



Antibiotic Management Team

NHS Dumfries and Galloway

Empirical Antibiotics Guidelines

Updated September 2022

Document Control		Policy Number	
Scope	NHS Dumfries and Galloway Adults in secondary care		
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Reviewers	AMT <i>in particular</i> Dr Martin Connor Dr Bryan Marshall Dr Linsey Batchelor Dr Gwyneth Jones & Dr Melinda Munang	Implementation date	August 2021
Status	Approved	Last review date:	September 2022
Approved by	AMT & ADTC	Next review date:	September 2024

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Aims

- To provide a simple, best guess approach to the treatment of common infections.
- To promote the safe, effective, and economic use of antibiotics.
- To minimise the emergence of bacterial resistance and hospital acquired infections.

Principles of Treatment

1. The advice given in the antibiotic policy for adults is based on the information available at the time of writing. It should be interpreted by the prescriber in the light of professional judgement and clinical assessment.
2. Prescribe an antibiotic only when there is likely to be a clear clinical benefit.
3. Avoid widespread use of topical antibiotics (especially those also available as systemic preparations).
4. In pregnancy avoid Tetracyclines, Aminoglycosides, Quinolones, high-dose Metronidazole. Short term use of Nitrofurantoin (at term, theoretical risk of neonatal haemolysis) is unlikely to cause problems to the foetus.
5. Gentamicin and Vancomycin therapy requires monitoring. Refer to once daily Gentamicin and Vancomycin dosing guidelines on the intranet in Antibiotic Prescribing section or on front of Gentamicin/Vancomycin prescribing sheets. **Please note when using Gentamicin for endocarditis, synergistic Gentamicin guidelines should be used:** [Synergistic Gentamicin for Endocarditis in Adults SAPG.docx](#)

Neonatal ototoxicity has not been observed with use of gentamicin in pregnancy however it has been seen with other aminoglycosides, therefore gentamicin should be used with caution in pregnancy. Where possible use only a stat dose or the shortest effective course.

For guidance on dosing gentamicin, please refer to the policy on Once Daily Gentamicin Dosing.

6. If renal function is impaired, discuss antibiotic dose adjustments with your clinical pharmacist/consultant or check the renal drug handbook.
7. If the patient is penicillin allergic, review the nature of the allergy. If allergy is minor (e.g. rash), it is safe to use Cephalosporin's (cross-over sensitivity is less than 10%). If patient has had previous anaphylaxis; do not use any of the β -lactam antibiotics (including Piperacillin/tazobactam (Tazocin) and Meropenem). The choice of antibiotic for a penicillin allergic patient can be complicated and dependent on the individual case. If a penicillin allergy alternative is not given in this policy then contact microbiology for further advice.
8. All antibiotics have side effects including C. Difficile. In particular broad spectrum Cephalosporins, Co-Amoxiclav, Tazocin, Carbapenems and Quinolones are implicated in Clostridiodes difficile infection, where possible, an alternative antibiotic is recommended.
9. Ciprofloxacin PO bioavailability of 60-80%. Only use IV if oral route is

compromised, and note restrictions on use of fluoroquinolones following MHRA safety review 2019.

Patient information leaflets must be provided on prescription. Follow link below:

http://hippo.citrix.dghealth.scot.nhs.uk/sorce/apps/sorce_doc_manager/Actions/view_doc.aspx?docid=1029290&revid=1031671

10. **Review intravenous antibiotics daily.** Consider switching to oral therapy when the patient is clinically improved and the following criteria are satisfied: Temperature is resolving; patient can tolerate oral therapy; suitable oral alternative is available (See IV to oral guidelines on the intranet in Antibiotic Prescribing section for more details).
11. If required, microbiological advice can be obtained from the duty microbiologist.
12. Prescriptions for antibiotics must include documentation of the indication and stop/review date on HEPMA or prescription chart or in the medical notes.
13. If you require advice for any indication not listed here please contact duty consultant microbiologist. Ensure all relevant clinical information is available.
14. Audit of antibiotic prescribing against this policy is carried out on a regular basis.

Useful contact numbers

Duty consultant microbiologist (Switchboard)

Infectious diseases consultant Dr Jones (33096) or Dr Munang (31672)

Antimicrobial Pharmacist Susan Coyle (32155)

Out of hours – Clinical queries on call Microbiologist or Pharmacy issues on call

Pharmacist via switchboard.

Sepsis

Sepsis is a life-threatening organ dysfunction caused by dysregulated host response to infection. Arises due to injury to tissues, usually as a response to infection. Sepsis has a mortality rate of 30% in the UK.

Septic shock is a subset of sepsis, in which circulatory and metabolic abnormalities are profound enough to substantially increase mortality. End organ damage has occurred as a result of sepsis – lactate remains high, and BP remains low despite adequate fluid resuscitation.

