



Thomas Maher, M.D., (left) and George Magovern Jr., M.D., (right).

More than 2 million Americans are currently living with atrial fibrillation, with more than 350,000 new cases diagnosed each year. Atrial fibrillation, or afib, is the most common type of irregular heartbeat. In afib, the upper chambers of the heart (the atria) contract in a rapid and disorganized motion, disrupting the heart's ability to pump blood.

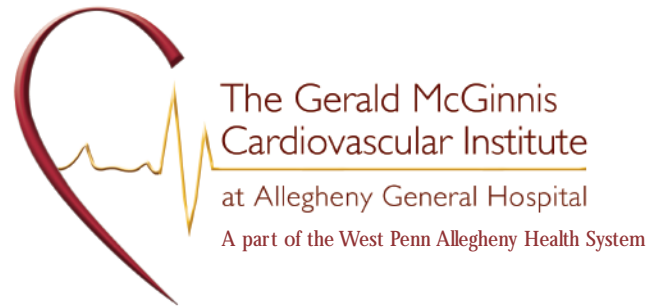
Afib is caused by abnormal electrical impulses that begin at the top of the heart and travel down the atria. Until now, there has been no simple, effective treatment to correct the underlying cause of afib. With mini-MAZE surgery, doctors are able — for the first time — to permanently break the circuit of afib in a procedure that is easy to perform. Mini-MAZE can restore normal heart function and helps patients with afib to maintain a healthy, active life.

Allegheny General Hospital is a 724-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.

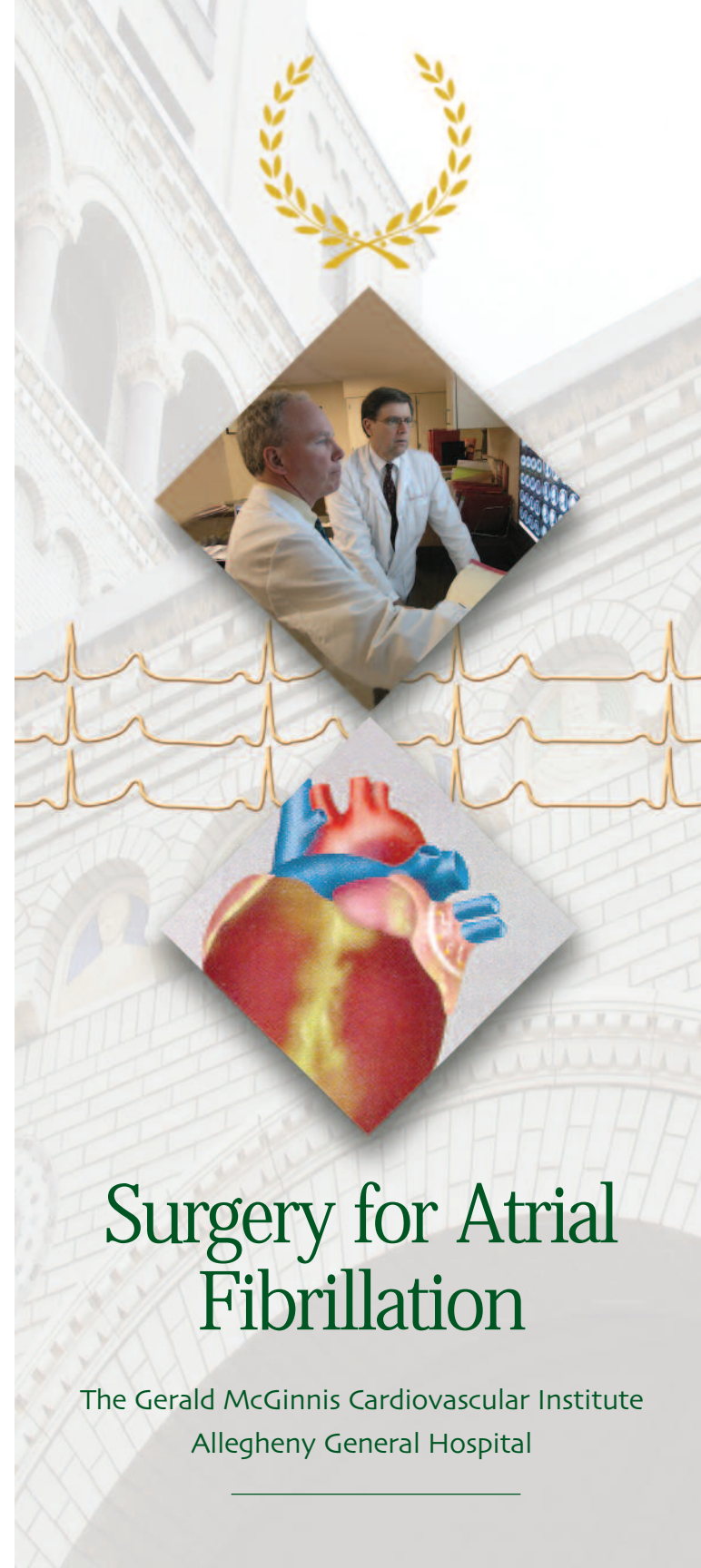
A member of the West Penn Allegheny Health System, Allegheny General Hospital is a western Pennsylvania campus for the Philadelphia-based Drexel University College of Medicine; third- and fourth-year medical students receive clinical training at the hospital.



