



Feature Story

Rounding the Corner

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Stent Surgery Leads to Healthier Lifestyle

Robotic Heart Surgery Helps Former FBI Agent

Man from Guatemala Freed from Spinal Pain



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With Heart Surgery Behind Him, Florida Man Enjoys Life in the Fast Lane Again

Not long ago, 61-year-old Peter Harholdt thought his amateur racing career was in its last laps. The museum photographer from Palm Beach, Fla., sought help from Cleveland Clinic for a combination of heart problems. A little more than a year after treatment, Peter is back to enjoying the racetrack.

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Cleveland Clinic is a not-for-profit multispecialty academic medical center. Founded in 1921, it is dedicated to providing quality specialized care and includes an outpatient clinic, a hospital with more than 1,000 staffed beds, an education division and a research institute.

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Cleveland Clinic's **Top 10** of 2007

Doctors name new medical innovations that will affect healthcare most

Always at the forefront of new technologies for improving outcomes in its patients, Cleveland Clinic recently announced the top 10 medical innovations that likely will have a big impact on healthcare in 2007 and far into the future.

A panel of Cleveland Clinic physicians and scientists selected its first-ever list of the top 10 innovations and revealed them during Cleveland Clinic's 2006 Medical Innovations Summit in November.

Using state-of-the-art technology and evaluating next-generation products has long characterized Cleveland Clinic physicians, says Christopher Coburn, Executive Director of CCF Innovations. "Their passion for getting the best care for patients drives a continuous dialogue on what technologies are just over the horizon."

To be included in the list, an innovation was required to: have significant potential for short-term clinical impact; have a high probability of success; be on the market or close to being introduced; and have sufficient data available to support its nomination.

The **Top 10** Medical Innovations for 2007

- 1. Cancer Vaccines:** Targeted therapies, such as the HPV vaccine that was developed to prevent cervical cancer caused by human papillomaviruses, are used to ward off cancer and treat patients more specifically according to the type of cancer they have.
- 2. Designer Therapeutics Using Selective Receptor Antagonists:** Therapeutics can be used to block side effects of some pain medications that can negatively affect patients and lengthen hospital stays. Some also can control the body's stress response to help control eating and smoking, while others can increase good cholesterol.
- 3. Neurostimulation for Psychiatric Disorders:** Neurostimulation, such as deep brain stimulation, is now being used to treat patients suffering from treatment-resistant depression and treatment-resistant obsessive-compulsive disorder.
- 4. OCT (Optical Coherence Tomography):** This noninvasive imaging technology can treat and diagnose eye diseases such as diabetic retinopathy and macular holes.
- 5. Bronchial Thermoplasty:** This therapy uses the controlled application of heat in the lungs to improve function, reduce asthma symptoms and prevent asthma attacks.
- 6. Ranibizumab:** Using drug therapy, physicians can inhibit uncontrolled blood vessel formation in the eye, which is the primary cause of age-related macular degeneration, the leading cause of new blindness in older Americans.
- 7. Endografting:** This minimally invasive repair technique, which has been used in cardiology, is now being used to treat vascular disease.
- 8. Targeted Cancer Therapies:** Advanced cancers can be blocked or altered by small-molecule tyrosine kinase inhibitors.
- 9. Left Ventricular Assist System (LVAS):** This implanted device takes over most of the function of the heart's main pumping chamber and helps to propel blood throughout the body.
- 10. Convection-Enhanced Delivery (CED) of Drugs:** A new drug-delivery method can administer medication directly to where it is needed without exposing the rest of the body to the drug's side effects.

A Journey to Restore Wellness

Danish Doctor Treated at Cleveland Clinic for Complications from Marfan Syndrome

A trip to another country can be recreational, educational or vocational, an opportunity to see the sights, go to school or advance a career. For Danish physiology professor Holger Nilsson, M.D., Ph.D., the 4,000 mile journey from his country to Cleveland Clinic was a journey from near-death to health.



Holger Nilsson, M.D., Ph.D.

Diagnosed as a young child with Marfan syndrome, a connective tissue disorder, Dr. Nilsson knew as an adult that his condition eventually could lead to some serious heart-related problems.

“The underlying problem in Marfan syndrome is that the connective tissue is not normal,” explains Cleveland Clinic cardiovascular surgeon Lars Svensson, M.D., Ph.D. “People with this disorder are prone to aortic dissection, a condition in which the aorta, the heart’s main artery, shreds. Aortic dissection causes immediate death 40 percent of the time, so our goal is to repair the aorta before dissection occurs.”

In 2000, at age 43, Dr. Nilsson experienced aortic dissection and survived – an experience that he now refers to as his “alarm signal.” After repairing the shredded artery, his doctors in Denmark monitored his health even more closely. In 2005, when Dr. Nilsson developed an aneurysm in the upper aorta, his cardiologist advised him that his best hope for survival was an operation to repair his arteries. His cardiologist referred him to Dr. Svensson at the Cleveland Clinic Heart and Vascular Institute.

“My doctor had been to Cleveland and seen Dr. Svensson operate. He had great confidence in the doctors there and in the fact that Cleveland Clinic does more of these procedures than any other institution in the world,” Dr. Nilsson explains. “The prospect of a major operation was not fantastic but the fact that they were referring me to the world leader was reassuring.”

When Dr. Nilsson and his wife, Veronica, met Dr. Svensson in January 2006, they were further reassured to learn that Dr. Svensson had pioneered the latest technique for repairing arteries in Marfan patients using the “elephant trunk” procedure. In 2006, Cleveland Clinic surgeons performed more than 60 of these complex operations with a 98 percent survival rate.

For Dr. Nilsson, Dr. Svensson planned two major operations, several months apart. In the first operation, he replaced Dr. Nilsson’s faulty heart valves and placed the elephant trunk – a large Dacron (polyester textile fiber) tube – in the aorta. Dr. Nilsson returned in May for stage two, which involved using more Dacron tubing to bypass the weakened arteries to his liver, spleen, kidneys, small intestines and legs. In two additional operations, vascular surgeon Roy Greenberg, M.D., placed tiny metal support coils known as stents inside some of Dr. Nilsson’s arteries to prevent them from collapsing.

“We re-plumbed most of Dr. Nilsson’s circulatory system using plastic tubing,” Dr. Svensson explains. “By replacing his aorta, creating bypasses for the arteries that come off of it and adding stents, we fixed the areas that could cause him problems in the future.”