Screen for Sepsis (in all patients with suspected infection). Please refer to D&G sepsis bundle

- ❖ High degree of vigilance required for early identification
- ❖ If presenting with infection and physiological disturbances (NEWS of ≥ 4 , or 3 in one parameter)
→ **Stop. Think: Could this be Sepsis?**

Presence of Red Flags

- V, P or U on AVPU – responds only to voice or pain, or is unrousable
- SBP ≤ 90 mmHg (or < 40 mmHg from normal)
- HR > 120
- RR ≥ 25
- Requires oxygen to maintain SaO₂ $\geq 92\%$
- Non-blanching rash/ cyanosis/ mottled skin/ ashen looking
- No urine output in last 18 hours
- Urine output < 0.5 ml/kg/hr
- Lactate ≥ 2
- Recent chemotherapy

Any red flags → start Sepsis-6 within 1 hour and request senior review

Presence of Amber Flags

- Relatives concerned about mental status/ confusion
- Acute deterioration in functional ability
- Immunosuppressed
- Trauma/ surgery/ procedure in last 6 weeks
- RR 21-24 OR working hard to breathe
- SBP 91-100mmHg
- HR 91-120 OR new arrhythmia
- Temperature < 36
- No urine output in last 12-18 hours
- Clinical signs of wound, skin or device infection

Any amber flags → take bloods and lactate and senior review within 1 hour and treatment started, if appropriate, within 3 hours or sooner

Take cultures (blood, urine, etc) and measure lactate prior to commencing antibiotic treatment.

Antibiotics of choice for Sepsis

Indications	1 st line antibiotics	2 nd line antibiotics	Duration
Sepsis of unknown origin			
	Amoxicillin 1g IV 8-hourly AND IV gentamicin If Group A strep possible: ADD Clindamycin 600mg IV 6-hourly	IV vancomycin AND IV gentamicin If Group A strep possible: ADD Clindamycin 600mg IV 6-hourly	Duration depends on source Review after 48 hours and switch if possible
Sepsis and unsure if LRTI or UTI			
	Amoxicillin 1g IV 8-hourly AND IV gentamicin	Co-trimoxazole 960mg IV 12-hourly (and consider) IV gentamicin	Review at 48hrs and switch
Respiratory tract sepsis			
Community-acquired	Clarithromycin 500mg IV/PO 12-hourly AND Amoxicillin 1g IV or Co-amoxiclav 1.2g IV 8-hourly	Levofloxacin 500mg IV/PO 12-hourly	5 days 10-14 days of 'atypical cover' if <i>Legionella pneumonia</i>
Hospital-acquired	Co-trimoxazole 960mg IV 12-hourly AND IV gentamicin		
Urinary tract sepsis			
Pyelonephritis sepsis	IV Gentamicin	If eGFR <20ml/min: Ciprofloxacin 500mg PO 24-hourly	7 days (Max 4 days gent)
CAUTI sepsis <i>Change catheter after 1st dose</i>	IV Gentamicin	If eGFR <20ml/min: Ciprofloxacin 500mg PO 24-hourly	7 days (Max 4 days gent)
Gastrointestinal sepsis			
	Amoxicillin 1g IV 8-hourly AND Metronidazole 500mg	If eGFR <20ml/min: Tazocin 4.5g IV 12-hourly	5-7 days

	IV 8-hourly AND IV gentamicin	If penicillin allergy: IV vancomycin AND IV gentamicin AND Metronidazole 500mg IV 8-hourly If both: Metronidazole 500mg IV 8-hourly AND Ciprofloxacin 500mg PO/IV 12-hourly	IVOST option: Co-trimoxazole 960mg PO 12-hourly AND Metronidazole 400mg PO 8-hourly
Sepsis from skin or soft tissue infections			
	Flucloxacillin 2g IV 6-hourly AND Clindamycin 600mg IV 6-hourly (If immunosuppressed/risk of gram-negative infection give STAT IV gentamicin)	IV vancomycin AND Clindamycin 600mg IV 6-hourly (If immunosuppressed/risk of gram-negative infection give STAT IV gentamicin)	7-10 days IVOST option: Flucloxacillin PO/ Clindamycin PO
Necrotising fasciitis <i>Get urgent surgical review</i>	IV gentamicin AND Clindamycin 1.2g IV 6-hourly AND Tazocin 4.5g IV 6-hourly AND Metronidazole 500mg IV 8-hourly	IV gentamicin AND Clindamycin 1.2g IV 6-hourly AND IV vancomycin AND Metronidazole 500mg IV 8-hourly	10 days
Sepsis from bone or joint infections			
Joint infection <i>Aspirate first</i>	Flucloxacillin 2g IV 6-hourly AND IV gentamicin	IV vancomycin AND IV gentamicin	6 weeks total – usually 2 weeks IV antibiotics
Diabetic foot <i>Get urgent surgical review</i>	Flucloxacillin 2g IV 6-hourly AND Metronidazole 500mg IV 8-hourly AND IV gentamicin	IV vancomycin AND Metronidazole 500mg IV 8-hourly AND IV gentamicin	10-14 days

