Streamlining Custom Medical Device Workflows for Podiatrists and Labs

By Chris Patten

While the adoption of 3D printing in healthcare has expanded the design and production options for podiatry clinics and orthotic labs, many practices still move scans, prescriptions, and CAD files through e-mails and standalone applications. They're stuck with outdated workflows and manual processes that slow delivery and limit scalability.

Enter **Toolkit3D**, a secure and compliant platform designed to connect clinics, labs, and 3D print service providers (PSPs) through a single, end-to-end workflow for custom medical devices.

Early pilot sites report faster prescribing, fewer data errors, and a direct path from raw scan to finished device, all within a secure platform.

Toolkit3D's promise is clear: collapse the disjointed steps that stand between a patient scan and the medical device.

The Problem: Fragmented Workflows

Prescribing and producing custom foot orthotics, AFOs, and other lower-limb devices involves a string of uncoordinated steps, like assembling a puzzle with mismatched pieces.

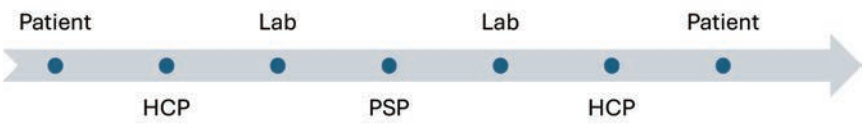
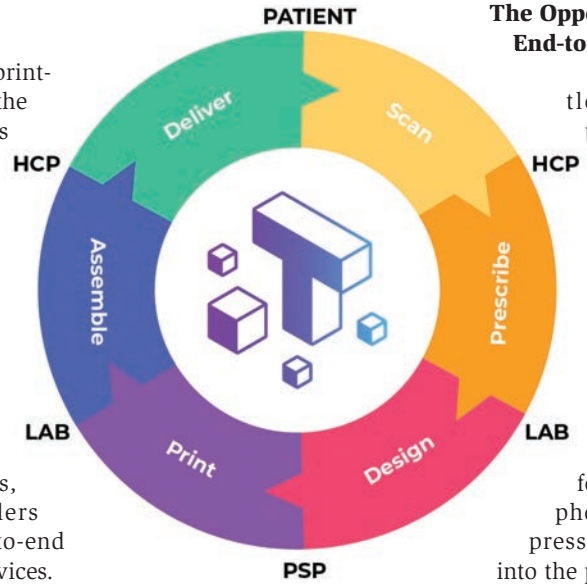


Figure 1: Toolkit3D's end-to-end platform connects clinics, labs, and print providers in one seamless digital workflow.

Even clinics that own state-of-the-art scanners still rely on a tangle of legacy tools. A clinic scans the patient in one application; completes an order form in another; files travel by e-mail; prescription forms vary by lab; and manual CAD edits can absorb hours.

Labs must rename files, re-enter measurements, and run their own CAD and manufacturing software, while managing constant back-and-forth with clinicians and trying to hold costs and lead times in check.

It's a workflow riddled with bottlenecks, each hand-off adding delay and risk of error, extending patient wait times and capping the scale of both clinics and labs.



The Opportunity: A Single Automated End-to-End Workflow

Toolkit3D tackles these bottlenecks with a cloud-based platform built specifically for 3D-printed medical devices. The system links clinics, labs, and print service providers in one configurable environment, replacing hand-offs with a continuous data flow (see Figure 1).

Key capabilities include:

- *Hardware-agnostic intake* so clinics can use their preferred scanners, whether smartphone-based, structured light, or pressure plate—integrated directly into the platform.

Toolkit3D tackles bottlenecks with a cloud-based platform built specifically for 3D-printed medical devices.

- *A parametric product library* that includes configurable designs for common orthotic styles, AFOs, and emerging device categories like custom sandals and diabetic footwear. Each product adapts dynamically to scan data and prescription inputs to ensure patient-specific customization.
- *Automated design tools* that convert scan data into production-ready files. Labs can customize these tools to align with their internal processes, from full or manual CAD workflows.
- *Direct routing with integrated PSPs* for seamless 3D print production, enabling labs to scale their manufacturing without the need to invest in their own printers or materials inventory.
- *Robust APIs* that sync orders and status with EMR systems, billing, and internal lab software, ensuring end-to-end traceability and audit readiness.

Why This Matters to Podiatrists

For clinics, Toolkit3D represents more than just another tool: it's an infrastructure shift that brings the

Streamlining Workflows *(continued)*

efficiency and flexibility of modern e-commerce into the traditionally complex world of custom medical devices.

Podiatrists gain access to a faster, easier prescribing experience:

- Real-time scan validation that flags errors before submission.
- Evidence-based product guidance aligned with diagnosis and foot type, helping to reduce prescription variance.
- Full order visibility from upload to shipment.

More importantly, the platform shortens chair time for patients, reduces remakes, and a consistent standard of care across the practice.

This shift benefits both patient outcomes and daily practice operations.

A Lab's Best Ally

Labs, often the unsung heroes of the orthotic supply chain, are central to the platform. Toolkit3D does not bypass the lab; it elevates it.

Labs can publish proprietary designs, set pricing, and reach any connected clinic—like an app store for orthotics.

By integrating with Toolkit3D, labs can focus on what they do best—crafting great products and managing relationships—while letting the platform handle intake standardization, data management, and order routing.

Labs can also turn their in-house designs into revenue. By publishing proprietary designs to the Toolkit3D product library and assigning per-use pricing, they gain immediate exposure to every connected clinic without added sales and marketing overhead.

The result is clean data, streamlined production, and a new revenue stream in a compliant system.

Looking Ahead

Toolkit3D is currently onboarding select clinics and labs ahead of a wider release this year. In addition to the existing available workflows, the roadmap includes expanded product categories including custom footwear and devices for diabetic care.

For the podiatry community, Toolkit3D proves custom doesn't mean complicated, and where modern tools finally meet the high standards of care every patient deserves.

Want to learn more? Schedule a demo: office@toolkit3d.com or click here.