



THE CARL AND EDYTH LINDNER RESEARCH CENTER AT THE CHRIST HOSPITAL

Early Patient Access to Ground-Breaking Cardiovascular Advances

The Carl and Edyth Lindner Research Center—based at The Christ Hospital in Cincinnati—is a nationally recognized powerhouse in cardiovascular research. The Center has led the development of nearly every interventional cardiology advancement of our times.

During an average month, a cadre of Lindner physicians pursues as many as 120 different research trials in cardiovascular medicine – giving heart patients in the Greater Cincinnati area accelerated access to the latest expertise in cardiac technologies and treatments being explored nationwide.

Traditionally, clinical research is the purview of academic medical centers, where researchers less involved in direct patient care often lead studies. Here at The Christ Hospital, the investigators are practicing physicians who both conduct research and treat patients on a daily basis, rapidly translating research insights into patient care.

1,200+ Clinical Trials, Experts with Commitment

The Lindner Research Center leads multiple trials simultaneously, including – over time – more than 1,200 clinical trials, many the first to be conducted in humans. This early access to innovative research allows The Christ Hospital physicians to hone their knowledge of new procedures and therapies well before these advances come to market. Such specialized experience, in turn benefits their patients, who can experience leading-edge care sooner and without the need to travel far from their home and support systems.

The driving force behind the Lindner Research Center is world-renowned cardiologist Dean Kereiakes, M.D. He was the impetus for the Center's establishment in 1985, following his return to his hometown of Cincinnati after advanced training at premier medical centers in San Francisco and Boston. The Center is named for leading Cincinnati businessman Carl Lindner and his wife Edyth, long-time supporters of The Christ Hospital and the Greater Cincinnati community.

An advocate for the value of research and its direct impact on patient care, Dr. Kereiakes has assembled a team of clinicians at The Christ Hospital dedicated to innovation. They seek out the most advanced clinical trials. They enjoy the challenge of working with organizations leading change in the cardiovascular arena and providing ground-breaking care to heart patients in their own community.

This Cincinnati-based team initially stepped itself in research involving cardiovascular intervention and medical devices. It later widened its focus to include secondary prevention issues such as elevated cholesterol, resistant hypertension, uncontrolled diabetes, and other risk factors prevalent in heart disease. Now these researchers are exploring new approaches, such as cell therapies and percutaneous heart valve replacements to address the challenging unmet needs of the increasing cardiovascular population.

Complex, Innovative Research

Much of the Lindner team's research addresses the most insoluble problems in cardiovascular care. Despite major advances, heart disease is still the cause of death for a quarter of our U.S. population. Improved therapies enable patients to live much longer with many chronic forms of heart disease. But patients' advancing age increases the severity of their problems and makes it more challenging to treat them. This is where The Christ Hospital cardiologists choose to focus their research – on the toughest problems still plaguing heart patients.

- **Severe Valve Disease:** Older, higher risk patients with severe valve disease (aortic stenosis), for example, often cannot sustain the open-heart surgery traditionally used to correct valve problems. Physicians at the Lindner Research Center are working on a dramatically improved option for these patients, through the Partner II trial, which uses the TAVR (transcatheter aortic valve replacement) treatment. The new option delivers a balloon-expandable replacement valve to the heart via a small incision in the groin, known as the transfemoral approach, or in the chest wall, known as a transapical approach. This minimally invasive approach may shorten recovery time for elderly patients while still delivering life-saving valve replacement.
- **Uncontrolled Hypertension:** For more than 12 percent of patients with hypertension, blood pressure remains uncontrolled even with multiple medications. For every 20-point rise in systolic pressure, the risk of heart attack or stroke doubles. The Christ Hospital is participating in a nationwide pivotal phase III trial to evaluate use of the investigational SYMPPLICITY[™] Renal Denervation System[®] that applies radiofrequency ablation to disrupt sympathetic nerves adjacent to the renal arteries. These nerves stimulate release of renin, leading to reduction in blood flow to the kidneys and decreased excretion of sodium.

Peer-Reviewed Publications, Valued Research Partner

Being steeped in research not only improves direct patient care, but also benefits physician education in advanced clinical practice. Much of the research conducted at the Lindner Research Center is published upon completion in peer-reviewed professional journals, influencing physician practice nationally and internationally. Nearly 1,000 publications in peer-reviewed medical journals reflect Lindner Research Center work.

In national and global multi-site clinical trials, the Lindner Research Center is routinely one of the first sites able to be up and running. Research institutions are commonly evaluated on their efficiency in initiating clinical trials and the quality, accuracy, and completeness of the research data that they obtain; Lindner excels at both. Before trial sites can begin enrolling patients, their investigational plan must be reviewed and approved by an institutional review board at the hospital to assure its scientific merit and the presence of safeguards to protect the patient. Given the multi-layered internal processes at most universities, academic medical centers generally require at least three months to complete this process. By contrast, Lindner can be ready to enroll patients in four to six weeks. Its ease in facilitating the research process and the rigor of its quality standards make the Lindner



Research Center a preferred partner for many organizations who return repeatedly to sponsor clinical trials.

Next on the Horizon

While rooted in cardiology, the Lindner Research Center currently has physicians at work on more than 120 active trials in a wide array of diseases. Pioneering studies are under way evaluating Alzheimer's therapies and new uro-gynecology approaches. Oncology research is expanding. The Lindner Research Center is also one of the few sites currently offering two clinical trials involving use of stem cell therapies for heart failure patients.

As the Lindner Research Center continues to expand, its exceptional reputation built over more than two decades ensures a steady stream of medical innovation for residents of Greater Cincinnati and beyond for years to come.