Central nervous system sepsis			
Meningitis	Ceftriaxone 2g IV 12-hourly (or IM stat) AND Dexamethasone 10mg IV 6-hourly If >55years or immunocompromised, or confirmed <i>Listeria</i> : ADD Amoxicillin 2g IV 4-hourly	Chloramphenicol 25mg/kg IV 6-hourly (only if anaphylaxis to penicillin) AND Dexamethasone 10mg IV 6-hourly If >55 years or immunocompromised or confirmed <i>Listeria</i> : ADD Co-trimoxazole 30mg/kg 6-hourly	7-14 days
If suspected HSV encephalitis	Aciclovir 10mg/kg IV 8-hourly		10-21 days
Sepsis from ENT infection			
	Benzylpenicillin 2.4g IV 6-hourly AND Clindamycin 600mg IV 6-hourly	IV vancomycin AND Clindamycin 600mg IV 6-hourly	Depends on source IVOST option: Phenoxymethylpenicillin
Neutropaenic Sepsis			
Definition: <ul style="list-style-type: none"> • Signs of sepsis • Neutrophils <0.5 or <1 if chemotherapy in the last 21 days 			
Standard risk <i>Neutropaenic sepsis and NEWS ≤6</i>	Tazocin 4.5g IV 6-hourly If MRSA positive: ADD IV vancomycin	IV gentamicin AND IV vancomycin (irrespective of MSRA status)	7 days
High risk <i>Neutropaenic sepsis and NEWS >7 OR septic shock OR leukaemia OR allogenic stem cell transplant</i>	Tazocin 4.5g IV 6-hourly AND IV gentamicin If MRSA positive: ADD IV vancomycin	IV gentamicin AND IV vancomycin (irrespective of MSRA status) Ciprofloxacin 400mg IV 12-hourly	7 days
Sepsis in pregnancy or post-partum period			
Mild/Moderate (no concerns over toxic shock)	Amoxicillin 1g IV 8-hourly AND Metronidazole	If eGFR <20ml/min: Tazocin 4.5g IV 12-hourly	

<p>For Vancomycin/Gentamicin dosing, use actual body weight at booking unless obese</p>	<p>500mg IV 8-hourly AND IV Gentamicin</p>	<p>If penicillin allergy: IV vancomycin AND IV gentamicin AND Metronidazole 500mg IV 8-hourly</p> <p>If both: Metronidazole 500mg IV 8-hourly AND Ciprofloxacin 500mg</p>	
<p>Severe sepsis/Septic shock Consider Toxic shock syndrome</p>	<p>Tazocin 4.5g IV 6-hourly AND Gentamicin AND Clindamycin 900mg IV 6-hourly</p> <p>If previous MRSA: Add IV Vancomycin</p>	<p>Mild Penicillin allergy: Meropenem 1g 8-hourly AND Clindamycin 900mg IV 6-hourly AND consider Gentamicin</p> <p>If previous MRSA: Add IV Vancomycin</p> <p>Severe penicillin allergy: Ciprofloxacin 400mg IV 12-hourly if NBM OR 500mg PO 12-hourly (excellent oral bioavailability) AND Gentamicin AND Metronidazole 400mg 8-hourly</p> <p>If previous MRSA: Add IV Vancomycin</p>	

Respiratory Tract Infections

Indications	1 st Line antibiotic	2 nd Line antibiotic	Typical Duration
<p>Covid See SAPG update https://www.sapg.scot/media/6096/updated-sapg-advice-on-hospital-ams-in-the-context-of-covid-19-july-2021.pdf</p> <p style="text-align: center;">Community Acquired Pneumonia</p> <p>Assess severity with CURB-65 score</p> <p>For severe pneumonia →</p> <ul style="list-style-type: none"> • Urine for legionella and pneumococcal antigens • Blood cultures • Sputum cultures • Viral specimens • HIV test 			
<p>CURB-65 ≤1 Mild</p> <p>CURB-65 = 2 Moderate</p>	<p>Amoxicillin 1g PO 8-hourly (unless H. Influenza has been excluded)</p>	<p>Clarithromycin 500mg PO 12-hourly OR Doxycycline – 200mg stat, then 100mg PO twice daily</p>	<p>5 days</p>
<p>CURB-65 ≥3 Severe</p> <p style="text-align: center;">OR</p> <p>Clinically severe pneumonia in young patients</p>	<p>Clarithromycin 500mg IV/PO AND Amoxicillin 1g IV 8- hourly OR Co-amoxiclav 1.2g IV 8-hourly</p>	<p>Levofloxacin 500mg IV/PO 12-hourly</p> <p>(Use as 1st line for suspected <i>Legionella</i>)</p>	<p>5 days</p> <p>For suspected <i>Legionella</i> give 10-14 days Levofloxacin</p> <p>IVOST option: Co-amoxiclav with clarithromycin, or levofloxacin</p>
<p>Unsure if LRTI or UTI, and no evidence of sepsis</p>	<p>Nitrofurantoin 50mg PO 6-hourly AND Amoxicillin 500mg PO 8-hourly</p>	<p>Co-trimoxazole 960mg PO 12-hourly</p>	<p>Diagnosis needs to be clarified 48-hours into admission and switched to more specific antibiotic coverage</p>
<p style="text-align: center;">Hospital Acquired Pneumonia</p> <p>Early Onset: ≤ 4 days from admission date Late Onset: ≥ 5 days from admission date</p> <p>Assess severity using CURB-65 criteria</p>			

