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Technology  
Boosted  
Production  
and Cut  
Ongoing  
Costs

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Neil Appelbaum

Managing Partner, Protec Dental Laboratories



# How New Technology Boosted Production and Cut Ongoing

Protec Dental Laboratories Ltd. isn't new to the digital printing scene—in fact, the full-service dental laboratory was one of its earliest adopters. According to Neil Appelbaum, CDT, a Managing Partner of the lab who specializes in removable and fixed prosthetics/implants, Protec began to integrate 3D printing technology in 2008. Over the past 13+ years, Protec has become one of the leaders in digital dentistry manufacturing techniques.

The full-service dental laboratory based in Vancouver, Canada, manufactures nearly all their products digitally including crown and bridge, dentures and orthodontics. They also offer an implant planning service that requires extremely accurate 3D printed guides.

Protec saw a huge rise in demand for these products after the initial COVID-19 lockdowns, with the lab's busiest months to date taking place during the last year. With the influx of patients, the partners at Protec realized they needed a more reliable 3D printing solution. The laboratory had invested in several 3D printing technologies over the years, but found some of the machines difficult to maintain, which caused production issues that made it harder for Protec to meet deadlines.

"We were rejecting roughly 30% of guides and having to reprint them before they could actually go out the door," Appelbaum said, "and that became a deadline issue. Meeting deadlines is critical in the dental industry, especially when patients are booked for complex surgeries months out."

The machines weren't just unreliable—their materials were expensive. "The biggest cost of 3D printing after purchasing and maintaining a printer itself is the ongoing consumables," Appelbaum said. "In a lab our size, that's a significant expense."





### Enter Origin One Dental

The facility needed a scalable, cost-efficient digital solution to increase its printing capabilities. One of the solutions Appelbaum and his partners chose is the Origin One Dental to get consistent, accurate, manufacturing-grade dental parts.

### When production counts: High volume, small footprint, and lower ongoing cost

In Vancouver, laboratories don't have unlimited space. Protec needed a 3D printer with a small footprint that wasn't limited to a single use.

Origin One Dental is optimized for build volume, has a compact footprint, and requires minimal power so Protec can maximize production capacity per square foot efficiently. Origin One Dental also enables higher throughput and a lower cost per part using best-in-class materials. Its faster print cycles and simpler post-processing give Protec an optimized workflow that facilitates better performance and lowers the cost of materials for the lab.

### Accuracy

Accuracy is incredibly important to Protec and its clients, and after its rigorous quality check, Protec found that Origin One exceeded expectations.

Origin One pairs cutting-edge P3 technology with a true 4K light engine to precisely orchestrate temperature to optimize prints in real-time. With the unique Origin One Dental print process, practices like Protec achieve precision accuracy and part-to-part consistency with every print.

Today, Origin One is the only printer that Protec uses to produce surgical guides. The lab relies heavily on their digital solutions, Appelbaum said, and it's crucial that they have a supportive, strategic partner for 3D printing equipment.

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What we find with the Origin One Dental is that we can rely on the repeatability of quality and accuracy for our guides and models.”

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