

The acute unspecific toxicity of amalgams and composite filling materials. G.SCHMALZ and Ch.SCHMALZ, Zentrum f.Zahn-,Mund- u.Kieferheilkunde d. Universität Tübingen/BRD.

The rabbit muscle implantation test as described by LAWRENCE et al. has been recommended as a suitable testing procedure for screening the biocompatibility of dental materials. This method was applied to evaluate the acute unspecific toxicity of 3 amalgams and 2 composite materials in order to test both, the materials toxicity and the validity of the method used. The materials were implanted at different setting times: 3", 1h, 24<sup>h</sup> and 7 days. Macroscopical as well as microscopical evaluation was performed.

Biological reactions of the amalgams proved to be dependent upon the setting time. All amalgams were strongly toxic at the 3 min. and 1 hour period. By the 7 days period, the dispersion phase amalgam showed a mild reaction, the other two amalgams non or uncertain reaction.

The composite materials did not show a dependency of the toxicity upon the setting time as did the amalgams. Even at the 3"-period, a mild reaction was recorded. However, by the 7 days period the composites still were mildly toxic.

The results obtained in this study are partially in accordance with clinical experience. The rabbit muscle implantation test may be regarded as a suitable method for screening the chemically initiated toxicity of materials.