Early-Onset	Follow CAP guidance based on CURB-65 score	Follow CAP guidance based on CURB-65 score	5 days
Non-severe Late-Onset	Doxycycline 200mg stat then 100mg PO twice daily	Co-trimoxazole 960mg PO 12-hourly	5 days
Severe Late-Onset	Co-trimoxazole 960mg IV 12-hourly AND Gentamicin IV If MRSA positive, ADD IV Vancomycin	Levofloxacin 500mg IV/PO 12-hourly If MRSA positive, ADD IV Vancomycin	5 days Gentamicin: Review after 48-hours IVOST option: Co-trimoxazole or levofloxacin
<u>Aspiration Pneumonia</u>			
Suspected or confirmed on CXR	Amoxicillin 1g IV 8-hourly AND Metronidazole 500mg IV 8-hourly	Clarithromycin 500mg IV 12-hourly AND Metronidazole 500mg IV 8-hourly	5 days
<u>Infective Exacerbation of COPD</u>			
Purulent sputum – likely bacterial aetiology	Doxycycline 200mg stat then 100mg PO twice daily	Amoxicillin 1g PO 8-hourly Unless H. Influenza has been excluded OR Clarithromycin 500mg PO 12-hourly	5 days Remember to give steroids – 30mg prednisolone daily for 5-10 days
Non-purulent sputum - likely viral aetiology	No antibiotic coverage required		Prednisolone 30mg PO once daily for 5-10 days

Genito-urinary Tract/Obstetric Infections

Indications	1 st Line Antibiotics	2 nd Line antibiotics	Typical Duration
<u>Lower UTI (cystitis)</u>			
MSSU for all patients Urinalysis if <65 years <i>Check C+S once available</i>	Trimethoprim 200mg PO 12-hourly OR Nitrofurantoin 50mg PO 6-hourly (or 100mg MR 12-hourly)	If eGFR <20ml/min: Ciprofloxacin 500mg PO 12 – 24 –hourly (check eGFR)	Males: 7 days Females: 3 days
<u>Upper UTI (pyelonephritis)</u>			
Without sepsis	Trimethoprim 200mg PO 12-hourly	Ciprofloxacin 500mg PO 12-hourly	7 days
With sepsis	Gentamicin IV	If eGFR <20ml/min: Ciprofloxacin 500mg PO 12-hourly	7-14 days IVOST option: Trimethoprim or ciprofloxacin
<u>UTI in pregnancy</u>			
Lower: <i>Send MSSU Treat asymptomatic bacteriuria</i>	Nitrofurantoin 50mg PO 6-hourly (or 100mg MR 12-hourly) <i>(except in 3rd trimester)</i>	Cephalexin 500mg PO 12-hourly OR Amoxicillin 500mg PO 8-hourly	7 days
Upper: <i>Send MSSU</i>	Cefalexin 500mg PO 12-hourly	Cefuroxime 1.5g IV 6- hourly	7-14 days Assess clinical response
<u>Catheter-Associated UTI</u>			
With sepsis <i>Change catheter after 1st dose of gentamicin</i>	IV Gentamicin	If eGFR <20ml/min Ciprofloxacin 500mg PO 24-hourly	7 days IVOST option: Trimethoprim or ciprofloxacin
Without sepsis <i>Change catheter after 1st dose of gentamicin</i>	IV Gentamicin – single dose THEN: Trimethoprim 200mg PO 12-hourly OR Nitrofurantoin 50mg PO 6-hourly (or 100mg MR 12-hourly)	If eGFR <20ml/min Ciprofloxacin 500mg PO 24-hourly	Males: 7 days Females: 3 days

<u>Acute Prostatitis</u>			
<i>Send MSSU</i>	Trimethoprim 200mg PO 12-hourly OR Ciprofloxacin 500mg PO 12-hourly		Minimum 14 days Review after 14 days
<u>Epididymo-orchitis</u>			
≥35 years age <i>Send MSSU</i>	Ofloxacin 400mg PO 24-hourly	Co-amoxiclav 625mg PO 8-hourly	14 days (10 days for co- amoxiclav)
<35 years age <i>Refer to GUM clinic</i>	Doxycycline 100mg PO 12-hourly		14 days
<u>Sexually Transmitted Infections</u> (please offer HIV testing)			
Gonorrhoea	Ceftriaxone 1g IM once-off	Gentamicin 240mg IM once-off AND Azithromycin 2g PO once-off	
Chlamydia	Doxycycline 200mg stat then 100mg BD for 7 days	Azithromycin 1g PO then 500mg PO for 2 days If pregnant: Amoxicillin 500mg PO 8-hourly	
<u>Pelvic Inflammatory Disease</u>			
Symptoms of PID:			
<ul style="list-style-type: none"> • Low abdominal pain, abnormal PV discharge (often purulent) or abnormal bleeding (including post coital bleeding(PCB), intermenstrual bleeding (IMB) or menorrhagia) and deep dyspareunia 			
Signs of PID			
<ul style="list-style-type: none"> • Bilateral pelvic pain, cervical excitation and bilateral adnexal tenderness and pyrexia > 38°C • Sexual health screen including HIV test is advised 			
<u>Mild to Moderate (Swabs before commencing therapy)</u>			
<i>Refer to GUM or carry out in-hospital STI testing</i>	Ceftriaxone 1g IM once-off AND Doxycycline 100mg PO 12-hourly	Ofloxacin 400mg PO 12-hourly AND Metronidazole 400mg PO 12-hourly	14 days Failure to improve suggests the need for further investigation,

