



KEEP AN EYE OUT FOR 'I' on microbiology test results

Changes to antibiotic susceptibility reporting from microbiology laboratories

Reporting of antibiotic susceptibility from microbiology laboratories across Scotland is changing in line with EUCAST recommendations.^{1,2} Antibiotics will be reported as 'I' as well as the more familiar 'S' and 'R'.

These changes refer to targeted therapy where an organism has been identified and the antibiotic susceptibility reported. For empirical therapy follow the [NHS Tayside Guide to Antimicrobial Use](#) for dosing recommendations based on indication. **Changes do not apply to topical treatments where usual dosing guidance in local documents or BNF/SmPC should be followed.**

Key points document available [here](#)

The definitions and associated actions of these are listed below:

ANTIBIOTIC REPORTED SUSCEPTIBILITY	DEFINITION	CLINICAL TEAM ACTION
S	Susceptible at Standard dose	Follow NHS Tayside Guide to Antimicrobial Use for dosing recommendations based on indication
I	Susceptible, Increased exposure (increased dose)	<ul style="list-style-type: none">• Agents reported as 'I' should not be avoided, but should be given at an increased dose, they are appropriate treatment options when given at the correct dose.• Increased dose regimens for commonly used antibiotics which will be more frequently reported as 'I' are listed in the table below and relevant guidance has been updated on the NHS Tayside Guide to Antimicrobial Use• Standard statements will also be added to microbiology reports for antibiotics reported as 'I' and prescribers asked to refer to relevant dosing guidance below• For PAEDIATRIC patients please refer to specialist guidance (agreed for Scotland) for dosing and discuss with paediatric pharmacist• For ADULT patients with renal or hepatic impairment or extremes of body weight discuss with pharmacist or refer to BNF and www.medicines.org.uk, but taking into account the higher dose required to treat these organisms effectively.
R	Resistant even with increased exposure/dose	Do not prescribe – treatment will be ineffective and increase risk of further resistance

Organism	Drug	Increased Dose for Adults - please note these doses relate to the specific drug/bug combination listed and do not apply to empirical therapy or target therapy for different drug/bug combinations	Comments
Enterobacterales (<i>E.coli</i> , <i>Kleb sp</i> , <i>Raoultella sp</i> , <i>P. mirabilis</i>)	Cefuroxime IV	1.5 g 8 hourly	Not recommended locally for treatment unless advised by infection specialist (if advised use 1.5g 6 hourly if BMI \geq 30 kg/m ² , life threatening infection or less susceptible infection)
Enterobacterales (<i>E.coli</i> , <i>Kleb sp</i> and <i>P. mirabilis</i>)	Temocillin IV	2 g 8 hourly	Dose increase from previous local guidance. Temocillin use is restricted locally see Alert Antibiotic guidance.
<i>Pseudomonas spp</i> (for many antimicrobials - never reported 'S', only 'I')	Piperacillin 4g/ tazobactam 500mg IV	4.5 g 6 hourly 3 hour infusion recommended in critical illness if possible	Piperacillin/tazobactam use is restricted locally see Alert Antibiotic guidance.
	Ceftazidime IV	2 g 8 hourly	Ceftazidime use is restricted locally see Alert Antibiotic guidance. (BNF states: pseudomonal lung infection in patients with CF; 100-150mg/kg 8 hourly, max 9g/day)
	Aztreonam IV	2g 6 hourly	Not recommended locally for treatment of <i>Pseudomonas spp</i> unless advised by infection specialist see Alert Antibiotic guidance
	Meropenem IV	2g 8 hourly	Meropenem use is restricted locally see Alert Antibiotic guidance.
<i>Pseudomonas spp</i> / <i>Acinetobacter spp</i> / <i>S. aureus</i>	Ciprofloxacin IV	400mg 8 hourly	Ciprofloxacin is a restricted antibiotic locally see Alert Antibiotic guidance. It is not recommended locally for <i>S. aureus</i> infections.
	Ciprofloxacin Oral	750mg 12 hourly	
<i>S. maltophilia</i>	Co-trimoxazole IV/Oral	1440mg 12 hourly <i>except in urinary tract infections: 960mg 12 hourly</i>	Although not included in BNF/SPC, the dose usually recommended in Scotland and quoted in international dosing reference sources is higher i.e. 90-120mg/kg/day in 2-4 divided doses.

Organism	Drug	Increased Dose for Adults - please note these doses relate to the specific drug/bug combination listed and do not apply to empirical therapy or target therapy for different drug/bug combinations	Comments
<i>H. influenzae</i>	Doxycycline Oral	100mg 12 hourly	
	Amoxicillin Oral	1g 8 hourly	
	Co-amoxiclav Oral	Co-amoxiclav 625mg 8 hourly + Amoxicillin 500mg 8 hourly	Co-amoxiclav is not recommended locally for <i>H. influenzae</i> infection - it has a broader spectrum than amoxicillin and increased risk of <i>C. difficile</i> infection and resistance. If the sample is sensitive use amoxicillin 1g 8 hourly instead.
Streptococcus groups A/B/C/G & <i>S. pneumoniae</i>	Levofloxacin IV	500mg 12 hourly	Levofloxacin is a restricted antibiotic locally see Alert Antibiotic guidance. IV can be used in severe CAP for patients with penicillin allergy. Oral levofloxacin requires infection specialist approval.
	Levofloxacin Oral	500mg 12 hourly	

References

1. European Society of Clinical Microbiology and Infectious Diseases. EUCAST Clinical Breakpoints Table, Version 11. European Committee on Antimicrobial Susceptibility Testing, Jan 2024. Available at: https://www.eucast.org/fileadmin/src/media/PDFs/EUCAST_files/Breakpoint_tables/v_14.0_Breakpoint_Tables.pdf
2. Scottish Antimicrobial Prescribing Group. Changes to antibiotic susceptibility reporting from microbiology laboratories, Jan 2022. Available at: <https://www.sapg.scot/guidance-qi-tools/antimicrobial-specific-guidance/eucast-changes/>

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