



Beat the Bug: *Stenotrophomonas maltophilia*

Stenotrophomonas maltophilia is non-fermenting gram-negative bacilli that is associated with healthcare exposure. *S. maltophilia* is a [common colonizer](#) and treatment is not always warranted when it is isolated in non-sterile cultures. When treatment is indicated, management is complicated by broad antimicrobial resistance mediated through intrinsic and acquired resistance mechanisms. This includes an intrinsic [metallo \$\beta\$ -lactamase](#) rendering most beta-lactams ineffective. Which antibiotics have activity against *S. maltophilia* and what are some considerations for use?

What guidance is available?

Suggestions for management of **moderate-severe** infections due to *S. maltophilia* are provided by the Infectious Diseases Society of American (IDSA) are summarized below.¹ It is important to note that there are no clinical trials available and suggestions are based on expert opinion, observational data, in vitro data, and pharmacokinetic data.

	Antibiotic	Notes
1 st Line	TMP-SMX	-Considered the drug of choice -Combo with another 1 st line agent until clinical improvement suggested by IDSA -IDSA suggests 8 – 12 mg/kg/day of TMP IV/PO divided every 8 – 12 hours with max of 960 mg TMP per day
	Minocycline	-Limited urine distribution so avoid in UTIs. -Combo with another 1 st line agent (not tigecycline) until clinical improvement suggested by IDSA -High dose suggested by IDSA: 200 mg IV/PO q12h
	Tigecycline	-Limited urine distribution so avoid in UTIs -High volume of distribution resulting in low serum concentrations; concern in bloodstream infections -Combo with another 1 st line agent (not minocycline) until clinical improvement suggested by IDSA -High dose suggested by IDSA: 200 mg IV x 1 dose followed by 100 mg IV q12h
	Cefiderocol	-Combo with another 1 st line agent until clinical improvement suggested by IDSA
2 nd line	Levofloxacin	-Combo with another 1 st line agent suggested by IDSA -IDSA advises against monotherapy due to poor in vitro efficacy and risk for emergence of resistance on therapy
	Ceftazidime-avibactam + aztreonam	-Suggested when critical illness is evident or intolerance to other options
Do Not Use	Ceftazidime	Breakpoints recently removed due lack of supportive clinical data and poor reproducibility in susceptibility testing ²

Key Takeaway: Therapeutic options for *S. maltophilia* infections are limited. Initial combination therapy may be required in moderate-severe infections to improve outcomes though robust data is lacking. Monotherapy may be adequate for mild infections.

References

1. Tamma PD, Aitken SL, Bonomo RA, Mathers AJ, van Duin D, Clancy CJ. Infectious Diseases Society of America Antimicrobial-Resistant Treatment Guidance: Gram-Negative Bacterial Infections. Infectious Diseases Society of America **2023**; Version 3.0. Available at <https://www.idsociety.org/practice-guideline/amr-guidance/>. Accessed 5 July 2024.
2. Clinical and Laboratory Standards Institute (CLSI). Performance Standards for Antimicrobial Susceptibility Testing, 34th ed. CLSI supplement M100; 2024. <https://clsi.org/all-free-resources/>