	<p>AND Metronidazole 400mg PO 12-hourly (Doxycycline is contraindicated in pregnancy)</p> <p>Erythromycin 500mg BD should be used instead of doxycycline in pregnancy</p>	<p>This regimen should NOT be used in patients at high risk of gonococcal PID</p>	<p>parenteral therapy and/or surgical intervention</p> <p>(Review need for IV antibiotics 24hours after improvement)</p> <p>IVOST option: Doxycycline with Metronidazole</p>
Severe PID (including sepsis)			
<p>Consider surgical exploration and drainage if tubo-ovarian abscess ≥ 5cm or significant bilateral collections or with smaller collections if the patient is peritonitic or there has been a deterioration/ inadequate response to IV antibiotics within 24-48 hours</p>			
	<p>Ceftriaxone 2g IV 24- hourly AND Metronidazole 500mg 12 hourly (or 400mg PO 12 hourly) AND Doxycycline 100mg 12-hourly</p>	<p>IV Clindamycin 900mg 8-hourly AND IV Gentamicin</p>	<p>Continue IV therapy until 24 hours after clinical improvement</p> <p>IVOST option: PO Doxycycline 100mg 12-hourly And PO Metronidazole 400mg 12-hourly</p> <p>14 days in total</p>
Postpartum Endometritis			
<p>Antibiotics should be started on all women after specimen collection and prior to evacuation of the uterus</p>			
Mild (clinically well and temperature <37.5	<p>Co-amoxiclav 625mg PO 8-hourly</p>	<p>Clindamycin 300mg PO 6-hourly AND Ciprofloxacin 500mg PO 12-hourly</p>	<p>7 days</p>
Moderate/Severe	<p>Co-amoxiclav 1.2g 8- hourly AND Gentamicin if sepsis</p> <p>IVOST: Co-amoxiclav 625mg PO 8-hourly</p>	<p>Clindamycin 600mg IV 8-hourly + Ciprofloxacin 400mg IV 12-hourly IVOST: Clindamycin 300mg PO 6-hourly AND Ciprofloxacin 500mg PO 12-hourly</p>	<p>IVOST when clinically improving</p> <p>Duration 7 days</p>

Gastrointestinal Infections

Indications	1 st Line Antibiotics	2 nd Line antibiotics	Typical Duration
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<u>Intra-abdominal Infections</u>
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Initial treatment for intra-abdominal sepsis and infections <ul style="list-style-type: none"> Cholangitis Cholecystitis with sepsis Appendicitis Diverticulitis Peritonitis Biliary stent infections 	Amoxicillin 1g IV 8-hourly AND Metronidazole 500mg IV 8-hourly AND Gentamicin IV	If eGFR <20ml/min → IV tazocin 4.5g 12-hourly If penicillin allergic → IV vancomycin IV gentamycin IV metronidazole 500mg 8-hourly If both → Ciprofloxacin 500mg PO/IV 24-hourly Metronidazole 500mg IV 12-hourly	5-7 days IVOST option: Co-trimoxazole with metronidazole
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<u>Spontaneous bacterial peritonitis</u>

Not receiving co-trimoxazole prophylaxis	Co-trimoxazole 960mg PO/IV 12-hourly	Ciprofloxacin 400mg IV or 500mg PO 12-hourly AND IV vancomycin	7 days
Receiving co-trimoxazole prophylaxis	Co-amoxiclav 1.2g IV 8-hourly	Ciprofloxacin 400mg IV or 500mg PO 12-hourly AND IV vancomycin	

<u>Clostridioides difficile infection</u>
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Start empirical treatment for CDI if patient has loose stools and either a history of recent antibiotic use or hospitalisation (and no alternate diagnosis) or stool positive for C. Difficile toxin.
 Where possible, stop/rationalise non-clostridial antibiotics, antimotility agents and gastric acid suppression.
 Assess severity markers daily
 Please see:
[20220418-sapg-cdi-prescribing-guidance.pdf](#)
[PowerPoint Presentation \(sapg.scot\)](#)

