# Adult Guidance on Interpreting Antimicrobial Susceptibility Reporting (Primary Care):

Reporting of antibiotic susceptibility from microbiology laboratories has changed in line with the European Committee on Antimicrobial Susceptibility Testing (EUCAST) recommendations[1].

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)

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 |
|---|---|---|
| *Haemophilus influenzae* | Oral (not IV) Amoxicillin | |
| | Oral (not IV) Co-amoxiclav | |
| *Streptococcus spp* | Levofloxacin | High dose already in routine use in NHSL |
| *E coli* | 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 Oral | 1g every 8 hours | |
| Ciprofloxacin Oral | 750mg every 12 hours | See Fluoroquinolone MHRA information sheet |
| Clarithromycin 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" |
| 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 Oral | 1440mg every 12 hours;<br><br>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 | |

| Antibiotic | Increased Dose for Adults | Comments |
|---|---|---|
| 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”<br><br>See Fluoroquinolone MHRA information sheet |

## 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