Traditional Check Socket Fabrication Isn't Broken.

It Just Takes Too Long and Costs Too Much.

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You have no doubt heard the old expression: "If it's not broken, then don't fix it."

It's not that traditional fabrication is broken. It works fine. The issue is that there are new ways to accomplish the same thing—with even better outcomes—using tools and techniques that require less time and labor.

Additive manufacturing, or 3D printing as it is often referred to, benefits patient outcomes by getting patients fitted sooner. The practice owner benefits by getting paid sooner, using less labor. This results in more of the reimbursement falling to the bottom line.

But plaster is great. Why change?

Working with plaster is tried and true. Just open the bag, pour powder, mix in a measure of water, then stir until thoroughly mixed. Carefully pour the mixed plaster into the cast until full.

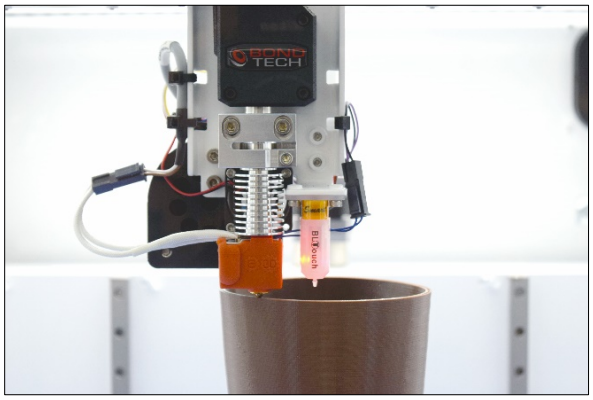
Then, wait. It can take 24 hours for the plaster to properly cure.

Tick-tock, tick-tock, tick-tock.

Once the plaster is dry, the positive model must be removed from the cast. At times, this process can result in the destruction of the cast.

Plaster models must be handled with extreme care since breakage will result in the need for a patient to be recast, adding costly delays for the patient and provider.

Modifying plaster models is messy. Files must be used to remove plaster from areas to create socket support points. Plaster dust becomes airborne, requiring adequate ventilation to avoid posing health risks. Plaster dust in hair and clothes is commonplace.



Mixing and adding additional plaster is necessary to build up relief points in the model to accommodate areas of the limb known to have high sensitivity.

Before pulling a check socket over the modified plaster model, sufficient time must be allowed for any of the plaster buildups to dry.

Tick-tock, tick-tock, tick-tock.

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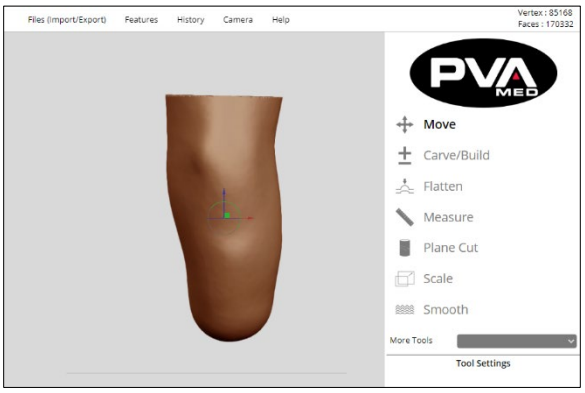
One can see why it can take several days between casting a patient and pulling a check socket that can then be prepared to be fitted on the patient.

3D Printing Offers a Better Way of Doing Things

Beyond long durations, plaster workflows require a high level of skilled effort to design the check socket.

Over the last few decades, new processes for manufacturing have emerged. Additive manufacturing can be successfully used in instances where each device is designed and manufactured to be unique. Computers are used to design these devices in what is referred to as CAD or Computer Aided Design.



Since no molds are required, hours of time and effort can be saved. Devices can be fabricated by general purpose robots, otherwise known as 3D printers. These robots follow instructions created by software referred to as CAM or Computer Aided Manufacturing.

By using software to design and robots to manufacture check sockets, labor costs and delivery time for check sockets can be greatly reduced.

With these advancements, same day fittings are now possible.

Adoption of Additive Manufacturing for Check Socket Fabrication – Why Now?

Early adopters are often comfortable operating on the "bleeding edge." Select progressive practices have integrated additive manufacturing into their practices and save $100 or more per check socket while fitting patients sooner. Progressive practices have fit hundreds and, in some cases, thousands of patients. Until recently, the biggest impediment for mainstream adoption of additive manufacturing has been the complexity to implement then use.

However, over the last year, a lot has changed, both in terms of the need for efficiency and availability of a turnkey solution to simplify integration and use. These turnkey solutions with digital workflows make getting started easy for anyone with basic computer skills, after only two days of training. Solution level support has also brought additive manufacturing within reach of any practice.

If you asked those in the industry 50 years ago if wooden prosthetics would be replaced by plastic and metal components, the common response would have been, "if it's not broken, then don't fix it."

Contact Us

PVA Med offers a complete solution created for clinics to design and 3D print medical devices in-house efficiently. Emergence PRO™ 3D Printing Platform is a complete fabrication solution combining technology with clinician expertise, allowing you to streamline your workflow. The platform includes state-of-the art scanning equipment, Rapid Plaster® exclusive modification software, and Emergence PRO™ 3D printer.