By mid-August, the Nilssons were back home in Denmark, Dr. Nilsson’s long journey from illness to wellness completed at last. He returned to teaching full-time in the fall, and the Nilssons now look ahead to the future with a new confidence. “I was a time bomb,” Dr. Nilsson says. “Dr. Svensson and his team saved my life.”

To make an appointment with a physician in the Cleveland Clinic Heart and Vascular Institute, call 800.884.9551. (If calling from outside the United States, call 001.631.439.1578.) ■

Q & A

Coronary Interventional Procedures



E. Murat Tuzcu, M.D.

When functioning properly, your heart pumps about 3,000 gallons of blood throughout your body every day. Coronary artery disease can slow it down though, and that could lead to a heart attack. Cholesterol and fatty deposits, also called “plaque,” can build up on the inner walls of the coronary arteries.

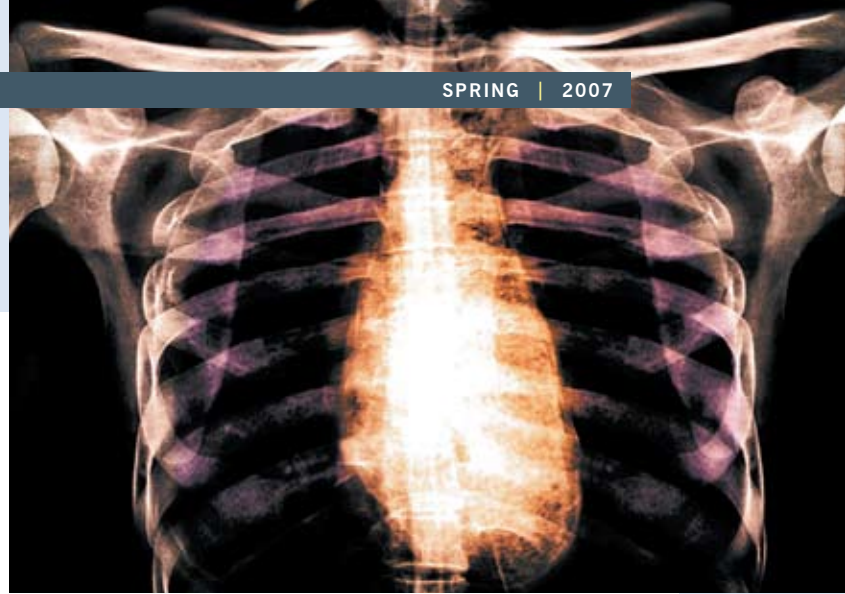
This restricts blood flow, making it difficult for oxygen and nutrients to get to the heart. A complete blockage in one or more of the coronary arteries can cause a heart attack. There are several procedures that are used to open blocked coronary arteries. They are called coronary interventional treatment procedures, and E. Murat Tuzcu, M.D., of the Cleveland Clinic Department of Cardiovascular Medicine, answers questions about them.

What are the different kinds of interventional procedures?

There are several different procedures that may be used to open blocked arteries. Using stents (a small metal coil or mesh tube) is the method employed most often. This method involves dilating the narrowed part of the blood vessel using a long and appropriately sized balloon and then delivering the stent, which is crimped on a similar balloon. Sometimes stents that are mounted on balloons can be placed without dilating the artery. In the era before the widespread utilization of stents, procedures aimed to shave off and remove the plaque were frequently used. These included atherectomy, rotablation and cutting balloons. These, however, are used much less frequently now. Before deciding on a procedure, your cardiologist will perform a coronary angiography to determine what will work best for you.

What's the difference between balloon angioplasties and stents?

During a balloon angioplasty, a specially designed catheter with a balloon at the tip is inserted into the artery. The balloon expands, pushing the fatty matter into the artery wall and stretching the artery open to increase blood flow to the heart. A stent is a mesh tube and balloon that is inserted into the artery. When in place, the balloon inflates, causing the mesh to expand. The balloon is removed but the mesh remains, acting as scaffolding to provide support inside the coronary artery.



What is a drug-eluting stent?

A metal stent that is placed inside the blood vessel is covered by new tissue over time. Sometimes this new tissue is too thick and narrows the space within the stent, creating a blockage. To prevent the exuberant growth of the new tissue, stents covered with special drugs were introduced a few years ago. Drug-eluting stents minimize the new tissue growth, leading to markedly reduced rates of recurrent blockages (restenosis). Although these stents are deployed successfully in many patients, a small percentage of patients run the risk of heart attacks due to clot formation in the stent. The risk is increased if patients stop taking their blood-thinning medications.

How can one expect an interventional procedure to be?

Interventional procedures are performed in a cardiac catheterization laboratory by a specialized cardiologist and a specialized team of nurses and technicians. The procedures usually last about 1 ½ to 2 ½ hours, but the preparation and recovery time add several hours. Patients will likely be at the hospital most of the day and may remain in the hospital overnight.

What happens after the procedure?

Following the procedure, patients should take it easy for a few days. The doctor will give instructions about restrictions on diet and activities and may prescribe medication to reduce any discomfort. For most people, interventional procedures increase blood flow to the heart, diminish chest pain and may decrease the risk of a heart attack, but they do not cure coronary artery disease. Patients still will need to focus on reducing their risk factors and making certain lifestyle changes to prevent future disease development or slow progression.

To make an appointment with a Cleveland Clinic Heart and Vascular Institute physician, call 800.884.9551 (If calling from outside the United States, call 001.631.439.1578.) ■



Recipe Corner

Tuscan Bean Spread

From *Cleveland Clinic Healthy Heart Lifestyle Guide and Cookbook*

This bean spread is perfect for either a sandwich or to serve at a party. Make the day before and store in an airtight container. For sandwiches, serve with grated carrot, radish sprouts and chopped tomatoes on whole-wheat bread. For a party, serve with a basket of interesting breads (e.g., lavosh, pappadam), small sesame breadsticks or crudités.

INGREDIENTS | MAKES 3 CUPS (600 G)

6 ounces (180 g) dried white beans, or two 15-ounce (450 g) cans cannellini beans, drained
Olive oil cooking spray or ½ teaspoon extra virgin olive oil

4 large shallots, chopped
4 garlic cloves, minced
1½ tablespoons fresh rosemary
1 tablespoon fresh oregano

½ teaspoon fennel seed
3 ¾ cups (900 ml) fat-free, low-sodium chicken broth or vegetable broth
⅓ to ½ cup (80 to 120 ml) fresh lemon juice

PREPARATION

Put the beans in a large pot with water to cover. Bring to a boil, remove from heat, cover, and let stand at room temperature for 1 hour. Drain the beans and set aside.

