



# Efficacy of a checklist for office-laboratory communication: a clinical study on quality outcome of single crowns



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## INTRODUCTION

Clear and effective communication between clinical office and dental laboratory is a prerequisite for production of high quality fixed and removable prostheses. Investigations published in the literature have demonstrated that communication of design instructions for fixed prosthodontics is poor. A Surgical Safety Checklist, mutated from the experience of the aviation industry, has been introduced by WHO to reduce the number of errors during surgical operations. The aim of this study was to evaluate the efficacy of structured communication between dentist and dental technician by evaluating the quality outcomes of crowns before and after the introduction of a checklist.

## METHODS & MATERIALS

Four couples of dentists and dental technicians were asked to check the outcome of all their single posterior metal-ceramic crowns produced in their offices between July 1st 2011 and February 28th 2012. A total of 112 metal-ceramic crowns were evaluated at the try-in clinical appointment by scoring the clinical acceptability of the following parameters: Contact areas, Precision of fit, Occlusion, Tooth morphology, and Tooth Color. From April 1st 2012 until December 31st 2012 each couple of dentist-dental technician was asked to produce another set of 112 crowns, but this time following a structured communication protocol by means of a checklist (Fig.1). The new crowns were checked at the try-in appointment with the same criteria described previously.

Fig.1 Checklist

Score	Modifications
0	the crown did not require modifications
1	the crown required minor adjustments, not exceeding five minutes
2	the crown required minor adjustments exceeding five minutes
4	the crown was sent back to the laboratory for major adjustments

Fig.2 Score system

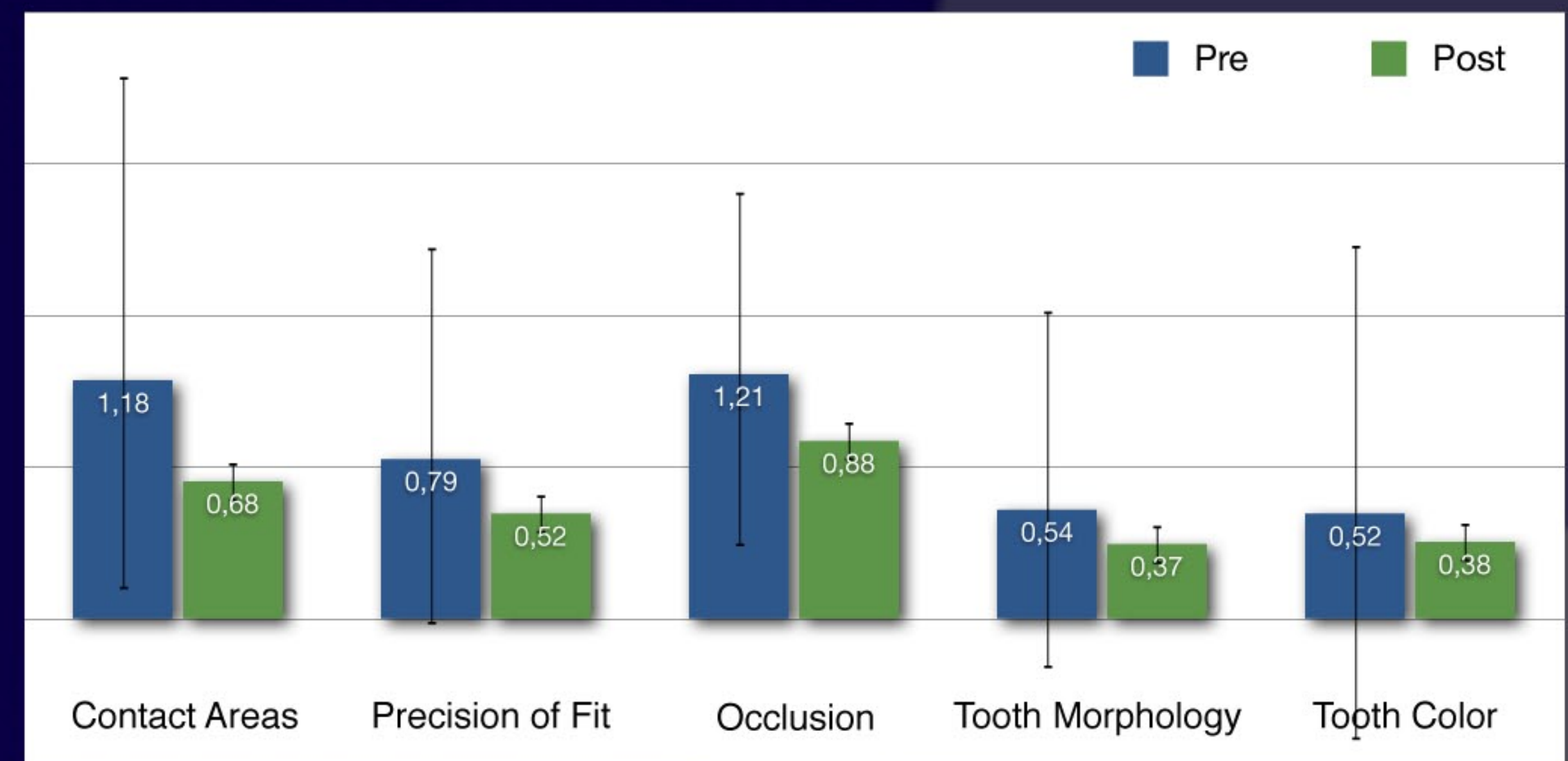


Fig.3 Statistical analysis: median scores comparison before and after the use of the checklist.

## RESULTS

The scores before and after the use of the checklist were compared using Mann-Whitney Test (Significant two-tailed P value <0,05). The statistical analysis (Fig.3) showed that median scores of contact area, precision of fit, and occlusion differed significantly before and after the use of the checklist. Median scores of tooth morphology and color did not differ significantly.

## DISCUSSION & CONCLUSIONS

Within the limits of this study, the introduction of a checklist improved the communication between dentists and dental technicians increasing the quality of the metal ceramic crowns produced by the dental laboratories.

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