# Primary Care Cellulitis Pathway

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Primary Care Cellulitis Pathway

Guidance for the treatment of Cellulitis by community staff

Cellulitis is a spreading bacterial infection of the dermis and subcutaneous tissues. This pathway will reduce the need for admission as well as the re-admission of patients with recurrence by using best practice in prescribing and treatment.

Clinical assessment in primary care to establish diagnosis and severity based on local and systemic signs, history and investigations.

Clinical history, including
- Previous episodes
- Duration of present episode
- Symptoms of fever
- Itching
- History of local lesions, insect bites, indwelling device, IV drug abuse, injury
- History of other predisposing conditions eg diabetes, lymphoedema, immunosuppression
- History of allergies to penicillin, or cephalosporins
- Social and domestic circumstances

Clinical examination
Outline visible margin of cellulitis with indelible marker to allow subsequent clinical assessment of progress.
- Temperature, Blood pressure
- Signs of septicaemia (severe pyrexia, tachycardia, hypotension, confusion, tachypnoea, vomiting)

Local clinical presentation
- Unilateral or bilateral
- Eczematous or cellulitic or both
- Evidence of deep vein thrombosis
- Lymphangitis, tender regional lymphadenopathy

*Cellulitis is almost always UNILATERAL*
Bilateral lower extremity cellulitis almost never happens, so resist making this diagnosis in patients with bilateral painful red legs with NO fever, white count, LAD, or streaking

Predisposing causes
- Lymphoedema, ulcer, lipodermatosclerosis, varicose veins
- Peripheral pulses
- Toeweb scaling suggestive of candida or tinea
- Injury including insect bites, indwelling device

Complicating clinical conditions
- e.g. cardiac failure
- Underlying malignancy
- MRSA carriage
- Liver or renal failure
- Pneumonia
- Diabetes
- Immunodeficiency

Investigations that may be indicated see CREST(2005) document for laboratory advice.
- Swab for causal organism (usually group A Streptococci) if skin integrity broken.
- Urinalysis, especially glucose
- C-reactive protein
- Full blood count especially white cell count and haemoglobin
- Blood chemistry, especially LFT and Urea & Electrolytes
Primary Care Cellulitis Pathway

Appropriate resuscitation facilities must be available in the clinical area.

The classification system

Eron LJ (2000) devised this classification system of skin and soft tissue infections to aid the GP/Nurse diagnosis, treatment and admission decisions.

Severity Classification

Class 1 patients neither have features of systemic infection nor any of the comorbidities below

Class 2 patients EITHER
  • are systemically affected (i.e. have a temperature > 37.9°C or are vomiting)
  OR
  • have one or more comorbidities; i.e.
    • Peripheral vascular disease
    • Treated diabetes or blood glucose > 11mmol/L
    • Chronic venous insufficiency
    • Morbid obesity (i.e. BMI ≥40)
    • Liver cirrhosis

Class 3 patients EITHER
  • are clinically unstable, e.g. have
    • Acutely altered mental status
    • Heart rate > 99/min
    • Respiratory rate > 20/min
    • Systolic BP < 100mmHg
  OR
  • have unstable comorbidities; i.e.
    • Uncontrolled diabetes
    • Varicose ulcer
    • Peripheral vascular disease with critical ischaemia or arterial ulcer

Class 4 patients have a systolic BP of < 90mmHg or other features of severe sepsis or life-threatening infection, such as necrotizing fasciitis (NB: Such patients may need surgery)

Clinical findings alone are usually adequate for diagnosing cellulitis, particularly in non-toxic immunocompetent patients.
**Complicated and uncomplicated cellulitis**

Please note that only uncomplicated cellulitis is suitable for treatment in the community. This includes Class I & II of the above classification i.e. localised inflammation as a result of skin and soft tissue infection without any systemic upset that involves superficial tissues. Uncomplicated cellulitis is usually caused by a single organism and carries an excellent prognosis. Most patients with uncomplicated cellulitis will respond well to standard oral antibiotics. However, those patients who cannot tolerate oral medications, or are nil by mouth, or do not respond to oral therapy may be selected for outpatient intravenous antibiotics.

