

## UC San Diego Hyperbaric Medicine Team Contributes to War on Cancer

*Leadership Role in Nationwide Study on "Late Effect" Wounds*

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The University of California, San Diego Medical Center's Hyperbaric Medicine Center is part of a nationwide effort to compile and evaluate data in order to validate whether cancer patients being treated for radiation-related wounds heal more quickly and more thoroughly with hyperbaric oxygen therapy.

Each year in the United States, approximately 1.2 million Americans are diagnosed with cancer, half of whom receive radiation therapy. About five percent of those individuals develop problems or "late effect" wounds related to the radiation. Specialists say hyperbaric oxygen therapy is beneficial in managing radiation related injuries, and that a large-scale collection and analysis of data across treatment sites will help substantiate this working knowledge.

"As individual entities, it is difficult to know just how beneficial a therapy is until you can measure it across thousands of patients," said Ian Grover, M.D., Medical Director, Hyperbaric Medicine Center at UC San Diego Medical Center. "So as health care professionals, it is very important to collaborate on our varying experiences through studies such as this registry."

Radiation therapy can leave behind wounds on the skin, or cause blood in the urine or stool. The increased exposure to concentrated levels of oxygen through hyperbaric oxygen therapy helps re-generate blood vessels, thus delivering more oxygen to the wounded area and facilitating healing. The information gathered at UC San Diego Medical Center will be merged with other leading centers across the U.S. The institutions have already shared findings from 2004 and 2005 and will be contributing data from 2006 and 2007 as well. The combined results will form a data base that will be used to demonstrate the merits of this therapy to other physicians and health care insurers.

"To ensure that this therapy becomes widely available, we must further define and demonstrate its benefits," explained Robert Bartlett, M.D., President of the American College of Hyperbaric Medicine.

In 2006, Bartlett, along with Jeffrey Niezgodka M.D., Medical Director, Centers for Comprehensive Wound Care & Hyperbaric Oxygen Therapy, Aurora Health Care Hyperbaric & Wound Care Associates, in Milwaukee, Wisconsin designed a web-based registry to capture the success of U.S. doctors and nurses who employ this form of therapy.

"This will help us design the best course of treatment for these patients. And we can pass this information along to insurance companies, demonstrating that it is a valid, front-line therapy," said Grover.

### **About the UC San Diego Hyperbaric Medicine Center**

The UCSD Hyperbaric Medicine Center treats patients in accordance with the Undersea and Hyperbaric Medical Society guidelines for the use of hyperbaric oxygen therapy (HBOT).

HBOT is a form of medical treatment that grew from the experience gained by treating deep-sea divers with the "bends," but now is primarily used to treat patients with problem wounds from radiation therapy and diabetes. The therapy's purpose is to increase the amount of oxygen in the blood. During hyperbaric oxygen therapy, the patient breathes pure oxygen. At the same time, the pressure surrounding the patient's body is slowly increased to two to three times the normal atmospheric pressure.

HBOT allows the blood to carry more oxygen to the tissues, promoting new tissue and blood vessel growth, and assisting in the healing process by permitting skin grafting or spontaneous healing. A high level of oxygen in the blood helps to fight infections caused by a variety of bacteria, some that only live in the absence of oxygen. It also enables white blood cells to destroy many kinds of bacteria more efficiently.

As the only hyperbaric chamber in San Diego County open 24 hours a day, seven days a week, UC San Diego Medical Center's hyperbaric chamber plays a critical role in the San Diego County Emergency Medical System. The UC San Diego center is always available for emergency situations, such as diving accidents, carbon monoxide exposures or treatment for emergent ICU patients.

At UC San Diego Medical Center, HBOT is delivered by having a patient lie or sit in a large tube resembling a small submarine, lined inside with padded, bench-style seating for up to 12 people at a time, six on average. It is sealed and pressurized with air to a level several times normal atmospheric pressure. Once the patients are at "depth," they are placed on 100% oxygen for a total of 90 minutes. Patients typically rest, read, watch television or sleep during this two hour treatment. On average, it takes 30 to 40 treatments over six weeks to see marked improvement in healing.

Initially used to treat diving complications, hyperbaric oxygen therapy is used for many indications from the specialties of: orthopedic surgery, general surgery, plastic surgery, maxillofacial and oral surgery, infectious disease, radiation oncology, and emergency medicine.

Media: Dr. Grover, his team and patients are available for interviews.

For more information on UC San Diego's Hyperbaric Medicine Center, please visit:

<http://health.ucsd.edu/specialties/hyperbaric>

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