



Raffi Leblebajian, DDS:

Why I'm All In On 3D Printing



A Former “Luxury” Is Now a “Must”

In the age of dentistry in which we are living, having a 3D printer in the dental practice has become a “must” for Dr. Raffi Leblebajian. Known as “Dr. Raffi” to his staff and patients, his 3D printer of choice is the DMG 3Demax. Because 3D printing is so much more efficient, precise and profitable than the conventional method of manufacturing appliances, he simply cannot imagine operating his practice without it.

Thriving in a Digital World

Dr. Raffi often prints appliances by using his 3Demax 3D printer in concert with two other advanced digital technologies in his practice: the 3Shape TRIOS 3D scanner, and a Carestream CS 8100 cone beam computer tomography – or CBCT – unit. To print surgical guides for implants, for example, he begins the implant planning process by using the CBCT to create DICOM (digital imaging and communication in medicine) files of the hard tissue, which he transmits to his planning software. Next, he uses the 3D scanner to capture images of the soft tissue and create STL (stereolithography) files, and then merges the DICOMs and STLs together in the planning software. The plan for the implant(s) is then finalized in the software, which creates a surgical guide and transmits it via STL to the 3Demax for printing.

A Multitude of Uses

In addition to surgical guides, the appliances Dr. Raffi most often prints are models for implants and veneers. Other appliances he prints include oral orthotics and nightguards, the latter often printed to keep patients who grind their teeth in their sleep from damaging their natural dentition and new veneers.

A Quantum Leap in Speed

Dr. Raffi and his staff relish the time saved by scanning instead of mixing and pouring plaster and the cleanup after. An even greater time-saver is printing appliances in-house rather than dealing with the logistics and time associated with production at a dental laboratory. Depending on the degree of precision required for the appliance, the in-house 3D printing process typically takes only 35 to 45 minutes.

5 Reasons to Embrace 3D Printing

1

FASTER

2

MORE
PRECISE

3

LESS
MISTAKE-PRONE

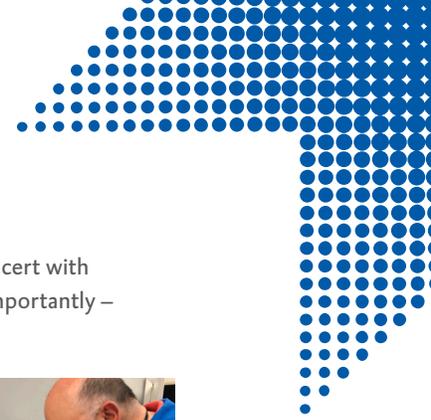
4

LESS MESSY

5

MORE
PROFITABLE





User-Friendly

According to Dr. Raffi, 3D printers – as well as the planning software and other digital equipment used in concert with the printers – are not only easy to use but easy to learn. It makes printers big time-savers and – even more importantly – reduces the chances of human error.

Like all DMG products in our practice, the 3Demax is extremely user-friendly. There's no need to spend a lot of time reading instructions, for the simple reason that it's just so intuitive to use.



Another advantage of 3D printing technology is that the DICOM and STL files are saved in the cloud, making it convenient if there is ever a need to print a replacement appliance. Dr. Raffi's staff also likes not having to store space-consuming stacks of plaster in the practice.

Patient-Friendly

In many cases Dr. Raffi will use his 3D printer for diagnostic analysis so the patient can see a 3D model of their soft and hard tissue, better understand the nature of the problem, and have a better idea of what kind of outcome is possible. The 3D-printed device engages and empowers the patient, who previously could only view 2D photographs. Patients also appreciate that their appliances are designed, printed and placed within a single visit to the practice.

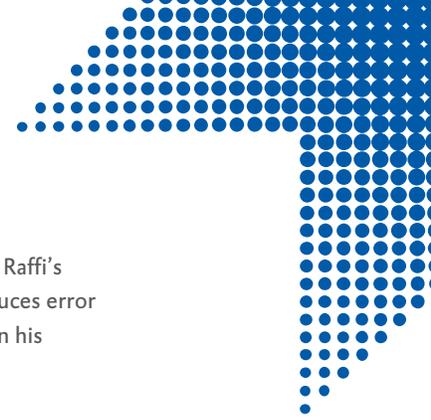
Choosing the Right Tools

Dr. Raffi advises peers not yet using 3D printing to invest in one of the several 3D printers that offer significant advantages over the traditional means of manufacturing appliances. He chose the DMG 3Demax in part because its patented Force Feedback technology accelerates printing speed by up to 50% versus other 3D printers. In addition, its highly sensitive load cell allows each layer process to be carefully controlled during printing, minimizing the risk of misprints. It also accepts numerous types of STL files and has automated RFID (radio frequency identification) technology that cleverly minimizes the risk of inadvertently using the wrong resin material.

Dr. Raffi applauds DMG for designing the 3Demax to be compatible with all STL files and a wide range of resin materials. He uses the DMG cloud-based DentaMile connect software for appliances other than surgical guides, as its guided workflows maximize efficiency and minimize the chances of mistakes. And while the 3Demax works with numerous resin brands, Dr. Raffi prefers to use the DMG LuxaPrint line of 3D resins.

Investing in a 3D printer is one of the best financial decisions I've ever made for my practice. The time savings, predictable outcomes and impact on patient satisfaction have increased my monthly profitability by an average of 14.7%!





A Boon for Practice Profitability

It's often said that "you have to spend money to make money," and that has definitely been the case with Dr. Raffi's investment in 3D printing. As far as he is concerned, any technology that saves time, enhances precision, reduces error and increases patient satisfaction pays for itself many times over. And in fact, he attributes a 14.7% increase in his monthly profitability to his embrace of 3D printing.



DR. RAFFI LEBLEBIJIAN, who owns and operates family and cosmetic dentistry practices in Chicago and Bourbonnais, Illinois, has been practicing for 36 years. Dr. Raffi, as he is affectionately known by his patients and staff, is a graduate of Loyola University Dental School and the Las Vegas Institute of Advanced Dental Studies.

Dr. Raffi is a member of the American Dental Association and the Illinois State and Chicago Dental Societies. He recently served as a President of the Chicago chapter.