



The **Vanderbilt Cardio-Oncology Program** brings together cardiologists, oncologists, and researchers who work to promote the cardiovascular health of cancer patients. The primary goal of the program is to minimize cardiotoxicity during cancer treatment and manage cardiovascular risks during cancer survivorship. This unique program includes clinical, training, educational, and research components.

Our comprehensive cardio-oncology program provides care for:

1. Patients who may have cardiac side effects from traditional cancer therapies, such as anthracyclines, radiation, or novel targeted therapies.
2. Patients who are long-term survivors of cancer, who may be at risk for cardiovascular disease. There are now nearly 15 million cancer survivors in the United States and our program has developed strategies for cardiovascular health during cancer survivorship, such as the “ABCDE’s” of heart health.
3. Patients with existing cardiovascular issues who have newly diagnosed cancer. Our cardio-oncologists work closely with the primary team to safely shepherd each patient through the medical and surgical treatment of their cancer.

Basic, Translational, and Clinical Investigation in Cardio-Oncology

Cardiovascular and metabolic toxicities of novel cancer therapies herald a new era in cardio-oncology. These cancer treatments are generally less toxic than older therapies because they target cellular pathways that have been hijacked by the cancer cell. However, since these same pathways are often used in heart and vessel maintenance, a variety of cardiac, vascular, and metabolic issues may arise. In the laboratories of Dr. Javid Moslehi and Dr. Thomas Force, the specific mechanisms of such toxicities are explored.

The integrative and collaborative nature of the Vanderbilt Cardio-Oncology Program is illustrated by the care of patients with multiple myeloma. Two new classes of therapies – “immunomodulators” (such as thalidomide and lenalidomide) and proteasome inhibitors (such as bortezomib and carfilzomib) – have revolutionized the care of multiple myeloma patients. Unfortunately, these drugs, which work by targeting the protein degradation machinery of the cell, are associated with cardiac, vascular, and thrombotic complications. Dr. Moslehi’s laboratory is working to better understand the nature and mechanisms of these toxicities. Early data from this work suggest an important, previously unappreciated role of these therapies on endothelial cells. Dr. Daniel Lenihan is performing the PROTECT study, which focuses on the cardiac effects of these treatments, and is helping to develop new preventive strategies for cardiovascular complications in this population. The PROTECT study is a true collaboration and includes Drs. Frank Cornell and Madan Jagasia (hematologists who care for multiple myeloma at Vanderbilt) and Dr. David Harrison (a vascular biologist at Vanderbilt). An upcoming manuscript in the journal *Circulation* highlights the preventive approach of our group for the



care of multiple myeloma patients.

For more information about the Vanderbilt Cardio-Oncology Program, visit <http://medicine.mc.vanderbilt.edu/cardio-oncology-welcome>

Opportunities for Cardio-Oncology Training at Vanderbilt

The Vanderbilt Cardio-Oncology Program is offering 1-year or 2-year clinical and research fellowships to highly-motivated individuals. The faculty includes world leaders in this emerging field who bring diverse clinical and research perspectives. Our program includes clinical training, didactic teaching, and research experience. Importantly, the cardio-oncology fellowship can be tailored to each individual's training needs. Given the broad expertise in the Vanderbilt Cardiovascular Medicine Division, the cardio-oncology fellowship can be combined with other specialties, including imaging, heart failure, interventional cardiology, basic research, clinical/translational research, and clinical trials. Applicants who are interested in basic or clinical research may be supported by the Vanderbilt Cardiovascular Medicine T32 training grant.

Our program also offers opportunities for shorter term "observerships." For interested candidates, we will identify the best methods to integrate them and expose them to the best practices in cardio-oncology. We can ensure that a physician will receive:

1. An intensive exposure to the coordination of cardiology decision-making with oncology practice.
2. Exposure to imaging techniques and biomarkers utilized in clinical practice to detect cardiotoxicity and guide treatment choices.
3. Orientation and involvement in ongoing clinical research intended to inform decision-making in cardiac and cancer patients.
4. Opportunities to participate in multidisciplinary rounds in which complex clinical practice decisions are made in the cardio-oncology program.

