



The 3D Printer Tipping Point

How Dr. August de Oliveira's investments in 3D printing have helped him elevate the patient experience and increase case acceptance.



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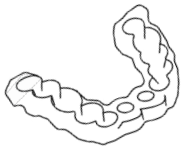
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Dr. de Oliveira, DDS

Dr. August de Oliveira is a household name in digital dentistry. A lecturer on chairside CAD/CAM since 2005 and on guided surgery since 2009, Dr. de Oliveira is no stranger to integrating new technologies for clinical use. As an early adopter of 3D printing, he has championed the idea of using the technology in dentistry since the early desktop FDM days at the turn of the decade. As for the moment when 3D printing stepped into his regular workflow? “The tipping point was surgical guides,” says Dr. de Oliveira, “I was probably spending about two to three grand a month on surgical guides, and there were a lot of guys making their own guides for under 30 dollars apiece.”

This kind of savings made bringing a 3D printer in-house a no-brainer for Dr. de Oliveira. “Usually when we buy dental equipment we’re worried about the cost. The cost [of a 3D printer] is pretty negligible,” he says, “I got in on some of the early 3D printing systems out there and quickly found MoonRay and SprintRay Pro... and those have by far been our workhorses since then.”

Dr. de Oliveira uses his SprintRay 3D printers primarily for the production of surgical guides and models for making clear aligners. As these treatment types make up a big part of his daily workflow, he’s noticed a substantial difference in delivering these treatment types. “We’ve reduced the price of our aligner cases by around 20 or 30 percent, which allows us to be competitive,” he says, “Nowadays we have at-home aligner companies and we can compete with those companies because we’ve dropped our price.”



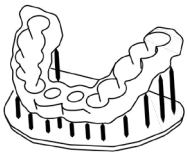
\$350

Total cost
per surgical guide

Traditional Surgical Guides

VS

In-office Surgical Guides



\$30

Total cost
per surgical guide

Beyond the Financial ROI

3D printing isn't just about lowering costs - increased case acceptance is a crucial component of bringing this technology into the office. Reduced treatment fees give patients a reason to say 'yes'. "I probably did, four years ago, maybe two or three aligner cases per year and now we're doing at least that per month," Dr. de Oliveira says, "So patients are definitely saying 'yes' more to aligner treatment. And one of the cool things about it is that people always lose or break aligners. So we have the ability to just 3D print another model and make them another aligner that they can get the next day."

"Our turnaround time for most aligners is about a week and it used to be a couple of weeks. My turnaround time for surgical guides was a week and now it's a day - I can do same-day guided surgery," Dr. de Oliveira says. This kind of flexibility is one of the key components of in-office 3D printing. Offering dental professionals the maximum number of options in any given situation empowers them to provide a high standard of care to their patients. But one barrier that can come with flexibility is increased workflow complexity.

For those who want to learn how to control the entire process from treatment planning to design to printing, there are dental CAD software suites. For those who'd rather eschew the learning curve that comes with the design process, there are many options for outsourcing digital design available today. "There's a number of design houses like Full Contour. There are designers in China that can design a crown for \$2.50 and \$3.50 better than what I can design in my CEREC. So if I don't need it as a same-day restoration, I can pay two or three dollars and have it done the following day."

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Dr. de Oliveira DDS

Choosing the Right Hardware

As an early adopter to 3D printing technology, Dr. de Oliveira is widely considered an expert on the subject. He uses his printer every day, and has made it a hallmark of his practice, educating his patients and printing toys and other trinkets for his patients and their children. So what does he look for in a printer? "For me there's three big things. One is the size of the build



2 cases

Per Year

Big-box Aligners

VS

In-office Aligners



36 cases

Per Year

plate. If you're going to get into printing aligners or do a lot of surgical guides and you only have a little dinky build plate, you're only going to be able to print one or two things at a time.

"[Second,] I would look at the cost of the printer itself. I always tell a lot of doctors: you probably don't want to spend more than twelve thousand dollars on a 3D printer. And there's a lot of companies that have twenty-five-thousand dollar printers, and what we can do with seven thousand dollars really encompasses 99% of what we do with 3D printing in the office.

"And then finally, a printer should have FDA cleared resins that are reasonably priced... one thing that's great about the SprintRay Pro is you can utilize SprintRay resins but you can also take advantage of NextDent and 3rd party resins as well. So you have a wider range of choices." Dr. de Oliveira says.

After using SprintRay's MoonRay S printer as his main production workhorse, Dr. de Oliveira has recently upgraded to SprintRay Pro, which features a reasonable price, massive build plate, and compatibility with biocompatible resins from SprintRay, NextDent, KeyStone, and DENTCA. "Look, if you're doing any clear aligner therapy, if you're doing any surgical guides, you'll pay for this [SprintRay Pro] in three months and then after that it's all gravy. So I'd say, definitely, right now get into 3D printing."

Thanks to Dr. August de Oliveira and the staff at Sunrise Dental for this interview.



About Dr. August de Oliveira



Dr August de Oliveira graduated from dental school in 1997 from the University of Washington and completed his General Practice Residency in Los Angeles in 1998. Dr de Oliveira has been lecturing on 3D technology since 2004, when he started as a CEREC Basic trainer. Since 2008 he has been involved with Implant Direct's R and D department developing Guided Surgery Software and Hardware and testing their CAD Milled Bars and Substructure Department. Dr de Oliveira has written two books on Implantology: Implants Made

Easy and Guided Implantology Made Easy. He has been involved with beta testing Sirona's Sidexis Program, as well as developing the Opti and CEREC Milled Surgical Guides. Dr de Oliveira lectures nationwide for Sirona on the Galileos Cone Beam system and Sirona Guided Implant Surgery. He also teaches for Implant Direct at their Las Vegas Educational Facility and with the Engel Institute in Charlotte. Dr de Oliveira lives and practices in Los Angeles CA.