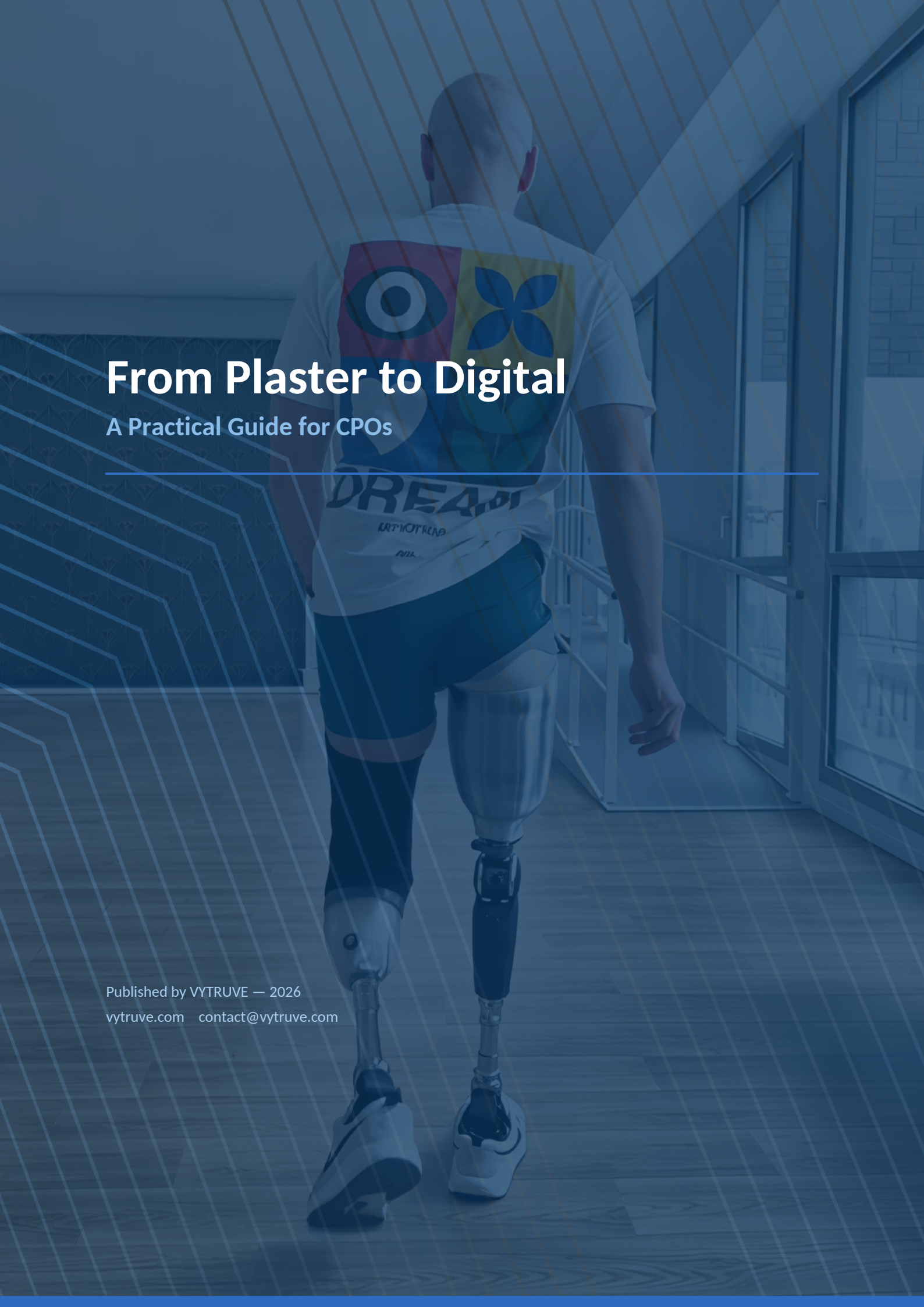

From Plaster to Digital

A Practical Guide for CPOs

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About This Guide

This guide was written for certified prosthetists and orthotists who are curious about digital socket fabrication but are not sure where to start, what to expect, or whether the transition is right for their practice.

It is not a sales document. It is a practical overview of what the shift from plaster to digital actually looks like in a clinical setting, based on the experience of 110+ O&P; professionals across 30 countries who have made that transition using the VYTRUVE platform.

If you are already using a digital workflow, parts of this guide may confirm what you have learned. If you are still working exclusively with plaster, it is meant to give you an honest picture of what changing would involve, and what it would not.

1. Why the Question Is Coming Up Now

Prosthetic socket fabrication has not changed fundamentally in decades. Plaster casting remains the dominant method in most clinics worldwide, and for good reason: it works. Experienced prosthetists have built precise, reliable workflows around it, and the results can be excellent.

But the profession is under pressure from several directions at once.

Patient expectations have risen. People research their options, compare clinics, and increasingly choose providers based on speed of care, quality of outcome, and the overall experience of being treated. A patient who waits two weeks for a check socket and returns three times for adjustments will notice if another clinic can deliver in 48 hours with fewer fitting sessions.

The workforce is changing. Experienced CPOs who have spent years developing manual skills are aging out, and younger practitioners entering the field are looking for workflows that are learnable, reproducible, and less physically demanding.

Time is shrinking. Between patient load, documentation, component management, and administrative work, the hours available for fabrication are fewer than they were. Any method that reliably reduces fabrication time without compromising clinical outcome is worth examining seriously.

None of this means plaster is obsolete. It means the conditions under which plaster was the obvious default are shifting, and it is worth understanding what the alternatives actually involve.

2. What Digital Socket Fabrication Actually Means

The term "digital workflow" is used loosely in the industry, and it is worth being specific about what it covers.