Complicated cellulitis on the other hand is invasion of deep tissues and is often polymicrobial in nature. It may be associated with profound systemic upset and may require supportive therapy and surgical intervention in addition to intravenous antibiotics e.g. cellulitis associated with gangrene, necrotizing fasciitis, myonecrosis, abscess formation, diabetic foot ulcer, trauma, infected burns or cellulitis in an immunocompromised patient. Class III & IV of the above classification will fall into complicated cellulitis. Please note that complicated cellulitis is unsuitable for treatment in the community and all cases of complicated cellulitis should be managed in an acute hospital.

---

**For all Lymphoedema patients please refer to LOROS guidelines.**

Guidelines for the Treatment of Adult Patient with Cellulitis in Primary Care

Patients with cellulitis considered to be due to MRSA should be discussed with a microbiologist.

**Beware of drug interactions between antibiotics and other medication the patient is currently taking in particular methotrexate**

*Refer to current edition of the BNF for full list of interactions.*

<table>
<thead>
<tr>
<th>Indication</th>
<th>1st Line</th>
<th>Penicillin Allergic Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class 1</strong>&lt;br&gt;Localised cellulitis in otherwise fit individual who can tolerate oral antibiotics</td>
<td>PO Flucloxacillin 1g qds for 7 days</td>
<td>PO Doxycycline 200 mg once daily for 7 days</td>
</tr>
<tr>
<td><strong>Class II</strong>&lt;br&gt;OR for patients in Class 1 with no response to therapy or deteriorating while on treatment</td>
<td>Teicoplanin IV/IM following a tiered dosage regimen based on the weight of the patient as follows:</td>
<td>Teicoplanin IV/IM following a tiered dosage regimen based on the weight of the patient as follows:</td>
</tr>
<tr>
<td><strong>NO RESPONSE</strong> - does not mean that the redness is not resolving – this may take some time. It means that the clinical picture is worsening e.g. the redness is spreading beyond the original boundaries and/or the patient is becoming systemically ill</td>
<td>Patients 70kg or below&lt;br&gt;400mg IV/IM every 12 hours for three administrations (completes Day 1-2) followed by 400mg IV/IM every 24 hours for three administrations (completes Day 3-5).</td>
<td>Patients 70kg or below&lt;br&gt;400mg IV/IM every 12 hours for three administrations (completes Day 1-2) followed by 400mg IV/IM every 24 hours for three administrations (completes Day 3-5).</td>
</tr>
<tr>
<td></td>
<td>Patients over 70kg-100kg&lt;br&gt;600mg IV/IM every 12 hours for three administrations (completes Day 1-2) followed by 600mg IV/IM every 24 hours for three administrations (completes Day 3-5).</td>
<td>Patients over 70kg-100kg&lt;br&gt;600mg IV/IM every 12 hours for three administrations (completes Day 1-2) followed by 600mg IV/IM every 24 hours for three administrations (completes Day 3-5).</td>
</tr>
<tr>
<td></td>
<td>Patients over 100kg&lt;br&gt;800mg IV/IM every 12 hours for three administrations (completes Day 1-2) followed by 800mg IV/IM every 24 hours for three administrations (completes Day 3-5).</td>
<td>Patients over 100kg&lt;br&gt;800mg IV/IM every 12 hours for three administrations (completes Day 1-2) followed by 800mg IV/IM every 24 hours for three administrations (completes Day 3-5).</td>
</tr>
<tr>
<td>Day 6 and 7:&lt;br&gt;PO Flucloxacillin 1g qds</td>
<td>Day 6 and 7:&lt;br&gt;PO Doxycycline 200 mg daily</td>
<td></td>
</tr>
<tr>
<td><strong>IN RENAL IMPAIRMENT</strong>&lt;br&gt;eGFR &gt;10ml/min &lt;60ml/min&lt;br&gt;Dosing regimen same as for patients with normal renal function except OMIT FINAL DOSE.&lt;br&gt;Day 6 and 7 PO Flucloxacillin 1g qds daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>eGFR &lt;10ml/min – admit to community hospital for IV flucloxacillin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Primary Care Cellulitis Pathway**