Lightly coat the bottom of a nonstick pot with cooking spray or ½ teaspoon extra virgin olive oil. Add the shallots and garlic and cook, stirring over medium heat until shallots are wilted, about 5 minutes. Add the rosemary, oregano and fennel seed. Cook, stirring for

1 minute more. Add the beans and broth and bring to a boil. Reduce the heat and simmer on low heat for 30 to 40 minutes, until beans are tender. Remove from heat.

When cool, transfer bean mixture to a food processor or blender. Puree, adding lemon juice for desired consistency.

Nutrition Information (Per 3-tbsp serving)

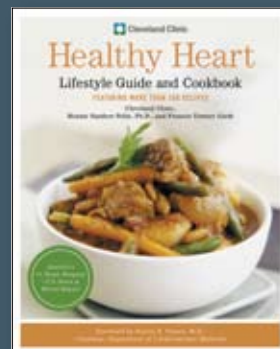
Total calories	55	Protein	3g	Cholesterol	0mg
Total fat	0g	Total carbohydrate.....	11g	Sodium	116mg
Saturated fat	0g	Dietary fiber	3g	Potassium	245mg

Cleveland Clinic Healthy Heart Lifestyle Guide and Cookbook Now Available

Cleveland Clinic has teamed with James Beard Award-winning cookbook authors Bonnie Sanders Polin and Frances Towner Giedt to create a complete and easy-to-follow plan for preventing heart disease: *Cleveland Clinic Healthy Heart Lifestyle Guide and Cookbook*.

Polin and Giedt have developed outstanding recipes that taste too good to be good for you (but are) ranging from Thai Swordfish in Red Curry Sauce to Grilled Chicken Breasts with Warm Balsamic Strawberries, Herbed Roasted Beef Tenderloin, and even New York-Style Cheesecake. A week's worth of menus for each of the three caloric plans also has been included to take the guesswork out of eating from morning to night.

Backed by the reputation of Cleveland Clinic, this all-in-one guide provides instructions on an easy, enjoyable way for people to care for their hearts and live longer, healthier lives. The cookbook is available at select bookstores and online at randomhouse.com.

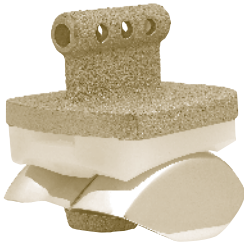


Around Cleveland Clinic

Keeping you up-to-date on our latest news

First Implant of New Total Ankle Replacement

Cleveland Clinic orthopaedic surgeon Brian Donley, M.D., recently became the first surgeon in the United States to implant a new total ankle replacement. The device is being used as a potential alternative to traditional ankle fusion. Dr. Donley, along with an international team of surgeons, designed the prosthesis, which was approved by the U.S. Food and Drug Administration in November. The new anatomic ankle replacement implant is used to treat conditions resulting from debilitating arthritis



The Salto Talaris implant is an anatomically based design that reproduces the movement of the natural ankle joint.

and was created to better emulate normal ankle movement while preserving more of a patient's original bone. This allows patients to have more natural motion and suffer less pain compared to other treatment options.

Laser Therapy for Laryngeal Cancer Helps Save Voice

Cleveland Clinic physicians have concluded after a study that laser surgery in combination with cryoablation – the application of extreme cold to destroy diseased tissue – is a suitable alternative to radiation treatment for early-stage cancer of the larynx and avoids many of the complications of radiation therapy. This strategy can cure the cancerous growth, while optimizing outcomes regarding the voice.

Discovery Could Lead to New Therapies to Disrupt Formation of Blood Vessels that Support Tumors, Other Diseases

Researchers from the Cleveland Clinic Lerner Research Institute's Department of Molecular Cardiology and the Cleveland Clinic Taussig Cancer Center have discovered a new approach to disrupting the formation of blood vessels that are essential to the development and survival of cancer tumors. A patent for the new approach has been filed, and work has started on drug development.

Cleveland Clinic Performs First Heart/Liver Transplant in Ohio

Cleveland Clinic recently performed a heart/liver transplant on a 50-year-old woman from Michigan. The procedure was the first heart/liver transplant for Cleveland Clinic and the first in Ohio.

Cleveland Clinic performed its first heart transplant in 1984. The first pediatric heart transplant was performed in 1985. Since the heart transplant program began, Cleveland Clinic has performed more than 1,000 heart transplants and Ohio's only seven combined heart/lung transplants.

New Direction in Detecting Lung Disease

Cleveland Clinic physicians are pioneering the use of a global positioning system (GPS)-like tracking system that helps them navigate the complicated roadway of branches inside people's lungs. Using a 3-D "map" of a patient's lungs generated by computed tomography (CT) scans, doctors can "drive" a probe that has been inserted into the lungs via a bronchoscope. The system helps guide biopsy instruments toward small lesions in the lung – often seen as "dark spots" on chest X-rays – and enables physicians to more reliably diagnose tumors and plan for treatment before the tumors have a chance to grow and become more problematic.



Locatable guide and its tip (inset), which can be steered in eight different directions.

(Images courtesy of superDimension, Ltd., Herzliya, Israel)

For more information on any of these news briefs, call toll-free 800.884.9551. (If calling from outside the United States, call 001.631.439.1578.)

Examining the Headlines | Public Smoking Ban

Cleveland Clinic experts weigh in on the latest health news



Derek Raghavan
M.D., Ph.D.

The U.S. Surgeon General issued a comprehensive report last June showing that there is no safe level of exposure to secondhand smoke. And in November, voters in three states (Ohio, Nevada and Arizona) approved statewide bans on smoking in work and public places. In total, 16 U.S. states, Washington, D.C., Puerto Rico and at least eight additional countries have banned smoking in public places.

Smoking bans are aimed at protecting nonsmokers from “passive smoking,” or inadvertently breathing in the smoke of someone else’s cigarette or cigar. Opponents of the bans argue that issuing these types of laws weakens personal responsibility and freedom. But Derek Raghavan, M.D., Ph.D., Chairman of the Taussig Cancer Center, who worked with others on behalf of Cleveland Clinic in actively campaigning to help pass Ohio’s ban, disagrees. Here, he answers questions on why banning smoking in public is so important.

Health Advantage: What do you say to those who argue that these laws violate smokers’ rights?

Dr. Raghavan: These laws are not about impeding the rights of smokers. There is a difference in the nature of the choice smokers make and the choice nonsmokers make. When people choose to smoke, they are harming themselves and others around them who must breathe the same air. With this law, smokers still have a space to smoke (e.g., outside, in their homes or cars) and nonsmokers are protected.

