

Referral Information

Inpatient Referrals

Inpatients can be referred as transfers by calling the 24-hour physician referral service One-Call at 1-888-660-4884; ask for the heart failure cardiologist on call. Patients can be referred through this service 24 hours a day, seven days a week.

Outpatient Referrals

To schedule an outpatient referral, call 1-877-97-HEART. More information is available at www.mcginniscvi.org.

PH Program Team Members

Srinivas Murali, M.D.,

Director, Division of Cardiovascular Medicine
Medical Director, Gerald McGinnis
Cardiovascular Institute

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Director, Division of Thoracic Surgery

Mark Lega, M.D.

Division of Pulmonary and Critical Care Medicine

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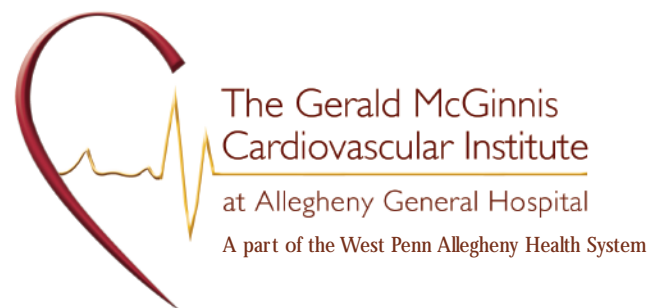
Medical Director, Surgical Intensive Care Unit

Allegheny General Hospital is a 723-bed academic medical center serving Pittsburgh and the surrounding five-state area.

Founded in 1885 on Pittsburgh's historic North Side, the hospital has earned an international reputation for excellence and innovation in the care of patients, medical education and research. Allegheny General has been recognized by *U.S. News & World Report* magazine as one of "America's Best Hospitals" for a number of clinical specialties. The hospital has also been lauded as one of America's top 25 medical centers by the AARP's *Modern Maturity* magazine.

Allegheny General Hospital—and its Suburban Campus in nearby Bellevue—annually admits 31,500 patients and logs about 60,000 emergency visits and more than 26,000 surgical procedures. Nearly 1,000 physicians and approximately 4,500 employees share the hospital's commitment to excellence.

A member of the West Penn Allegheny Health System, Allegheny General Hospital is a western Pennsylvania campus for the Philadelphia-based Drexel University College of Medicine; third- and fourth-year medical students receive clinical training at the hospital.



The Gerald McGinnis Cardiovascular Institute
320 East North Avenue
Pittsburgh, PA 15212

1-877-97-HEART

www.mcginniscvi.org

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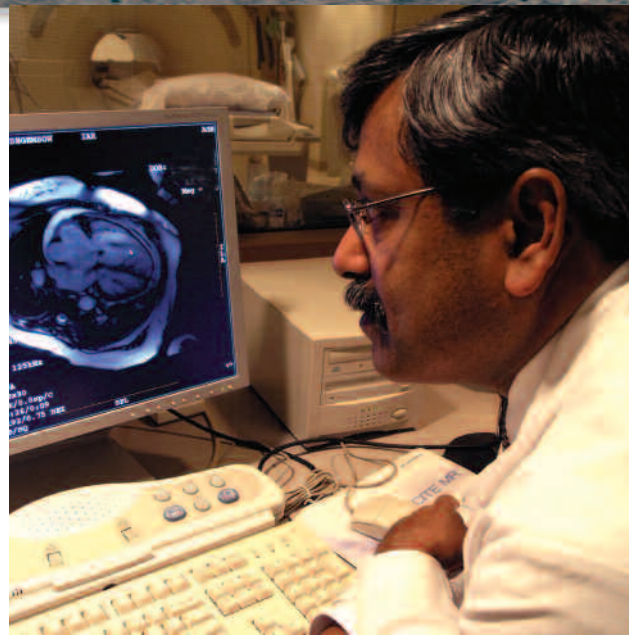


About Dr. Murali

Srinivas Murali, M.D., is an internationally recognized heart failure, cardiac transplantation and pulmonary hypertension specialist. Dr. Murali serves as the director of Allegheny General's Division of Cardiovascular Medicine and medical director of the Gerald McGinnis Cardiovascular Institute. He is a member of the Education Committee of the Pulmonary Hypertension Association (PHA) and is an associate editor of the PHA's medical journal, *Advances in Pulmonary Hypertension*. He is a fellow of the American College of Physicians, the American College of Cardiology, and a member of the American Heart Association and the International Society of Heart and Lung Transplantation. He is certified both by the American Board of Internal Medicine and the Subspecialty Board in Cardiovascular Diseases.

About the Institute

Allegheny General Hospital has long been renowned for its visionary approach to treating cardiovascular disease. Now, with the creation of the Gerald McGinnis Cardiovascular Institute, the hospital brings its heart and vascular specialists and services together — in one convenient location. This state-of-the-art facility includes customized areas for patient examinations, consultations, laboratory testing and diagnostic procedures, as well as scheduling, registration, nursing support and lifestyle management programs.



