

'ALERT' ANTIMICROBIAL GUIDANCE for ADULT PATIENTS

Resistance to antimicrobials is recognised nationally and internationally as a major threat to public health and patient safety. Using agents less likely to select for resistance can delay the emergence of resistant strains. It is known that a significant proportion of antimicrobial usage in hospitals is inappropriate because of excessive use or incorrect choice. All hospitals in NHS Scotland must have an 'alert' or 'restricted' antimicrobial policy to meet guidance from the [Scottish Antimicrobial Prescribing Group](#) and [HAI Standards](#).

The antimicrobials in this NHS Tayside guidance have been chosen as they are considered to be those that are most frequently irrationally prescribed, increased risk of toxicity or should be reserved for occasions where there are clear microbiological indications e.g. multi resistant organisms. The NHS Tayside Antimicrobial Management Group routinely adds all new antimicrobials to this guidance.

There are 3 categories: **Routine use on empirical guidelines**, **approved use within specific treatment guidelines**, **use that requires approval**. Any member of clinical staff can identify an 'alert' antimicrobial on a patient's medicine chart and if not prescribed in line with guidance request that the medical team review and discuss with ID or Microbiology. Refer to [MicroGuidance](#) for guidance on microbiological cover usually provided by these antimicrobials.

RESTRICTED AGENT (in alphabetical order)	NOTES	Use within EMPIRICAL GUIDELINES 'ANTIBIOTIC ADULT'	Use within SPECIFIC TREATMENT GUIDELINES	Use that requires ID OR MICROBIOLOGY APPROVAL
AMIKACIN	See link for full guidance		NTM (Non- tuberculous mycobacterial) infection – prior discussion at Respiratory Complex Infection MDT	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
ANTIFUNGALS: ANIDULAFUNGIN CASPOFUNGIN VORICONAZOLE POSACONAZOLE ISAVUCONAZOLE AMPHOTERICIN			Haematology Antifungal Guidance Antifungal Guidance – invasive infections in non haematology/oncology patients Respiratory Aspergillosis Guidance – prior discussion at Respiratory Complex Infection MDT	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
AZTREONAM	See link for full guidance Does not provide same level of gram negative cover as gentamicin. No gram positive/ anaerobic / ESBL cover. Micro reported as 'I' (sensitive @increased dose) for <i>Pseudomonas</i> – not usually used locally for <i>Pseudomonas</i> unless recommended by infection specialist.		Appropriate Use of Aztreonam - As an alternative for patients who have reduced renal function or have had up to 96 hours of gentamicin and require further IV treatment Adult Cystic Fibrosis Neutropenic sepsis in patients with penicillin allergy Urology Surgical Prophylaxis Vascular Surgical Prophylaxis Radiological Procedures Prophylaxis	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
CEFAZOLIN	See link for full guidance No activity against MRSA/Enterococcus/ Anaerobes/ <i>Pseudomonas spp</i>			Can <u>ONLY</u> be used if approved by ID/Micro Stock kept in hospital pharmacy

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CEFEPIME	Active against gram positive and gram negative bacteria including <i>Pseudomonas spp.</i> but not reliable for ESBLs. Limited activity against MRSA/ Enterococcus/ Anaerobes.			Can <u>ONLY</u> be used if approved by ID/Micro NOT routinely stocked in hospital pharmacy – requires to be ordered.
CEFOXITIN			NTM (Non- tuberculous mycobacterial) infection – prior discussion at Respiratory Complex Infection MDT	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u> NOT routinely stocked in hospital pharmacy – requires to be ordered.
CEFTAZIDIME	Micro reported as 'I' (sensitive @increased dose) use IV 2g tds in patients with normal renal/hepatic function unless alternative specific dose on relevant guidance e.g. CF infections		Adult Cystic Fibrosis Guidance Post operative/Post trauma/Shunt associated meningitis Bronchiectasis – sputum culture positive for <i>Pseudomonas</i>	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
CEFTAZIDIME/ AVIBACTAM (ZAVICEFTA®)	Active against gram negative bacteria including <i>Pseudomonas spp</i> and ESBLs. No gram positive or anaerobic cover.			Can <u>ONLY</u> be used if approved by ID/Micro Small quantity kept in stock in hospital pharmacy.
CEFIDEROCOL	Active against Gram negative bacteria. No gram positive or anaerobic cover			Can <u>ONLY</u> be used if approved by ID/Micro NOT kept as stock in hospital pharmacy (oncall pharmacist - national stock holding on RUUM list)
CEFTOBIPROLE	Active against MRSA and gram negative bacteria including <i>Pseudomonas spp.</i> Approved locally for hospital acquired pneumonia (not ventilator associated or community acquired) in patients with multiple allergies/intolerances if all other options considered & MRSA + gram negative cover required.			Can <u>ONLY</u> be used if approved by ID/Micro NOT routinely stocked in hospital pharmacy – requires to be ordered.