<table>
<thead>
<tr>
<th>Class II</th>
<th>Class III &amp; IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>For patients in community hospital or for community hospital patients in class I with no response to therapy or deteriorating while on treatment</td>
<td>For patients with systemic signs of sepsis e.g. fever, tachycardia, hypotension, or rapidly progressing cellulitis, or poor response to 1st or 2nd line therapy in Class 1 or 2</td>
</tr>
<tr>
<td>Day 1 – 5 IV Flucloxacillin 2g qds daily followed by Day 6 and 7 PO Flucloxacillin 1g qds</td>
<td>Immediate referral to acute hospital for intravenous antibiotic therapy with IV Flucloxacillin 2g qds for 7 days. (Reduce dose if eGFR &lt;10)</td>
</tr>
<tr>
<td>As Above</td>
<td>IV Vancomycin 1g bd (if renal impairment or &gt; 65 yrs old, reduce dose to 1g od) for 7 days (Discuss with microbiology in renal impairment)</td>
</tr>
</tbody>
</table>

**IN RENAL IMPAIRMENT**

- eGFR>10 dose as in normal renal function
- eGFR <10 Day 1-5 IV Flucloxacillin 1g qds followed by day 6 and 7 PO Flucloxacillin 1g qds

**Notes**

1. Mark the area of cellulitis with a marker at presentation to measure progress
2. If a patient is switched from Flucloxacillin to Teicoplanin, there is no need to wait before giving the first dose of Teicoplanin, a dose can be given immediately.
3. **Patients treated with Teicoplanin require a blood test on day 1 or 2 to check renal function unless there is a recent result available.** If there is evidence of RENAL IMPAIRMENT the dose on day 5 should be OMITTED patients will retain sufficient drug plasma levels for the next 1-2 days.
4. A list of all the out of hours Pharmacies that stock IV teicoplanin can be found on the LMSG website [Cellulitis Pathway: Community Pharmacies Stocking Teicoplanin](#)
5. Teicoplanin should be given IV or if this is not possible IM
6. If a delay in administration of Teicoplanin occurs due to unavoidable circumstances, the next dose of teicoplanin should be administered as soon as possible
7. A four hour flexibility may be allowed between the first two doses. However the first dose of teicoplanin should be given at such time that the second dose does not fall within unsocial hours.
8. It is important to insist that the patient rests and elevates the leg – Refer to Appendix A (Patient Information Sheet)
9. Rapidly deteriorating cellulitis with purple discoloration and/or severe pain may indicate necrotising fasciitis which is a potential life threatening condition and require immediate hospital admission for surgical debridement and i/v antibiotic therapy
10. Diabetic foot ulcer, Osteomyelitis, decubitis ulcers, chronic stasis ulcers or dermatitis are excluded from the definition of cellulitis. Consider these patients for referral to appropriate expert service
11. Seek advice if patient is pregnant or breast feeding or if there is a history of anaphylaxis to penicillin
12. Contact Microbiologist for further advice if necessary
13. Patients with lymphoedema/Chronic Oedema (of all types) who suffer from recurrent cellulitis can be referred to LOROS. (Excluding those with acute cellulitis as the service is a nurse led clinic)
Primary Care Cellulitis Pathway

Treatment of Cellulitis

Diagnose and treat predisposing causes, including tinea pedis, leg ulcer and lymphoedema

“Patient who have more than two episodes of cellulitis at the same site within one year, should be referred to a dermatologist for specialist advice on further management and consideration for prophylaxis”.  http://cks.nice.org.uk/cellulitis-acute and http://www.gain-ni.org/images/Uploads/Guidelines/cellulitis-guide.pdf

Treatment should be started immediately familiar symptoms of cellulitis arise, but a medical opinion should also be sought as soon as possible.

