

Q & A

featuring:
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What is the latest protocol for continuing or discontinuing Plavix?

Plavix (Clopidogrel bisulfate) is an important pharmacological treatment for patients who have received bare-metal or drug-eluting stents. This drug is highly effective in preventing the formation of clots in stents after percutaneous transluminal angioplasty. Plavix should generally be continued for one year after the placement of a drug-eluting stent because of the high incidence of acute thrombotic occlusions. When reviewing a patient's medications prior to elective surgical procedures, it is important to determine why Plavix was originally prescribed and, if it was related to a stent, what is the length of time the patient has been on the drug.

LOOK INSIDE:

Lourdes first in state to treat coronary blockages with excimer laser.

PVD: Oft-Missed Diagnosis Yielding to Laser Treatment

Widely acknowledged as one of most overlooked ailments in the United States, peripheral vascular disease (PVD) causes untold debilitation among the millions in this country—and yet, new interventions are making it increasingly amenable to care. Lourdes' new laser vascular laboratory, for example, offers patients the most advanced option available for reopening blocked peripheral vessels.

"PVD patients are often treated for neuropathy or arthritis because no one has checked for a pulse in the extremity," says Lourdes' interventional cardiologist **Timothy Morris, DO**, a member of the South Jersey Heart Group. Readily confirmable by measuring blood pressures in these locations and through angiography, peripheral vascular blockages are accompanied by coronary artery disease in about 70 percent of patients.

"Atherosclerosis of the vascular tree rarely occurs in just one location," notes Morris. In addition, PVD in the legs hinders patients from exercise, exacerbating both conditions.

Interventionalists have been approaching blockages in extremities much as they do in coronary arteries, but they can now do so with the added advantage of the endovascular laser. If the specialists are unable to traverse the blockage with a guide wire, the new excimer laser catheter can vaporize plaque in the blockage to create the needed opening (under careful, angiographic monitoring). Typically, then, the team follows with balloon angioplasty and vascular stents, an approach that is well established for these types of obstructions.

"With the laser as an option for creating an opening, we can successfully treat a much higher percentage of patients," explains

Morris, who also notes that, although the initial safety experience with peripheral lasers, starting 20 years ago, was unfavorable, today's cooled, pulsed lasers result in only a one-percent perforation rate. Furthermore, the laser-supported technique allows the interventional team to treat heavily calcified blockages and to traverse long blockages (whereas, in the past, many such obstructions could not be penetrated).

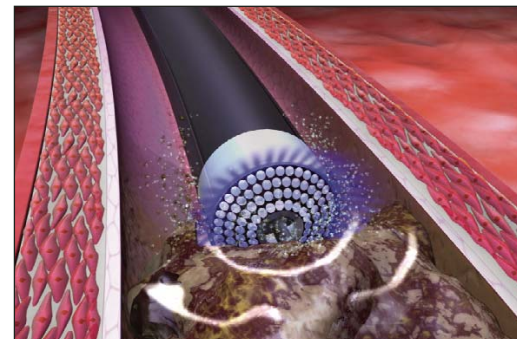


Image courtesy Spectranetics

The excimer laser's wavelength is optimized to destroy complex lesions that include calcifications. The tool uses photomechanical (kinetic) energy with a safe, vibratory impact that lasts only a hundred-millionths of a second and that leaves only water, gas and small particles as byproducts of the vaporization.

"PVD cases are some of the most gratifying to perform, especially with the use of this tool," says Morris. "With successful PVD treatment, we can restore function in patients who have not been able to walk for years – and that's using a minimally invasive procedure for a problem that would otherwise require open vascular surgery."

■ For more information, or to refer a patient, contact the New Jersey Heart Institute: 856-365-4072.



