VICTORS FOR MICHIGAN

MEDICINE NEEDS VICTORS

Scott Visovatti, M.D.

Clinical Lecturer in Internal Medicine

Bo Schembechler Heart of a Champion Award Recipient

Dr. Scott Visovatti grew up in Evanston, Illinois. He first moved to Ann Arbor to attend the University of Michigan as an undergraduate during the great era of coach Bo Schembechler. He then moved to Boston, where he attended Boston University Medical School, developed a passion for medical research at Brigham and Women's Hospital and fell in love with his wife, Moira.

Dr. Visovatti returned to Ann Arbor for his residency, chief residency and cardiovascular medicine training. Over this eight-year period he became a vascular biologist under the research mentorship of Dr. David Pinsky. With clinical mentorship from Dr. Vallerie McLaughlin and Dr. Dinesh Khanna, Dr. Visovatti began to explore the triggers for a particularly deadly form of pulmonary hypertension that develops in patients with a rheumatologic condition called "scleroderma."

After completing his training, Dr. Visovatti accepted his dream job at the University of Michigan. He now divides his time between his pulmonary hypertension clinic, heart catheterization laboratory and research laboratory. His research remains focused on the causes of pulmonary arterial hypertension in patients with scleroderma.

In his first three years, Dr. Visovatti has started a new program that uses exercise to unmask hidden pulmonary hypertension, identified an enzyme that likely plays an important role in the development of pulmonary hypertension and pioneered the use of new methods for finding pulmonary hypertension as early as possible.

When not in the hospital, Dr. Visovatti enjoys spending time with his wife, his 5-year-old son, Brendan, and his golden retriever. He is passionate about University of Michigan football, basketball and hockey.

Research focus: Metabolomics-Based Screening tor Scleroderma-Associated Pulmonary Arterial Hypertension

Scleroderma is a condition that leads to hardening ("sclera") of the skin ("derma"). Though skin changes are the most visible results of the disease, many organs, including the heart and blood vessels of the lungs, can also be affected. About 15% of people with scleroderma — many of them young women — develop high blood pressure in their lungs — a condition called "pulmonary arterial hypertension" or "PAH." PAH often leads to severe shortness of breath, making it difficult for patients to walk even a few feet, dress themselves or play with their children. We do have medications that can improve the shortness of breath, but often times they are started too late. Unfortunately, many patients develop heart failure and die within two years, even with treatment.

This research can finally give us the ability to combat a disease that first weakens, and then stops, the hearts of the strongest champions I have ever known.

–Dr. Visovatti

One of the reasons that so many people die from PAH due to scleroderma is that we are not very good at identifying those patients with scleroderma who are likely to develop PAH. As a result, PAH is often severe by the time it is diagnosed. Through our work in the clinic, the heart catheterization laboratory and the research laboratory, our team is working to find PAH in patients with scleroderma in its earliest, most treatable stage. It is our hope that, given enough of a head start, we can stop or even reverse this devastating disease.

Dr. Visovatti's team will use the support of the Heart of a Champion Award to deploy a new field called "metabolomics" to identify scleroderma patients who are likely to develop PAH. Every second of every day, our bodies survive by responding to internal and external influences, including diseases, using millions of chemical reactions. Each reaction produces small molecules, called "metabolites," that circulate in the blood. Many of these metabolites can be identified, giving us the ability to take an instantaneous "snapshot" of all the blood metabolites present at a specific point in time. Just as each of us has a unique set of fingerprints that identifies us unmistakably, these metabolomic "snapshots" can be used to unmistakably identify patients with scleroderma who will go on to develop PAH in the future.

This work is possible only at the University of Michigan, where experts in the fields of pulmonary hypertension (Dr. Vallerie McLaughlin), scleroderma (Dr. Dinesh Khanna) and metabolomics (Dr. Charles Burant) have provided a collaborative and empowering mentorship experience.

If successful, this research will facilitate clinical trials designed to test the benefits of currently available PAH medications in patients with scleroderma who are at high risk for the development of PAH.