

Decolonization

Decolonization in the medical context refers to the process of removing or reducing the presence of potentially harmful bacteria from a person's body, typically from areas like the skin or nasal passages. This is often done to prevent infections or reduce the risk of spreading harmful bacteria. Here are key points about decolonization:

Purpose:

Reduce risk of infection in patients Prevent transmission of bacteria to others Prepare patients for medical procedures

Common target organisms:

Methicillin-resistant *Staphylococcus aureus* (MRSA) Vancomycin-resistant Enterococci (VRE)
Carbapenem-resistant Enterobacteriaceae (CRE)

Common sites for decolonization:

Nasal passages Skin (especially in high-risk areas like the groin and axilla) Throat Digestive tract

Methods of decolonization:

Topical antibiotics (e.g., mupirocin for nasal decolonization) Antiseptic body washes (e.g., chlorhexidine) Oral antibiotics (in some cases) Specialized mouthwashes

Settings where decolonization is often used:

Hospitals, especially intensive care units Long-term care facilities Pre-surgical preparation

Challenges:

Bacterial resistance to decolonization agents Recolonization after treatment Compliance with multi-step protocols

Effectiveness:

Can significantly reduce infection rates in healthcare settings May need to be repeated periodically in some cases

A [guideline](#) panel reviewed the impact of decolonization, targeted [perioperative antibiotic prophylaxis](#) (PAP), and combined interventions (e.g., [decolonization](#) and targeted PAP) on the risk of [surgical site infections](#) (SSIs) and other outcomes in multidrug-resistant [Gram-positive bacteria](#) (MDR-GPB) carriers, according to the type of [bacteria](#) and type of surgery.

They recommend [screening](#) for [Staphylococcus aureus](#) (SA) before high-risk operations, such as cardiothoracic and orthopedic surgery. [Decolonization](#) with intranasal [mupirocin](#) with or without [chlorhexidine](#) bathing is recommended in patients colonized with SA before cardiothoracic and orthopedic surgery and suggested in other surgeries. Addition of [vancomycin](#) to standard [prophylaxis](#)

is suggested for [MRSA](#) carriers in cardiothoracic surgery, orthopedic surgery, and neurosurgery. Combined interventions (e.g., decolonization and targeted prophylaxis) are suggested in MRSA carriers undergoing cardiothoracic and orthopedic surgery. No [recommendation](#) could be made regarding screening, [decolonization](#), and targeted [prophylaxis](#) for [vancomycin](#)-resistant [enterococci](#) (VRE), due to the lack of data.

No evidence was retrieved for [methicillin](#)-resistant coagulase-negative [staphylococci](#) (MR-CoNS) and pan-drug-resistant (PDR)-GPB. Careful consideration of the laboratory [workload](#) and involvement of [antimicrobial](#) stewardship as well as [infection](#) control [teams](#) are warranted before implementing [screening](#) procedures or performing changes in PAP [policy](#). Future research should focus on novel decolonizing techniques, on the [monitoring](#) of resistance to decolonizing agents and PAP regimens, and on standardized combined interventions in high-quality studies ¹⁾

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Righi E, Mutters NT, Guirao X, Dolores Del Toro M, Eckmann C, Friedrich AW, Giannella M, Presterl E, Christaki E, Cross ELA, Visentin A, Sganga G, Tsioutis C, Tacconelli E, Kluytmans J. ESCMID/EUCIC clinical guidelines on preoperative decolonization and targeted prophylaxis in patients colonized by multidrug-resistant Gram-positive bacteria before surgery. Clin Microbiol Infect. 2024 Aug 16:S1198-743X(24)00341-0. doi: 10.1016/j.cmi.2024.07.012. Epub ahead of print. PMID: 39154859.

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