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

1-877-97-HEART
www.mcginniscvi.org

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Surgery for Atrial Fibrillation

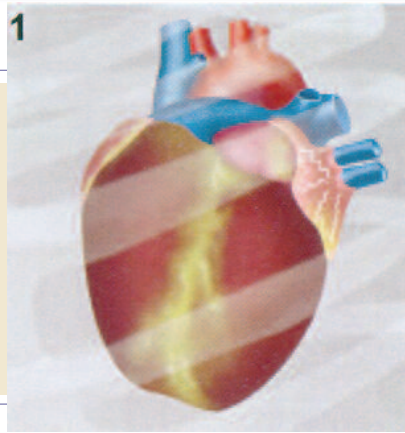
The Gerald McGinnis Cardiovascular Institute
Allegheny General Hospital



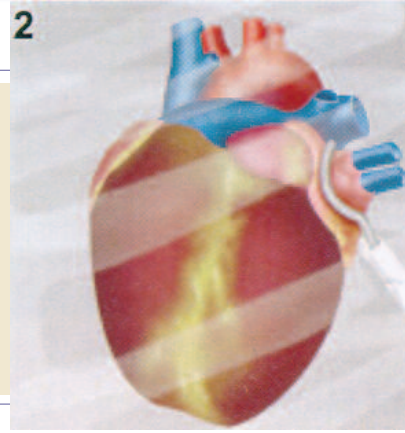
About the Institute

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.

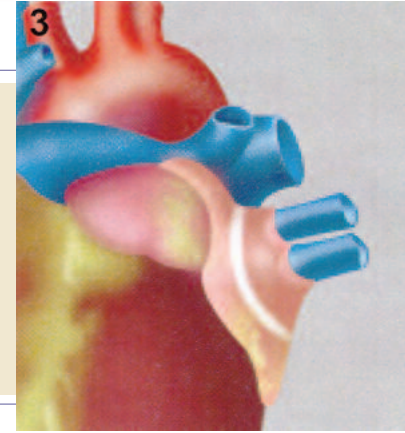
Atrial fibrillation is an irregular heart rhythm caused by abnormal electrical impulses that begin at the top of the heart and travel down to the upper chambers, or atria.



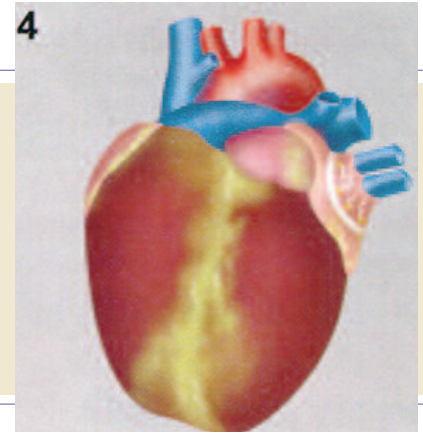
In Mini-MAZE surgery, doctors use a very precise instrument that fits around the top of the atrium and destroys a small amount of tissue in the area near where the irregular impulses start.



The damaged tissue can no longer conduct electrical signals, thereby interrupting the transmission of the impulses.



With the abnormal signals unable to cross the zone of defense, the atria begin beating normally.



The Mini-MAZE Procedure

The mini-MAZE procedure is a promising operation for treating atrial fibrillation.