Careful review of test results in conjunction with a thorough evaluation of the patient are essential for accurate diagnosis of PH.

What Is Pulmonary Hypertension?

Pulmonary arterial hypertension (PH) is a progressive and incurable disease of the pulmonary vasculature, characterized by profound vasoconstriction and structural changes in the small pulmonary muscular arteries. Progressive elevations in pulmonary artery pressure and pulmonary vascular resistance ultimately lead to right ventricular failure and death. PH can result from primary involvement of the small and medium-sized pulmonary arteries or secondary involvement associated with a variety of diseases affecting different organ systems. Although the prognosis for patients suffering from PH is generally poor, recent advances in the understanding of pathophysiology have facilitated the development of new treatments that have improved outcomes.

The PH Program at Allegheny General Hospital (AGH)

Led by Srinivas Murali, M.D., Allegheny General Hospital's PH program is a center of excellence for the diagnosis and treatment of PH. The program team members work closely with each patient to ensure individualized, comprehensive care. Patients referred to this multidisciplinary program undergo a step-wise evaluation to determine the etiology, severity and prognosis of their disease. Advanced imaging modalities

such as magnetic resonance imaging and myocardial tissue Doppler imaging are routinely used to characterize right ventricular structure and function. AGH's PH program is the only program in the region that uses these advanced imaging techniques in the evaluation of PH patients.

After diagnosis, the PH team applies a comprehensive patient education system for the patient and their family. Appropriate evidence-based treatment options are discussed in detail and implemented. Referring physicians are contacted in order to maintain continuity of care and often to develop a congruent care plan.

Advances in Treatment for PH

As the understanding of pathophysiology expands, new therapies for PH are rapidly being developed. Historically, the only oral medications available were calcium channel blockers, which were effective in up to 10 percent of patients. Within the past few years, bosentan, a non-selective endothelin receptor antagonist (ERA), sildenafil, a phosphodiesterase-5 inhibitor, and more recently, ambrisentan, a selective ERA, have been approved by the FDA for chronic oral therapy.

Prostanoids remain a mainstay for advanced disease, and several new delivery routes are now available. Intravenous epoprostenol is the standard of care for

the advanced, severely symptomatic patient, although it is a complex medication with limiting side effects. Trepostinil is approved both for subcutaneous and intravenous delivery. Iloprost, an inhaled prostanoid, has recently been approved and requires specialized nebulizer treatments six to nine times each day.

Combination therapy in an attempt to target multiple pathophysiologic pathways is emerging as a new strategy for PH treatment. Lung and heart-lung transplantation remain the only curative therapies and are recommended for select patients with progressive symptoms despite optimal medical therapy. Balloon atrial septostomy is available for select patients with refractory right ventricular failure. Some patients with thrombo-embolic disease may be candidates for pulmonary thrombo-endarterectomy.

Advances in PH Research

Dr. Murali and his staff have been involved in research for new PH treatments for the past 15 years. They have participated in many of the landmark clinical trials that have led to the development and FDA approval of currently available therapies. Clinical trials presently underway are exploring new treatment options such as an oral prostanoid, selective endothelin receptor blockers, and combination strategies. In addition, epidemiologic and genetic



While echocardiography remains the preferred screening test for PH, tissue Doppler and other advanced echocardiographic parameters are improving the understanding of ventricular remodeling resulting from PH.

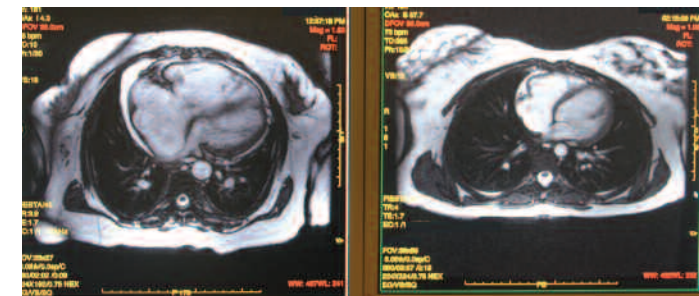
studies are being pursued to explore the risk factors for PH and genetic modulation of treatment responses, which will further improve care for PH patients.

PH Preceptorship Program

The PH program at AGH offers a day-long preceptorships for physicians and allied health professionals who are interested in the development and implementation of a PH clinic in their practice. The preceptorship includes didactic sessions that are tailored to meet the needs of the participants, hands-on experience in a PH clinic and case discussions with the PH teams. Arrangements for preceptorship can be made by contacting Jessica Lazar, M.P.A., P.A.-C., at 412-359-3345.



Pictured from left to right are Jessica Lazar, M.P.A., P.A.-C., Michele Svitek, R.N., B.S.N., Srinivas Murali, M.D., Lynn Rayl-Miller, R.N., Carrie Melegari, R.N., B.S.N.



Cardiac MRI has revolutionized the ability to noninvasively evaluate the right ventricle in PH patients.