1. SCIENTIFIC GROUP/NETWORK

New technologies in Prosthodontics. Universidad Europea de Madrid.

1. TITLE

IOS True Definition as a new tool to analyze the clinical performance of restorative materials.

1. AUTHORS

Meriem Benabdallah, DDS, MsC

Nerea Urcelay Moreno, DDS, MsC

Andrea Santamaría Laorden, DDS, MsC, PhD

1. ABSTRACT

A pilot study to analyze the clinical evaluation of the performance of a newly developed glass ionomer restorative material is being conducted.

The criteria that are being used to evaluate the placed restorations are based on the Peters et al. Clinical Performance Criteria: retention, fractures, surface staining, wear, postoperative sensitivity, caries associated with restoration and tooth integrity. Those are all subjective factors when analyzed visually.

The IOS True Definition3M is known to be able to detect microns of wear when overlapping the STL files of the scanned mouth, and this is objective information.

In this pilot study, regular check-ups are done to assess the clinical performance of the restorative material.

1. The objectives of the investigation

The aim purpose of this study is to compare and correlate the Peters et al. Clinical Performance Criteria analyzed visually with the same criteria analyzed through the IOS.

1. Experimental methods used

A post market clinical follow-up pilot study is performed to analyze the clinical performance of two glass ionomer materials for posterior restorations: Ketac Universal and Ketac Molar Quick. Forty adults have had two class II restorations done. It is prospective, controlled, randomized, split-mouth and has blinded evaluation.

The scoring and scanning of the restorations is made by two blinded evaluators at placement, 6-months, and every year up to 5 years.

The STL files obtained from the scanning are overlapped to analyze the evolution of the restorations.

1. Essential results, including data

There is correlation between the visual analysis and scanning data. IOS True Definition is an accurate tool to evaluate the wear and anatomic changes in restorations.

1. Conclusion

IOS True Definition has proved to be a useful and objective source to analyze he clinical performance of restorative materials.