



MULTIDISCIPLINARY MANAGEMENT & COMPLETE ORAL REHABILITATION OF A COMPROMISED DENTITION, IMPLEMENTING A COMBINATION OF DIGITAL WORKFLOWS

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Poster ID

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INTRODUCTION

Digital technology can contribute significantly in all the stages of the treatment, from the diagnosis and the planning, to the placement of the implants and the fabrication of the final restorations. For each individual case, available digital data can be combined and visualized, providing an important platform, that can enhance the communication between clinical and laboratory team. Technology can not only optimize the planning of each case, but also can provide tools to guide its implementation in the clinical reality. However in the literature, digital workflows are often presented as separate treatment approaches, and not under the scope of a complete oral rehabilitation.

To present through a clinical case, the implementation of a combination of digital workflows for natural teeth and implants, that can be used for the multidisciplinary management of complete oral rehabilitations.



OBJECTIVE

Academy of Osseointegration



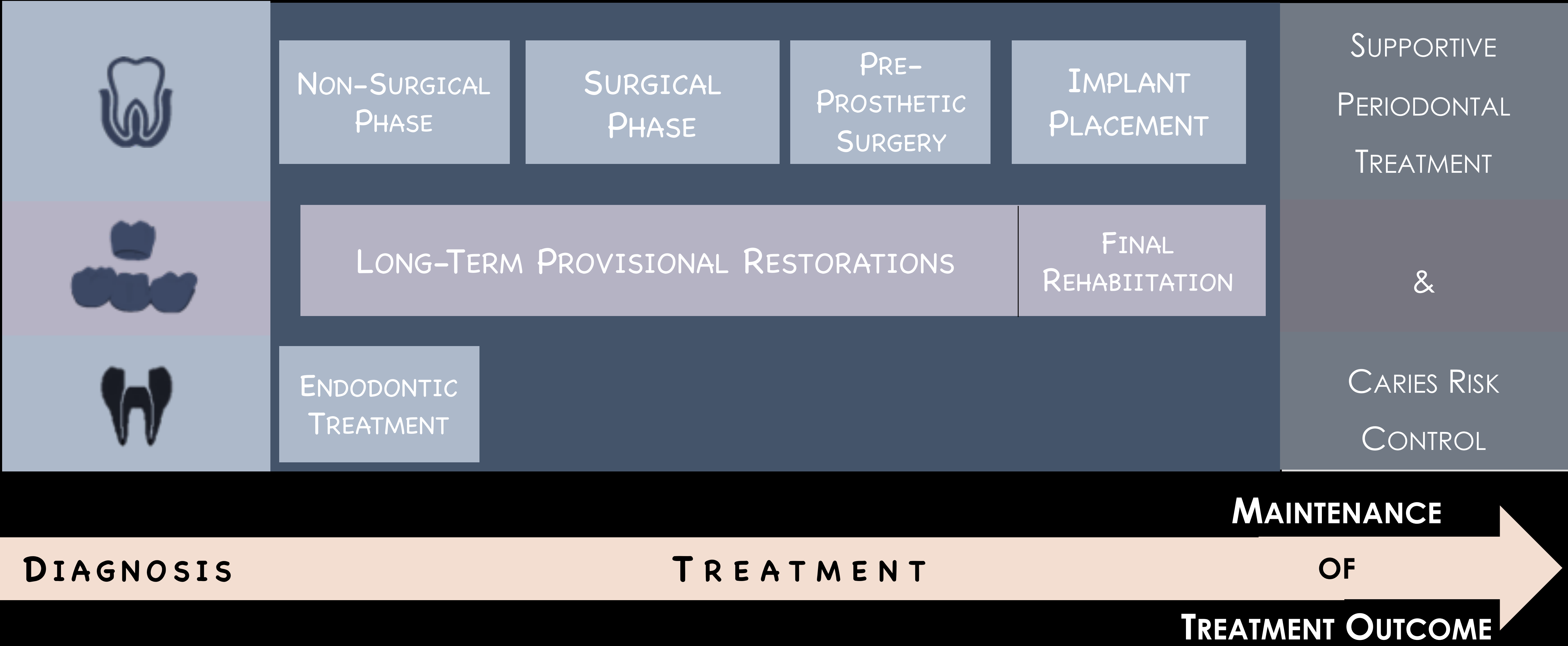


CASE REPORT

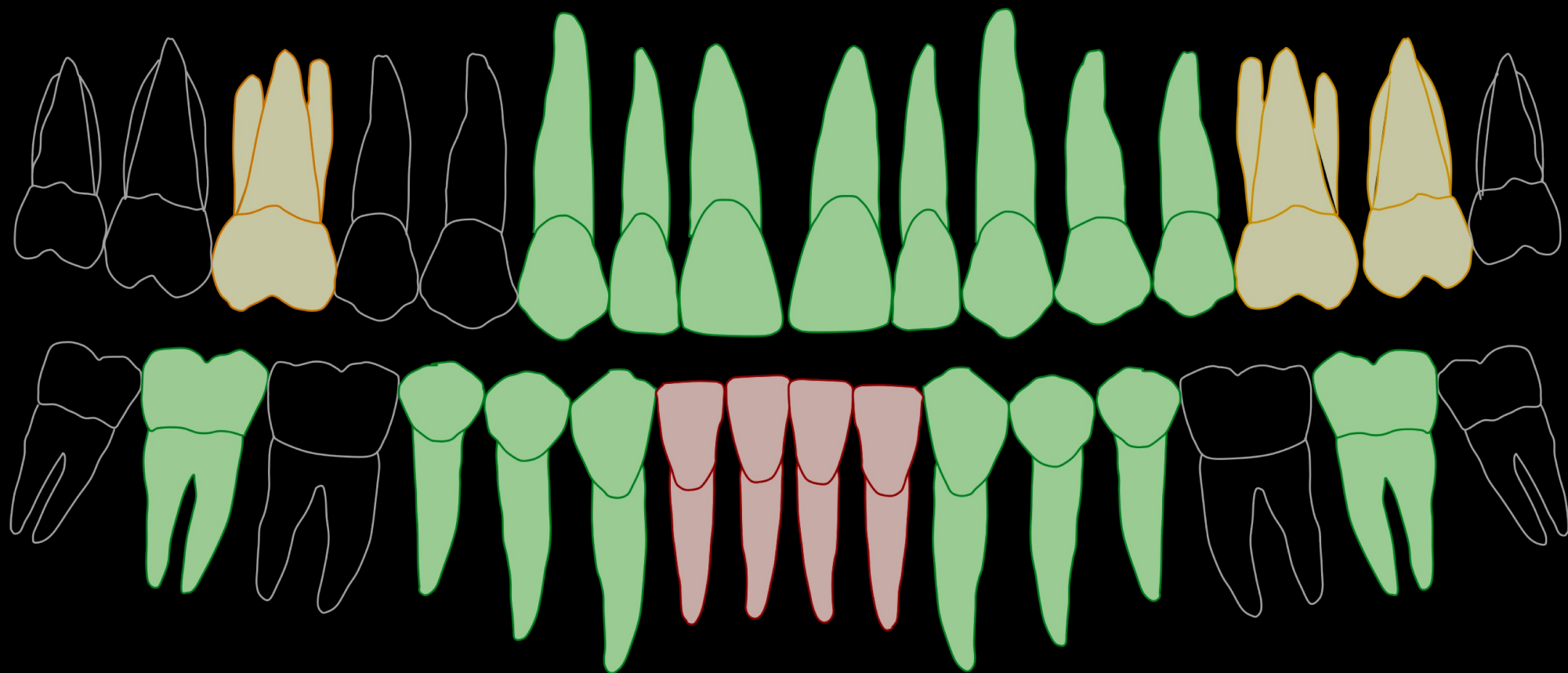
A 49-year old actor was presented, complaining about pain, mobility and discoloration of his teeth. Patient was seeking for an esthetic and functional oral rehabilitation. His medical history was in general unremarkable, besides the smoking of 8-10 cigarette per day the last 20 years. Patient presented an resistant, intense and demanding type of personality, with an especially sense of esthetics.

Based to clinical. radiographic assessment and his dental history, patient was diagnosed with a stage III/grade C, generalized periodontitis and a high risk for dental caries.

