Enhancing the Diabetic Practice with the Convenience of XtremityOne

While the link between diabetic foot ulceration and orthotics is well understood, it is not as well known that there is a precise, cost-effective way to ensure the best possible fit for custom diabetic inserts and therapeutic shoes; while simultaneously offering up ease and convenience. XtremityOne from PAL Health Technologies is the solution.

XtremityOne is a clinically-proven software system that improves the standard of care for the diabetic patient while building stronger patient-practitioner relationships. “The XtremityOne System has provided state of the art evaluation of our patients’ problems,” says Dr. Edward Stein (DPM; St. Peters, MO), an XtremityOne user since 2010. “The quality of orthotic produced is superior and the patients are satisfied with the results.”

Additionally, the system saves time by eliminating the need for plaster casting or foam boxes, providing an immediate revenue stream for practices in which it is utilized. The time saved by all staff members also allows the practice staff to either see more patients or invest the time saved to build stronger relationships with a current patient-base. Stein’s team has experienced increased satisfaction which is passed on to improved patient care. “Once XtremityOne has been utilized, they (staff) can go forward to other patient care,” says Stein. “They know the laboratory (PAL) has received the scan and that we will receive the orthotic by mail in the near future. They can then concentrate on patient care without worrying about the quality of orthotic.”

The system serves as a single portal whereby podiatrists are able to scan patients’ feet, store unlimited patient information and complete the process with immediate order submission from PAL’s complete catalog of diabetic healing devices. Due to the electronic submission to the PAL lab, turnaround time is expedited (diabetic inserts in 24 hours) resulting in higher satisfaction rates from both the practitioner and the diabetic patient. “The short turn around time from scan to dispensing has been important to treatment of the patient,” Stein said regarding the speed of order processing. “We are able to dispense the orthotic soon and help control the pain and initiate treatment much faster as a result.”

Advanced Offloading for the Diabetic Foot

PAL’s diabetic custom insert catalog includes the premier XFit line, providing comfort, support and maximum protection from pressure “hot spots.” Utilizing ethylene vinyl acetate (EVA) foam and Plastazote®, the XFit is lightweight, latex-free, non-toxic and hypoallergenic. The ergonomic ethylene vinyl acetate (EVA) bottom provides superior resilience and shock absorption, making the insert suitable for patients of any weight. XFit diabetic inserts are Medicare-approved and available in “Standard” and “Plus” versions; the “Plus” providing an extra middle layer of microcellular polyurethane cushioning and more fit for a deep heel cup.
The XFit DiaSystem line has also recently become approved for Medicare and is a durable, accommodative insert providing both support and longevity of use for any patient in need of increased comfort and offloading of pressure. DiaSystem Standard inserts are ideal for patients weighing less than 200 pounds and are constructed out of a Plastazote® top layer, a microcellular polyurethane middle, cushioning layer and an EVA foam, 35 durometer shell. The DiaSystem Plus is prescribed to patients weighing more than 200 pounds and is also constructed out of the same materials as the Standard with the exception of EVA cork and a 60 durometer shell.

Due to the advanced imaging software of XtremityOne, the production of offloading devices is much more accurate, resulting in a better fit and increased patient satisfaction. Stein elaborates by stating, “There is no doubt that our work satisfaction is increased because the number of incorrect orthotics is greatly diminished. Previously, we had a lot of frustration because the orthotics would come back from the various laboratories incorrect. We would have to re-cast the patient and that would sometimes be problematic getting the patient back to the office. It would also look often like we were the ones who had made the mistake and we felt like the patient blamed us for the problem. Also, many times the plaster cast or foam cast would be damaged in shipping we would have to bring the patient back again for the problem. Overall, the satisfaction level is much better from the standpoint of these problems which are now solved.”

**Improving the Standard of Diabetic Foot Care**

Fifty years ago, getting an accurate depiction of a foot was not what it is today. Negative-image casting (plaster casts, molds) – which involved extensive labor and cleanup – fell short in the accuracy category (human error, poor casting technique). Casting then gave way to foam boxes and pressure mats, which were less labor-intensive, but, again, had issues of accuracy as it wasn’t depicting the full pathology of the foot. Both foam boxes and pressure mats have proved to accentuate ulcerated areas, leading to an orthoses that would possibly exacerbate and existing wound. While both of these methods are still employed today, they cannot compare to the imaging technology of the digital foot scanning systems. Because optical scanners are more accurate than a pressure mat or plaster cast, resulting orthotics provide more effective offloading of pressure and yield better results.

The precision of XtremityOne, however, is unmatched by any other scanning software on the market. The images garnered from a scan from XtremityOne boasts 150 points of measurement per square inch ensuring a more accurate diagnosis, fitting and treatment. Patients then see a mirrored, 1-to-1 image of their feet – which may be the first time in a very long time that many diabetic patients have seen such a clear image.