Health Advantage: Aren’t nonsmoking sections enough of a barrier between smokers and nonsmokers?

Dr. Raghavan: There is no safe level of indoor smoking. You are breathing in carcinogens regardless of whether you are breathing in the smoke directly or not. If you are in an enclosed area where there is smoking – even if you can’t see it or smell it – you are breathing in harmful particles.

Health Advantage: Is secondhand smoke worse or different than actually smoking?

Dr. Raghavan: Both are bad. However, when people smoke, oftentimes they cough due to the bronchial irritation from the heat and concentration of the smoke, which helps remove some of the dangerous hot gases from the lungs. When you breathe in secondhand smoke, the particles in the smoke are more likely to get down into the lungs and stay there because they are not as immediately irritating; the smoke is not as hot or concentrated as when being inhaled directly from a cigarette. Therefore, the body does not try to immediately expel the chemicals.

Health Advantage: What are the chemicals in cigarette and cigar smoke and what do they do to your body?

Dr. Raghavan: There are about 3,000 different chemicals in smoke. About 60 of those are carcinogenic (cancer-producing).

Health Advantage: As a nonsmoker, how concerned should one be about exposure to secondhand smoke? Is one at less risk around smoke for a short period of time (e.g., a night out at a bar) versus a longer period of time (e.g., living with a smoker)?

Dr. Raghavan: As a general rule, the more exposure you have, the more dangerous it is. Nonsmokers who are often around chronic smokers have a higher risk for negative effects on their health. Children who are around smokers have a higher incidence of sudden infant death syndrome, asthma and chest infection and are often behind in their milestones for growth. Adults can develop cardiovascular disease, stroke and several types of cancer.

Health Advantage: Has any research been done on the rates of smoking-related diseases in places where the laws already have been enacted?

Dr. Raghavan: There have been innumerable studies and they all say the same thing: Getting rid of smoke changes things fast and measurably for the better.

For information on the smoking cessation program offered by Cleveland Clinic’s Department of Psychiatry and Psychology, visit clevelandclinic.org/psychiatry/services/smoking.htm.

Health Essentials | Macular Degeneration

What you need to know for better health

Macular degeneration affects millions of older Americans each year. The exact cause of this eye disease is unknown and no cure exists. Factors such as smoking, exposure to direct sunlight over several years, a lack of certain vitamins and minerals and some medical conditions seem to make people more likely to develop macular degeneration. Some people are genetically predisposed to macular degeneration.

What is macular degeneration?

Macular degeneration, also known as age-related macular degeneration because it usually develops with age, is the deterioration of the small central portion of the retina (a thin lining on the inside back surface of the eye), known as the macula. When the macula deteriorates, it is less able to rid itself of waste products. This results in a thickening of some of the layers of the macula, which can result in vision problems. More specifically, macular degeneration results in loss of central vision, which can cause significant visual impairment.

Symptoms

Some symptoms that could be caused by macular degeneration include:

- a decline in the ability to see fine details when one is looking directly at an object, no matter how close or far away it is
- vision changes so that straight lines look wavy or broken
- dark spots, lines or shadows that appear across the middle of the field of vision

When these symptoms are caused by macular degeneration, they can occur in just one eye or in both eyes. Usually, the problem is noticed first in one eye.

If any of these symptoms occur, it is important to schedule an appointment with your ophthalmologist as soon as possible. An ophthalmologist will use a special instrument to look inside the eye for signs that the macula is changing.

Treatment

There is no cure for macular degeneration. Some treatments may slow the progression of the disease and loss of vision. These treatments may include vitamin supplements, laser therapies, medications and vision aids.

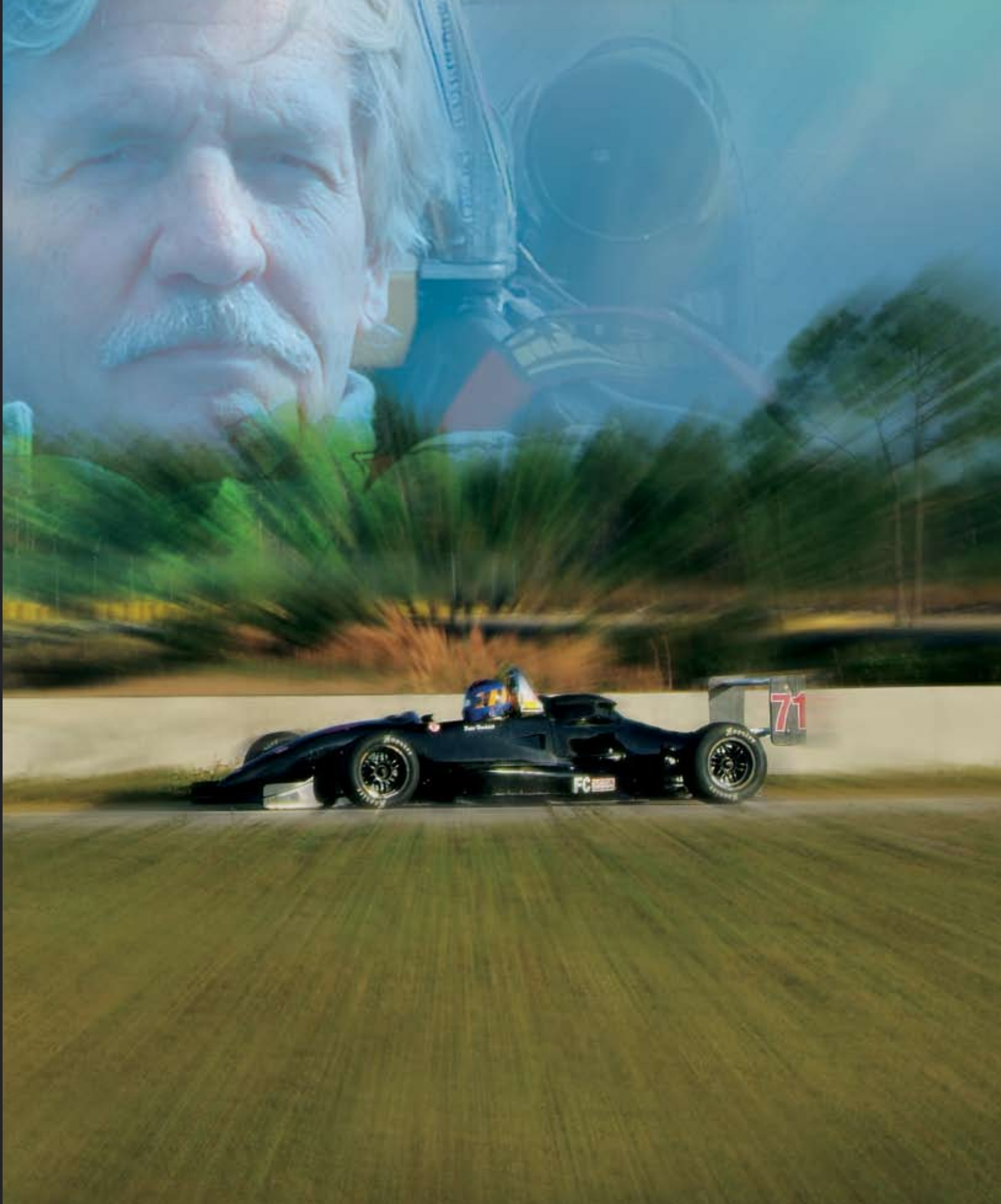
Your doctor may recommend you have frequent eye examinations to track how the disease is progressing.

