APPLICATIONS OF 3D PRINTING IN PROSTHODONTICS

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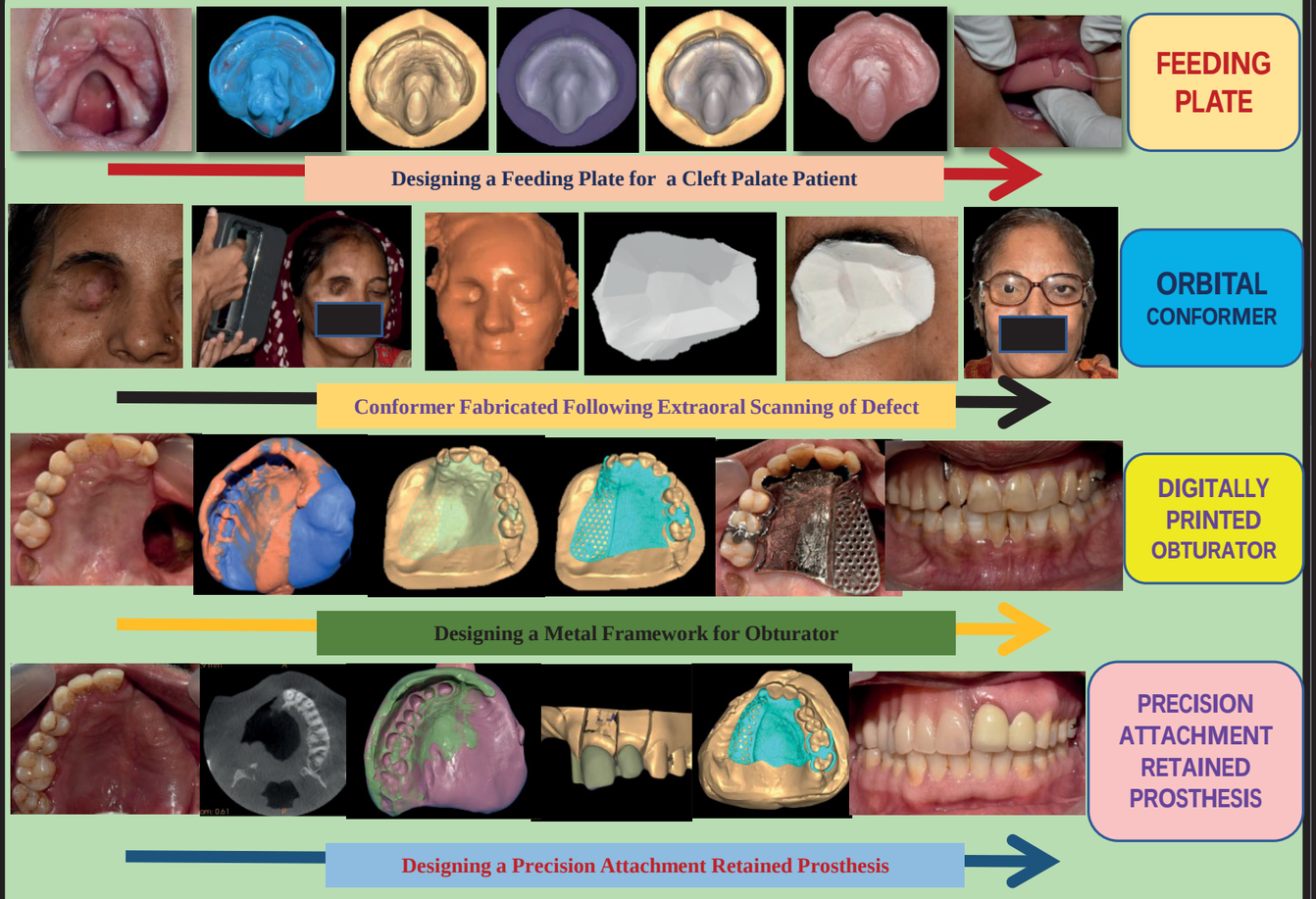
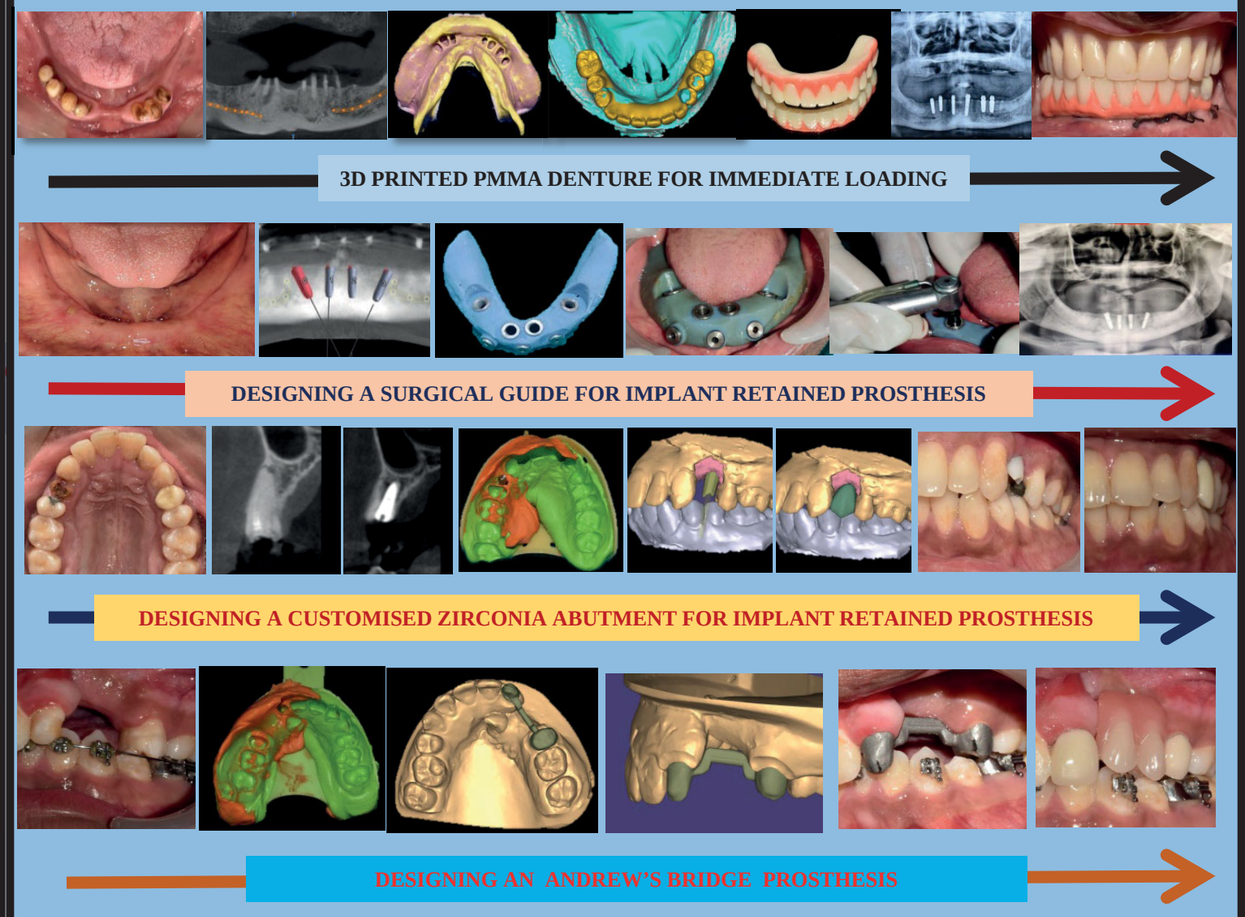
Introduction: Three-dimensional (3D) printing technologies are advanced manufacturing technologies based on computer-aided design digital models to create 3D objects. In 3D printing, objects are fabricated by adding material layer-by-layer, to form a 3D volumetric structure. It comprises data acquisition through various scanning technologies followed by data processing and designing the model with a computer-aided design (CAD) software. The resulting STL file is imported into the printer software and the variables and parameters are specified to generate the information needed to run the 3D printer. Finally, the processed data is used to manufacture structures with the chosen material through the CAM step.





Conclusion: This digital approach has various advantages including recording anatomic details with better accuracy and precision, decreased manual errors, convenience, less laborious work and reduced wastage of dental materials.

References: Nesic D, Schaefer BM, Sun Y, Saulacic N, Sailer I. 3D Printing Approach in Dentistry: The Future for Personalized Oral Soft Tissue Regeneration. J Clin Med. 2020 Jul 15;9(7):2238.