At its core, a digital socket fabrication workflow replaces the physical plaster cast with a 3D scan of the residual limb, and replaces manual modification of the positive model with digital rectification on a computer. The resulting file is then sent to a 3D printer, either in-house or through a production center, to produce a check socket or a positive model for definitive manufacturing.

The clinical decisions do not change. The CPO still assesses the patient, determines the appropriate socket design, selects the suspension system, and makes rectification choices based on clinical judgment. What changes is the medium through which those decisions are executed.

There is no requirement for 3D modeling skills. Platforms like VYTRUVE are built specifically for the O&P; profession, with rectification tools that mirror the logic of physical modification: adding volume, reducing pressure, adjusting brim lines, setting alignment. The interface is a web browser. The file output is a print-ready STL.

The workflow from scan to printed check socket, through the VYTRUVE production center, takes 48 to 72 hours. For clinics with an in-house 3D printer, a scan performed at the end of the day can produce a check socket ready for a morning fitting appointment.

3. The Equipment You Actually Need

One of the most common misconceptions about going digital is that it requires a significant upfront investment in hardware. The reality is more flexible than that.

The minimum setup to start scanning and performing digital rectification is a validated 3D scanner and a laptop running Google Chrome. VYTRUVE is compatible with the Shining EinScan H2, the Shining Einstar, and the Shining Medixa, all purpose-validated for prosthetic scanning and pre-configured within the platform.

Scan quality matters more than scanner brand. A well-executed scan with an entry-level validated device will consistently outperform a poorly executed scan with a more expensive one.

For clinics that want to produce check sockets in-house, a dedicated 3D printer adds significant workflow flexibility. The VYTRUVE Vprint printer offers a 30 by 60 centimeter build volume and operates from a standard electrical outlet. A print job started in the evening is typically ready by the following morning.

For clinics that are not ready to invest in a printer, the VYTRUVE Production Center manufactures and ships check sockets within 48 to 72 hours. A two-month starter kit covering scanner and printer access is also available for practices that want a full evaluation before committing.

4. The Transition in Practice: What to Expect

The question practitioners ask most often is not whether digital fabrication works, but how quickly they will feel comfortable with it.

The answer is more reassuring than most expect.

The vast majority of CPOs who start with VYTRUVE are working independently after their first two or three transtibial cases. The platform is built around clinical logic the practitioner already knows. Scan, rectify, order or print: each step is guided. The first patient takes a little more time than usual. By the third, the workflow feels natural.

Plaster and digital coexist easily during this period. Some practitioners keep plaster for cases they prefer to handle traditionally. Others move quickly toward a mostly digital workflow. In either case, the transition does not disrupt ongoing clinical activity. Most practitioners reach a majority digital rhythm within two to three months of their first case.

5. Clinical Outcomes: What the Data Shows

The question that matters most is whether the results are as good.

Based on the experience of practitioners using the VYTRUVE platform across more than 13,000 sockets produced, the clinical outcomes of digital socket fabrication are equivalent to or better than plaster casting when the workflow is executed correctly.

Scan quality directly affects rectification quality. A scan with significant noise, incomplete coverage of bony prominences, or patient movement artifacts will produce a less accurate starting model. This is why training in scanning technique is as important as training in the rectification software itself.

For transtibial cases, digital fabrication is now well-established as a reliable primary method across all activity levels, from K1 through K4. The transparent PETG check socket allows visual assessment of skin contact and pressure distribution during fitting.

For transfemoral cases, the ischial-bearing socket requires a weight-bearing scan to accurately identify the ischial position. VYTRUVE's patented VTF scanning tool enables a two-scan protocol that captures this reliably.

The Vtransfer process enables the inner shape and alignment of any check socket to be digitally transferred to a PETG positive model ready for lamination, without any physical mold.

6. The Patient Perspective

Patients who have experienced both plaster casting and 3D scanning consistently describe the scanning process as more comfortable. There is no mess, no waiting for plaster to set, no sensation of heat, and no physical constraint during the scan.

A patient whose scan is on file can have a new socket produced with the same inner shape without returning for a new casting session. A patient whose residual limb volume changes over time has a documented history that allows the progression to be tracked and addressed systematically.

A clinic that uses current technology communicates, whether explicitly or not, that it is paying attention to how the profession is evolving. For patients who have researched their options, this matters.

7. A Practical Starting Point

Start with the scanning equipment. A validated scanner and a laptop are enough to begin. VYTRUVE's onboarding training covers setup, scanning technique, and the rectification interface, available online at any time.

Begin with transtibial cases. The learning curve is short: the first patient takes a little more time than usual, the second is already faster, and by the third most practitioners describe the workflow as natural. There is no steep learning phase, and no need to set aside dedicated training days.

Use the VYTRUVE Production Center for check sockets initially if you do not yet have an in-house printer. You receive the socket within 48 hours, with no additional hardware investment.

Move on to transfemoral cases once the transtibial workflow feels comfortable. The scanning protocol is slightly more involved, but the rectification logic is the same. Most practitioners make this step within the first few weeks.

From day one, you have access to a comprehensive library of training resources available online at any time, and a responsive support team at every step. Any question, any technical issue, any unusual clinical case: the VYTRUVE team responds quickly. You are never alone in the process.

8. Getting Started with VYTRUVE

VYTRUVE is accessible at app.vytruve.com. Patient creation, scanning, and digital rectification are included at no cost. Check sockets and definitive socket production are available on a per-use basis through the Vcoin model, from 70 EUR per Vcoin in Europe, with pricing that decreases with volume. A 3D-printed transtibial check socket starts at 150 EUR excluding shipping, delivered within 48 hours.

Equipment packages are available for practices at different stages of adoption, from the Fast-start bundle for scan-only entry to full turnkey kits including scanner, printer, and onboarding training.

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