms:
- Group A streptococci (C and G less commonly)
- Staphylococcus aureus

Arrange urgent hospital admission if the person (see CKS for details of cellulitis severity classification):
- Has signs or symptoms of sepsis.
- Has Class III (signs of marked systemic illness) or Class IV (sepsis syndrome or life-threatening infection) cellulitis.
- Has severe or rapidly deteriorating cellulitis (e.g., extensive areas of skin).
- Has severe pain
- Is very young (<1 year of age), frail or is immunocompromised.
- Has significant lymphoedema.
- Has facial cellulitis (unless very mild), suspected orbital or periorbital cellulitis.
- Has Class II cellulitis (systemically unwell or systemically well but with a comorbidity).
- Has symptoms or signs suggesting a more serious illness or condition (such as osteomyelitis, or septic arthritis).

Consider referring people to hospital, or seek specialist advice, if they:
- Are severely unwell, have infection near the eyes or nose or have lymphangitis.
- Have spreading infection that is not responding to an oral antibiotic or cannot take oral antibiotics.

For cellulitis resulting from uncommon pathogens such as a wound contaminated with fresh water or sea water, penetrating injury or an infection acquired outside the UK:
- Seek specialist advice from a medical microbiologist.

Seek specialist advice or consider admission, depending on clinical judgement, if:
- There is continuing or deteriorating systemic signs, with or without deteriorating local signs, after 2–3 days of treatment.
- Symptoms are not improving (or are worsening) after 14 days of treatment.

If a person has recurrent episodes of cellulitis (more than two episodes at the same site within one year), having first excluded and managed risk factors such as a break in the skin due to fungal skin infection, contact dermatology via advice and guidance, for information on the use of prophylactic antibiotics.

Patient self-care and advice:
- Mark extent of infection with a single use marker.
- Take ibuprofen or paracetamol for pain or fever.
- Drink adequate fluids.
- Elevate the leg for comfort and to relive oedema where applicable.
- Avoid the use of compression garments during acute cellulitis.

Patient information leaflets: British Association of Dermatologists
Management of lower limb inflammation (Nottingham CityCare IPC and Tissue Viability Teams)

Treatment:
Treat until there has been a good clinical response. Check for evidence of tinea pedis, as this is often the route of entry for bacteria. Elevation and rest of the affected limb is important.
Review response to treatment as below, earlier according to clinical judgement or if local symptoms deteriorate (such as redness or swelling beyond the initial presentation), they develop severe pain or systemic symptoms. If there is a slow response to treatment extend the course for another 7 days.
If previously known to have been colonised or infected with methicillin-resistant Staphylococcus aureus, MRSA, do not use empirical flucloxacillin or co-amoxiclav, empirical treatment is guided by the sensitivity pattern of the MRSA isolate. See local MRSA guideline.

Antibiotic[1]	Dosage	Duration
Children <1 month - antibiotic choice based on specialist advice.		
First line choice:		
Flucloxacillin	**Child 1mth-1yr:** 62.5mg-125mg four times a day **Child 2-9yrs:** 125mg-250mg four times a day **Child 10-17yrs:** 250mg-500mg four times a day **Adult:** 500mg-1g four times a day	5 days (appropriate for most people but can be increased to 7 days if severe).
In penicillin allergy:		
Clarithromycin[3]	**1 month to 12 years:** Under 8kg: 7.5mg/kg twice a day 8 to 11kg: 62.5mg twice a day 12 to 19kg: 125mg twice a day 20 to 29kg: 187.5mg twice a day 30 to 40kg: 250mg twice a day **12 to 17 years:** 250mg-500mg twice a day **Adult:** 500mg twice a day	5 days (appropriate for most people but can be increased to 7 days if severe).
OR		
Erythromycin[2,3] (Preferred in pregnancy)	**Child 8-17yrs:** 250mg-500mg four times a day **Adult:** 500mg four times a day	5 days (appropriate for most people but can be increased to 7 days if severe).
Macrolide not suitable:		
Doxycycline[4]	**Adult and child ≥12yrs:** 200mg first day then 100mg once daily.	5 days (appropriate for most people but can be increased to 7 days if severe).

