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# Resistance to "last resort" antibiotics in Gram-positive cocci: The post-vancomycin era.

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**Abstract**

New therapeutic alternatives have been developed in the last years for the treatment of multidrug-resistant Gram-positive infections. Infections caused by methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococci (VRE) are considered a therapeutic challenge due to failures and lack of reliable antimicrobial options. Despite concerns related to the use of vancomycin in the treatment of severe MRSA infections in specific clinical scenarios, there is a paucity of solid clinical evidence that support the use of alternative agents (when compared to vancomycin). Linezolid, daptomycin and tigecycline are antibiotics approved in the last decade and newer cephalosporins (such as ceftaroline and ceftobiprole) and novel glycopeptides (dalvavancin, telavancin and oritavancin) have reached clinical approval or are in the late stages of clinical development. This review focuses on discussing these newer antibiotics used in the "post-vancomycin" era with emphasis on relevant chemical characteristics, spectrum of antimicrobial activity, mechanisms of action and resistance, as well as their clinical utility.