About the Cole Eye Institute

The Cleveland Clinic Cole Eye Institute is a state-of-the-art eye care facility with world-class ophthalmologists specializing in eye disease. We diagnose and treat the entire spectrum of conditions of the eye, including eye diseases such as macular degeneration, cataracts, glaucoma and diabetic retinopathy. Our eye doctors offer such treatments as cataract surgery, injections with new drugs and eye surgery for age-related macular degeneration.

For more information or to schedule an appointment, call 800.884.9551 (If calling from outside of the United States, call 001.631.439.1578.)







Rounding THE Corner

With Heart Surgery Behind Him, Florida Man Enjoys Life in the Fast Lane Again

The roar of high-powered engines is deafening as more than a dozen colorful formula race cars speed around the asphalt track on a sunny winter Saturday in Palm Beach, Fla. Among the drivers is 61-year-old Peter Harholdt, who not so long ago thought his amateur racing career was in its last laps.

A museum photographer by profession who shoots for such prestigious institutions as the Smithsonian, the Carnegie Museums and the Louvre, Peter has been racing since he built his first car while a graduate student at Virginia Commonwealth University. But recently, a combination of a steadily worsening heart valve problem and a heart rhythm disturbance threatened to end his racing career – until he turned to the Cleveland Clinic Heart and Vascular Institute for help.

Congenital Heart Problems Became Bigger Issues with Age

Peter was born with mitral valve prolapse, a defect that prevents the valve – which controls blood flow between the heart’s left upper and lower chambers – from opening and closing properly. The valve’s inability to seal completely did not cause him any serious problems for more than 50 years. But as Peter got older, calcium deposits around the valve’s opening stiffened it, further inhibiting the valve’s ability to open and close and allowing more blood to leak backward into the heart’s upper chamber. Late in 2005, Peter also developed atrial fibrillation – a dangerously rapid heart rate – related to the mitral valve prolapse.

“I was working in France at the time and it was quite alarming to feel the abnormal heartbeats,” Peter recalls. Physicians in France prescribed medications, including a blood thinner, and advised him to have his heart valve repaired without delay.

Back at home and temporarily off the racing circuit due to the risks associated with the blood thinner, Peter started researching heart centers. He scanned the Internet and discussed his options with his Florida cardiologist.

“All roads led to Cleveland,” Peter says. “I discovered that Cleveland Clinic is ranked number one [in the United States] in heart surgery, but what really made me decide was when my doctor told me that he would go to Cleveland Clinic if he needed this surgery.”

Peter learned through his research that Cleveland Clinic specialists perform more procedures for atrial fibrillation and mitral valve prolapse than any other institution in the world – and with the world’s best outcome record. Cleveland Clinic physicians have pioneered most of the treatments that are now used around the world for these conditions.





On these pages: Peter Harholdt prepares for a race in Palm Beach, Fla., the last weekend in December.

Cleveland Clinic Could Help Restore Peter's Lifestyle

Peter met with Cleveland Clinic cardiovascular surgeon Marc Gillinov, M.D., to discuss his treatment plan. "In Peter's case, his mitral valve prolapse was threatening his life, and the atrial fibrillation was threatening his lifestyle," Dr. Gillinov says. He planned to repair Peter's leaky valve and use a technique known as the Maze procedure to correct the atrial fibrillation.

Used at Cleveland Clinic since the early 1990s, the Maze procedure involves disrupting abnormal heart rhythms by blocking their electrical pathways through the heart. In the early years of this procedure, surgeons created these conduction block lines by making tiny incisions in the heart muscle. With technologic advances, many of which were developed in conjunction with Cleveland Clinic, surgeons now create the conduction block lines without incisions by using microwave, laser, cryoablation (a freezing technique) or radiofrequency waves.

Simplifying the Maze procedure and eliminating the need for incisions have made it possible to combine it with other procedures such as valve repair, Dr. Gillinov explains. "Instead of the patient undergoing two major operations, we now do both procedures at the same time without any increased risk to the patient."



The second part of Peter's operation would be a repair of the mitral valve, one of the most common heart procedures performed at Cleveland Clinic. Repairing the valve is preferred over replacement, Dr. Gillinov explains, because it uses the patient's natural valve instead of a prosthetic valve.

"Although prosthetic valves function very well, they tend to attract the formation of dangerous blood clots. Patients who receive mechanical prosthetic valves must take medication to prevent blood clot formation," he says. Ninety-five percent of patients treated at Cleveland Clinic each year for mitral valve prolapse and mitral regurgitation are able to undergo valve repair instead of valve replacement.

'I Was Eager to Have this Taken Care Of'

Peter traveled to Cleveland with his wife and parents for the combined valve repair/Maze operation in November 2005, leaving his two daughters at home to manage his business and personal affairs in his absence. "I was eager to have this taken care of so I could get on with what I want to do," he says.

As a heart surgeon, Dr. Gillinov shared Peter's goal of getting his life back to normal as soon as possible. "We had two purposes for the surgery," he says. "We wanted to extend Peter's life and improve his quality of life so he could do whatever was important to him – and in his case, that includes racing."

After undergoing the dual procedures and an eight-day hospital stay, Peter recuperated at home. He returned to his busy and demanding photography business in January 2006.

Reaching the Finish Line

Not surprising for the lifelong race car driver, going back to work represented only the first step toward total recovery. It wasn't until his return to the racing circuit in July and his first postoperative win in November, Peter says, that he felt he had recovered completely.


