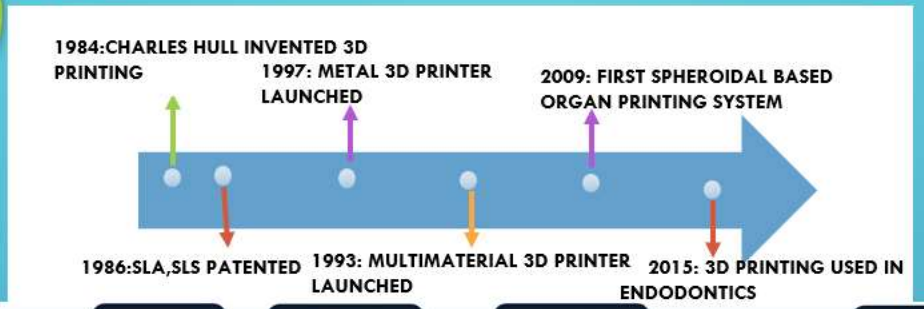
39th IACDE National Conference

Digital to Dental: 3D Printing in Endodontic Practices

Educational Applications of 3D Printing

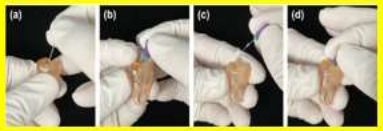
3D Printing has transformed Root canal simulation by creating realistic models that provide enhanced tactile feedback for dental trainees. It has enable the accurate replication of both hard and soft tissue properties, improving the training experience significantly.

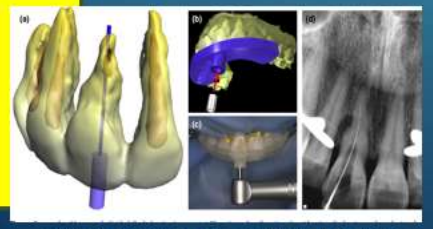
Timeline of Evolution of 3D-Printing



GUIDED ENDODONTIC ACCESS

3D printing allows for the creation of patient-specific guides that enhance the accuracy of visualizing and accessing root canals and potentially decreasing chair time and providing clear pathways for instrumentation.





GUIDED ENDODONTIC ACCESS

GUIDED SURGICAL TEMPLATE

GUIDED SURGICAL TEMPLATES

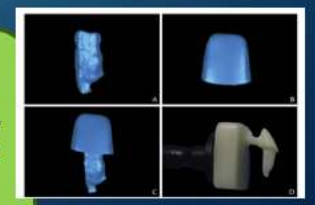
The Digitally designed directional template effectively facilitates periapical surgery enabling precise localization and resection of root ends.

ENHANCED TREATMENT PLANNING AND PATIENT COMMUNICATION

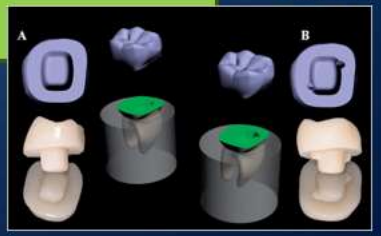
3D Printed models of a patient's dental anatomy allow for more accurate visualization of root canal systems enabling precise treatment plan tailored to individual cases

PREFABRICATED CUSTOM POST AND CORE AND ENDOCROWNS RESTORATIONS

A cone beam computed tomography (CBCT) scan is used to extract the post shape from the root canal. Custom fiber post-and-cores and Endocrowns can be produced with CAD-CAM technology.



POST AND CORE



ENDOCROWNS