

# Contemporary Medicine

## VASCULAR SURGERY

## Jefferson Wound Care Center Offers Latest Therapies And Services to Promote Healing of Chronic Wounds

The recently opened Jefferson Wound Care Center at Thomas Jefferson University Hospital focuses on treating and ultimately healing chronic wounds. According to R. Anthony Carabasi, MD, Director of Vascular Surgery at Thomas Jefferson University Hospital and the center's Medical Director, the new center helps patients who experience chronic wounds caused by diabetes, peripheral vascular diseases, or other conditions as well as patients with wounds that refuse to heal.

While the center offers a number of different therapies, hyperbaric oxygen therapy (HbOT) is arguably the most important.

### Promoting wound healing

Whereas normal air is 21 percent oxygen, HbOT provides 100 percent pure oxygen in a pressurized chamber. Breathing pure oxygen under pressure increases its level in the body's tissues, promoting wound healing by stimulating new vascular growth.

"It's the combination of breathing pure oxygen under increased pressure that results in a huge amount of extra oxygen in the blood," says Dr. Carabasi. "Whatever blood flow patients have, they will use much more efficiently."

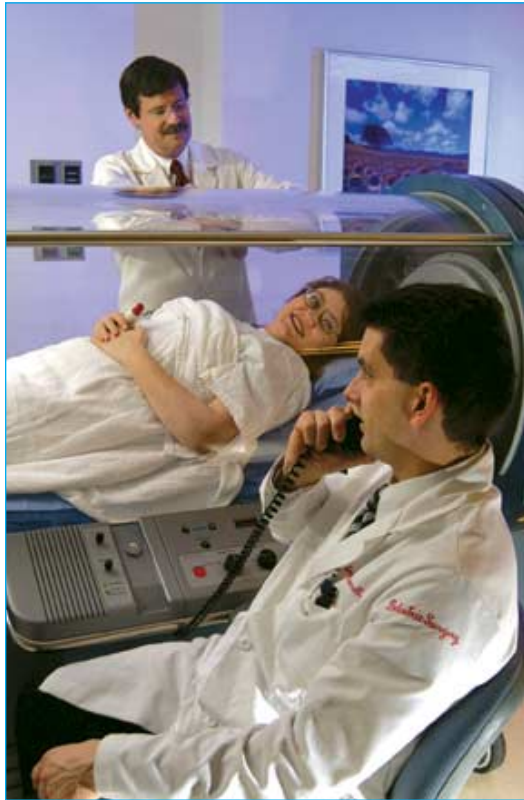
### Treatment criteria

"There are certain criteria for being treated in the wound center," Dr. Carabasi explains. The majority of individuals who will need the center's services, he says, are those patients with chronic tissue damage from radiation therapy for head and neck cancer, individuals with certain types of infections that fail to respond to antibiotics, and diabetic patients with chronic wounds who have healing difficulties because of poor circulation.

For some patients, HbOT is a normal part of the treatment protocol, says center Administrative Director Christopher L. Barrett, DPM. For example, patients who have had radiation for head and neck cancer and need a tooth to be pulled typically have an extremely weakened jaw bone, or mandible. Studies have shown that HbOT – 20 treatments prior to the tooth extraction and 10 after – strengthens the mandible by revascularizing the region and increasing the body's ability to replace dead tissue and rebuild bone.

For others, it is the treatment of last resort. Dr. Barrett notes that HbOT is recommended for diabetic wound care involving severely ischemic limbs in which amputation is considered likely. For such patients, the first-line treatment is usually some sort of vascular bypass or graft to attempt to reestablish the blood supply.

The number of times a patient requires treatment varies. Emergency treatment, such as for carbon monoxide poisoning, may require only one or two treatments while tissue damage might take up to 30 to 40 treatments.



*R. Anthony Carabasi, MD, Jefferson Wound Care Center Medical Director, background, checks a patient undergoing hyperbaric oxygen therapy, while Christopher L. Barrett, DPM, the center's Administrative Director, speaks with the patient in the chamber. During the approximately two-hour procedure, there is constant phone communication between the patient and the center's staff. Patients also have access to TV during therapy.*

### A growing trend

The patients who seek hyperbaric treatment at Jefferson's center cover a wide age range. For example, the average age of a patient treated for the first time for a diabetic foot wound is 58. In addition, the center's physicians treat a number of younger patients for medical problems other than diabetic complications.

Thankfully for so many individuals with chronic wounds, there are increasingly advanced treatments for wound care and healing. Besides HbOT, or in conjunction with it, our center is experienced in treatments such as dermal substitutes for damaged tissue and skin, particularly for the diabetic wound. The need for wound centers particularly for diabetic care is rising, Dr. Barrett says.

"There's been a resurgence of comprehensive, multidisciplinary wound care programs around the country," says Dr. Carabasi.

The incidence of diabetes continues to be a major health problem in the U.S.. The center attempt to take surgery – and amputation – out of the treatment equation. "And, increasingly, physicians are recognizing that referring to a wound care center is a valuable option for their patients."

"A multidisciplinary approach is how you heal wounds, especially for the diabetic patient," Dr. Carabasi says, noting that such teams typically

include endocrinologists, diabetic educators, surgeons, and other specialists.

The Jefferson Wound Care Center provides outpatient pickup for up to 20 miles from the hospital – something crucial, says Dr. Carabasi, because often daily hyperbaric treatments are required.

Referring physicians should call **215-955-1084** or **1-800-JEFF-NOW**.

### A Patient's Healing Experience

Antonio Filipe, 67, knows Thomas Jefferson University Hospital – and Jefferson's hyperbaric oxygen chamber – all too well. In 1989, Mr. Filipe, who lives in Holland, Pa., received a kidney transplant at Jefferson. Two years later, R. Anthony Carabasi, MD, Director of the Division of Vascular Surgery at Jefferson Medical College and Thomas Jefferson University Hospital, amputated the big toe on his left foot due to complications from diabetes, which Mr. Filipe has had since age 27. One year later, he was back at Jefferson for heart bypass surgery.

Then last May, he showed up at the Jefferson Emergency Department with an infected ankle. Surgeons operated on the ankle, attempting to clean out dead tissue and save the limb. The surgery left a deep wound open to the bone, and Mr. Filipe was in constant pain.

Dr. Carabasi told Mr. Filipe that he could help him. He came to the Jefferson Wound Care Center for treatment for three months, and after 55 hyperbaric treatments, the wound closed and he received a skin graft. Today, Mr. Filipe, who emigrated from Portugal a half-century ago and has owned a concrete and construction company near Yardley for the past 27 years, is back at work fulltime.

"What they were able to do for me is amazing," says Mr. Filipe, who had to stay away from his business for four months while undergoing treatment. "I walk with a slight limp, but right now, I have my life back."