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Tooth wear a result of eating disorder, substance abuse or modern lifestyle-A minimally invasive treatment concept

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Lecture Content

- Classification of tooth wear/erosion
- Identify the aetiology of and risk factors associated with tooth wear/erosion
- Cover the prevalence and epidemiology of tooth wear/erosion

Make correct diagnosis and explain the management.

The lecture will highlight a new concept involving minimally invasive dentistry.

With the use of bonded provisional restorations (without any tooth preparation), we can assess the changes of VDO, Function and Aesthetics. Once we are happy with these parameters we can safely move to state of the art minimally invasive indirect porcelain restoration.

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Synthesis of co-cr-mo fluorapatite nano-composite coatings by pulsed laser deposition for dental applications

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Summary: Cobalt- chromium molybdenum (Co-Cr-Mo) alloys are one of the most useful alloys for biomedical applications such as dental and orthopedic implants because of their excellent mechanical properties and biocompatibility[1–2]. Metallic materials play an essential role in assisting with the repair or replacement of bone tissue that has become diseased or damaged. Metals are more suitable for load bearing applications compared to ceramics or polymeric materials due to high mechanical strength and fracture toughness [3]. However, the main limitation of these metallic materials is the release of the toxic metallic ions that can lead to various adverse tissue reactions and/or hypersensitivity reactions [4].

The main goal of the study was to fabricate nanocomposite coatings based material on dental Co-Cr-Mo alloy with different amounts of Fluorapatite nanopowder, using the pulsed laser deposition and to evaluate bioactivity properties on biological material.

The Co-Cr-Mo alloy was purchased from American Elements, USA. The Fluorapatite nanopowder was prepared by mixing calcium hydroxide (Ca(OH)₂), phosphorous-pent oxide (P₂O₅) and calcium fluoride (CaF₂) in a planetary high energy ball mill using zirconium vial. In order to prepare cobalt base alloy/ Fluor apatite nanocomposite, the pellet of Co-Cr-Mo alloy covered partially with triangular segments of Fluorapatite. The Fluorapatite powder particles were obtained at approximately 35-65 nm. The pulsed laser deposition. This study showed successful synthesis of Co-Cr-Mo nano-composite coating by PLD.

Keywords: Co-Cr-Mo based alloys, Fluorapatite, Dental material, Dental alloy, Pulsed laser deposition.

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