Quality of Dental Restorations

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A dental restoration of high quality should improve the integrity of remaining dental and oral tissues and imitate the form, function and properties of the tooth to the patient’s satisfaction over time.

Appraising the quality of dental restorations should take into account both the tooth prognosis and the technical excellence as well as the patient’s needs and desires. Appraisals are therefore only valid when done by a clinician in a clinical setting.

The patient’s opinion of a dental restoration, which includes satisfaction with aesthetics, tooth sensitivity, surface texture and contour are important determinants of quality.

Dental restoration quality and technical excellence are related, but are not synonymous. An initially technical excellent dental restoration normally deteriorates in clinical service over time, and may or may not be linked to quality. Technical excellence is but one factor among others that constitute quality of dental restorations.

The deterioration of a dental restoration's technical excellence depends on material, operator and patient factors. Factors that collectively describe the operator factors are the dentist’s clinical experience, degree of tooth destruction, cavity design and size variables, type of restorative material, material handling and procedures, isolation of the working field and finishing. The patient factors include oral health, intraoral location, gender and age, oral environment factors such as bite force, caries activity and oral microflora.

In some instances there is a lack of detailed knowledge of the precise influence of numerous material, operator and patient factors on the clinical quality of dental restorations. Moreover, the specific influence on the quality of specific or individual factors makes it difficult to differentiate from other factors since these are interrelated.