A less invasive version of the traditional open-chest MAZE procedure, the mini-MAZE technique is designed to be performed as a stand-alone operation for atrial fibrillation patients who do not have other cardiac disorders requiring surgery. This procedure requires a small chest incision near the breast and two small incisions on the chest wall for insertion of video camera and mini-MAZE instruments. The mini-MAZE instrument is a clamp that is placed on the atria. It emits bipolar radio frequency energy to isolate and ablate the region of the heart tissue where the arrhythmias originate.

Following ablation in the atria, the surgeon also removes a small structure called the left atrial appendage, which is implicated in cardio-embolic stroke in patients with atrial fibrillation. The mini-MAZE procedure typically takes three hours to perform and usually requires only a two-day hospital stay.

Medical Treatment for Atrial Fibrillation

The medical treatment for atrial fibrillation includes medications to control irregular heart rhythms; anticoagulation with aspirin, Plavix, or Coumadin to prevent stroke; and occasionally the implantation of a permanent pacemaker. Medical treatments, however, have limited efficacy and can lead to significant side effects for many patients. Atrial fibrillation is associated with a

three-fold increase in the risk of stroke and a two-fold increase in the risk of death. The longer the patient is in atrial fibrillation, the more difficult it is to treat and eliminate this rhythm abnormality. Atrial fibrillation causes one-third of all strokes for people over the age of 75. The American Heart Association estimates that atrial fibrillation is responsible for more than 70,000 strokes per year.

The mini-MAZE procedure has been developed to potentially cure atrial fibrillation. In mini-MAZE surgery, surgeons create a "zone of defense" at the top of the heart that helps protect the rest of the heart from the abnormal electrical impulses that lead to atrial fibrillation.

Effectiveness of the Mini-MAZE Operation

Mini-MAZE surgery appears to be effective in restoring normal heart rhythm. As such, it helps eliminate the risk of stroke and the need for anticoagulation. Eliminating anticoagulation also reduces the risk of anticoagulation-related bleeding. To date, experience indicates that mini-MAZE surgery eliminates atrial fibrillation in more than 85 percent of patients with recent onset of atrial fibrillation.

Benefits and Surgical Risks of the Mini-MAZE Operation

The mini-MAZE operation is the first surgical treatment that can safely, easily and reliably eliminate atrial fibrillation. It helps patients avoid

lifelong drug therapy and reduces the high risk of stroke and other complications that are associated with atrial fibrillation.

The mini-MAZE procedure carries the same risks as other forms of heart surgery, including bleeding at the wound site, heartbeat irregularities and stroke.

Candidates for the Mini-MAZE Procedure

Most patients with atrial fibrillation are candidates for the mini-MAZE procedure. Approximately 30 percent of patients with new onset atrial fibrillation or intermittent atrial fibrillation will experience immediate elimination of the rhythm after treatment. In others, the effects do not develop until three to six months later, for reasons as yet unknown. After approximately three to six months, the success rate is as high as 85 percent. The results for patients with long-term, chronic atrial fibrillation are less predictable and are still under investigation.

Mini-MAZE procedures and technology are designed to cure paroxysmal atrial fibrillation or persistent atrial fibrillation in patients who are not responsive to non-surgical treatments or who are suffering from the disabling side effects of drug therapy. The procedure may not be appropriate for patients who are too sick to undergo general anesthesia or who have conditions, such as severe lung disease, that put them at high risk for complications following major surgery.

Referring A Patient

Physicians can refer their patients by calling the afib coordinator at 412-359-8820. Calls are answered 24 hours a day, seven days a week. Following this simple phone call, arrangements will be made for outpatient evaluation of the patient and determination of the treatment course. The patient and the referring physician will be kept informed of all studies and treatment plans. The mini-MAZE procedure is usually covered by private insurance or other health-care programs.

Directions and Parking Information

The Gerald McGinnis Cardiovascular Institute is located on the first floor of Allegheny General Hospital, in the Northwest Wing. Enter the hospital through the Sandusky Street Entrance and follow the signs. Patients may valet park at the Sandusky entrance, or park in the main patient parking facility, the James Street Garage.

Registration

Patients may register in the lobby, immediately upon entering the Sandusky Entrance of Allegheny General Hospital. Registration services are also available within the Gerald McGinnis Cardiovascular Institute.