[1]See BNF and BNFC for appropriate use and dosing in specific populations, e.g., hepatic, or renal impairment, pregnancy, and breastfeeding.
[2]Erythromycin is preferred in women who are pregnant.
[3]Withhold statins whilst on clarithromycin/erythromycin course.
[4]Doxycycline is not suitable for pregnant women

Facial cellulitis:
Use co-amoxiclav to extend cover to anaerobic and respiratory organisms (see table on page 3).

For pregnancy plus penicillin allergy, please seek specialist advice on antibiotic choice.

Antibiotic[1]	Dosage	Duration
Facial cellulitis only. First line choice:		
Co-amoxiclav	**Child 1-11mths:** 0.25ml/kg of 125/31 suspension three times a day **Child 1-5yrs**: 0.25ml/kg or 5ml of 125/31 suspension three times a day **Child 6-11yrs:** 0.15ml/kg or 5ml of 250/62 suspension three times a day **Child 12-17yrs**: 250/125mg or 500/125mg three times a day **Adult:** 500/125mg three times a day	7 days (Review after 7 days)
In penicillin allergy:		
Clarithromycin[3] **OR** Erythromycin[2,3] (Preferred in pregnancy)	**1 month to 12 years:** Under 8kg: 7.5mg/kg twice a day 8 to 11kg: 62.5mg twice a day 12 to 19kg: 125mg twice a day 20 to 29kg: 187.5mg twice a day 30 to 40kg: 250mg twice a day **12 to 17 years:** 250mg-500mg twice a day **Adult:** 500mg twice a day **Child 8-17yrs:** 250mg-500mg four times a day **Adult:** 500mg four times a day	7 days (Review after 7 days) 7 days (Review after 7 days)
PLUS Metronidazole (If anaerobes suspected)	**Child 1month-11yrs.** Dose weight dependent: 1 month: 7.5 mg/kg twice a day 2 months to 11yrs: 7.5 mg/kg three times a day (maximum per dose 400mg) 12 to 17yrs: 400mg three times a day **Adult:** 400mg three times a day	7 days
Alternative to reduce tablet burden:		
Clindamycin	**Adult:** 300mg four times a day (can be increased to 450mg four times a day)	7 days

[1]See BNF and BNFC for appropriate use and dosing in specific populations, e.g., hepatic, or renal impairment, pregnancy, and breastfeeding.
[2]Erythromycin is preferred in women who are pregnant.
[3]Withhold statins whilst on clarithromycin/erythromycin course.
[4]Doxycycline is not suitable for pregnant women

Community based IV antibiotic pathway:
In the South of Nottinghamshire, there is a community based IV antibiotic pathway for adults with uncomplicated cellulitis. Selected patients may be able to be treated with a short course of IV Ceftriaxone/Teicoplanin as an alternative to hospital admission. Contact the Clinical Navigation service on 0115 846 2376. The NUH OPAT team can be contacted 7 days a week on 0771 3093409. If contacted after 2pm the antibiotics will not be received until the following day.

For GP practices referring to SFHT, a patient with cellulitis potentially requiring IV antibiotics should be referred to the King's Mill Hospital Emergency Department for triage. Appropriate patients can receive IV antibiotics as an outpatient via the Same Day Emergency Care Unit (SDEC).

For GP practices referring to Doncaster and Bassetlaw hospitals, see guideline here.

Version Control – Cellulitis			
Version	Author(s)	Date	Changes
V2.1	Nichola Butcher, NNICB with Dr V Weston NUH	16/03/23	Transferred onto standard template format. Definition and referral information added as per CKS. Referral process for prophylaxis confirmed with dermatology. Self-care information and PIL included. Outpatient IV antibiotic supply added for all localities. Treatment table updated – duration 5 days and increase to 7 days if severe. Facial treatment duration standardised to 7 days. Erythromycin added as an alternative option for facial cellulitis.
V2.2	N Butcher MO interface pharmacist	12/05/23	Link to Eron classification of cellulitis severity added (via CKS)
V2.3	N Butcher MO interface pharmacist	22/05/23	Link to local MRSA guideline added. Agreed at APC meeting 18.05.23