

Dental Follicle

The E- Journal Of Dentistry

ISSN 2230-9489 (e) | Dr. Syed Nabeel

Dentistry

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Scientific Editorial - Various Printers for 3D dental Work

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3D printing has been hailed as a disruptive technology which will change the way dental industry works. It will create newer jobs and close many older ones. It will make many materials obsolete and bring in many newer ones.¹ In the world of 3D printing , dentistry is going to carve a niche market for itself. The global dental industry is bound to change soon. 3D printers will be

Key Words : 3D printers for dentistry

available for clinics, labs and research units in dental industry. From Milling crowns, bridges, inlays , onlays, dentures, aligners, mandibles to digital models of impression and finally to the research purposes for developing scaffolds of collagen to clone the pulp organs, almost everywhere we will have 3D printers.

Dimensional accuracy of dental casting patterns created by 3D printers showed that The surface roughness along the tooth axis direction was greater than that perpendicular to the tooth axis.²

The world leaders in dental industries are joining hands to bring in their printers. One of the latest news is the joining of Bego with two other major partners to bring in world class 3D printers. Some of the popular 3D printer brands are

- Planmeca Creo ,
- Renishaw Am 250 ,

- Formlabs form 2,
- Structo Orthoform ,
- Structo Dentaform ,
- O3D 2 – Orthodontic Printer,
- Microlay Dentalfab,
- Roboze one ,
- Roboze 1-400 ,
- Projet 600HD ,
- Sysma myrev140 ,
- Envisiontec VisionVIDA CDLM
- Rapidshape D30
- Ultimaker 2

Summary :

Along with the above there are many brands which are available for lesser price on many online market places such as

alibaba.com . The unparalleled use 3D printing in dentistry will for sure create more opportunities to dentists in this era.

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1. 3D printing in dentistry. *Br Dent J.* 2015 Dec;219(11):521-9 Dimensional accuracy of dental casting patterns created by 3D printers. *Dent Mater J.* 2016;35(2):250-6

Improving Retention of Denture Teeth with the Denture Base

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Introduction:

As higher quality denture teeth have been introduced that demonstrate better wear resistance and lower solubility to solvents (ie. alcohol, food acids etc) chemical adhesion of the acrylic denture base has become difficult. Introduction of resin denture base materials such as Eclipse (Dentsply, York, PA) have additionally complicated retention of the denture teeth within the surrounding denture base. Mechanical retention has become a necessity to avoid denture tooth “pop-off”.

Traditionally, placement of diatorics in the denture tooth amounted to placing a rounded depression on the side of the

tooth contacting the denture base. These depressions offer minimal retention and rely on the denture base circumferentially around the tooth to prevent “pop-off”. This can especially be an issue with maxillary anterior teeth where the direction of load on the tooth combined with a shorter palatal cervical neck tends to lend it self to separation of the denture tooth from the underlying base. In the past other attempts at increasing mechanical retention called for a hole to be placed on the interproximal surface of the denture tooth similar to what is found on porcelain denture teeth. These are often found to be insufficient to resist load on anterior teeth.

Technique:



Figure 1: An inverted cone diamond is utilized to create a collar groove circumferentially around the denture tooth.



Figure 2: A circumferential collar groove is shown at the cervical neck of the denture tooth.



Figure 3: A knife edge diamond is utilized to place divergent cuts on the portion of the denture tooth that will contact the denture base.



Figure 4: An anterior denture tooth demonstrating a circumferential collar groove and divergent cuts to aid in mechanical retention of the acrylic base to the denture tooth.

References:

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Pictorial Root Resorption Management

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Although it was not bypassed...healing occurred

What if we could not remove nor bypass the broken file?

- 1- Inform the patient about this and the possibilities of outcome
- 2- Treat the other canals as best as you can and fill the “un managed canal” till the broken file
- 3- Wait and see...body tolerance is amazing