First line treatment	Irrespective of severity	Oral Vancomycin 125 mg 6-hourly	10 days
Second line treatment	Patients who fail to improve after 7 days or worsen with oral Vancomycin (discuss with infection)	Either Fidaxomicin 200mg PO 12-hourly Or Higher dose	10 days

	specialist	Vancomycin with or without IV Metronidazole (Review need for IV metronidazole daily)	
Severe/Life threatening infection	Seek urgent advice Any of the following, related to CDI: Admission to ICU, hypotension, Ileus, WCC >35 or <2, lactate >2.2 or end organ failure	Oral Vancomycin 500mg 6-hourly With or without IV Metronidazole 500mg 8-hourly	10 days
Recurrence of CDI within 12 weeks (relapse)	Treatment failure identified as complete treatment course If incomplete course/poor compliance, treat as per first line	Fidaxomicin 200mg PO 12-hourly	10 days
Recurrence of CDI after 12 weeks (recurrence)	Treat with oral Vancomycin as per first line treatment	Oral Vancomycin 125 mg 6-hourly	10 days
Second recurrence of CDI	Discuss with infection specialist	Consider Faecal Microbiota Transplant	
<u>Decompensated chronic liver disease with sepsis of unknown origin</u>			
	Tazocin 4.5g IV 8-hourly	Ciprofloxacin 500mg PO or 400mg IV 12-hourly AND IV Vancomycin	7 days
<u>Infective diarrhoea</u>			
Send samples	Antibiotics not normally required		If systemically unwell, discuss with ID/Micro

<u>Animal bites</u>			
Assess tetanus and rabies risk Tetanus prone → any bite or scratch, unless domesticated pet with saliva only Give tetanus booster to all (unless received booster within last 10 years) Give tetanus immunoglobulin if not fully immunised (received 3 primary immunisations)			
Non-severe	Co-amoxiclav 625mg PO 8-hourly	Doxycycline 200mg stat then 100mg 12- hourly PO AND Metronidazole 400mg PO 8-hourly	5 days
Severe <i>(over joints; requiring washout)</i>	Co-amoxiclav 1.2g IV 8-hourly	Vancomycin IV AND Metronidazole 400mg PO 8-hourly AND Ciprofloxacin 500mg PO 12-hourly	7 days
<u>Human bites</u>			
Assess HIV and hepatitis risk – prophylaxis as required			
	Co-amoxiclav 625mg PO 8-hourly	Doxycycline PO 200mg stat then 100mg 12-hourly AND Metronidazole 400mg PO 8-hourly	5 days
<u>Burns, contaminated wounds, and compound fractures</u>			
Give tetanus booster to all (unless received booster within last 10 years) Give tetanus immunoglobulin if not fully vaccinated (received 3 primary immunisations)			
	Co-amoxiclav 625mg PO or 1.2g IV 8-hourly	Doxycycline 200mg stat then 100mg 12- hourly AND Metronidazole 400mg PO 8-hourly	5-7 days
<u>Varicella Zoster Infections</u>			
Chickenpox <i>Seek advice if pregnant</i>	Aciclovir 800mg PO 5 times a day OR 5mg/kg IV 8-hourly If lesions are infected: ADD Flucloxacillin 500mg PO 6-hourly OR Clarithromycin 500mg PO 12-hourly		7 days
Shingles	Aciclovir 800mg PO 5 times a day OR 5mg/kg IV 8-hourly		5 days

Infected eczema

<i>Take swabs</i>	Fusidic acid 2% topically 8-hourly	If penicillin allergic and needs oral abx:	5-7 days
<i>Manage underlying condition with topical steroid, emollients</i>	If unresponsive: Flucloxacillin 500mg PO 6-hourly	Clarithromycin 500mg PO 12-hourly	

Bone and Joint Infections

Indications	1 st line antibiotics	2 nd line antibiotics	Duration
<u>Septic Arthritis</u>			
Aspirate joint and send cultures prior to commencing antimicrobial therapy			
Native joint	Flucloxacillin 2g IV 6-hourly If gram-negative sepsis, ADD: IV Gentamicin	IV vancomycin If gram-negative sepsis, ADD: IV Gentamicin	6 weeks total 2 weeks IV therapy 4 weeks PO therapy
Prosthetic joint	<i>Discuss with microbiology</i>		
<u>Osteomyelitis</u>			
<i>Discuss with microbiology</i>			
<u>Diabetic foot ulcer</u>			
Mild infection	Flucloxacillin 1g PO 6-hourly	Doxycycline 200mg stat then 100mg PO 12-hourly	5-7 days
Moderate infection	No prior antibiotics: Co-amoxiclav 625mg PO or 1.2g IV 8-hourly	Clindamycin 300-450mg PO 6-hourly or 900mg IV 8-hourly	5-7 days
	Prior antibiotics: Co-amoxiclav 1.2g IV 8-hourly ADD IV vancomycin if MRSA positive	Ciprofloxacin 400mg IV 12-hourly AND Metronidazole 500mg IV 8-hourly ADD IV vancomycin if MRSA positive	
Severe infection Urgent surgical review warranted	Flucloxacillin 2g IV 6-hourly AND Metronidazole 500mg IV 8-hourly If septic, ADD: IV gentamicin	IV vancomycin AND Metronidazole 500mg IV 8-hourly If septic, ADD: IV gentamicin	10-14 days