Nearly 100 cardiologists and cardiovascular surgeons staff the New Jersey Heart Institute at Lourdes, one of the largest providers of cardiac services in the Delaware Valley. The NJHI team evaluates and cares for cardiac problems using a complete array of the latest and most innovative techniques and interventions. NJHI's staff conducts cardiac catheterization at labs at Our Lady of Lourdes Medical Center, Lourdes Medical Center of Burlington County and Kennedy Memorial Hospital in Cherry Hill. NJHI also offers peripheral angioplasty and open-heart surgery, as well as comprehensive options for heart rhythm disorders. It provides advanced heart failure treatment and cardiac rehabilitation and pursues a broad range of research activities. For more information or to find a Lourdes cardiologist, call the NJHI at 856-365-4072 or go to www.lourdesnet.org.

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Cardiac Surgery at Lourdes: An Inside View

Our Lady of Lourdes Medical Center has long been among the region's foremost providers of heart care, and once again, the hospital has been recognized for its superior service by HealthGrades®, a nationally recognized agency in grading and reporting health-care quality. The hospital is a recipient of the HealthGrades Coronary Intervention Excellence Award™ in 2009. In addition, it received:

- five-stars for coronary bypass surgery (the highest possible rating), the treatment of heart failure, coronary intervention procedures and carotid surgery;
- top-five ranking in New Jersey for coronary interventional procedures as well as vascular surgery (ranked second in the state);
- top-six ranking for cardiac surgery and cardiology programs.

Noting the strong performance in the area of cardiovascular surgery, *Cardiology Log* asked Brian Priest, MD, director of the division of cardiovascular surgery, what specific factors have been of greatest importance in achieving and maintaining Lourdes' outstanding ratings.

What overriding philosophy drives quality assessment and improvement in your program?

With our high level of experience and collaborative efforts, we have reduced complications and mortality, while tackling cases in recent years that are typically more difficult. We have standardized protocols through teamwork involving surgeons, cardiologists, consultants, nurses and allied health staff.

What steps have improved results for CABG patients?

More—in fact, most—patients receive arterial grafts rather than saphenous vein grafts. Making maximal use of internal mammary and radial artery grafts, we see improvement in initial outcomes, and can also expect a greater degree of long-term graft patency.

What about improvements for patients who need valve surgery?

The greatest change is in the approach to mitral valve disease—with mitral valve repair, rather than



The current HealthGrades rankings recognize Our Lady of Lourdes Medical Center for exceptional clinical achievements in cardiac and cardiac-surgery services. Shown here, performing coronary bypass surgery, is Joseph A. Kuchler, MD, one of Lourdes' cardiothoracic surgeons.

replacement, becoming the standard of care. More than 85 percent of our mitral valve patients undergoing procedures receive valve repair, a percentage that is on par with top heart centers in the world.

What other advances have been important?

We have dramatically reduced the incidence of postoperative neurologic, pulmonary and renal complications, in part through standardized preoperative assessment and postoperative care. In many cases, off-pump surgery is selected for high-risk patients. In addition, we have reduced our leg-wound infection rate to almost zero by adopting minimally invasive vein harvesting, which also allows patients to become ambulatory more quickly.

Where do you see cardiovascular surgery going in the next ten years?

As less-invasive techniques, including keyhole surgery, continue to improve, we will be able to safely offer surgery to an increasing number of patients. Operations considered relatively routine will also become easier to undergo. Likely, collaboration between interventional cardiologists and cardiothoracic surgeons will increase.

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clinical pearls

Migraines: Headache to Heartache?

A 15-year study of 20,000 men found that 7 percent suffered from migraines and that men in that subset were 42 percent more likely to experience a heart attack during the period of the study, which followed patients for a mean of 15.7 years. All subjects were otherwise healthy and free of cardiovascular disease initially. Conducted by Brigham & Women's Hospital, the study follows on other findings of a link between migraine and cardiovascular disease (including coronary events) in women. The association with MIs was not present for nonmigraine headaches. Researchers do not yet know the basis of the correlation.

Source: Archives of Internal Medicine, April 23, 2007

In Heart Failure: Maintain and Monitor Potassium

Potassium maintenance is a factor in heart health; however, the link between low potassium levels and cardiac outcomes is not well documented. A recent study, led by the University of Alabama, of nearly 7,000 heart failure patients, demonstrated that about 17 percent of the group had low serum potassium (< 4 mEq/L) and that this status led not just to a tendency toward increased hospitalization but also to significantly increased mortality.