Immersed once more in the world of racing with its adrenaline rush of competition, Peter plans to drive in 15 to 20 races this year. "I'm living proof," he says, "that life goes on after heart surgery." ■

Below: Peter Harholdt poses with his two daughters Sacha Lawrence, left, and Tara Lawrence.



Innovative Heart Surgery Helps Former FBI Agent

Cleveland Clinic Florida Surgeon Uses Robotic Techniques



Using robotic technology – a new innovation in surgery – heart surgeons can maneuver four thin robotic arms through small incisions in the chest that are no larger than the size of a pencil in diameter. Tiny instruments and a camera the size of a dime are attached to the robotic arms, which are manipulated by the surgeon from a computer console 10 feet away from the patient. The entire operation is performed via an image projected on a computer.

“Contrast this technique with conventional open heart surgery, where surgeons must cut open the chest and perform the operation by manually manipulating larger instruments and it’s a whole new ballgame,” says Douglas Boyd, M.D., Chief of Cardiothoracic Surgery at Cleveland Clinic Florida. In fact, it was the option of having this new type of surgery that sent Philip Carr, a former FBI agent, to see Dr. Boyd.

One day when his routine of exercise and speed walking was interrupted by burning in his chest and tingling in his arms, Philip headed straight to his physician at Cleveland Clinic. He consulted with several doctors before it was determined that he needed open heart bypass surgery. At first, he balked, remembering the stories his friends had shared about their open heart surgeries. “For one thing, they experienced intense pain every time they moved or coughed,” he says. “And the recovery was a long one.”

Philip, mentally tough and meticulous – holdover traits from his crime-fighting career and investigations – decided to look for other options.

What he found was a relatively new procedure that in some cases can be performed instead of traditional open heart surgery. The procedure, called robotic-assisted heart surgery, is a rapidly growing phenomenon in minimally invasive heart surgery.

Traditional open heart bypass surgery involves placing the patient on a heart-lung bypass machine to circulate oxygenated blood during surgery. The surgery is performed through a six-to-eight inch incision on a stopped heart. With minimally invasive bypass surgery, the surgery is done through an incision about three to four inches long. Depending on the technique, the surgeon may or may not stop the heart and use the heart-lung bypass machine. Because no bones are broken with minimally invasive surgery, there’s less pain, minimal scarring and a lower rate of complications. There’s also a faster recuperation period: After conventional heart surgery, it typically takes patients about three months to return to 80 percent normal. With minimally invasive surgery, they’re feeling better within days.

Using robots in minimally invasive surgical procedures allows surgeons to have better control over the surgical instruments and a better view of what they are doing.

“Robotic surgery makes it easier for surgeons to maneuver instruments,” explains Dr. Boyd, the heart surgeon to whom Philip was ultimately referred. “Using conventional, larger instruments through such tiny holes would be like trying to sign your name accurately while holding a foot-long pencil by the eraser,” he says. “The system also filters out human tremors and allows for more accurate surgery.”

Dr. Boyd is one of the world's leading experts in robotic-assisted surgery. Formerly the director of the National Center for Advanced Surgery and Robotics at the London Health Sciences Center in Ontario, Canada, Dr. Boyd completed the world's first closed-chest, beating-heart coronary artery bypass surgery in 1999.

Because Philip was fit and the targeted artery was on the surface of his heart, he was a good candidate for the procedure. Still, he didn't immediately agree to it. "I gave it a lot of thought," he says. "When [Dr. Boyd] told me that he was a pioneer of the procedure, both my daughter and my son-in-law, who is a research scientist, helped confirm this through Internet research. They also went along with me for a consultation."

Dr. Boyd reassured Philip that if he started the procedure and was unable to complete it with robotics, then he would opt for the usual open heart bypass surgery. Trying the robotic surgery first would not prevent a successful traditional surgery if that became necessary.

Philip had his robotic-assisted bypass on a Tuesday, had two stents implanted on Wednesday, and on Friday morning was released from the hospital. "The day after I got out I was walking 20 minutes twice a day," he says.

Dr. Boyd says Philip's recovery time is typical. "It's less invasive so it's less traumatic."

According to Dr. Boyd, the future of robotic-assisted surgery looks promising. "Because of today's technology and their active participation in video games, medical students have better video hand and eye coordination than we ever had. There will be a whole future of robotic surgeons better than my peers and me because they're being brought up with this kind of visual-motor processing. The new age of telesurgery is upon us." ■

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eCleveland Clinic

MyConsult Helped this Man Find Relief from Symptoms

MyConsult is an online second opinion service available for patients with life-threatening or life-altering diagnoses.

MyConsult User: Fred Santucci

Patient: Gene Santucci (Fred's father), 87; retired fireman; accomplished golfer

Hometown: Rochester, New York

Diagnosis: Gene was diagnosed with aortic stenosis (a narrowing of the aortic valve opening) and severe coronary artery disease five years ago

Initial treatment: When first diagnosed, Gene underwent cardiac double bypass surgery in Rochester. His aortic valve was not replaced because the disease was not expected to advance as rapidly as it did. Gene recently developed heart failure as a result of the progression of the aortic stenosis. He was scheduled to undergo a second open heart surgery to remove the valve; however, an infection delayed the surgery and Gene was transferred to a nursing home where he was treated with antibiotics and cardiac rehabilitation. Initially he got better, but within a year his condition worsened. Traditional open heart surgery was considered too high a risk in his case.

First experience with MyConsult: Gene's son Fred researched how he could help his father. He looked into Cleveland Clinic because he knew it was ranked among the best in the world for heart care. Fred found **MyConsult** on Cleveland Clinic's Web site, along with information on several treatment options. He was hoping he could find a newer, less invasive treatment option that would relieve his dad's symptoms and make him more comfortable. He said he was "really impressed" with the quick response he received – about five days after he submitted his request.

Second opinion provided by cardiothoracic surgeon Tomislav Mihaljevic, M.D., of the Cleveland Clinic Heart and Vascular Institute: Further evaluation would be needed but some minimally invasive procedures may be options in helping Gene. "They did not give me false hope," Fred says. In September, Gene and Fred visited Cleveland Clinic and met with Dr. Mihaljevic and cardiologist Samir Kapadia, M.D. After consultation, Dr. Mihaljevic determined that Gene was not a candidate for surgery at that time. Dr. Kapadia recommended a minimally invasive valvuloplasty (a valve repair procedure refined by Cleveland Clinic). The valvuloplasty could improve Gene's symptoms and possibly make him a better candidate for surgery in the future.

