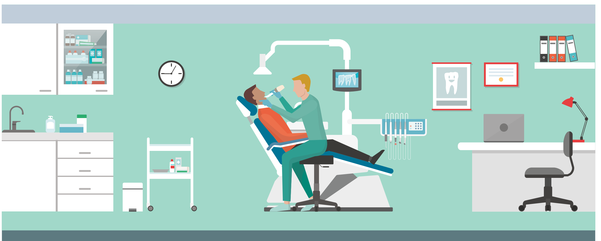
DIGITAL DENTAL RESTORATION

THE CAD/CAM WORKFLOW



DENTAL OFFICE

ANALOG IMPRESSION
The dentist takes an Alginate impression of the patient's teeth and soft tissues, which a laboratory uses to make a positive cast. The cast model is digitized using a desktop scanner.

PACKAGING & SHIPPING REQUIRED
Analog impressions incur the mailing costs for sending it to the lab for casting and digitization.

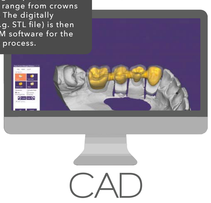
DIGITAL FILE CREATED AT LAB

INTRAORAL SCAN
Using a hand-held scanner, the dentist takes a digital impression of the patient's teeth and soft tissues.

DIGITAL FILE SHARED WITH LAB

DENTAL LAB

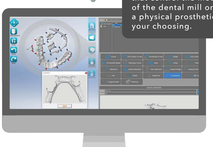
CAD SOFTWARE
Using the patient's digitized scan, technicians design replacement prosthetics that range from crowns to full dentures. The digitally designed file (e.g. STL file) is then imported to CAM software for the next step of the process.



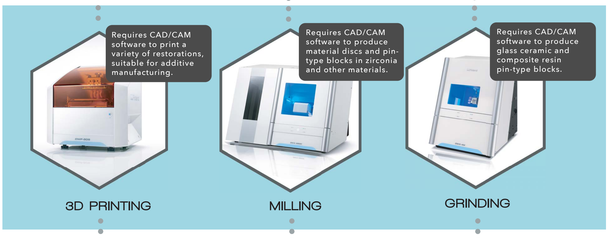
CAD

STL

CAM SOFTWARE
CAM software outputs the CAD design data (STL file) as machine instructions that control the motion and movements of the dental mill or printer to produce a physical prosthetic in the material of your choosing.



CAM



Requires CAD/CAM software to print a variety of restorations, suitable for additive manufacturing.

3D PRINTING

Requires CAD/CAM software to produce material discs and pin-type blocks in zirconia and other materials.

MILLING

Requires CAD/CAM software to produce glass ceramic and composite resin pin-type blocks.

GRINDING

HYBRID CERAMICS

GLASS CERAMICS

SINTERING OVEN

CRYSTALLIZATION OVEN

FINISHING
Once the dental lab has finished milling, the prosthetic can be stained, glazed and polished.

FINISHED PRODUCT
Crowns, bridges, custom trays, frameworks and other prosthetics are sent back to the dental office for patient fitting. Depending on the application (particularly with denture production), the workflow moves onto the next production stage and the process begins again until a final product is eventually produced.