MULTIDISCIPLINARY TREATMENT PLAN

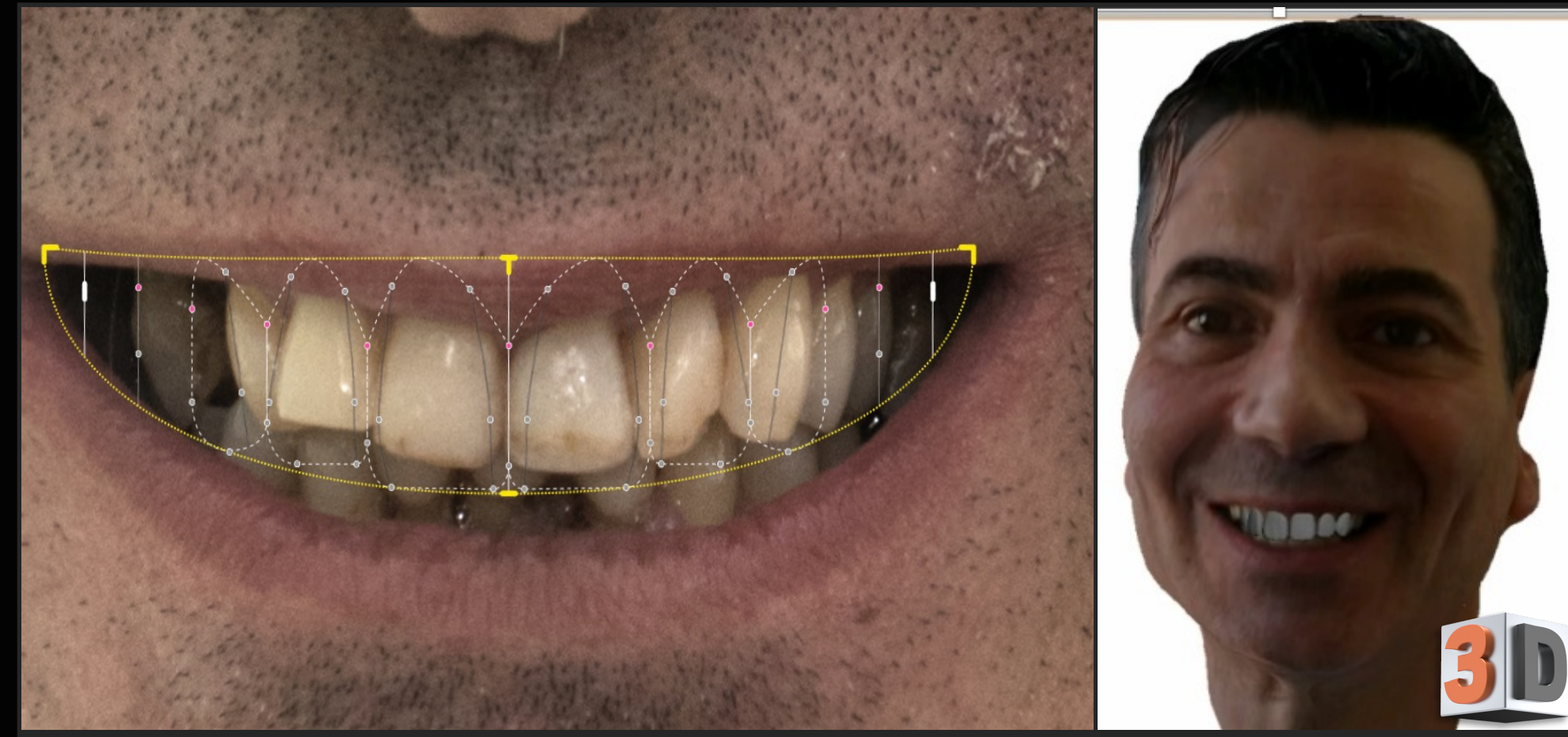
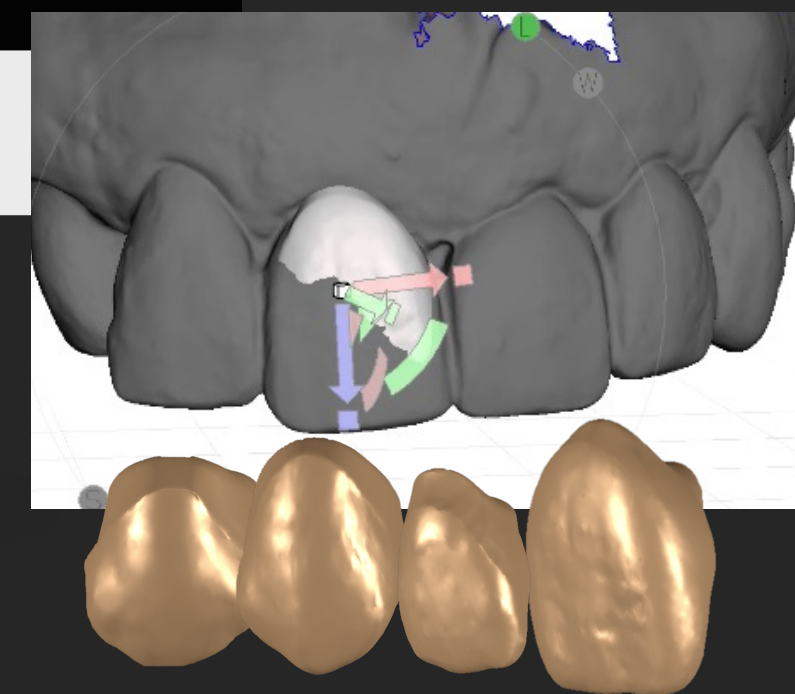


