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Kiryl Slizheuski

THE IMPORTANCE OF THE DENSITY OF THE LUMINOUS FLUX OF DENTAL CURING LIGHT LAMP

Scientific adviser assistant Petrazhytskaya G. V., Lepeshava E. V.
Department of General Dentistry
Belarusian State Medical University, Minsk

Introduction. Besides of the physico-chemical characteristics of the material and methods of its application, technical specifications of dental curing light lamp have an influence on the quality of direct restorations from light-cured composite material. Especially spectral characteristics and the density of the outgoing luminous flux have a direct influence on conversion degree (completeness of polymerization) of restoration. There are free monomers in the material with insufficient polymerization which may cause an allergic reaction and may have toxic effects on pulp of tooth or on organism in general. In addition the high content of residual monomer leads to deterioration of physico-mechanical properties (strength, wear resistance, surface smoothness) of restoration.

Aim of the study: to study the density of the luminous flux of dental curing light lamp used in the dental work.

Materials and methods. The measurement of the density of the outgoing luminous flux of dental curing light lamp was held to receive information by the use of special device – radiometer.

Results. The study revealed some cases of unsatisfactory density of the luminous flux of dental curing light lamp, which was unacceptable. The measurement of the density of the luminous flux is necessary because a subjective sense of the hardness of the surface layer doesn't change with decreasing density of the luminous flux.

Conclusion. The material with insufficient polymerization of filling material may cause such complications as violation of marginal fit, discoloration, fracture of restoration, may have toxic influence on pulp of vital tooth and organism in general, as result of release of residual monomer in oral cavity.