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CEFTOLAZONE/ TAZOBACTAM (ZEBAXA®)	Active against gram negative bacteria including <i>Pseudomonas spp</i> and ESBLs Approved locally for ID/Micro use only for patients with multi drug resistant gram negative infections. Licensed for IA/UTI infections.			Can <u>ONLY</u> be used if approved by ID/Micro NOT kept as stock in hospital pharmacy.
CEFTRIAZONE		Empirical treatment of Meningitis Epiglottitis/Supraglottitis	Orbital Cellulitis Pelvic Inflammatory Disease Pregnancy severe UTI if penicillin allergic Brain Abscess OHPAT Service	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
CHLORAMPHENICOL (IV and oral)			Bacterial meningitis community acquired – severe confirmed penicillin allergy IV alternative to ceftriaxone	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
CIDOFOVIR IV	Must be prepared in Pharmacy Aseptic Unit		CMV retinitis	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
CIPROFLOXACIN ORAL/IV	Oral formulation has high bioavailability, IV only indicated if oral route compromised Refer to fluoroquinolone warnings Micro reported as 'I' (sensitive @ increased dose) use oral 750mg bd or IV 400mg tds in patients with normal renal/hepatic function		Adult Cystic Fibrosis Oral: Bronchiectasis exacerbation and sputum culture positive for <i>Pseudomonas</i> Oral: COPD exacerbation and sputum culture positive for <i>Pseudomonas</i> Oral step down for specific infections – severe penicillin allergy AND renal impairment Epididymo-orchitis Acute Bacterial Prostatitis Lower UTI in CKD 4/5 Urology Surgical Prophylaxis ITU guidance ENT guidance for skull base osteomyelitis step down to oral following prolonged IV therapy Neutropenic sepsis in patients with penicillin allergy Prosthetic Joint Infection Shunt associated or post op meningitis/ventriculitis Meningococcal contact prophylaxis – single dose Maternal sepsis Haematology/Oncology – prophylaxis for specific chemotherapy regimens	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>

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COLISITIN (Colistimethate sodium)	See full guidance			Can <u>ONLY</u> be used if approved by ID/Micro
DALBAVANCIN				Can <u>ONLY</u> be used if approved by ID/Micro
DAPTOMYCIN				Can <u>ONLY</u> be used if approved by ID/Micro
ERTAPENEM	Not active against <i>Pseudomonas</i> <i>spp</i>			Can <u>ONLY</u> be used if approved by ID/Micro
FIDAXOMICIN			Recurrent CDI	Can <u>ONLY</u> be used if approved by ID/Micro
FOSFOMYCIN IV				Can <u>ONLY</u> be used if approved by ID/Micro Small quantity kept in stock in hospital pharmacy.
GENTAMICIN	See full guidance	Severe hospital acquired or aspiration pneumonia Intra-abdominal sepsis including pancreatitis Urosepsis Sepsis unknown source	Many indications	Requires approval by ID/Micro if IV gentamicin required >96 hours BEFORE CONTACTING first ensure review of: <ul style="list-style-type: none"> • microbiology results • consider IVOST • consider alternative e.g. aztreonam
IMIPENEM/ CILASTATIN (PRIMAXIN®)			NTM (Non- tuberculous mycobacterial) infection – prior discussion at Respiratory Complex Infection MDT	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u> NOT kept as stock in hospital pharmacy.
LEVOFLOXACIN IV	Micro reported as 'I' (sensitive @ increased dose) always use 500mg bd in patients with normal renal/hepatic function Refer to fluoroquinolone warnings	Severe community acquired pneumonia in penicillin allergy	Legionella pneumonia	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>

