

Preparation of calcium-containing oxide coatings on titanium membranes for maxillofacial surgery and dentistry

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Titanium membranes are widely used in dentistry and oral surgery for prosthetic applications. Currently, there is a need to stimulate the efficiency of their integration into the bone. The paper presents results on the study of microarc oxidation with the addition of calcium phosphates. The coating samples were characterized with X-ray phase analysis and X-ray fluorescence. In vivo assessment of the effectiveness of integration was carried out with laboratory Wistar rats, as well as by microcomputed tomography and histology. As a result, it was demonstrated that the treatment used had a positive effect compared to untreated membranes, which was expressed in stimulating the formation of bone regenerate from the edges of the defect with an almost complete absence of inflammation.

Keywords: microarc oxidation, anatase, biocompatibility, *in vivo* testing.

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