

Wpływ lasera CO₂ na protezy stosowane w chirurgii ucha środkowego

Effect of CO₂ laser on prostheses used in middle ear surgery

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Summary

The use of CO₂ laser is advocated in primary and revision stapes surgery. The aim of the study was to assess the effect of CO₂ laser on stapes prostheses. CO₂ laser was applied on several types of stapes prostheses and PORPs, with power settings suggested by the manufacturer (continuous wave, 2 W and 6 W; 0,05 s). Application of the laser on stainless steel or titanium prosthesis did not exert any effect on the structure of the prosthesis. The use of the laser on the Teflon piston caused superficial burning with power 2 W, and melting and holes in the piston with power settings at 6W. Similar plastipore prostheses were melting. Hydroxyapatite PORP shattered after application of the laser energy. Teflon and hydroxyapatite prostheses are easily damaged by the laser energy, therefore applying a laser on them should be avoided. CO₂ laser can be used on stainless steel and titanium prostheses without risk of damaging them. However the possibility of transmission of heat to the vestibule has to be taken into consideration.