If a recurrence occurs a change of therapy may be indicated in consultation with microbiologist.

A first attack of cellulitis following a human or animal bite or lick

Consider infection with Pasteurella multocida, Eikenella corrodens or Capnocytophaga canimorsus.

These organisms respond best to co-amoxiclav 625mg tds for 5 days, (if penicillin allergic, give doxycycline 200mg od and metronidazole 400mg tds for 5 days for animal bites or metronidazole 400mg tds and erythromycin 500mg qds for 5 days for human bites). (Refer to Leicester, Leicestershire & Rutland Antimicrobial Policy and Guidance for Primary Care (2014), which has the course of these doses.)

These infections may be serious and require surgical exploration, particularly if presentation is delayed or the hand is involved. Any deterioration in condition, refer immediately to Infectious Diseases.

Avoid compression as it may push infection proximally, but affected limb should be elevated

Treat predisposing causes and ensure proper follow-up, including management of any subsequent lymphoedema (patient and GP to be supplied with suggested guidelines for future management following resolution of cellulitis.

Patients requiring pain relief should be prescribed an analgesic. Use paracetamol as a first choice of agent.

If an NSAID is necessary, use the lowest NSAID dosage compatible with symptom relief (ibuprofen is generally preferred) Gastric protection may also be required to minimize adverse GI events in someone at high risk for whom NSAID continuation is necessary. (Refer to http://cks.nice.org.uk/analgesia-mild-to-moderate-pain)

NB Past reports suggest that NSAIDs may increase the risk of streptococcal cellulitis developing into life-threatening necrotizing fasciitis.

Please note:
(i) that a 63-paper review concludes that prospective studies do not support suggestions that NSAID therapies play a causal role in increasing the risk of streptococcal necrotising fasciitis (Aronoff & Bloch, Medicine 82: 225-235, 2003), but (ii) that the same paper suggests that NSAIDs may alleviate symptoms of streptococcal necrotising fasciitis, resulting in a delay of appropriate diagnosis and treatment.
Guidance on Blood Sampling to inform IV antibiotic dosing

- It is the responsibility of the nurse to ensure that the blood sample for Renal Function is taken and obtain the result.
- It is a suggestion that the sample is taken on Day 1 or 2. If this at a weekend staff may wait till Monday and place in ‘URGENT’ bag at the GP surgery.
- The aim is to obtain the result prior to the Day 5 dose.
- If there is evidence of renal impairment then the nurse would need to get the authorisation sheet changed to reflect that on the 5th day the final IV / IM Teicoplanin dose must be omitted, or get the IV Flucloxacillin dose amended.
- The change on the authorisation sheet should be made by the prescriber or in exceptional circumstances a verbal message can be taken as long as it is backed up by a fax / text from a doctor / microbiologist.

References:
http://cks.nice.org.uk/cellulitis-acute
http://cks.nice.org.uk/analgesia-mild-to-moderate-pain

Bibliography


Primary Care Cellulitis Pathway

Severity Classification

Class IV patients have a systolic BP of <90mmHg or other features of severe sepsis or life-threatening infection, such as necrotizing fasciitis (NB: Such patients may need surgery)

Class III patients
• EITHER are clinically unstable, e.g. have
  • Acutely altered mental status
  • Heart rate >99/min
  • Respiratory rate >20/min
  • Systolic BP <100mmHg
• OR have unstable comorbidities; i.e.
  • Uncontrolled diabetes
  • Varicose ulcer
  • Peripheral vascular disease with critical ischaemia or arterial ulcer

Class II patients
• EITHER are systemically affected (i.e. have a temperature >37.9°C or are vomiting)
• OR have one or more comorbidities; i.e.
  • Peripheral vascular disease
  • Treated diabetes or BMI >11
  • Chronic venous insufficiency
  • Morbid obesity (i.e. BMI ≥40)
  • Liver cirrhosis

Class I patients have none of the above

1st care clinician diagnoses cellulitis

Consider
• Severity classification
• Contraindications to Outpatient Parenteral Antimicrobial Therapy (OPAT)
• Outline leading edge with indelible marker
• Document affected area on body map (Appendix E)

Severity class III or IV or OPAT contraindications present?

