Out-patient parenteral antibiotic therapy (OPAT) pathway for the management of adults with complicated skin and soft tissue infections (SSTI) affecting their upper or lower limb(s) or face (erysipelas)

For OPAT/ambulatory care/Hospital at Home clinicians, including advanced nurse practitioners or other non-medical prescribers (within competency framework) and non-prescribing OPAT specialist nurses (in accordance with local OPAT SSTI patient group direction)

Consider and exclude SSTI mimics (see page 2, point 1) and **assess severity and suitability for OPAT** (see below).

Severity Assessment

Category 1 (NEWS 0-1)

Patients with no uncontrolled co-morbidities requiring in-patient assessment

And

not systemically unwell

And

not yet tried oral antibiotics

Category 2 (NEWS 0-1)

Patients with no uncontrolled co-morbidities requiring in-patient assessment

And

mild systemic illness

Or

well with condition complicating or delaying infection resolution, eg peripheral vascular disease, chronic venous insufficiency or morbid obesity

Or

well but cellulitis progression despite appropriate choice and dose of oral antibiotic

Category 3 (NEWS ≥ 2)

Patients with significant systemic upset, eg acute confusion, tachycardia, tachypnoea, hypotension or persistent pyrexia

Or

unstable co-morbidities, eg acute kidney injury (AKI), uncontrolled blood sugar or cardiac decompensation

OPAT Suitability Assessment

Give oral antibiotics

Flucloxacillin 1g 6 hourly

Alternative in patients with penicillin allergy: Doxycycline 100mg 12 hourly

Total duration 5 days (Check BNF for interactions, including cation interactions: see page 2, point 5)

Requires IV Antibiotics

Is patient ambulatory and self-caring or has appropriate carer support and access to OPAT does not delay

No → **In-patient IV antibiotics required**

See local in-patient infection management guidelines

Yes

OPAT Suitability Assessment

Does patient require additional assessment or have any exclusion criteria?

Yes

No

Additional Assessment Required

Patients in the groups below may be suitable for OPAT but require discussion with or assessment by OPAT medical staff and, potentially, adjustment of antibiotic regimen:

- ❑ Recent hospital admission
- ❑ Diabetic foot ulcer with cellulitis
- ❑ eGFR <30 ml/min/1.73 m^2
- ❑ People who inject drugs (PWIDs)
- ❑ Pregnant or breast feeding
- ❑ Immunosuppressed
- ❑ Previous or current MRSA
- ❑ Human or animal bite cellulitis

Discuss with specialist surgical or orthopaedic team in case further intervention required if the patient has:

- ❑ Surgical site infection
- ❑ Hand trauma
- ❑ Possible bone/joint infection or bursitis

OPAT Exclusion Criteria

Patients in these groups not eligible for OPAT:

- ❑ Under 18 years (consider paediatric pathway, if available)
- ❑ Pain out of proportion to skin changes, or skin changes that are rapidly evolving or blistering
- ❑ Unstable co-morbidities, eg AKI, cardiac decompensation or uncontrolled blood sugars
- ❑ Current *Clostridioides difficile* infection
- ❑ (Peri)-orbital cellulitis
- ❑ Other medical problems requiring in-patient management

Treatment

OPAT first line: Ceftriaxone 2g IV and review daily (Note: not for in-patient use)

Alternative if patient has severe anaphylaxis or other life-threatening penicillin or beta-lactam allergy or *C. difficile* concern (including episode in previous 3 months)

Daptomycin IV 4-6mg/kg and review daily

See page 2 for notes on daptomycin dosing, some OPAT services may use Teicoplanin (Note: not for in-patient use).

If daily IV administration is not possible for logistical reasons *eg* geographically remote, care home resident, people who inject drugs, or with alcohol dependency, or a significant mental health morbidity or a history of deliberate self-harm.

IV dalbavancin 1g once and review on day 7, or sooner if required. Discuss with pharmacy for patients with extremes of weight (Note: not for in-patient use)

Please see page 2 for support guidance for OPAT management

Guidance to support SAPG OPAT Pathway for management of adults with complicated SSTI

This guidance is for patients in an out-patient or Out-patient parenteral antibiotic therapy (OPAT) setting only, refer to local antimicrobial policy for in-patient management.