Central Nervous System Infections

Indications	1 st Line antibiotics	2 nd line antibiotics	Duration
<u>Bacterial Meningitis</u>			
<55 years	Ceftriaxone 2g IV 12-hourly AND Dexamethasone 10mg IV 6-hourly	Chloramphenicol 25mg/kg IV 6-hourly <i>(in penicillin anaphylaxis)</i> AND Dexamethasone 10mg IV 6-hourly	7-14 days
>55 years or immunocompromised	Ceftriaxone 2g IV 12-hourly AND Amoxicillin 2g IV 4-hourly AND Dexamethasone 10mg IV 6-hourly	Chloramphenicol 25g/kg IV 6-hourly AND Co-trimoxazole 30mg/kg IV 6-hourly AND Dexamethasone 10mg IV 6-hourly	<i>Discuss with microbiology <u>prior to commencing 2nd line treatment if not known to have had a true anaphylaxis reaction to penicillins</u></i>
<u>Viral Meningitis</u>			
Usually no treatment required			
<u>Viral Encephalitis</u>			
Discuss with microbiology if suspecting HSV	Aciclovir IV 10mg/kg 8-hourly		10-21 days

Ophthalmic, ENT and maxillofacial Infections

Indications	1 st line antibiotics	2 nd line antibiotics	Duration
<u>Tonsillitis</u>			
Most cases are viral and do not require antibiotics Calculate CENTOR or FEVERPAIN criteria to assist with decision-making			
Evidence of sepsis	Benzylpenicillin 2.4g IV 6-hourly AND Clindamycin 600mg IV 6-hourly	IV vancomycin AND Clindamycin 600mg IV 6-hourly	10 days IVOST option: Penicillin V or Clindamycin
No evidence of sepsis	Phenoxymethylpenicillin 500mg PO 6-hourly or 1g PO 12-hourly	Clarithromycin 500mg PO 12-hourly	10 days 5 days for clarithromycin
Quinsy <i>Drain abscess immediately</i>	Benzylpenicillin 2.4g IV 6-hourly AND Clindamycin 600mg IV 6-hourly	Clindamycin 600mg IV 6-hourly	10 days IVOST option: Penicillin V or Clindamycin
<u>Epiglottitis and Supraglottitis</u>			
Urgent anaesthetics review if any airway concerns or stridor occurs			
	Ceftriaxone 2g IV 24-hourly	Clindamycin 900mg IV 8-hourly AND Ciprofloxacin 400mg IV 12-hourly	7-10 days IVOST option: Co-amoxiclav or Ciprofloxacin
<u>Preseptal/Orbital cellulitis</u>			
Urgent CT scan to assess extent and for intracranial extension			
	Flucloxacillin 2g IV 6-hourly OR Ceftriaxone 2g IV 24-hourly or 12-hourly if intracranial extension	IV vancomycin AND Ciprofloxacin 400mg IV or 500mg PO 12-hourly	10-14 days IVOST option: Flucloxacillin or Ciprofloxacin
<u>Acute otitis media</u>			
Avoid antibiotics if able – usually only given if systemically unwell or >5 days duration of illness			
	Co-amoxiclav 625mg PO 8-hourly OR Co-amoxiclav 1.2g IV if severe	Clarithromycin 500mg PO 12-hourly OR Clindamycin 900mg IV 6-hourly if severe	5 days

<u>Sinusitis</u>			
Acute ≤6 weeks duration	Amoxicillin 500mg PO 8-hourly OR Co-amoxiclav PO if severe	Doxycycline 200mg stat then 100mg PO 12-hourly	5 days
Chronic >6 weeks duration	No antibiotics needed Treat with saline rinses, nasal steroids and one week of decongestant		
<u>Otitis externa</u>			
Acute infection	Acetic acid 2% topically 8-hourly If fungal: ADD Clotrimazole drops 8-hourly	Neomycin sulphate with steroid topically 8-hourly	7 days
Acute, severe infection	ADD: Flucloxacillin 500mg PO 6-hourly	ADD: Clarithromycin 500mg PO 12-hourly	7 days
Malignant otitis externa	Discuss with OPAT/Microbiology		6 weeks
<u>Acute Mastoiditis</u>			
Requires urgent CT scan to assess intracranial involvement and extent of infection			
	Co-amoxiclav 1.2g IV 8-hourly	Ciprofloxacin 500mg IV 12-hourly Clindamycin 900mg IV 6-hourly	10-14 days
<u>Suppurative parotitis</u>			
<i>Review culture results Check for mumps and other causes</i>	Co-amoxiclav 1.2g IV 8-hourly	Clindamycin 900mg IV 6-hourly	10-14 days
<u>Dental abscess</u>			
For immunocompetent persons with no systemic upset, no antibiotics are required Requires urgent dental review https://www.sapg.scot/media/5473/statement-on-pen-v-in-dental-infections.pdf http://www.sdcep.org.uk/wp-content/uploads/2016/03/SDCEP-Drug-Prescribing-for-Dentistry-3rd-edition.pdf			
	Phenoxymethylpenicillin (Penicillin V) 500mg 6-hourly	Metronidazole 400mg PO 8-hourly	5 days