Y

Refer to appropriate specialty for immediate admission

N

Unable to be supported at home?
• Closer monitoring considered necessary?
• Domestic environment unsuitable?

Y

Admit to community hospital or nurse-led unit

N

Patient to self-monitor progress

Refer to SPA

During office hours
Local pharmacy

Out of hours
See Leicestershire Medicines Strategy Group (LMSG) website at http://bit.ly/13MkoWj for a list of out-of-hours or extended-hours community pharmacies that stock Telcocillin if required

Issue patient information leaflet (PIL; see Appendix A) after filling in the appropriate emergency contact details

Prescribe and supply appropriate antimicrobial (guidance on page 6)
• Complete nurse authorization letter
• Consider analgesia needs

Satisfactory progress?

Y

Address predisposing factors, including tinea pedis, leg ulcers and lymphoedema

Recurrent attacks?

Y

Consider antibiotic prophylaxis

N

Discharge

Contraindications to OPAT
• Facial or orbital involvement
• Rapidly progressive infection
• Intravenous drug user (IVDU) (NB: consider community hospital bed rather than acute admission)
• Already on OPAT since 48h, or getting worse in spite of it
• Persistent vomiting in spite of parenteral antiemetics
• Immunosuppression
You have been diagnosed with a condition called Cellulitis; this is an acute infection of the skin layers.

Instead of automatic admission to hospital you have been assessed as suitable to receive all or most of your medication and treatment at home from single point of Access (SPA).

You may need a ‘one off’ hospital assessment with discharge on the same day and you will then be sent home for the rest of your treatment.

It is important that if there are any changes in your condition or you experience any of the following symptoms, you inform the single point of access (SPA) on 0300 300 1000 or your GP immediately.

- The redness and swelling spreads further.
- You start to feel feverish or more unwell
- Pain increases
- You feel warmer and your temperature is rising
- You become confused
- Your blood glucose levels become unstable (Diabetics only)
- Vomiting (as this is an indication for IV antibiotics or admission)

You can help aid your treatment by:

- Finishing the course of any prescribed oral antibiotics, even though you may feel better and the redness is subsiding.
- If your cellulitis is on your leg you must sit and elevate it above hip level. If it affects your arm lift lower arm above level of elbow.
- If this is uncomfortable lie on a sofa or bed as much as possible to help the drainage and circulation in the limb.
- Although rest and elevation are essential, you must also mobilise your ankle joint and walk to the toilet.
- It is important that you take pain relief so that you are able to exercise your ankle and mobilise to the toilet.
- Important to drink plenty of clear fluids eg. Water, squash and tea.
- If you normally wear compression hosiery, seek GP advice on when to recommence (as compression hosiery should not be worn until infection is resolved)

Passive ankle exercises
Aftercare

Once the acute stage has passed and the inflammation is subsiding, it is important to care for the skin on your legs to prevent further problems:

- Wash feet/legs daily in warm water using non-soap/non perfumed moisturiser e.g. formulary choice emollient
- Do not allow scabs or dry skin scales to form, these can allow bacteria to build up underneath un-noticed and are a potential source of further infection.
- As the cellulitis gets better the surface layer of skin will loosen and 'slough off', it is important to maintain skin hygiene and moisturise the skin regularly e.g. morning and evening to increase elasticity and suppleness and prevent cracking – another source of infection.
- Avoid direct exposure of your legs to sunlight or trauma.
- If you have been advised to wear compression hosiery, renew these every 3 months as they can lose their effectiveness over time. You will need to measure the largest part of your ankle and calf or your pharmacist can measure these for you so that the correct size hosiery is ordered.
- The moisturisers/emollients can reduce the lifetime of the elastic in your hosiery, therefore allow time for it to soak in or apply in the evening after removal of hosiery (a stockinette can be applied to protect your bed linen e.g. Clinifast

GP NAME:...........................................PHONE NO:.....................................