Fred's feelings about Cleveland Clinic: Although the valvuloplasty is not a permanent fix, Fred says his father is "in much better condition and has a significantly better quality of life" since it was done. Regarding his father's care at Cleveland Clinic, Fred says: "We just felt such a sense of comfort. Within 24 hours we had total confidence we were in the right place."

Get Connected!

In addition to second opinions, **MyConsult** allows you to evaluate your eligibility for a particular procedure or treatment or obtain a personal nutrition consultation.

Connect to **MyConsult** through eclevelandclinic.org

Spinal Surgery has Man from Guatemala Enjoying Retirement Again



Joe Novotny



When Joe Novotny retired to Guatemala City 10 years ago, he planned to spend his days golfing, fishing, swimming and accompanying his wife, Rosario, as she shopped all over the city.

“This is the best place in the world to retire,” Joe said with a smile. “The weather is good and the living is easy.” He turned over his Houston, Texas, real estate business to his son, packed his bags and never looked back.

But a couple of years ago, Joe’s active lifestyle came to a standstill. What began as numbness and cramping in his right leg soon became severe pain all along the right side of his body. Getting in and out of bed was excruciating. Walking two blocks was exhausting. He learned to shave with one hand because he needed the other hand to hold himself up.

Joe’s pain was caused by spinal stenosis, a common age-related degenerative condition in which bone spurs or degenerated disks compress the spinal nerves. His doctors tried physical therapy, oral medications and steroid injections into the spine, but nothing helped.

The only remaining option was surgery – and for that, Edgar Lopez, M.D., the attending physician for Joe in Guatemala, recommended Cleveland Clinic. Dr. Lopez has had a longstanding relationship with and commitment to Cleveland Clinic and has routinely participated in its international education programs.

“I knew it was a high-risk surgery but I had no doubt that the Clinic surgeons would be successful,” Joe said. “These guys are the best in North America. I felt good about it.”

The initial examination revealed a complication: The bone spurs had grown through the protective covering on the spinal cord.

“This meant that we had to reconstruct the spinal cord covering after cutting through the vertebrae and removing the spurs,” explained neurosurgeon William Bingaman, M.D.

After the complex procedure, which took pressure off his spine, Joe’s pain quickly disappeared. Just days after surgery, he headed back home to recuperate in sunny Guatemala.

Now, four months later, the 67-year-old’s life is once again full of outdoor activities – and shopping excursions with Rosario.

“The best thing is that I’m walking several miles every morning,” he said, beaming. “Walking gets everything going and makes my whole day flow better.”

Joe said his experience at Cleveland Clinic couldn’t have been better.

“The doctors really took time with me, the nurses were great and the collaboration among the staff was very smooth,” he said. “I plan to return to Cleveland Clinic for a check-up at least once a year from now on.”

For more information or to schedule an appointment, call 800.884.9551 (If calling from outside the United States, call 001.631.439.1578.) ■

Stent Surgery Leads to Healthier Lifestyle

Five years ago, Jack Speir of Atlanta was confronted with a life-threatening situation following an examination for kidney stones. X-rays revealed he had an aneurysm of the aorta measuring 7.8 cm in diameter – a critical size. Jack’s urologist arranged for immediate surgery.

During the preoperative exam, Jack’s doctors discovered another problem. His arteries were mostly blocked and a quadruple heart bypass would be necessary before they could perform the aneurysm surgery.

Without hesitation the bypass surgery was done, but because Jack was a heavy smoker who weighed more than 400 pounds, recovery was slow. His doctor hoped that he would improve enough in four to six weeks to undergo the aneurysm surgery.

Time passed without much improvement, though, and Jack was given a grave prognosis. During this time, Jack’s daughter Angela researched medical advances that could save her father’s life. She discovered new research on using stent grafts to repair aneurysms. She and her father discussed this treatment with a group of vascular surgeons in Georgia. The doctors felt Jack was not a candidate for this surgery because his right leg had been amputated years before and there was severe blockage in the supplying arteries.

Jack chose not to accept the group’s opinion and kept looking. He visited many vascular surgeons, and they all said that it could not be done. Still in pursuit of a solution, Angela discovered information on stent-graft research and procedures being conducted at Cleveland Clinic. Angela contacted the office of vascular surgery, and Roy Greenberg, M.D., agreed to evaluate her father. An appointment was scheduled and the two traveled to Cleveland.



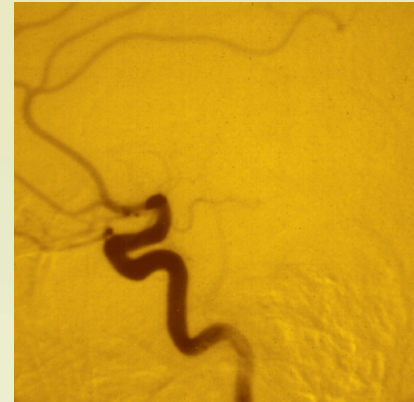
Jack Speir and his wife, June.

After a consultation and examination, Dr. Greenberg determined he could perform the life-saving operation. Jack had to do his part, too, and agreed to quit smoking and lose weight.

Dr. Greenberg successfully performed the procedure and the post-operative report was something Jack will always remember: “The stent-graft operation on your aneurysm was absolutely perfect.”

Jack, who recently celebrated his 70th birthday, has quit smoking and lost more than 140 pounds. He says words cannot express his appreciation to Cleveland Clinic and Dr. Greenberg.

Roy Greenberg, M.D., is a vascular surgeon who has been on staff at Cleveland Clinic since 1999. ■



About Aneurysms

An aneurysm is an abnormal widening or ballooning of a portion of an artery.

Aneurysms may rupture if they become too large, resulting in an extremely dangerous situation.

The exact cause of aneurysms is unknown, but risk factors include atherosclerosis (hardening of the arteries) and hypertension (high blood pressure). Abdominal aortic aneurysms may be caused by an infection, a congenital weakening of the connective tissue of the artery wall or from trauma.

For more information on aneurysms, visit the Cleveland Clinic Health Information Center: clevelandclinic.org/health. To make an appointment with a physician in the Cleveland Clinic Heart and Vascular Institute, call 800.884.9551. (If calling from outside the United States, call 001.631.439.1578.)

Global Patient Services

Thousands of patients each year travel to Cleveland Clinic from every state in the nation and more than 80 countries around the world. Global Patient Services is a full-service department dedicated to meeting the needs and requirements of both out-of-state and international patients who receive their care at Cleveland Clinic and Cleveland Clinic Florida.