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LEVOFLOXACIN ORAL	Micro reported as 'I' (sensitive @ increased dose) always use 500mg bd in patients with normal renal/hepatic function Refer to fluoroquinolone warnings		Alternative in Pelvic Inflammatory Disease and Epididymo-orchitis if ofloxacin unavailable H pylori infection in specific 2 nd /3 rd line treatments Legionella pneumonia	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
LINEZOLID	Oral formulation has high bioavailability, IV only indicated if oral route compromised See full guidance		Vascular Infection Guidance ICU guidance NTM guidance - prior discussion at Respiratory Complex Infection MDT MDRTB - prior discussion at TB MDT	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
MEROPENEM	Overuse increases risk of multi drug resistant gram negative bacteria - consider carbapenem sparing agents. Does not require additional anaerobic cover Micro reported as 'I' (sensitive @ increased dose) use 2g tds in patients with normal renal/hepatic function.		Endocarditis in native valve sepsis AND risk factors for resistant pathogens ICU guidance Neutropenic sepsis Adult Cystic Fibrosis NTM guidance - prior discussion at Respiratory Complex Infection MDT	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
MEROPENEM/ VABORBACTAM (VABOREM®)	Active against certain KPC producing carbapenem-resistant Enterobacteriaceae Licensed for IA/UTI/HAP/VAP infections.			Can <u>ONLY</u> be used if approved by ID/Micro NOT kept as stock in hospital pharmacy (oncall pharmacist - national stock holding on RUUM list)
MOXIFLOXACIN ORAL/IV	Oral formulation has high bioavailability Refer to fluoroquinolone warnings		NTM guidance - prior discussion at Respiratory Complex Infection MDT TB - prior discussion at TB MDT Alternative in Pelvic Inflammatory Disease and Epididymo-orchitis if ofloxacin unavailable or for use by Sexual Health clinic for <i>M. genitalium</i> infections	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u> IV formulation NOT kept as stock in hospital pharmacy
OFLOXACIN ORAL	Oral formulation has high bioavailability Refer to fluoroquinolone warnings		Pelvic Inflammatory Disease Epididymo-orchitis Acute Bacterial Prostatitis	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>

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PIPERACILLIN/ TAZOBACTAM	<p>Overuse increases risk of multi drug resistant gram negative bacteria</p> <p>Does not require additional anaerobic cover</p> <p>Micro reported as 'I' (sensitive @ increased dose) use 4.5g qds in patients with normal renal/hepatic function. 3 hour infusion recommended in critical illness if possible</p>	Spontaneous bacterial peritonitis	ENT guidance for skull base osteomyelitis Neutropenic sepsis ICU guidance Adult Cystic Fibrosis Cellulitis – for Fournier's gangrene Maternal sepsis Bronchiectasis – sputum culture positive for <i>Pseudomonas</i>	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
PRISTINAMYCIN	Unlicensed. Supply issues discuss with pharmacist re access.		Orthopaedic implant associated infections – prior discussion at B&J MDT	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>
REMDESIVIR			Non severe COVID inpatients meeting eligibility criteria – 3 rd line option	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro:</u> Including treatment of COVID-19 in adult patients with pneumonia requiring supplemental oxygen for 5 day course and further approval for ID/Micro required if considering extending to 10 day course
RIBAVIRIN			Hepatitis C treatment via Hepatology MDT only	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro including treatment for RSV</u>
TEDIZOLID				Can <u>ONLY</u> be used if approved by ID/Micro NOT kept as stock in hospital pharmacy
TEICOPLANIN	Note 3 x weekly and once daily dosing are used for different indications		Neutropenic sepsis OHPAT Service Adult Cystic Fibrosis Guidance Prosthetic Joint Infection Group B Strep prophylaxis in pregnancy	<u>ALL OTHER INDICATIONS MUST be approved by ID/Micro</u>

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TEMOCILLIN	Active against ESBLs but not <i>Pseudomonas spp.</i> No gram positive or anaerobic cover. Micro reported as 'I' (sensitive @ increased dose) use 2g tds dose in adults with normal renal/hepatic function		ICU guidance Empirical Infection in Renal Patients Adult Cystic Fibrosis Guidance	<u>ALL OTHER INDICATIONS MUST</u> be approved by ID/Micro
TIGECYCLINE			NTM guidance - prior discussion at Respiratory Complex Infection MDT	<u>ALL OTHER INDICATIONS MUST</u> be approved by ID/Micro
ZANAMIVIR IV				Can <u>ONLY</u> be used if approved by ID/Micro

Approved: AMG April 2023
Minor amendment: July 2023 (Cidofovir added)
Nov 2023 (Ribavirin added)
Mar 2024 (IV Zanamivir added)
Jun 2024 (IV Remdesivir added)

Review: April 2026