

STUDY OF STRESS-STRAIN STATE OF SPONGY BONE AROUND IMPLANT UNDER OCCLUSAL LOAD

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The stress-strain state of spongy bone of the jaw near the implant is studied in the case of occlusal load. Mathematical model of this problem represents a contact problem of elasticity between the implant and the body of the jaw. Boundary element methods, which are based on the solutions to the problems Flamant (BEMF) and Boussinesq (BEMB), are used to obtain numerical values of stresses in the bone tissue under the occlusal load on the implant. There are considered cases, when diameter of implant is equal to 0.4 cm, 0.6 cm, 0.8 cm and 1 cm. The contours (isolines) of stresses in the bone tissue are constructed and the results, obtained through BEMF and BEMB for the implants with different diameters, are compared each other.