

Case Study: Great Lakes Prosthetics & Orthotics

Great Lakes Enhances Services and Strengthens Clinic with 3D Printing



Great Lakes Prosthetics & Orthotics is a clinic located in Ypsilanti, Michigan, just west of Detroit and is an ABC Certified Facility in Orthotics, Prosthetics, and Pedorthics. They are also a clinical affiliation site for Eastern Michigan University's Orthotics and Prosthetics Master's Program that helps those coming into the profession train on the latest tools and techniques.

Addressing Common Industry Challenges

Like many savvy clinics, Great Lakes wanted to streamline their workflow for prosthetic delivery. This was driven in part by increasing costs, decreasing reimbursements and a desire to deliver prosthetics to patients sooner.

While examining their current prosthetic workflow, check socket design and fabrication was one area flagged for possible improvement. Great Lakes has traditionally used a mix of in-house traditional fabrication and scanning to Cfabs to create the check socket necessary for fitting.

Outsourcing check socket fabricating was costing too much and taking too long, negatively impacting patients by unnecessarily delaying prosthetic delivery. Shipping plaster models back and forth to Cfabs added cost and delays.

In-house traditional check sockets fabrication consumed technicians' time, diverting it away from fabricating definitive devices. Storage and retrieval of plaster models used in traditional fabrication was time consuming, with plaster models taking up valuable storage space.

Digital workflows had been considered by Great Lakes before. One concern raised was that only a subset of practitioners had limited knowledge and experience with CAD/CAM software, scanners, and other tools for supporting digital workflows.

Sought Low Risk, Proven Solution

Great Lakes was understandably cautious while contemplating implementing digital workflows, especially when there are so many components involved. These components include a: 3D scanner, 3D printer, software for design (CAD), software for printing (CAM), print settings, filament best suited for check socket fabrication/printing. Selecting individual components from different suppliers would be time consuming and expensive. Integrating and configuring them to work together seamlessly could be a full-time job.

Because of these reasons and the desire to minimize risk, Great Lakes sought a pre-integrated solution that was being successfully used by other O&P practices. It is hard to overstate the value of solution level support. This frees up clinicians and technicians from having to convince one component supplier or another that any difficulties in using the system are attributable to their specific component.

Other value adds to the solution approach include solution level training with participation of many Great Lakes clinical staff ranging from newly accredited to nearing retirement. The training included digital workflows with detailed step by step instructions on process performance.

Training prerequisites require only basic computer skills without the need for any advanced computer or programming knowledge. The printer maintenance tools, and a materials starter pack truly made the solution turnkey while eliminating any hidden costs to getting started.

The Results

Prosthetic delivery for definitive sockets reduced from 6 weeks down to 5 weeks.

This is a huge win for patients who benefit from receiving their prosthetic sooner. In-house technicians are freed up to focus on other fabrication needs from time saved through a largely automated check socket fabrication.

Great Lakes paid back their investment in the 3D platform in just under one year.

This was due in part to all clinicians getting trained on all aspects of the workflow, from digitally designing, slicing, then 3D printing check sockets. Scans of residual limbs are now part of patient electronic medical records facilitating substantiation of medical necessity due to limb changes over time.

The training participants earned a total of 80 ABC Continuing Education Credits.

The five staff members who were trained earned 16 ABC CECs each while gaining valuable digital device design and fabrication skills. The ongoing **annual savings** for 3D printing check sockets at current volume is conservatively estimated at **\$20K/year**, all of which drops to the practice's bottom line.

To learn more or to begin taking advantage of digital workflows to enhance your patients' outcomes and practice's bottom line, contact us today.

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