SINGLE POINT OF ACCESS (SPA): 0300 300 1000
## Cellulitis Chart

<table>
<thead>
<tr>
<th>Date</th>
<th>Day 1 visit 1</th>
<th>Day 1 visit 2</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Day 6</th>
<th>Day 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit No</td>
<td></td>
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<td>Temperature</td>
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<td>Blood Pressure</td>
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<td>Pulse</td>
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<td>Respiratory Rate</td>
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<td>BM</td>
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<td>Vomiting?</td>
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<td>Swab of area taken?</td>
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<td></td>
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<tr>
<td>Pain (ie, on movement, at rest)</td>
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<tr>
<td>Hot to touch?</td>
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<tr>
<td>Colour of cellulitis</td>
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<td></td>
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<tr>
<td>Spread outside of marked area or reduced in size</td>
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<td>Weight bearing?</td>
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<td></td>
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<tr>
<td>Signature</td>
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</tr>
</tbody>
</table>
Dear Community Nurse,

Re: Patient details

This letter requests you to administer the following medication to the above named patient:

(EDU staff: Please complete the table below as applicable)

<table>
<thead>
<tr>
<th>Drug name</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teicoplanin (reconstitute with 3mL of water)</td>
<td>□ 400mg □ 600mg □ 800mg</td>
<td>IV</td>
<td>Has been given in UHL at (use 24h clock) □ to be given 12h after initial dose</td>
<td>N/A</td>
</tr>
<tr>
<td>Teicoplanin (reconstitute with 3mL of water)</td>
<td>□ 400mg □ 600mg □ 800mg</td>
<td>IV</td>
<td>Has been given in UHL at (use 24h clock)</td>
<td>□ N/A</td>
</tr>
<tr>
<td>Teicoplanin (reconstitute with 3mL of water)</td>
<td>□ 400mg □ 600mg □ 800mg</td>
<td>IV</td>
<td>OD</td>
<td>□ 4 days (normal eGFR) □ 3 days (reduced eGFR)</td>
</tr>
</tbody>
</table>

This is not a prescription – a copy of the prescription is attached

For further information refer to Cellulitis Pathway / Version 11 / Nov 2014.

Yours sincerely,

[Table signature, role/job title, print name, date]
Primary Care Cellulitis Pathway

ED Cellulitis Pathway

Patient details

Full name:

Date:

Unit number:

(use sticker if available)

Is patient morbidly obese?

- Tick patient's height and enter their actual weight in the white box. Compare this with the calculated weight for a BMI of 40.

<table>
<thead>
<tr>
<th>Body height</th>
<th>Body weight</th>
<th>BMI 40</th>
<th>Actual weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>feet</td>
<td>cm</td>
<td>kg</td>
<td>kg</td>
</tr>
<tr>
<td>4'10</td>
<td>147</td>
<td>86.5</td>
<td>86.8</td>
</tr>
<tr>
<td>4'11</td>
<td>156</td>
<td>90.0</td>
<td>92.4</td>
</tr>
<tr>
<td>5'</td>
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<td>5'17</td>
<td>196</td>
<td>153.7</td>
<td>156.8</td>
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</tbody>
</table>

Features of instability?

- YES - at least one of the below

  Acute physiology
  - Pulse > 99/min (after antipyretics)
  - Respiratory rate > 25/min
  - Systolic BP < 100 mmHg
  - Acutely altered mental state

  Chronic illness
  - Uncontrolled diabetes
  - Peripheral vascular disease

- NO - none of the above

IV antimicrobials mandatory?

