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Antimicrobial technology in orthopedic and spinal implants

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Abstract

Infections can hinder orthopedic implant function and retention. Current implant-based antimicrobial strategies largely utilize coating-based approaches in order to reduce biofilm formation and bacterial adhesion. Several emerging antimicrobial technologies that integrate a multidisciplinary combination of drug delivery systems, material science, immunology, and polymer chemistry are in development and early clinical use. This review outlines orthopedic implant antimicrobial technology, its current applications and supporting evidence, and clinically promising future directions.

Key words: antimicrobial, coated implants, antibiotic, antiseptic, nano-silver, photoactive**CORE TIP:** Infections can hinder orthopedic implant function and retention. Current implant-based antimicrobial strategies largely utilize coating-based approaches in order to reduce biofilm formation and bacterial adhesion. Several emerging antimicrobial technologies that integrate a multidisciplinary combination of drug delivery systems, material science, immunology, and polymer chemistry are in**Match Overview**

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