

THE ART OF SHADE SELECTION: DIGITAL VS. VISUAL SHADE MATCHING PROCESS

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Aim: Dental shade guide, currently, is the most frequent technique for shade selection. However, individual perception, environmental color, metamerism, illumination type and intensity, light reflection, and individual characterization of natural teeth affect this procedure and contribute to variability in shade matching. Digital color matching and the digitally supported instruments were introduced to eliminate the variability, unpredictability, and errors of conventional visual shade selection.

The purpose of this study was to assess if digital shade-matching systems provide significantly better clinical effectiveness compared to prevalent visual methods.

Materials and Methods: An extensive search was conducted through scientific databases (PubMed, Medline, Google Scholar) using these keywords or a combination: Digital shade matching, Color selection, Spectrophotometer, Colorimeter, Shade selection.

The studies compared digital methods to visual color selection were included. The efficiency, patient's satisfaction, and clinical outcomes were compared.

Results: The reviewed articles confirmed that digital systems could theoretically help obtain an accurate shade match of the restoration to remaining teeth and improve communication with the laboratory. However, these systems have their own limitation and disadvantages that will be discussed.

Conclusion: The application of digital system provides a valid tool for selecting restoration color, potentially reduces the clinical errors, and satisfies the esthetic requirements for both patient and dentist.

Keywords: Digital shade matching, Color selection, Spectrophotometer, Colorimeter, Shade selection.