



## What is “Susceptible Dose Dependent (SDD)”?

Susceptible dose dependent (SDD) is an interpretative category used in antimicrobial susceptibility reporting that is set by the Clinical and Laboratory Standards Institute (CLSI). This category is different than the traditional categories of susceptible, intermediate, or resistant. An explanation of the traditional categories can be found in the following KASIC Educational Pearl: [What is a Minimum Inhibitory Concentration?](#)

A pathogen with an MIC that is considered SDD should be interpreted as **susceptible only if the specific dosing regimen listed for this category is used**. Usually, the dosing regimen includes higher doses and/or more frequent doses to achieve the exposure level necessary for adequate treatment. Pharmacokinetic and pharmacodynamic studies are used to determine the required dosing regimen that will have a high probability of achieving optimal drug exposure. Of note, the recommended SDD regimens are for patients with normal organ function and adjustments may be needed for patients with impairment.

Example: *Klebsiella aerogenes* Susceptibility Report

| Drug                  | MIC<br>µg/mL | Interpretation             |
|-----------------------|--------------|----------------------------|
| Ampicillin            | >16          | Resistant                  |
| Amoxicillin/sulbactam | >16/8        | Resistant                  |
| Cefazolin             | >16          | Resistant                  |
| Ceftriaxone           | 2            | Intermediate               |
| Cefepime              | 8            | Susceptible Dose Dependent |
| Ciprofloxacin         | ≤0.06        | Susceptible                |
| Gentamicin            | ≤4           | Susceptible                |

Cefepime should be dosed at 2 g IV Q8H

This dose and frequency are higher than the standard 1 g IV Q12H, which would be adequate for MICs in “susceptible” range (MIC ≤ 2 µg/mL)

In 2022, CLSI recommends SDD instead of “intermediate” for several drug and organism combinations:

- Enterobacterales (e.g. *Escherichia coli*): cefepime, piperacillin-tazobactam
- *Staphylococcus aureus*: ceftaroline
- *Enterococcus faecium*: daptomycin
- Some *Candida* spp: fluconazole

For more information on SDD dosing regimens, please refer to the free CLSI M100 document that can be found by [clicking here](#).

**Key take-away:** Use higher doses for infections due to SDD pathogens. SDD dosing regimens can be found in the free CLSI M100 document online.

### References

Clinical and Laboratory Standards Institute (CLSI). Performance Standards for Antimicrobial Susceptibility Testing. 32nd ed. CLSI supplement M100. 2022.