

Adult Guidance on Interpreting Antimicrobial Susceptibility Reporting:

Reporting of antibiotic susceptibility from microbiology laboratories has changed in line with the European Committee on Antimicrobial Susceptibility Testing (EUCAST) recommendations¹.

These changes refer to targeted therapy where an organism has been identified and the microbiology laboratory have reported antibiotic sensitivities.

This does not affect empirical antibiotic therapy, and the current NHSL guidance should still be followed for those situations where a causative organism has not yet been identified: [Antimicrobial Guidelines \(scot.nhs.uk\)](https://www.scot.nhs.uk/antimicrobial-guidelines/)

Note that growth of an organism does not necessarily indicate presence of infection – please correlate with clinical findings, and consider whether antibiotic treatment is required when organisms are reported from samples from a non-sterile site.

Many reports will be unchanged, and you will continue to see reports of “S” and “R”.

Some antibiotics will now be reported as “I – increased dose required”. Antibiotics reported as “I” are appropriate treatment options, if required, when used at the correct dose.

The new definitions are shown below where “S” is susceptible, “I” is increased exposure required, and “R” is resistant:

S	Susceptible at standard dose
I	Susceptible, increased exposure (increased dose)
R	Resistant even with increased exposure/dose

Pseudomonas aeruginosa, for many antibiotics will never be reported ‘S - Sensitive’, only ‘I - Increased dose required’, but it is still possible to treat providing the dosing and mode of administration is considered. Note *Pseudomonas aeruginosa* can often be seen as a coloniser, so may not be a pathogen requiring antibiotic treatment if cultured from a non-sterile site.

The other most common organisms where you will see “I” reported, or a comment indicating high dose should be used are:

Organism	Agents affected	Comment
<i>Haemophilus influenzae</i>	Oral (not IV) Amoxicillin	
	Oral (not IV) Co-amoxiclav	
<i>Streptococcus spp</i>	Levofloxacin	High dose already in routine use in NHSL
<i>E coli</i>	Temocillin	Use is restricted locally - refer to Alert Antimicrobial Guidance

Refer to the <https://bnf.nice.org.uk/> and www.medicines.org.uk for advice on dosing in patients with renal or hepatic impairment but take into account the higher dose required to treat these organisms effectively.

Note that there may be occasions where an Infection Specialist recommends an increased dose, even when an antibiotic is reported as “S – Susceptible at Standard Dose” (eg infective endocarditis).

Increased dosage regimens for antibiotics in ADULTS are listed in this guidance

Antibiotic	Increased Dose for Adults	Comments
Amoxicillin IV	2g every 4 hours	
Amoxicillin Oral	1g every 8 hours	
Aztreonam IV	2g every 6 hours	Use is restricted locally - refer to Alert Antimicrobial Guidance
Ceftazidime IV	2g every 8 hours	Use is restricted locally - refer to Alert Antimicrobial Guidance
Ceftriaxone IV	2g every 12 hours	
Cefuroxime IV	1.5g every 8 hours	Use is restricted locally - refer to Alert Antimicrobial Guidance In patients with obesity BMI ≥ 30 kg/m ² consider 1.5g every 6 hours In patients with life threatening or less susceptible infections consider 1.5g every 6 hours
Ciprofloxacin IV	400mg every 8 hours	See Fluoroquinolone MHRA information sheet
Ciprofloxacin Oral	750mg every 12 hours	See Fluoroquinolone MHRA information sheet

Antibiotic	Increased Dose for Adults	Comments
Clarithromycin Oral/IV	500mg every 12 hours	This is standard dosing used in NHSL in any case - same dose should be used for organisms reported as "S" or "I"
Co-amoxiclav IV	Co-amoxiclav 1.2g every 8 hours + Amoxicillin 1g every 8 hours	Co-amoxiclav should only be used if other agents e.g. Amoxicillin, Doxycycline or Co-trimoxazole are resistant or unsuitable
Co-amoxiclav Oral	Co-amoxiclav 625mg every 8 hours + Amoxicillin 500mg every 8 hours	Co-amoxiclav should only be used if other agents e.g. Amoxicillin, Doxycycline or Co-trimoxazole are resistant or unsuitable
Co-trimoxazole IV/Oral	1440mg every 12 hours; except in uncomplicated urinary tract infections: 960mg every 12 hours	See "Co-trimoxazole use in Adults – Information for Prescribers"
Doxycycline Oral	200mg once a day	
Levofloxacin IV	500mg every 12 hours	This is standard dosing used in NHSL in any case - same dose should be used for organisms reported as "S" or "I" See Fluoroquinolone MHRA information sheet
Levofloxacin Oral	500mg every 12 hours	This is standard dosing used in NHSL in any case - same dose should be used for organisms reported as "S" or "I" See Fluoroquinolone MHRA information sheet

Antibiotic	Increased Dose for Adults	Comments
Meropenem IV	2g every 8 hours	Use is restricted locally - refer to Alert Antimicrobial Guidance This dose should be used when treating meningitis, even if organism reported as S
Piperacillin/ tazobactam IV (Tazocin)	4.5g every 6 hours 3-hour infusion is recommended in critical care areas - refer to extended infusion guidance³	Use is restricted locally - refer to Alert Antimicrobial Guidance
Temocillin IV	2g every 8 hours	Use is restricted locally – refer to Alert Antimicrobial Guidance

References:

1. The European Committee on Antimicrobial Susceptibility Testing. Breakpoint tables for interpretations of MICs and zone diameters. Version 13.1, 2023 - [EUCAST Breakpoint Tables](#)
2. Scottish Antimicrobial Prescribing Group. Changes to antibiotic susceptibility reporting from microbiology laboratories. January 2022 - https://www.sapg.scot/media/6598/20220120-changes-to-antibiotic-susceptibility-reporting-from-microbiology-laboratories_fk-sq.pdf
3. Medicines complete – Critical illness – Piperacillin and tazobactam (Tazocin) monograph. September 2023. <https://www.medicinescomplete.com/#/content/critical/69>