TOOTH PROGNOSIS

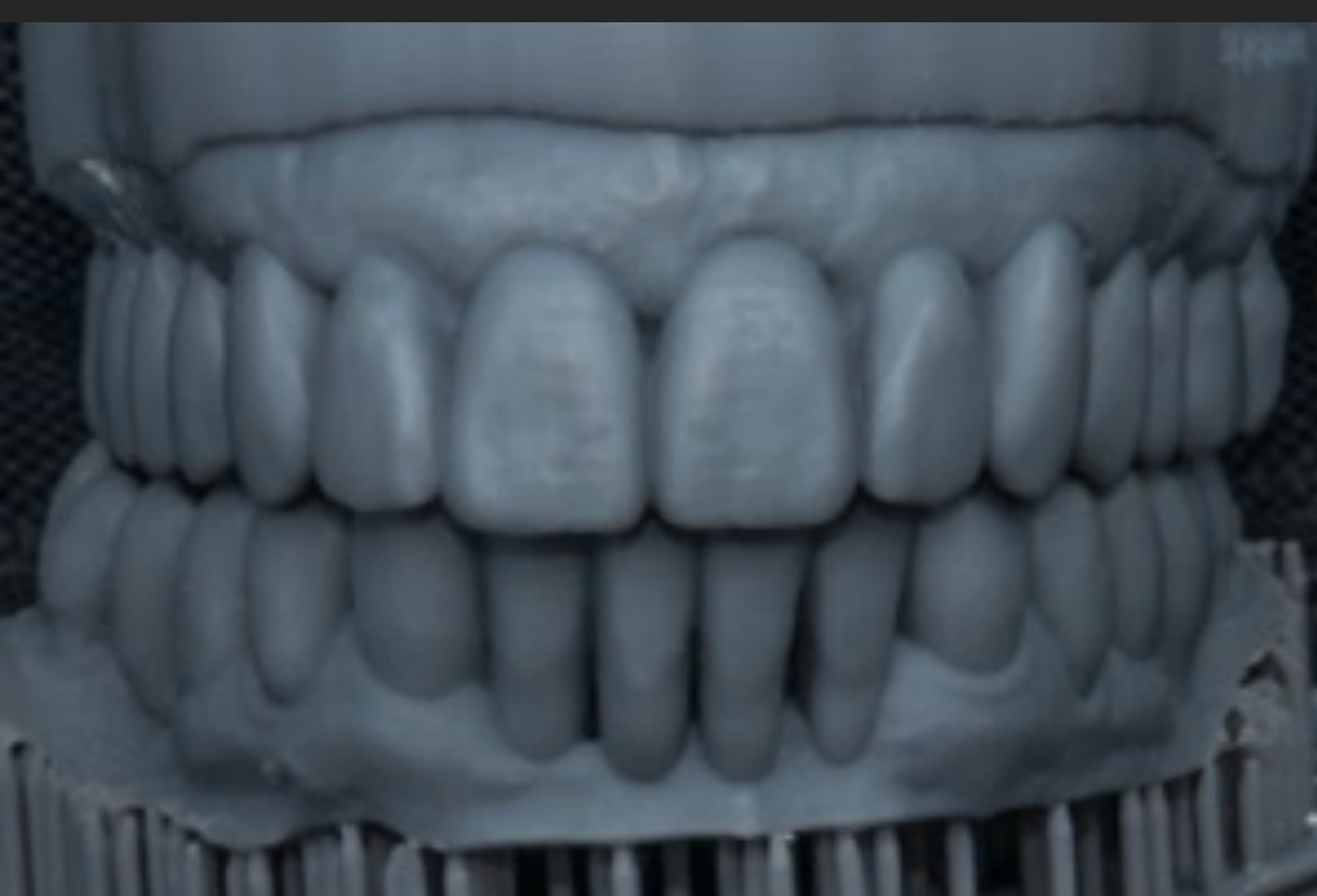
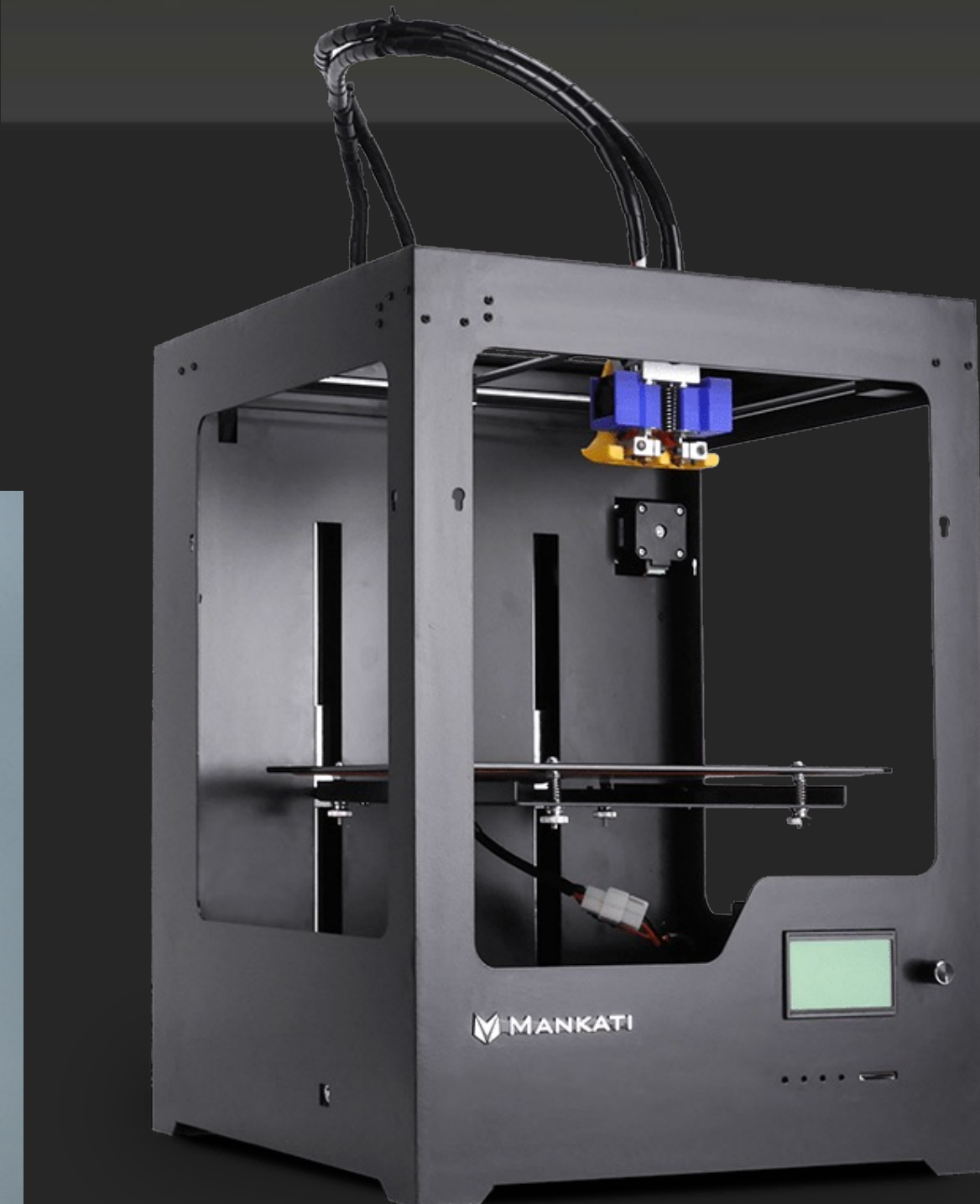




