

IDEAL SELECTION OF COLOR. EFFECTIVENESS OF VISIONARY TECHNIQUE IN THE DENTAL PRACTICE

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Abstract

Introduction: Aesthetic restorations also have a significant impact on the success of prosthetic treatment which recreates the proper functioning of the teeth. Suitable aesthetic effect is determined by the appropriate restoration of tooth shape and colour. Selecting the proper colour of artificial teeth is difficult and may suffer from many problems in everyday dentistry. In addition, visual assessment for the help of the unique is subjective and may give erroneous results. On the market there are auxiliary device for the instrumental assessment of the colour of teeth: spectrophotometers, calorimeters, colour analyzers computer. They are not commonly used in everyday medical practice.

Goal: The aim of the study is to assess the applicability of Sopro 717 intraoral camera in the correct assessment of the colour of teeth.

Methods: The study was conducted based on the evaluation of the natural tooth colour visually using the unique "Lumin - Vacuum" by the patient's dental and medical students in natural light and using the intraoral camera having their own source of light. The experiment involved 40 people aged 22-46 years. The study was conducted to assess the colour of the surface of the cheek teeth 11 or 21 and 32 Takes into account a number of factors affecting the proper assessment of the colour of teeth such as colour space, light intensity, eye fatigue investigator.

Results: The evaluation of the occurrence of differences in colour of the teeth within the two mentioned methods.

Conclusions: Intraoral camera helps us to choosing the right colour of the tooth. Although this is still a subjective method allows us to reduce the number of errors made in the selection of the proper shade of hard tissues of the tooth.

Keywords: selecting colour of teeth, intraoral camera, shade guide
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PHYSIOCHEMICAL AND BIOLOGICAL EVALUATION OF THIN CNTS LAYERS

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Abstract

Carbon nanotubes are nanometric-sized materials which possess a set of interesting features that favor their applications in various fields of materials engineering, including biomedical applications. However, their usage as implants or in nanomedicine raises many questions, regarding their potential cytotoxicity, relative to their length, diameter, structure and functional groups, present on their outer walls. The given study presents a physicochemical and biological in vitro (in accordance with EN-ISO 10993-5) evaluation of thin carbon nanotubes films, deposited on the surface of titanium, by means of the EPD process. Experiments were carried out on commercially available, pre-functionalized with OH groups, multi-walled carbon nanotubes. The obtained material is proven to be biocompatible, with no cytotoxic effect on the human fetal osteoblast cell line. During the study, selectivity of the EPD process was proven - performed experiments revealed that the process favors deposition of CNTs with chosen set of features from the stock solution. Presented results point out that the EPD process can be successfully applied as a method for fractioning the CNTs, aimed to fabricate non-toxic layers that might be considered for various biomedical applications.

Keywords: EPD, MWCNTs, thin layers, biocompatibility
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Introduction

Due to their extremely high mechanical properties [1] and good electric and thermal conductivity [2], carbon nanotubes are nowadays a widely considered material for various applications – either as a reinforcing phase in composites or as electrodes for electrochemistry, supercapacitors and actuators. However, in terms of their biomedical application, a real potential lies within good biocompatibility and a possibility to promote growth and differentiation of various tissues. These promising features have already been proven by some of the scientists and published in numerous reports, which propose usage of the CNTs either in tissue engineering [3], in nanomedicine [4,5] or as implantable electrodes that would aid in treatment of assorted diseases [6].

