



ANALYSIS OF ELASTIC PROPERTIES OF DENTAL IMPRESSION MATERIALS

**Milica Jeremić Knežević¹, Knezevic Aleksandar², Djurovic Koprivica Daniela¹, Aleksandra Maletin¹,
Bojana Milekic³, Puskar Tatjana³**



¹ University of Novi Sad, Faculty of Medicine, Department of Dental medicine, Novi Sad, Serbia ² University of Novi Sad, Faculty of Medicine, Department of Medical Rehabilitation; Clinical centre of Vojvodina, Clinic for Medical Rehabilitation, Novi Sad, Serbia ³ Clinic for Dentistry of Vojvodina, Novi Sad, Serbia, : University of Novi Sad, Faculty of Medicine, Department of Dental medicine, Novi Sad, Serbia

BACKGROUND: In dentistry, it is important that the impression material remains attached to the impression tray during the recording of the impression. Partial detachment may cause gross distortions of the impression which may remain undetected and will almost certainly lead to ill-fitting appliances or restorations. Impression materials must have adequate elastic properties and adequate tear resistance, coupled with a rigidity which is low enough to enable the impression to be removed.

If a material is rigid after setting it may not be possible to remove it from undercut areas. This obviously has a negative effect on the ability to achieve an adequate impression, but more seriously may undermine the viability of the remaining teeth as they may be subjected to a considerable stress if an attempt is made to remove the impression.

METHODS: The properties which are most important are rigidity and elasticity, since they determine whether an impression material can be used to record undercuts. When standing teeth are to be recorded, or when the patient has deep soft-tissue undercuts, the set impression material must be flexible enough to be withdrawn past the undercuts and elastic enough to give recovery and an accurate impression.

Hence impression materials are classified as being elastic or non-elastic.

RESULTS: The impression recorded with the elastic material accurately records the true shape of the tooth with the correct degree of undercut. The impression recorded with the plastic material has been grossly distorted during removal and has not recorded any undercut. The impression recorded with the viscoelastic material gives a distorted shape.

CONCLUSION: *The degree of distortion depends on the severity of the undercut, the thickness of the impression material and the time for which the impression is maintained in a compressed state.*

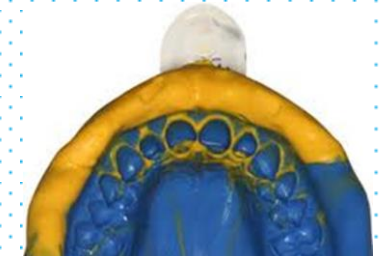
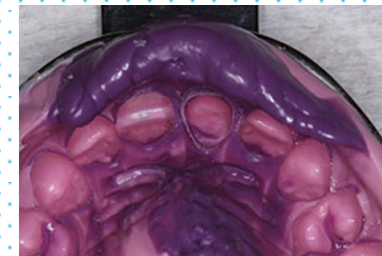


Figure 1. Elastic Impression materials in dental medicine