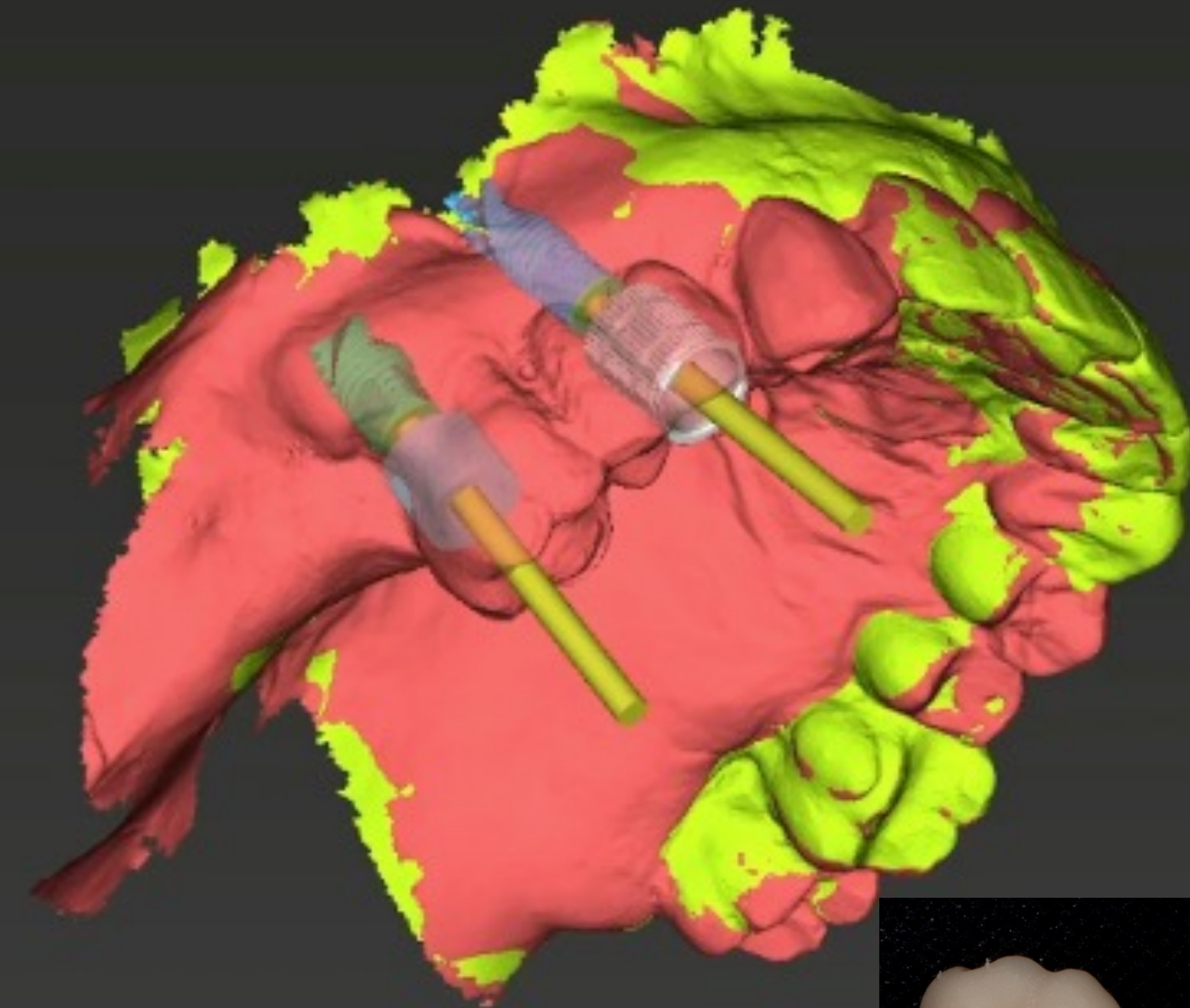
MATERIALS & METHODS



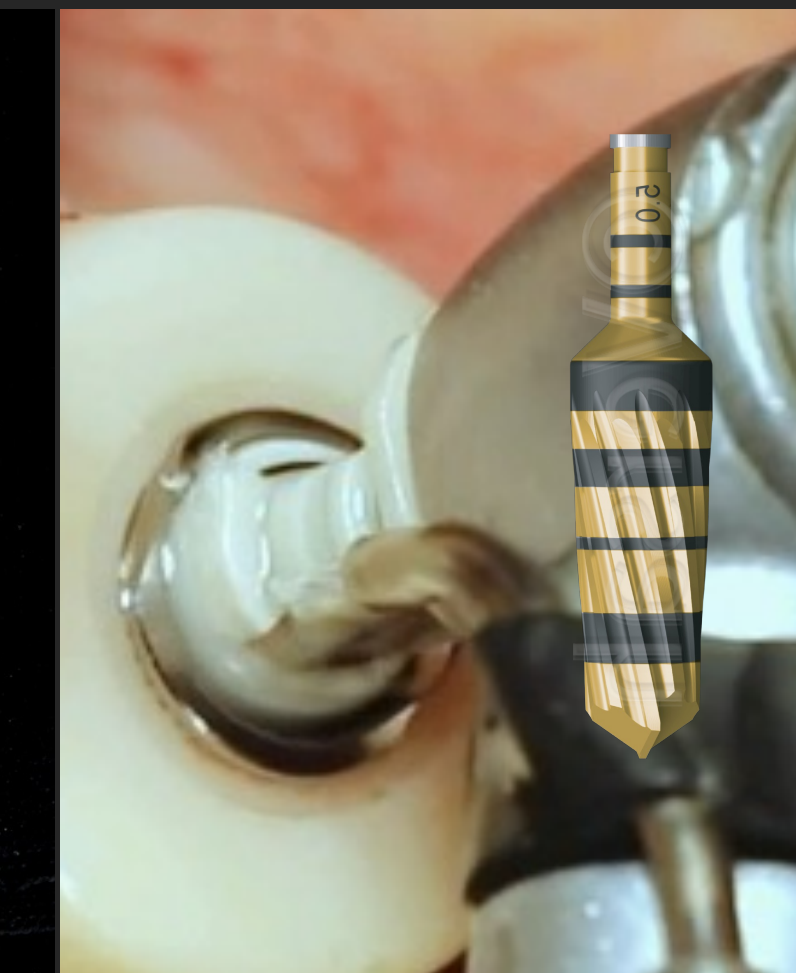
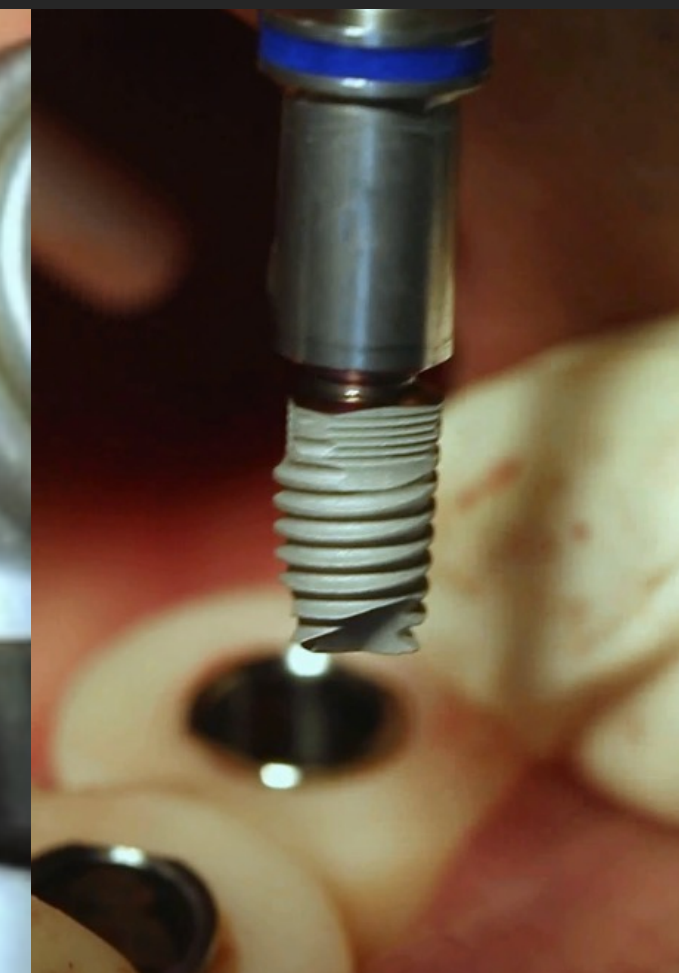
