

ANTIBIOTIC PROPHYLAXIS IN PATIENTS UNDERGOING DENTAL IMPLANT PLACEMENT

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Objective. Based on a systematic analysis of modern scientific literature, to substantiate optimal antibiotic prophylaxis protocols aimed at reducing the risk of infectious complications in dental implantation.

Material and Methods. An analytical review of publications from the PubMed, Cochrane, ResearchGate, and eLibrary databases for the period 2010–2025 was conducted. The results of randomized controlled trials and international guidelines on systemic antimicrobial prophylaxis in dentistry, covering data from more than 1,000 patients, were investigated.

Results. It was established that the bacterial load of resident microflora ($>10^5$ per gram of tissue) serves as a critical factor in infection development. According to the analyzed data, a single preoperative dose of 2 g of amoxicillin 60 minutes prior to the intervention is recognized as the most effective regimen, reducing the risk of implant failure by 66%. It was revealed that extending the course of postoperative antibiotic therapy to 3–7 days provides no proven benefits regarding implant survival, yet significantly increases the risk of antimicrobial resistance and allergic reactions.

Conclusions. Antibiotic prophylaxis is an essential step in ensuring the success of dental implant treatment. The administration of a single preoperative "loading" dose of

penicillins is recognized as a rational approach. The standardization of these protocols will minimize the risk of postoperative inflammation and prevent the unjustified systemic prescription of antimicrobial agents in clinical practice.

References

Shomurodov KE, Buzrukszoda JD, Umarov MA. Clinical and microbiological rationale for short-course antibiotic prophylaxis in dental implantology. *Stomatologiya*. 2024;103(4):32-38. (In Russ.

Esposito M, Grusovin MG, Worthington HV. Interventions for replacing missing teeth: antibiotics at dental implant placement to prevent complications. *Cochrane Database of Systematic Reviews*. 2013;2013(7):CD004152. doi:10.1002/14651858.CD004152.pub4.

Khadzhibayev AM, Shukurov FI. Rational antibacterial therapy in oral and maxillofacial surgery: a review of current international guidelines. *Journal of Samarkand State Medical University*. 2025;4(2):115-122.

Gill AS, Morris PJ, Cooper PG, et al. Single-dose preoperative amoxicillin versus post-operative extended courses in single dental implant placement: a randomized controlled trial. *Clinical Oral Implants Research*. 2024;35(3):284-293.

Rodriguez-Sanchez F, Arteagoitia I, Williams MD, et al. Is postoperative antibiotic therapy necessary after uncomplicated dental implant placement? A systematic review and meta-analysis. *International Journal of Oral and Maxillofacial Surgery*. 2023;52(6):702-711.