“The System is well received by the patients, especially those who have had either plaster or foam impressions made,” says Stein. “We clearly describe to them the importance of the biomechanics and how the scan process ‘reads’ their deformities.”
Even at this high level of resolution, XtremityOne is capable of holding an unlimited number of images. This is particularly salient in wound healing as the storage of scanned images allows podiatrists to more accurately document a wound's healing progress. Evidence gathered in a 2011 study by Wendelken, DPM, et.al. concluded that “for most wounds, wound closure is the goal or end point that is desired by both clinicians and patients alike...patients and clinicians tend to forget the original presentation of the wound when the treatment plan is selected. Many weeks and months may pass during the treatment period of a chronic wound.”

XtremityOne’s capability to store thousands of images per patient allows the podiatrist to pull up past images to note progress. Now, podiatrists can feel confident that with XtremityOne, diabetic patients will receive the individual care they deserve (increasing satisfaction and referrals), all while lowering costs (saving time and increasing return).

The only system of its kind to offer two-dimensional (2D) to three-dimensional (3D) imaging, XtremityOne features Xbox 360® graphics that capture an image of the foot and then creates a 3D model in seconds. Resulting images can be rotated 360° and displayed in surface, wireframe topographical and dynamic topographical views. Patient follow-up is also improved as 2D and/or 3D images can be directly e-mailed to the patient’s address.

When the patient can see what the podiatrist sees in such clarity, the patient-physician relationship is strengthened; and increases in referrals are practically certain. File documentation is taken an additional step forward with the transmission of images to appropriate electronic medical records (EMR).

Cost, in addition to accuracy, plays another significant role in determining which method is ideal. According to a 2007 study published in the Australasian Journal of Podiatric Medicine, the cost of plaster casting ranged from $27.94 to $49.60 whereas optical scans cost between $3.30 and $10.00. The study concluded that while the initial costs to purchase an optical scanner were higher, it was still less expensive to purchase a scanning device than use the plaster cast method to manufacture foot orthoses.

Dr. Steve Sheridan (DPM; Sandusky, MI) has been utilizing XtremityOne since 2008 and believes the system has helped his practice see more profits. “I did not like the initial cost,” said Sheridan, “but it paid for itself very quickly.”

Dr. Michael Muscatella (DPM; Champaign, IL) also commented on the savings of time and money due to his use of XtremityOne (user since 2008), saying that XtremityOne, “allows more time and is financially efficient.”

**Continued Diabetic and Educational Advancements**

No leading-edge product or service can remain frozen in time without continual improvements and advancements. XtremityOne is an ever-evolving software system and PAL will be taking it to the next, most groundbreaking level much sooner than most practitioners have even applied the already-outstanding attributes. In less than a year, it is forecasted that Version 4 of XtremityOne will roll out and will include key features that drastically improve the diabetic
wound imaging process, ulceration prevention techniques, as well as practitioner and patient education alike.

The wound imaging goals are threefold:

- eliminate the need for archaic measuring devices, cameras and plastic acetates
- measure the area, depth and volume of a diabetic wound
- create lesion reports followed by maps which project healing time

Additionally, PAL and CaerVision Digital Media Networks, the leading digital media provider servicing medical professionals, have partnered to offer the advanced solutions necessary for enhanced patient education, diagnostics, treatment and prevention. CaerVision stands for a new Vision for Clinical Advancement Education Resources. With higher patient volume, podiatrists often have limited time to discuss the entire catalog of products and services they provide. CaerVision creates and implements waiting-room and treatment room digital media systems, which will soon be available on XtremityOne. PAL and CaerVision aim to be a premier resource for podiatrists to market and education patients who may have been previously unaware of revenue-producing products/services.

A related CaerVision study revealed that 84% of patients feel that they are more likely to consider brands promoted at the point-of-care as the best for their condition. The study also showed that 53% of patients who see point-of-care advertisements take action based on what they’ve learned.

CaerVision has more than 80 diabetic and podiatry-related videos that are delivered via the internet to waiting and exam rooms. Each video lineup is customized for an individual practice to help market its products and services. With the purchase of this service via XtremityOne, podiatrists will receive a useful educational library as well as advertising support with the option of customization for certain materials. Throughout the duration of the service, real-time customer and technical support are available via email, fax or phone.

Learn More

PAL Health Technologies was founded in 1976 as a domestic supplier of custom, prescription foot and ankle orthoses. Today, PAL continues to serve its founding role while moving forward in technology and software development for the diagnosis and treatment of the diabetic foot. PAL is a privately-held company and is headquartered in central Illinois. For more information please visit www.palhealth.com