Facial cellulitis			
	Flucloxacillin 2g IV 6-hourly AND Clindamycin 900mg IV 6-hourly	IV vancomycin AND Clindamycin 900mg IV 6-hourly	7 days
Retropharyngeal Abscess			
If any airway concerns, get urgent anaesthetic review			
<i>Surgical review for drainage</i>	Ceftriaxone 2g IV 12-hourly AND Metronidazole 500mg IV 8-hourly	Clindamycin 900mg IV 6-hourly AND Ciprofloxacin 500mg PO 12-hourly	10-14 days Review antibiotic options at 7 days IVOST option: Co-amoxiclav or clindamycin with ciprofloxacin
Eye infections			
Bacterial conjunctivitis, blepharitis	Chloramphenicol 1% Topically 6-hourly		7 days
Gonococcal conjunctivitis <i>Urgent referral to ophthalmology</i>	Ceftriaxone 1g IM once-off dosing	Gentamicin 240mg IM once-off AND Azithromycin 1g PO once-off	Discuss with microbiology prior to giving 2 nd line treatment if not true anaphylaxis to penicillin
Chlamydial conjunctivitis <i>Urgent referral to ophthalmology</i>	Azithromycin 1g PO once off dosing	Doxycycline 200mg stat then 100mg daily for 5 days	
Viral conjunctivitis	Self-limiting. Cool compresses and antihistamines usually sufficient. Give chloramphenicol if any doubt		7 days
Bacterial keratitis <i>Urgent referral to ophthalmology</i>	If not same day review: Topical ofloxacin 2-4 hourly until reviewed		
Ocular herpes/ HSV keratitis <i>Urgent referral to ophthalmology</i>	If not same day review: Topical acyclovir 5 times daily until reviewed		
Endophthalmitis <i>Urgent referral to ophthalmology</i>	<i>Admission required</i> If not same day review:		
	Cefazolin 2g IV once-off AND IV gentamycin	Ciprofloxacin 750mg PO once-off AND IV gentamycin	

Systemic Infections

Indications	1 st line antibiotics	2 nd line antibiotics	Duration
Neutropaenic sepsis			
Definition: <ul style="list-style-type: none"> Signs of sepsis Neutrophils <0.5 or <1 if chemotherapy in the last 21 days			
Standard risk Neutropaenic sepsis AND NEWS ≤6	Tazocin 4.5g IV 6-hourly <i>If MRSA positive:</i> ADD IV vancomycin	IV gentamicin AND IV vancomycin <i>(irrespective of MRSA status)</i>	7 days
High risk Neutropaenic sepsis AND NEWS >7 OR septic shock OR leukaemia OR allogenic stem cell transplant	Tazocin 4.5g IV 6-hourly AND IV gentamicin <i>If MRSA positive:</i> ADD IV vancomycin	IV gentamicin AND IV vancomycin <i>(irrespective of MRSA status)</i> AND Ciprofloxacin 400mg IV 8-hourly	7 days
Staph aureus bacteraemia			
https://www.sapg.scot/media/4706/sab-algorithm.pdf			
Needs investigation for source	Flucloxacillin 2g IV 6-hourly	IV vancomycin	Depends on source 14 days minimum
Infective endocarditis			
Requires 3 separate blood cultures, ideally over 48hrs AND prior to antibiotics	<i>Discuss with microbiologist</i>		
Line infections			
PVC phlebitis	Remove line	Remove line	5 days
Peripheral line infections	<i>If sepsis:</i> Flucloxacillin 2g IV 6-hourly	<i>If sepsis:</i> IV vancomycin	
Central line infection	<i>Discuss with microbiologist Treatment depends on underlying organism</i>		

MRSA Policy – Best Practice Guidelines (Extract)

Decolonisation

If a patient is found to be MRSA positive from an admission screen (or any other skin site swab not indicative of infection) treatment will consist of a decolonisation regime.

Decolonisation treatment is as follows:

Treatment – for five days

Product	Bactroban Nasal Mupiricin 2%	Antimicrobial Body Wash – Stellisept
Where it's for	Nasal passages	All over body wash (including hair)
When to use	3 x daily (morning afternoon & Night)	1 x daily
How to apply	A small amount (about the size of match head) should be placed on a cotton bud or tip of little finger & applied to each nostril. The sides of the nose should be pinched together to spread ointment.	Shower in warm water for 1-3 minutes. Apply body wash (40- 50ml if liquid) (25-33ml if foam) head to toe. Wash off after 1-2 minutes.

Clearance from MRSA will consist of three consecutive negative swabs, each taken at least 48 hours apart. If decolonisation is unsuccessful after two attempts a third attempt should not be made. If the patient is to undergo a high risk procedure and decolonisation has been unsuccessful after 2 attempts please contact the Infection Control Team.

Patients who are being discharged to their own home may not require decolonisation if risk is low.

<http://www.sdcep.org.uk/wp-content/uploads/2016/03/SDCEP-Drug-Prescribing-for-Dentistry-3rd-edition.pdf>