- YES - at least one of the below

  Systemic features of infection
  - Temperature > 37.6°C
  - Vomiting
  - Relevant comorbidities
    - Morbid obesity (i.e., BMI ≥ 40; see box 1)
    - Treated diabetes
    - Glucose in ED > 11 mmol/L
    - Liver cirrhosis
    - Evidence of peripheral vascular disease
    - Evidence of chronic venous insufficiency

- NO - none of the above

Are OPAT * exclusions present?

- YES - at least one of the below

  - Facial or orbital involvement
  - On OAT since 48h, or worsening in spite of it
  - Rapidly progressive infection
  - Acute renal impairment (if urine were indicated
  - Immunosuppression
  - Unrelated medical reason to admit

- NO - none of the above

* OPAT = Outpatient Parenteral Antimicrobial Therapy

This patient was managed by

Print name: Signature: Position: Date: Time completed:

Version 9 - Jan 15

Disclaimer:
This is a clinical template; clinicians should always use judgment when managing individual patients.
## Primary Care Cellulitis Pathway

### Antimicrobial therapy recommendations

**Important notes - read me first**
- Seek microbiologist advice if cellulitis might be due to MRSA, or if patient is pregnant or breast-feeding.
- If switching from Flucloxacillin to Teicoplanin there is no need to wait before first dose of Teicoplanin.
- Antimicrobials may enhance the effect of Warfarin - increase INR monitoring during and after antimicrobial therapy.

<table>
<thead>
<tr>
<th>Severity class</th>
<th>Routine patients</th>
<th>Penicillin-allergic patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>PO Flucloxacillin 1 G QDS 1 week</td>
<td>PO Doxycycline 200 mg OD for 1 week</td>
</tr>
<tr>
<td>II OPAT regimen (includes non-responders to class I therapy)</td>
<td>eGFR normal</td>
<td>eGFR normal</td>
</tr>
<tr>
<td>II Community hospital regimen</td>
<td>eGFR 10 - 59 mL/min</td>
<td>eGFR 10 - 59 mL/min</td>
</tr>
<tr>
<td>III &amp; IV</td>
<td>eGFR normal or &gt; 9 mL/min</td>
<td>eGFR normal</td>
</tr>
<tr>
<td>III &amp; IV</td>
<td>eGFR &lt; 10 mL/min</td>
<td>eGFR &lt; 10 mL/min – unsuitable for OPAT</td>
</tr>
<tr>
<td>III &amp; IV *Teicoplanin dosing notes Patient weight:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;70 kg</td>
<td>dose=400 mg</td>
<td>dose=400 mg</td>
</tr>
<tr>
<td>70-100 kg</td>
<td>dose=600 mg</td>
<td>dose=600 mg</td>
</tr>
<tr>
<td>&gt;100 kg</td>
<td>dose=800 mg</td>
<td>dose=800 mg</td>
</tr>
</tbody>
</table>

### Discharge vital signs

- WBC
- Hb
- Platelets
- INR
- Temp (°C)

### Blood results

- Na
- K
- Urea
- Creatinine
- Glucose
- Albumin
- Bili
- AP
- ALT
# Primary Care Cellulitis Pathway

## Emergency Decision Unit Pathway

### Cellulitis

**Patient details**

- **Full name:**
- **Date of birth:**
- **Unit number:**

**Has lived in UK > 1 year?**
- [ ] Yes
- [ ] No

### Inclusion criteria

- ED patients with cellulitis who require one or both of the below
  - For severity class II – up to two doses of IV antimicrobials and arrangement of community nurse OPAT (Outpatient Parenteral Antimicrobial Therapy) or IV treatment in community hospital
  - For severity class I or II - MDT involvement to facilitate safe discharge

### Exclusion criteria

- Cellulitis of severity class III or IV
- Indication for hospital admission other than cellulitis
- Frail patient requiring geriatric attention

### Notes to doctor completing this pathway (ED senior to ensure compliance)

- This pathway must only be used in conjunction with the ‘Cellulitis in adults’ ED management tool
- Ensure the tool has been fully completed
- Complete drug chart as appropriate, including drugs for effective pain and nausea control
- NB: protocol violations are potentially dangerous to patients, yourself and the department. **Stick to the rules!**