1. **Consider SSTI mimics/other dermopathies**

   Note: Bilateral skin changes are usually **not** cellulitis.
   - **Common:** Venous eczema, dependent rubor in venous insufficiency, superficial thrombophlebitis, irritant or allergic contact dermatitis, deep vein thrombosis, septic arthritis.
   - **Less common:** Erythema nodosum, pyoderma gangrenosum, erythema multiforme, leukocytoclastic vasculitis.

2. **Initial OPAT review** (If patient is in hospital follow local hospital antimicrobial policy until OPAT review).
   - Take baseline bloods including urea and electrolytes (U&Es), C-reactive protein (CRP), liver function tests (LFTs), full blood count (FBC), and blood cultures if possible.
   - In patients with lower limb cellulitis examine both feet for, and treat, tinea pedis, if present.
   - **IV ceftriaxone administration**
     - Administer IV ceftriaxone 2g daily via 30 minute infusion and observe for 30 minutes.
   - **IV daptomycin administration** (if previous anaphylaxis or other life-threatening penicillin allergy or *C. difficile* concern)
     - Check baseline creatine kinase (CK) and highlight pulmonary eosinophilia risk.
     - Administer IV daptomycin 4-6 mg/kg (as per local guidance) daily via 3 minute injection or 30 minute infusion and observe for 30 minutes.
     - If estimated glomerular filtration rate (eGFR) <30ml/min/1.73m^2, give IV daptomycin on alternate days.
     - Some OPAT services may prefer teicoplanin to daptomycin; refer to local guidance on dosing as, currently, there is no Scottish Antimicrobial Prescribing Group (SAPG) consensus on optimal dosing in the OPAT setting.

Table: *Daptomycin 6mg/kg dosing regimen adapted from Greater Glasgow and Clyde OPAT*

Body weight	6mg/kg dosing*
< 59kg	350mg
59 - 83kg	500mg
84 - 117kg	700mg
118 - 142kg	850mg
> 142kg	discuss with pharmacy

**Dose rounded to nearest vial*

3. **Daily assessment whilst on IV therapy**
   - Assess national early warning score (NEWS), including temperature, pulse, BP and respiratory rate), skin heat, erythema, pain and swelling.
   - Continue IV therapy until there is significant reduction in heat, erythema, pain and normal temperature (<38°C), heart rate (<100 bpm) and respiratory rate (<20 breaths/ min).
   - If clinical deterioration observed at any time, or no improvement at 72 hours, arrange for medical review.
   - Average IV therapy length 48-96 hours (including any IV doses given prior to OPAT).

4. **If unable to review patient daily due to logistical reason(s): consider single dose of dalbavancin**
   - **Dalbavancin administration (avoid if known hypersensitivity to other glycopeptides)**
     - Administer IV dalbavancin 1g infusion over 30 minutes via peripheral cannula and observe for 30 minutes.
     - Review at one week to assess whether further antibiotic therapy is required, or sooner if any concern
     - The majority of patients require a single dalbavancin infusion only.
     - Discuss with pharmacy if caring for patients with extremes of weight or for repeat dosing advice.

5. **Switch to oral when patient shows significant clinical improvement in local signs of infection**
   - Oral flucloxacillin 1g 6 hourly for 5 days duration **OR** (*if previous anaphylaxis or other life-threatening penicillin allergy concern)* oral doxycycline 100 mg 12 hourly for 5 days duration.

   Note: If on cation (including calcium, calcium containing nutritional supplements, magnesium) ensure spaced ≥2 hours from doxycycline or withhold for treatment duration. Withhold iron if on doxycycline. See British National Formulary (BNF) for other interactions.

6. **Advice for patients**
   - Importance of good skincare, eg application of non-perfumed emollient or soap substitute to affected area(s).
   - Benefits of elevating the affected limb as much as possible until infection resolves.

7. **Follow up and communication**
   - Provide all patients opportunity for telephone/remote review during OPAT and ensure communication with GP.
   - Include admission plan in case a patient experiences deterioration out-of-hours and offer follow up/advice following completion of oral therapy.