

## **Featured Research:**

Dr. Sager is currently enrolling patients in a research protocol titled, “A Phase IIIb, Multicenter, Open-label Study of Patients with Pulmonary Arterial Hypertension Treated with Iloprost (Inhalation) Evaluating Safety and Inhalation Times When Converting from Power Disc-6 to Power Disc-15 with the I-Neb® AAD®” sponsored by Actelion Pharmaceuticals US, Inc.

Iloprost (trade name Ventavis) is the first inhaled medication for the treatment of PH. It is administered by a battery powered hand-held device based on Adaptive Aerosol Delivery (AAD®). It is called the I-NEB® AAD®. The device uses electronics and sensors to constantly monitor and adapt to individual breathing patterns, and pulses aerosolized iloprost during the first part of inspiration. The I-NEB® AAD® system utilizes discs to control drug delivery. The disc is a plastic device containing a microchip and an antenna, which, when inserted into the AAD® device instructs the device about dosage, dosing, frequency, and the number of doses which may be delivered, together with various control data, including drug lot number and expiration date. Aerosol is produced by vibrating mesh technology within the medication chamber. The mesh plate contains 5-6,000 holes that are 3 microns in size. The medication is delivered as a fine-particle, low-velocity aerosol providing optimal delivery to the lungs.

Iloprost has a short serum half life, which means that the drug is quickly absorbed and metabolized by the body. Because of this, repetitive inhalations (6 to 9 times per day) are required. The time required for each inhalation is related to the power disc used with the I-NEB® AAD® device. The power disc-6 (PD-6) requires 12.9 + 7.0 minutes to deliver a standard 5ug dose of inhaled iloprost. The power disc -15 (PD-15) has been developed to provide a more efficient delivery of inhaled iloprost. Laboratory tests have shown that the particle size does not vary significantly between the PD-6 and the PD-15. The higher power disc will potentially result in shorter inhalation times, improved patient adherence (the inhalation time will be shorter so it will be easier for the patient to get 6 to 9 treatments in daily), and therefore therapeutic outcomes.

This study has been approved by the Cottage Health System IRB. It will be conducted according to the regulations governing clinical research. Subjects will be recruited and followed through the Cottage Pulmonary Hypertension Center. Dr. Sager is the Medical director.

## **Featured Researcher:**

Dr. Jeffrey S. Sager has practiced in Pulmonary Diseases and Critical Care Medicine in Santa Barbara since 2007 and is the Director of the Cottage Pulmonary Hypertension Center. He was born in South Africa and immigrated to the United States in 1997. He received his medical degree from the University of Witwatersrand in Johannesburg, South Africa where he was the recipient of the University Council Scholarship award. He completed his Medical Internship, Medical Residency and Chief Medical Residency at Albert Einstein Medical Center, where he was awarded the Key Pharmaceutical award for outstanding graduate Medical Resident and was awarded the Benjamin A. Gouley, MD award for outstanding Chief Medical Resident. He completed his Pulmonary and Critical Care Fellowship training at the University of Pennsylvania and was awarded the Will Rogers Institute Research Fellowship award for excellence in Research. He remained at the University of Pennsylvania Medical Center as Assistant Professor of Medicine and Associate Medical Director of the Lung Transplantation program. Additionally, he received a Masters degree in Clinical Epidemiology and Biostatistics from the University of Pennsylvania. He was awarded the American College of Chest Physicians Young Leadership award.



He currently is an Assistant Clinical Professor of Medicine at the Keck School of Medicine at the University of Southern California. He is active in the House Staff training program at Cottage Hospital and was nominated for the Physician of the year award by Cottage Hospital. He won the Cottage Hospital Excellence in Teaching award and serves as a member of the multi-specialty peer review committee at Cottage Hospital.

Dr Sager is board certified in internal medicine, Pulmonary Diseases and Critical Care Medicine. He is a Fellow of the American College of Chest Physicians and a Member of Pulmonary Hypertension Clinicians and Researchers for the Pulmonary Hypertension Association. He serves as a committee member of the California Thoracic Society and is an active member of the American Thoracic Society, Santa Barbara County Medical Society, California Medical Association and American College of Physicians.

He is the Medical Director and founder of the Cottage Pulmonary Hypertension Center and a nationally-recognized expert on the management and treatment of pulmonary hypertension and advanced lung disease. He is a frequent speaker on pulmonary hypertension and pulmonary

vascular diseases. He is the Principle Investigator of several national and international trials related to pulmonary hypertension that are currently being conducted at Cottage Hospital under his directorship. The doctor's many publications include journal articles in the New England Journal of Medicine, Clinics in Chest Medicine, Respiratory Care, Transplantation, Chest, Respiratory Research, Journal of Infection, American Journal of Transplantation, Respiration, The Journal of Heart and Lung Transplantation and Medical Clinics of North America. Dr. Sager is an avid golf and tennis player with his greatest passion in life being his wife, Dana and their two children, Dylan and Taryn.