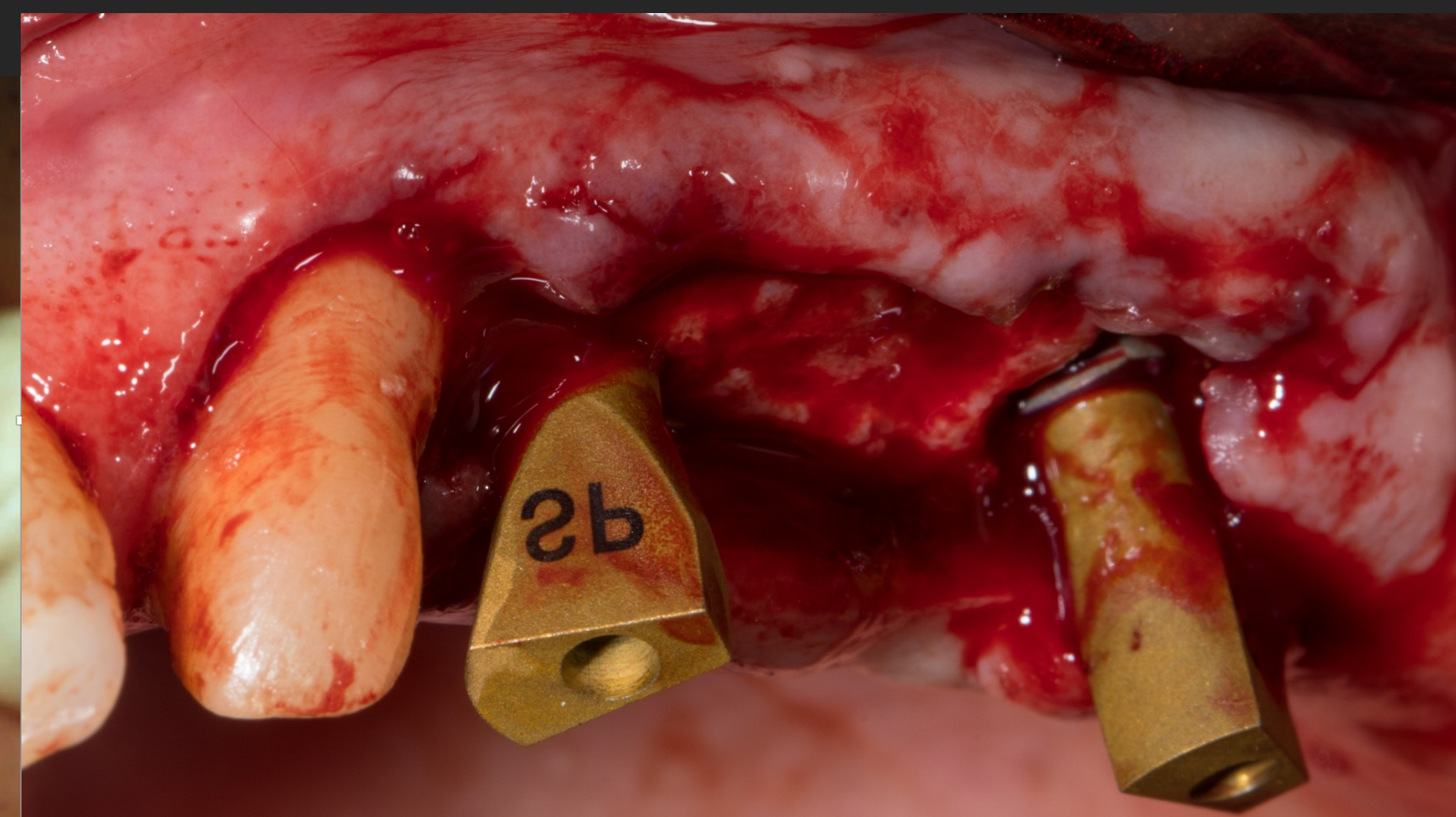
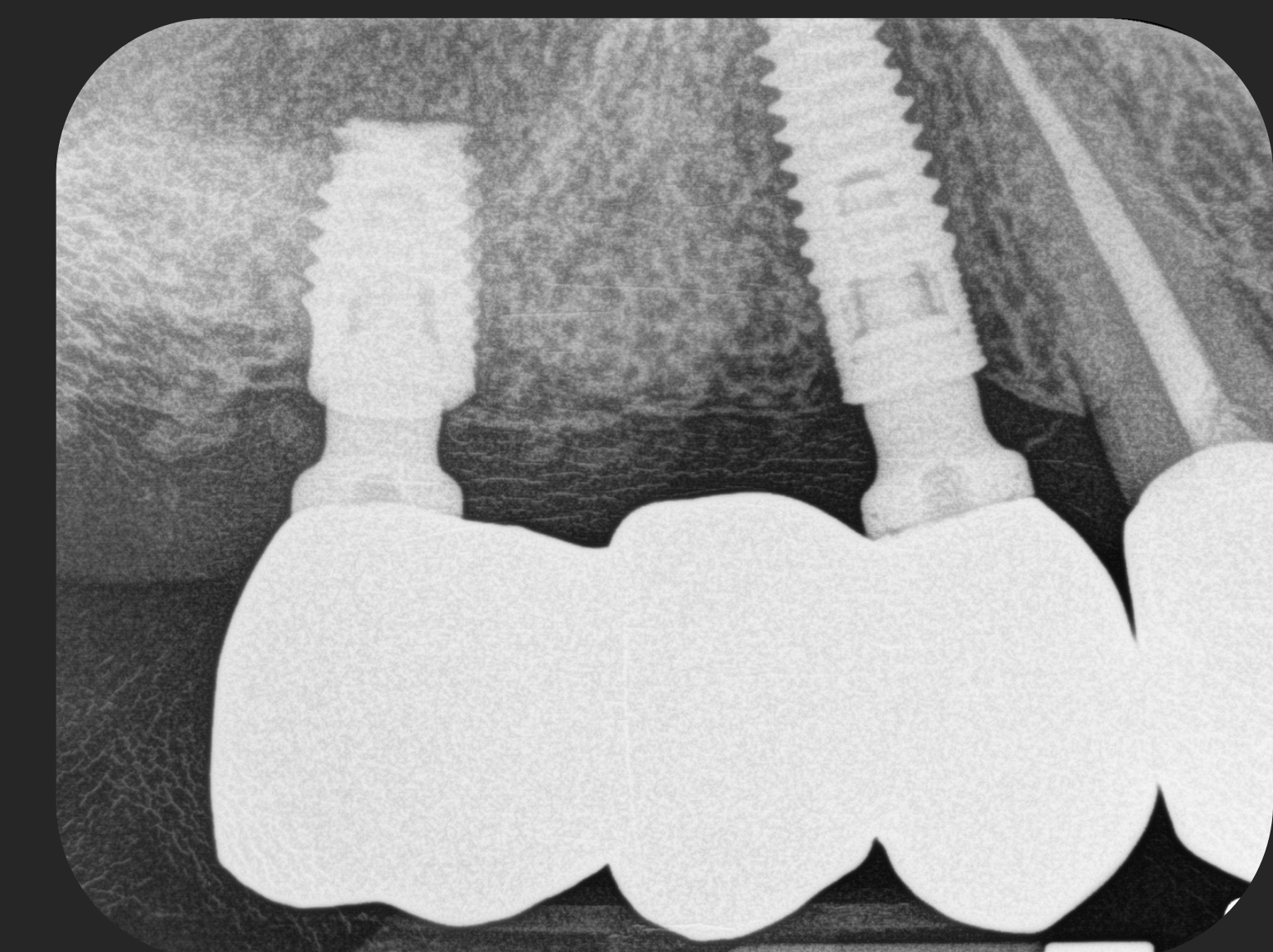
A digital design of the smile was performed. Subsequently, a scan of the face was matched with intraoral scans. A digital wax-up was performed, for both arches, using for the upper anterior teeth the forms obtained from the smile design software. (SmileCloud)



