Dr. David Caggiano
Caggiano Orthodontics
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Introduction

Dr. David Caggiano is an orthodontist and owner of Caggiano Orthodontics in Parsippany, New Jersey. His practice supports a dozen staff and serves the surrounding communities of Parsippany, Morris Plains, Boonton, Mountain Lakes, Whippany, and Montville, New Jersey.

Eighteen months ago, Dr. Caggiano purchased his first Form2 3D printer from Formlabs (Somerville, MA, www.Formlabs.com). "I made the decision to purchase a Form2 for my practice because it was clear that 3D printing is the future of orthodontics," he explains. After researching the available printers on the market, Caggiano selected the Form2 because of its ease of use; small learning curve; range of materials; and low price. It was also reported by users to be very reliable. Caggiano has since purchased a second Form2 printer.

Caggiano Orthodontics currently prints both regular and hollow models to make appliances, retainers, and aligners. His ultimate goal is to print aligners in-house once materials compatible for long-term use inside the mouth become available.

Approximately eight months after acquiring the Formlabs printers, Dr. Caggiano purchased the EasyRx (Atlanta, GA, www.easyrxortho.com) software program. EasyRx integrates with both the Formlabs PreForm software and Dolphin (Dolphin Imaging & Management Solutions, Chatsworth, CA, www.dolphinimaging.com) practice management system. The EasyRx integration has further streamlined his digital workflow process.

Background

In addition to his DDS and Orthodontic Certificate, Dr. Caggiano holds degrees in Engineering and Biomedical Engineering, establishing him in a unique position to readily identify, embrace, and implement emerging technologies. In 2010 he purchased an iTero (Align Technology, San Jose, CA, www.itero.com) digital intraoral scanner, which cleanly and accurately creates a digital file (.STL file) of the patient's dentition. This .STL file can be used to build orthodontic models, aligners, and other appliances. The digital intraoral scanner eliminates the need for alginate impressions, which are not only messy but also uncomfortable for young children, who by nature have a strong gag reflex. So, in addition to achieving more accurate datasets, the streamlined digital process also serves to improve patient comfort.

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EasyRx + Formlabs
Once inside EasyRx, the doctor and staff are able to create orthodontic prescriptions and track all lab work, including cases sent out to commercial labs. They use EasyRx 3D Edit to quickly and easily base and label the .STL files, preparing them to print on the Formlabs Form2 printer. Once the .STL file is based in EasyRx 3D, the EasyRx – PreForm integration makes it easy to open these based files in the Formlabs Preform software for printing.

Workflow Example: In-House Printing
The prescription is entered into EasyRx and the supporting .STL files are attached to the prescription and submitted to the in-house lab. "The in-house lab tech receives the case in the EasyRx In-House Lab module," explains Dr. Caggiano. "The tech uses EasyRx 3D Edit to base and label the .STL file, which takes less than two minutes." A single click opens the based .STL in Formlabs Preform software via the EasyRx – Preform integration, initiating the print job. A Clinical Assistant assigned to the lab is responsible for following the workflow from 3D printing to fabrication. "The Form2 3D printer is very easy to learn to operate, and 3D printing can be delegated it to staff. Plus, the quality of the 3D printed output is fantastic," says Dr. Caggiano.

Caggiano also uses EasyRx to track cases sent to an outside lab. "For new patients, our Treatment Coordinator enters the prescription information into EasyRx and attaches the .STL files to be sent to an outside lab," he says. "We then use EasyRx to track the case progress."

"Our practice's transition to EasyRx went incredibly smoothly," reports Dr. Caggiano. "There was zero staff resistance, which is likely because the software is so easy to learn." Launching EasyRx from Dolphin, Dr. Caggiano and his staff can conduct all communication with the lab (both in-house and third-party) while chairside. "I cannot see living without EasyRx. My staff uses it to track every appliance throughout the day. They love how easy it is to get the model ready for 3D printing, including basing it, hollowing it out, and labeling it. We used a number of programs previously, and none of them were as easy or as fast as EasyRx."

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Conclusion
Caggiano Orthodontics' integration of Formlabs 3D printers and EasyRx and EasyRx 3D software enabled the practice to successfully implement a streamlined digital workflow that enhances practice workflow and improves patient comfort.

"3D printing has improved the practice in more than one way," he reports. "With a Form2, you no longer need to send a scan to a lab for printing and wait for the model. You can scan, prepare, and 3D print models in a few hours at a very low cost. Additionally, impression-free is more comfortable for the patient. Today's scanners allow you to scan a patient's mouth faster than you can take an upper and lower alginate and bite. Another added benefit of 3D printing is that retainers fit so much better and are more comfortable, because the traditional alginate/stone model method contains inherent error in the impression and pour-up. The benefits of a digital workflow and 3D printer workflow exceed any monetary calculation—patients love it! That in itself is priceless."