### EDU plan

- [ ] Needs IV antimicrobials (NB: class II severity only)

  - Give 1st dose as per ED management tool ‘Cellulitis in adults’
  - Keep patient overnight if 12-hour (2nd) dose is due out of hours
  - AND SPA confirms that OPAT cannot be arranged for that time
  - NB: Arrange for 3rd dose to be administered 12 hours after 2nd dose

- [ ] Needs attention from (if any)

  - Physiotherapist
    - (for mobilisation)
    - Extension: 5083
    - Bleep: 4304
  - Occupational therapist
    - (for assessment of ability to self-care)
    - Extension: 5053
    - Bleep: 4505
  - Primary care coordinator
    - (assessment and arrangement of home care package or intermediate care)
    - Mobile: 07814 253 447

### If none if the above:

- Arrange community hospital if one or more of the below
  - eGFR <10mL/min
  - IVDU
  - No fixed abode

- [ ] Community nurse OPAT (tick each task below when done)
  - Community nurse arranged via SPA on 0300 300 1000

  - First visit has been agreed for ________:
  - TTO antimicrobials ordered
    - (NB: do not call pharmacist after 22:00 – wait until morning)
  - Analgesia needs considered (e.g. TTO or over-the-counter)
  - All three attachments of this pathway given to patient
  - Completed community nurse request letter
    - (NB: attach a copy of the prescription)
  - Copy of completed ED body map
  - Copy of ED management tool ‘Cellulitis in adults’
  - Cellularis patient information leaflet
    - AND
  - Copy of ED management tool ‘Cellulitis in adults’
    - (record blood results and vital signs before discharge)

### Planned & agreed by

- Referring doctor
- Doctor in charge
- (EDU) nurse in charge

**Print names:**

**Signatures:**

**NB: A drug chart must be written before pathway can be signed off**

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*Martin Wiese and Mark Williams, Jan 14, Version 12*

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*Cellulitis Pathway Version 11 – March 2015*
AUTHORISATION FOR
MEDICATION/TREATMENT

Requested by: .............................................................................................................. Date: ........................................
Patients Name: ..............................................................................................................
Address: ..........................................................................................................................
D.o.B............................................. GP Name: ..............................................................

Please administer as per Cellulitis pathway:

Administer 5mls Sodium Chloride 0.9% pre and post administration of IV.
Administer slowly over 3-5 minutes
If Administering IV it may be reconstitute up to 10mls using normal saline 0.9% for injection but this is
on the individual assessment.

Teicoplanin IV/IM following a tiered dosage regimen based on the weight of the patient as follows:

☐ Patients 70kg or below
400mg IV/IM every 12 hours for three administrations (completes Day 1-2) followed by
400mg IV/IM every 24 hours for three administrations (completes Day 3-5).

☐ Patients over 70kg-100kg
600mg IV/IM every 12 hours for three administrations (completes Day 1-2) followed by
600mg IV/IM every 24 hours for three administrations (completes Day 3-5).

☐ Patients over 100kg
800mg IV/IM every 12 hours for three administrations (completes Day 1-2) followed by
800mg IV/IM every 24 hours for three administrations (completes Day 3-5)

All patients: Day 6 and 7 PO Flucloxacillin 1g qds OR if penicillin allergic PO Doxycycline 200 mg daily

NB. Liaise with Dr..............................................regarding U and E blood results to establish if renal function
is normal.

Confirm U&E’s Result:
   Date:

IN RENAL IMPAIRMENT

eGFR >10ml/min <60ml/min
Dosing regimen same as for patients with normal renal function except OMIT FINAL DOSE.
Day 6 and 7 PO Flucloxacillin 1g qds daily

eGFR <10ml/min – admit to community hospital for IV flucloxacillin

Signature of Doctor/Nurse Independent Prescriber: .................................................................

**GP to prescribe sodium chloride 0.9% for 5ml IV flush pre and post administration**