For more information about clinical and research fellowships, visit <http://medicine.mc.vanderbilt.edu/cardiovascular-medicine>

Vanderbilt Cardio-Oncology Program Faculty

Javid Moslehi, MD, Director, Cardio-Oncology Program

Carlos Arteaga, MD, President, American Association for Cancer Research

Thomas Force, MD, Immediate Past President, Heart Failure Society of America

JoAnn Lindenfeld, MD, President, Heart Failure Society of America

Daniel Lenihan, MD, President, International Cardio-Oncology Society

David Slosky, MD, Assistant Professor of Medicine

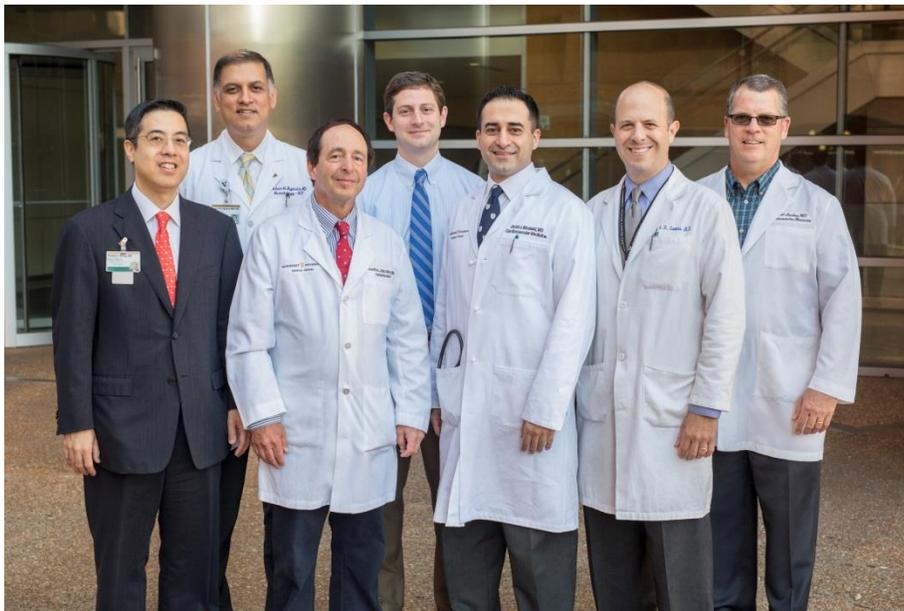


Global Cardio-Oncology Summit

The first Global Cardio-Oncology Summit will be co-hosted by Dr. Daniel Lenihan, President of the International Cardio-Oncology Society (ICOS), and Dr. Susan Dent, Founder of the Canadian Cardiology Oncology Network. It will take place on October 15-16, 2015 at the Hilton Nashville Downtown, in Nashville, Tennessee.

The Global Cardio-Oncology Summit models a leading-edge, interdisciplinary approach to cardio-oncology. The summit is intended for healthcare providers and researchers with an interest in cardio-oncology, including oncologists, cardiologists, radiologists, nurses, pharmacists, and basic scientists. We've lined up world-renowned experts to discuss a broad range of topics, including vascular issues in hematologic malignancies, imaging for cardiotoxicity, radiation effects on the cardiovascular system, ongoing clinical and basic research protocols, the use of cardiac biomarkers, cardiac issues in cancer survivorship, and the establishment of cardio-oncology programs and practices.

For more information about the conference and to register online, visit www.icosna.org.



Vanderbilt faculty involved in the Global Cardio-Oncology Summit are (left to right) Thomas J. Wang, MD, Madan Jagasia, MBBS, David Slosky, MD, Frank Cornell, MD, Javid Moslehi, MD, Michael R. Savona, MD, and Daniel Lenihan, MD. Not pictured are JoAnn Lindenfeld, MD, Scott Borenstein, MD, and Katie Culos, PharmD.