



**28°
CONGRESSO
NAZIONALE**

COLLEGIO DEI DOCENTI UNIVERSITARI
DI DISCIPLINE ODONTOSTOMATOLOGICHE

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RESTORATIONS WITH DIGITAL CAD/CAM COMPOSITE CHAIRSIDE WORKFLOW: A CLINICAL CASE

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Aim: semi-indirect CAD/CAM composite restorations are presented and documented step-by-step.

Methods: a 47-yr woman was visited due to strong sensitivity in the IV sextant with 3.6 suffering pain on percussion. Medical history was negative. Radiographic and clinical inspection revealed previous dental treatments with secondary caries of 3.5-3.7 and pulpitis of 3.6. After the endodontic treatment of 3.6, indirect CAD/CAM composite restorations (Bredent) were proposed. Teeth were prepared and finished with diamond burs (medium- and fine-grit, respectively). Intraoral scans of the upper and lower dental arches and of the occlusion were taken. The internal surface of the composite restorations was sandblasted with 50 µm AL₂O₃ (5 cm distant for 10s), cleaned in alcohol solution in an ultrasonic bath for 1 min, a silane coupling agent was applied (5

min) and the adhesive (Optibond FL, Kerr) was applied and left unpolymerized. After rubber dam isolation, the teeth were cleaned with water-pumice, sandblasted and the adhesive was applied and polymerized for 20s. Luting procedures were performed with a pre-heated resin composite (Filtek Supreme, 3M). After finishing and polishing, occlusal, and radiographic checks were made.

Results: after 16 months, no fractures, discoloration, secondary caries, or pain were reported. Rx showed no signs of periapical inflammatory processes.

Conclusion: semi-direct composite restorations are a valid option in cases where cuspal coverage is needed. Digital CAD/CAM chairside workflow makes restorative procedures faster, predictable, and easier than traditional protocols.

DIGITAL TECHNOLOGIES IN COMPLETE REMOVABLE DENTURE: A CASE SERIES

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Aim: complete removable denture has been the last prosthetic procedure to follow the digitization because of drawbacks into the intraoral scans of edentulous arches; in addition, it is impossible to record muco-compressive impressions through IOS. So, a full digital procedure is not yet conceivable.

We considered the possibility of an “hybrid” protocol thanks to a specific software. The hybrid protocol requires traditional techniques for the anatomical impression followed by laboratory scan of casts and wax.

Methods: the software consists in two synergic programs:

- Ruthinium Digital Preview allows to have a picture of the prosthetic project and change it previously, thanks to two calibrated photographs.

- Ruthinium Denture Guide is a 3D software that helps laboratory work into denture production, particularly to a correct setting of acrylic teeth. The planned dental setting is printed in a template. Template and base plate, both 3D printed, are connected thanks to a structure that ensures the designed occlusal scheme.

Results: the collected clinical cases did not allow a statistic analysis about patient and clinical satisfaction through evaluation questionnaires.

Conclusion: it looks like that patients appreciate the prosthetic rehabilitation previsualization and in particular being actively involved in aesthetic choices. Clinically, it appears to be a shorter need for touch-ups at the last appointment; probably because of the 3D tooth position planning.