UCLA Health

# UCLA Hyperbaric Medicine

Where capabilities and experience run deep

# Equipped for the highest level of care
# Maintaining the highest standards

UCLA Hyperbaric Medicine has the facilities and personnel to provide the full range of hyperbaric oxygen therapies. With a large, multi-place hyperbaric chamber, UCLA is capable of accommodating up to 18 people per chamber dive. In addition to being more comfortable and less likely to make patients feel claustrophobic, the multi-place chamber enables a nurse or technician to be inside the chamber providing hands-on care during the treatment session. This allows UCLA to offer hyperbaric treatment to all appropriate patients — including those who need ICU-level care.

## Hyperbaric Oxygen Therapy

During hyperbaric oxygen therapy (HBOT), patients intermittently breathe pure oxygen in a chamber at greater than sea-level atmospheric pressure. For some conditions — including decompression sickness and gas embolism — the increased pressure provides therapeutic benefit. For others — such as diabetic foot and late radiation-induced injuries — the increased partial pressure of oxygen in the patient's tissue promotes healing in a manner that often cannot be achieved at normal atmospheric pressure. In these cases, HBOT is offered to promote healing as an adjunct to other therapies.

## Indications for Hyperbaric Oxygen Therapy

The following indications are approved uses for hyperbaric oxygen therapy based on the recommendations of the Undersea and Hyperbaric Medical Society.

- Air or gas embolism
- Carbon monoxide poisoning and carbon monoxide poisoning complicated by cyanide poisoning
- Clostridial myositis and myonecrosis (gas gangrene)
- Crush injury, compartment syndrome, and other acute traumatic ischemias
- Decompression sickness
- Arterial insufficiencies: central retinal artery occlusion and enhancement of healing in selected problem wounds
- Severe anemia
- Intracranial abscess
- Necrotizing soft tissue infections
- Osteomyelitis (refractory)
- Delayed radiation injury (soft tissue and bony necrosis)
- Compromised grafts and flaps
- Acute thermal burn injury
- Idiopathic sudden sensorineural hearing loss

## Program Highlights

### Decompression Sickness

Divers who descend very deep and those who use mixed gasses can have severe decompression sickness and may require a sustained, high level of care. At UCLA, such patients can receive intensive medical care — including breathing support and medical management of blood pressure — and can be treated with longer hyperbaric sessions at greater than normal depths.

### Diabetic Foot

Among diabetics, nerve damage and the lack of adequate blood flow in the feet can lead to ulcerations that fail to properly heal. Non-healing foot wounds can lead to amputation, which itself may not heal well due to the same circulatory problems. Non-healing amputation wounds are associated with a significantly increased risk of mortality among these patients.

Hyperbaric therapy can prevent amputations and help heal amputation sites by increasing blood flow to the area. Saturating the tissue with oxygen stimulates stem cells to spur the growth of new blood vessels in the damaged tissue.

While many diabetic foot patients treated elsewhere are cared for by only one specialist, UCLA Hyperbaric Medicine's team approach puts vascular surgeons, podiatrists, infectious disease specialists, and hyperbaric specialists in one location for a collaborative, team-oriented approach. UCLA coordinates among all specialists to ensure that patients receive the care they need in order to achieve the best possible outcomes.

## Late Radiation-induced Injury

Among patients who receive radiation as part of their treatment for cancer, a small percentage suffer from the effects of damage done to surrounding tissue, often months after their radiation therapy. In these cases, tissue in the treatment area can develop open sores (ulcerate), either on the skin or internally, or can die off (necrose). A lack of adequate blood supply in the area means that the injuries tend not to heal and also makes these patients bad surgical candidates, as they will heal poorly following treatment.

Hyperbaric oxygen therapy can improve the blood supply to areas damaged by late radiation-induced injury, allowing the tissue to heal. Improved blood circulation also makes the patient a better candidate for surgery to repair the damage.

## UCLA's Comprehensive Resources

UCLA Hyperbaric Medicine patients benefit from UCLA's strengths as a major academic medical center. With facilities and medical experts that cover every facet of patient care, UCLA provides an ideal setting for the delivery of hyperbaric therapy. For each patient treated, the treatment team will include a hyperbaric specialist along with experts in all other relevant specialties.

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## Program Physician


**Susan Sprau, MD**

Medical Director, UCLA Hyperbaric Medicine
Clinical Professor of Medicine

**Steven Farley, MD**

Medical Director, UCLA Center for
Wound Care and Limb Preservation
Assistant Professor of Vascular Surgery


## UCLA Hyperbaric Medicine


200 UCLA Medical Plaza, Suite B265-29
Los Angeles, CA 90095

Program Director
Walter Chin, RN, ADMT, CHT

Phone: (310) 794-1031
Email: WChin@mednet.ucla.edu


To discuss reimbursement, call (800) UCLA-888

uclahealth.org/hyperbaric