The National Center and the International Center, which comprise Global Patient Services, provide facilitated access to appointments and professional services. Like the concierge at a fine hotel, the trained, expert concierge staff of Global Patient Services is available to assist out-of-state and international patients before, during and after their stay in Cleveland. Whether you need to be here for a day or a month, our staff will help arrange travel (with airline discounts when available) and hotel accommodations, provide interpreters for all clinical appointments, accompany you to your medical appointments, arrange any necessary transportation from your hotel and direct you to restaurants, car rental and other services or activities that you or your family members may desire.

After you have returned home, our staff is available to help coordinate follow-up appointments, facilitate communications with your Cleveland Clinic physicians and answer any non-medical questions that you might have.

If you are from the United States but outside of Ohio and would like more information about the medical concierge service, please call 800.223.2273, ext. 55580, weekdays between 8 a.m. and 5 p.m. (EST). You also can visit clevelandclinic.org and click on “visitor information” or e-mail your questions to medicalconcierge@ccf.org.

If you are a patient from outside the United States and would like more information about the International Center’s services, please call 216.444.6404 or visit clevelandclinic.org/gps/services.

Helping You Choose Quality Health Care

Cleveland Clinic offers a detailed guide on the Internet to help our patients make informed decisions about their healthcare options. You’ll find information on more than 20 medical and surgical specialties that explains the latest treatments and shows our results for many different procedures and surgeries. You’ll also find data on how Cleveland Clinic compares to other healthcare centers, our patient satisfaction ratings and points to consider in evaluating quality care at different medical centers.

We hope this information will help you make better choices and participate more fully in your own care. To access our quality and results information, visit clevelandclinic.org/quality.

Obtaining a Second Opinion from Home

If you have access to the Internet, you have access to Cleveland Clinic’s world-class physicians. With **MyConsult**, our electronic medical second opinion request, you can obtain a personal, confidential consultation from a Cleveland Clinic expert from anywhere in the world. All information you submit online is secure and confidential and can be read only by you and Cleveland Clinic.

Resources

General Information

For general information about Cleveland Clinic's services, physicians and news, visit clevelandclinic.org or call 216.444.2200 or toll-free 800.223.2273.

Cleveland Clinic Florida

For information about Cleveland Clinic Florida located in Weston (near Ft. Lauderdale), visit clevelandclinic.org/florida or call 954.659.5124 or toll-free 877.463.2010.

Cleveland Clinic Canada

For information about Cleveland Clinic Canada, visit clevelandcliniccanada.com or call 416.507.6600 or toll-free 888.507.6885.

Health Information

To subscribe to Health Extra, our free online health newsletter, visit clevelandclinic.org/healthextra. For health information, visit clevelandclinic.org/health.

Quality Measures

For information on the criteria most often used to measure quality in healthcare, visit clevelandclinic.org/quality.

You will need a copy of your medical record before you begin, and you will be required to send this information to Cleveland Clinic in the United States.

Follow these steps to obtain a consultation:

- Go to elevelandclinic.org and select MyConsult from menu
- Select Remote Second Opinion from MyConsult menu

Please note: Once you have selected the Remote Second Opinion information link, we suggest reading through each of the "Topics to be reviewed before starting" in order to gain a thorough understanding of the online medical second opinion service and process. Please pay special attention to the "Frequently Asked Questions," which cover our service in depth. Once you have read through each of the topics, the process of registering should be simplified for you.

Next Steps:

- Select "Click Here to Register" (No Social Security number needed for international patients)
- Fill out the questionnaire and follow the instructions

You will receive your second opinion within approximately 10 business days after your medical record is received at Cleveland Clinic. We'll send you an e-mail when your opinion is ready for review online, and we will mail you a hard copy of the physician's medical second opinion report approximately one week after the consultation is complete.

If you require additional information, please contact us by phone at 800.223.2273, ext 43223, or e-mail us at elevelandclinic@ccf.org.

Hotel Accommodations Conveniently

Located on the Cleveland Clinic Campus in Cleveland

The Cleveland Clinic Guesthouse offers 232 large guestrooms with special furnishings and amenities designed for extended stays.

The InterContinental Hotel and Bank of America Conference Center features 300 luxury guestrooms, including 29 suites, two specialty restaurants, two lounges and a fitness center.

The InterContinental Suites Hotel offers 163 beautifully appointed suites that include a living room, dining area, microwave and refrigerator.

For reservations at any of these facilities, call 216.707.4100 or toll-free 877.707.8999. Out-of-state patients from the United States also may call 800.223.2273, ext. 55580. Patients outside of the United States may call 216.444.6404 for assistance.

Cleveland Clinic CD-ROM Available

Learn more about Cleveland Clinic by viewing a CD-ROM that contains informative videos, overviews, Web links and downloadable documents regarding:

- Cleveland Clinic
- Cleveland Clinic Florida
- Global Patient Services
- Second Opinions
- Cleveland, Ohio

To request a complimentary copy of the CD-ROM, call toll-free 800.884.9551. (If calling from outside of the United States, call 001.631.439.1578.)

The New Heart of Cleveland Clinic



Construction is under way for a new Heart and Vascular Institute facility at Cleveland Clinic. Scheduled to open in 2008, the new center will provide a comprehensive model of care where patient care, research and education are offered in one location.

clevelandclinic.org/heartcenter

The 10-story hospital tower and technology center will feature:

The Sydell and Arnold Miller Family Pavilion: The new gateway and main entrance to Cleveland Clinic. The Sydell and Arnold Miller Family Pavilion will feature outpatient diagnostic facilities including 115 examination rooms and 170 physician offices. There also will be laboratories and other clinical facilities to support our many specialty areas.

Technology Building: Surgeons and cardiologists will carry out complex and highly technical procedures, and patients will receive around-the-clock intensive care. The Technology Building will feature:

- 16 cardiothoracic operating rooms
- 12 cardiac catheterization labs
- 8 electrophysiology labs
- combined catheterization, electrophysiology, surgery preparation and recovery area
- a hospital unit for patients to recover from same-day procedures
- 4 specialized intensive care units, including a coronary intensive care unit, a heart failure intensive care unit and two surgical intensive care units
- cardiac radiology and nuclear medicine facilities

Hospital Tower: Inpatient facilities featuring 288 hospital beds (most in private rooms), with a focus on amenities that promote our “healing hospitality” concept for patient care.

Fully-equipped conference center: Telemedicine, satellite video and digital imaging capabilities to enable doctors from around the world to meet, confer and share knowledge. ■



The Cleveland Clinic Foundation
9500 Euclid Avenue / W14
Cleveland, OH 44195

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