Patient's CT-scan was combined with the digital wax-up, in order to guide the placement of the implants and the esthetic crown lengthening.



A 3d-printed guide was used for the fully placement of the implants, along with the osseodensification of the bone.



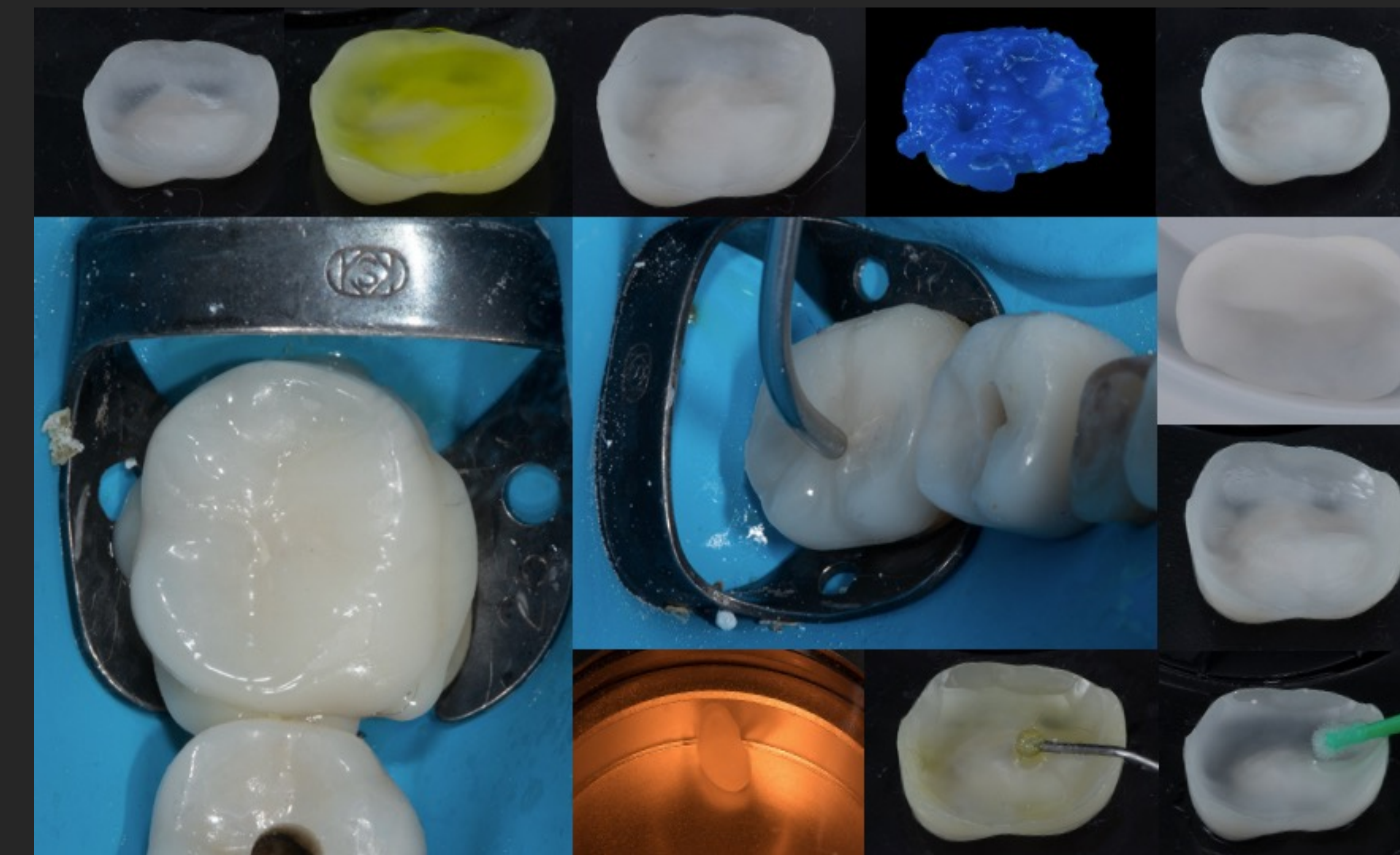
Periapical x-rays after the placement of the monolithic zirconia restorations



CDT
TAMPAKOS I.



Bonding of the milled monolithic zirconia and lithium disilicate restorations.



Scan of the implants intraorally, during the surgery after their placement, in order to place the provisional restorations simultaneously with implants' exposure.

A special designed printed tray, was relined with high viscosity silicone, implementing, 3d-printed models of the wax up, in order to perform intraoral mock-up.



Two guides were 3d-printed, for the esthetic crown lengthening in order to perform an individualized based to patient's biologic width surgery. One guide was implemented for the initial incision of soft tissue, and one for the control of bone preparation.



DIAGNOSIS

TREATMENT

**MAINTENANCE
OF
TREATMENT OUTCOME**

An anterior deprogrammer was printed, and a new intraoral scan was performed in order to mill a stabilization splint. (Ivoclar ProArt CAD)





RESULTS

Comprehensive treatment planning is of paramount importance, when different dental specialties need to work together. In the present case, digital workflows were implemented in order to form the appropriate treatment plan. Digital workflows can assist in the interaction among clinicians, in order to plan the treatment and integrate it into the clinical practice. Digital technology can provide a high level of guidance, especially during full mouth rehabilitations that combine implants with natural teeth.

Digital technology can improve the predictability and the dynamic of complete rehabilitations. The efficient combination of digital workflows, can considerable assist, the implementation of multidisciplinary clinical approaches. Further research is needed, regarding the interaction of available digital workflows, concerning multidisciplinary treatment plans.



CONCLUSIONS



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