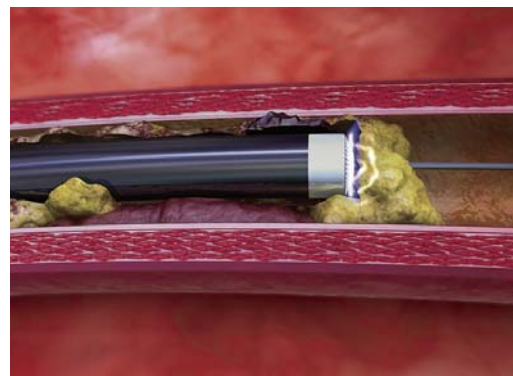
The authors recommended that, in considering diuretic therapy for HF patients, physicians give preference to potassium-sparing diuretics. Commentary also suggested patients requiring thiazide or loop diuretics, eat potassium-rich foods, which include many types of vegetables, legumes, fruits, seafood, and soy-based and dairy products. Better yet, if HF patients don't suffer from significant fluid retention, they may not need a diuretic at all.

The findings pointed up the importance for HF patients of having their potassium levels checked every three-to-six months. The step is also a safeguard against overly high potassium levels, which can contribute to cardiac arrhythmia.

Sources: Harvard Heart Letter, September 2007 & European Heart Journal, July 1, 2007

Lourdes First in NJ to Treat Coronary Blockages with Excimer Laser

Stenosis or blockage in coronary arteries can often present such difficult obstructions that, during catheterization, cardiologists cannot pass a guide wire past the plaque in order to apply angioplasty to the narrowed or occluded area. Typically, of course, this has meant that the team must send the patient for open, bypass-graft surgery.



The new "cool" laser disintegrates plaque into harmless byproducts, permitting the interventionalist to traverse the location with a catheter and then expand it with angioplasty.

A new tool, though, permits interventional cardiologists to treat a greater percentage of these patients—those with a coronary blockage that, because of shape, size, extent or type, proves resistant to catheter penetration. Our Lady of Lourdes Medical Center has recently begun using this excimer laser to vaporize small passages through such challenging coronary blockages—a first in New Jersey.

"You get a nice opening in the blood vessel and you don't have to worry about any remaining plaque going downstream," says Timothy Morris, DO, one of the Lourdes cardiologists who has used the specially cooled laser. "The balloon and stent can then be deployed."

Long or heavily calcified areas of coronary stenosis can make such atherectomy necessary. Specialists have also established the excimer laser for treating peripheral vascular disease (See back cover.)

■ For more information, or to refer a patient, contact the New Jersey Heart Institute at Lourdes: 856-365-4072.

Yoga & Relaxation Improve Rehab

Advanced centers are including alternative therapies in cardiac rehabilitation, and Lourdes is helping to lead the way in the Delaware Valley. By providing yoga and relaxation therapy, Lourdes' staff addresses the stress response that can affect heart health and healing.

"Some people don't know how to relax, and it can undermine treatments," says Maryann Classick-Wallace, R.N., B.S.N., director of cardiac rehabilitation at Lourdes. Her department introduces every heart patient to yoga class and to relaxation therapy. Patients split their visits between these complimentary approaches and more conventional exercise- and diet-based rehabilitation.

The Lourdes staff has pioneered a holistic approach to rehabilitation over a long period, built upon research conducted in the department years ago. Today, it provides this aspect as part of a comprehensive program, delivered in a safe, monitored, medical environment.

"The techniques reverse overactivation of the sympathetic nervous system and place patients back into parasympathetic dominance," explains registered yoga instructor Michelle Carlino, CYT, ERYT500,CR, who has been



After surgery or other cardiac care, Lourdes patients enjoy a six-week program of yoga and relaxation therapy. Staff members encourage and assist them in incorporating some form of such therapies in their everyday lives.

teaching the therapies for 20 years and who developed the program at Lourdes. "Patients can't rebuild in states of heightened arousal, whereas they rebound better in a state of relaxation. For example, we often see a normalization of blood pressure after one session."

