





## SHAPING THE FUTURE OF ENDODONTICS WITH 3D PRINTING TECHNOLOGY

"TECHNOLOGY LIKE ART IS A SOARING EXERCISE OF HUMAN IMAGINATION" - DANIEL BELL



3D printing involves creating a physical object by layering materials based on digital model

Efficiency

Production

Advancements

in Surgical

Procedures

Precision & Personalization

Need for

3D

printing

Bioprinting Potential







Micro-CT Scan Skyscan 1174 Compact Desk-Top Micro-CT, Bruker©



STL File



3D Printing Objet30 Prime™, Stratasys©



3D Printed Tooth

## **TECHNIQUES**



**STEREOLITHOGRAPHY** 



SELECTIVE LASER SINTERING



**Improved** 

Patient

Satisfaction

Material

Versatility



**FUSED DEPOSITION** MODELLING



**LAMINATED** LAYER **MANUFACTURING** 

## **Limitations**

Material Complexity Mechanical Availability of designs **Properties** 

> **Printing** Processing speed Requirements

Limited educational and training Programs



## pplication in Endodontics



Guided **Endodontics** 



Auto transplantation



Pre surgical **Planning** 



Surgical **Guides** 



**Endosseous Implants** 



3D printed models



**Bioprinting** 



**Scaffolds**