

## ► Dedicated Wound Care Centers Offer Critical Resource to Region

With the demographics of aging, diabetes/vascular problems, and disabilities climbing, dedicated care for chronic or nonhealing wounds has gained increasing importance. Amidst billions of dollars in health care costs annually from stubborn wounds, Virtua Health has organized its long-standing services for wound care in three purpose-designed centers across South Jersey—offering the latest wound-care techniques.

“In capabilities, experience, and training among physicians, nurses, and other staff, wound care has become a true subspecialty area, and patients are benefitting,” said Christopher LaRosa DPM, medical director of the Virtua Wound Center - Voorhees.

### Full Gamut of Treatments for Problem Wounds

Virtua’s wound services handles a large volume of diabetic foot wounds and venous ulcers. They also treat nonhealing, post-surgical wounds; arterial/ischemic ulcers; traumatic wounds; compromised skin grafts or flaps; pressure, crush, or radiation injuries or ulcers; and bone infections.

Treatments include debridements (including using enzymatic or hydroscalpel techniques) or other surgical interventions; antibiotics; hyperbaric oxygen therapy (*HBOT*, see page 2); advanced dressings, wraps, and topicals, including hydrogels; contact casting, compression, or offloading therapies; and lymphedema pumps. To significantly shorten time for healing and wound closure, negative pressure treatment with wound-vacuum therapy is also effective for patients.

The team makes use of bio-engineered graft materials, with cellular or tissue-based products as skin substitutes during healing. These include Apligraf®<sup>®</sup>, one of the most widely successful products, which members of the Virtua team made pioneering use of starting more than 20 years ago. Apligraf creates a stimulatory collagen matrix over

which skin cells and capillaries can grow. These affordable products that promote epithelial growth also include Grafix®<sup>®</sup>, made of cryopreserved placental and umbilical cells rich in fibroblasts and mesenchymal stem cells.

### Referral Point for PCPs and Surgeons

Virtua’s three centers for wound care are located at its hospitals in Voorhees, Mount Holly, and Willingboro, with all three providing HBOT. Other medical directors include Richard Golden, MD, an infectious disease specialist, and Gregory Mukalian, DO, a general surgeon. All nurses are certified in wound care.

“We pride ourselves on improving and resolving wounds that have not responded to standard primary or post-surgical care,” said Kathleen Judge, MSN, NP, who directs Virtua’s wound program, and who also has advanced certification in ostomy care and runs an ostomy clinic at Virtua. “These are essential services for patients, who would otherwise be at great risk and who often make repeated trips to the emergency room.”



Before and after photos of a successful patient case at the Virtua Wound Center - Voorhees, demonstrating that dedicated wound centers can often heal seemingly intractable wounds, saving limbs and sometimes lives.

To contact a Virtua Wound Center, call:

Virtua Memorial Hospital (609-914-6240), Virtua Voorhees Hospital (856-247-7260), Virtua Willingboro Hospital (609-835-5240)  
Virtua physicians can use EPIC under “Ambulatory Referrals” to refer patients for Wound Center care.

## Case Review: Foot Salvaged from Severe Diabetic Ulcer

**Patient Dominick R.'s case illustrates how care of a nonhealing wound by a team at a comprehensive wound center can produce exceptional results:**

This 60-year-old male resident of Cinnaminson, New Jersey, came to the emergency department at Virtua Memorial Hospital in August 2020 for a foot injury. It was immediately clear that this patient with diabetes had a limb-threatening infection on the outside of his foot, secondary to gas gangrene.

The team promptly administered antibiotics and, in the OR, performed an aggressive incision and drainage, and partial resection of his fifth metatarsal. The soft tissue defect resulting in this partial amputation measured 9 cm. x 5 cm. x 1 cm. The medical goal was to save the patient's foot and try to prevent additional proximal amputation.

Following the initial surgery, Dominick underwent serial debridements and some further resection of bone. He received extended IV antibiotic therapy to treat bone infection, and the team switched him to non-weightbearing ambulation. He benefited from other aggressive wound care techniques, including negative-pressure wound therapy. The team applied this vacuum-assisted closure technique, which uses a suction pump, tubing, and a dressing to remove excess exudate, for about two months to facilitate granulation over the remaining portion of the fifth metatarsal as well as the exposed fourth metatarsal.

Dominick was also a candidate for hyperbaric oxygen therapy (HBOT), given his Wagner type III wound. He underwent chest and respiratory evaluation and was approved by the team's infectious disease physicians. With HBOT, patients breathe 100% oxygen inside a chamber

pressurized to two to three times atmospheric pressure. Plasma becomes supersaturated with oxygen, which works to combat bacteria and promote angiogenesis.

"Dominick's compliance with all appointments, with glycemic control, and with dressing protocols significantly contributed to the effort as well," said Maureen Clinch, DPM, medical director at the Virtua Wound Center – Memorial Hospital.

Once the wound bed had improved and shrunk, the team applied advanced biologic tissue to it in the form of Apligraf®. Multiple applications helped to achieve wound closure. Fully healed now, Dominick is transitioning from a surgical boot to a shoe insert, and otherwise walking unassisted.

"The team was great," said Dominick, who came to the ED, returned for all appointments, and remained compliant despite COVID-19. "I was particularly impressed by what the HBOT did for my healing. I don't recommend getting a wound, but I do recommend this wound service."



Virtua Wound Center – Memorial Hospital staff prepare Dominick R., a patient of Christopher LaRosa, DPM, for hyperbaric oxygen treatment.