■ For more information, or to refer a patient, call Lourdes' Cardiac Rehabilitation Program at: 856-757-3752.

CASE STUDY

Valve Repair Cures Mitral Regurgitation

Valve repair in the hands of an experienced surgical team is a safe, durable treatment that returns quality of life to patients. A Lourdes cardiovascular team led by Joseph Kuchler, MD, recently cared for a 62-year-old man who had a history of a heart murmur. His symptoms included shortness of breath, fatigue, chest discomfort and palpitations.

Examination revealed a loud systolic murmur, indicative of severe mitral regurgitation. Transesophageal echocardiography (TEE) at Our Lady of Lourdes Medical Center demonstrated prolapse of the middle scallop of the posterior leaflet of the valve.

increasingly on repairing the natural valve rather than replacing it, when possible. Although valve repair is more technically challenging than valve replacement, the approach results in less mortality, fewer complications and no need for permanent Coumadin therapy.

In the operating room at Lourdes, the surgical team placed this patient on cardiopulmonary bypass, established TEE, created open surgical access to the heart and confirmed the previous diagnosis of the valve visually. The surgeon performed a quadrangular resection (see figure below left) of the prolapsed portion of the

at a five-week, follow-up visit reported feeling well and no longer suffering from shortness of breath. Physical examination revealed no evidence of residual murmur.

The patient was able to resume normal activities (other than strenuous physical ones) in eight weeks, and became fully physically active (except for strenuous lifting) by three months after surgery. After completing rehabilitation, he returned to his job as a postal worker.

The majority of patients with mitral regurgitation due to degenerative disease are amenable to repair. Only in cases where the mitral valve



Illustration shows a mitral valve with quadrangular resection in the lower center of the image.

The cause was fibroelastic deficiency, a degenerative condition most common in older individuals. The tendonlike cords supporting the valve become extended and the valve leaflet loses its form. With the mitral valve not closing tightly, retrograde flow into the left atrium was increasing congestion in the patient's lungs.

For deficient valves requiring treatment, the emphasis today is

posterior leaflet and reconstructed the leaflet, placing an annuloplasty ring (Dacron physio ring, see figure above right) to support the repair. At the end of the procedure, TEE confirmed that there was no residual leak.

The patient recovered for two days in the cardiac intensive-care unit and for several additional days in a progressive cardiac-care unit. He could ambulate upon returning home, and

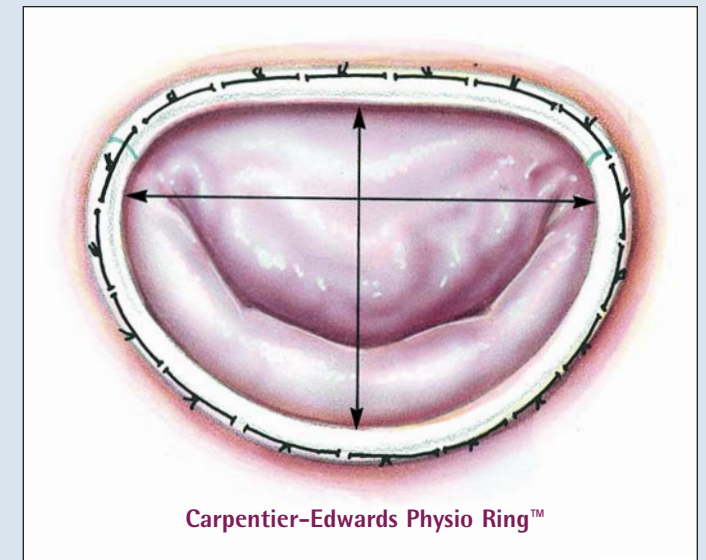


Illustration shows repaired, healed, mitral valve with an artificial valve ring in place to maintain patency of valve opening.

is severely diseased will the team recommend replacement with a mechanical or bioprosthetic valve. Preserving the patient's own valve offers the best long-term outcome, and patients such as this one can expect their repair to be a lifelong one.

■ For more information, or to refer a patient, contact the New Jersey Heart Institute: 856-365-4072.

Images courtesy Edwards Lifesciences, Irvine, Cal.