

**Vision Statement**

In conjunction with the Sisters of Mercy, our cardiovascular care team is dedicated to providing patients with compassionate, quality, cost-effective care through state-of-the-art advancements in research, diagnostic screening, surgical and interventional procedures, clinical education and preventive/wellness programs for the improvement of cardiovascular health.

**Cardiac Monitor — a resource for you**

Distribution of *Cardiac Monitor* is intended for cardiologists and primary care physicians. The information included in this newsletter is provided as an educational service. Mercy Heart Institute respects your privacy. If you prefer not to receive any further communications from us, please send a brief note to Candice Brooks, Mercy Heart Institute, 3939 J Street, Suite 220, Sacramento, CA 95819, and include the mailing label from this newsletter if possible. It may take up to 30 days to process your request.

**Medical therapy or PCI for stable coronary artery disease?**

*By Michael Chang, MD, Medical Director of Cardiovascular Services, Mercy Heart Institute*

With the publication of the COURAGE trial several months ago, and resulting coverage by mainstream media including *The Sacramento Bee*, many physicians want more information before making judgment calls about treating a patient with coronary artery blockage.

The Clinical Outcomes Utilizing Revascularization and Aggressive Drug Evaluation study, also known as COURAGE, concluded that percutaneous coronary intervention (PCI) did not reduce the risk of death, myocardial infarction or other major cardiovascular events when added to optimal medical therapy alone.

While medical therapies have improved throughout the past several years, interventional technology has also improved with the advent of drug eluting stents and other therapies. The most important factor in deciding treatment is evaluating the stability of the patient.

Unfortunately, some media reports jumped to the conclusion that COURAGE research shows stents may no longer be a necessity — causing some doctors to reconsider their course of treatment, while a number of patients have declined to proceed with a recommended stent.

It is important to note that all of the patients in the COURAGE study were *very stable* CAD patients. By definition, this population is doing well with medication and lifestyle management and will not need an interventional procedure. Patients with unstable CAD were excluded from the study.

The majority of patients treated in Mercy’s Cath Labs have *unstable* CAD, such as heart attack, heart failure or arrhythmia. Many of these patients come through the Emergency Department or are new patients who present in the cardiologist’s office with onset or

worsening chest pain. For these unstable CAD patients, intervention is often the best course of treatment.

Another factor in the overall results of the COURAGE trial may be the use of bare metal stents in the PCI group, which have been documented to cause a higher rate of restenosis than more successful drug-eluting stents.

Considering the fact that only very stable CAD patients were analyzed in the study, the results are as expected. Mercy Heart Institute supports stabilizing CAD patients with medical therapy whenever appropriate and provides ongoing cardiovascular disease management programs to help patients prevent future disease development or progression.

The single most important factor for patients with stable CAD is to ensure they are on the right medications, particularly the use of statins in the aggressive treatment of cholesterol, which makes a significant impact in managing heart disease.

Physicians should consider PCI for patients who experience worsening chest pain, new pain, more frequent pain, or pain that does not go away with nitroglycerin. A cardiac catheterization or other diagnostic test can confirm if further intervention is necessary.

**For CAD management, Mercy Heart Institute recommends:**

- a. Stable patients: Appropriate medications — particularly statins — with recommended lifestyle changes
- b. Unstable patients: Aggressive treatment, including intervention and therapies beyond medication

**Mercy Heart Institute  
Cardiologists and  
Cardiac Surgeons**Michael L. Chang, MD,  
Medical Director**Cardiac Electrophysiologists**Padraig G. O'Neill, MD  
Arjun D. Sharma, MD  
Stephen I. Stark, MD  
Larry J. Wolff, MD**Cardiac Surgeons**John R. Dein, MD  
Allen S. Morris, MD  
Richard J. Kaplon, MD  
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Vice President**CARDIOLOGY  
AND PRIMARY  
CARE****Volume remains brisk in Mercy Cath Labs***By Scott Brunton, Manager, Cardiac Cath/EP Labs, Mercy General Hospital*

Regardless of the recent release of the COURAGE trial results, which questioned the necessity of cardiac intervention in patients with stable coronary artery disease (CAD), Mercy's cardiac catheterization labs remain very busy diagnosing and treating a wide range of cardiac patients.

At Mercy, a highly complex subset of patients exists alongside more stable cardiac patients. As a tertiary referral center that deals with a large volume of interventions, the methodology of care already follows the guidelines recommended in the outcome of the COURAGE study. Patients who have maximized their medical therapies and have progressively worse symptoms often undergo invasive intervention for treatment. Volumes at Mercy General Hospital and Mercy San Juan Medical Center have not decreased since the release of the study and are expected to continue to grow.

Mercy cardiologists continue to treat patients as needed with the common therapy of stents. This includes the drug eluting platforms as well as the bare metal platforms. Each kind of stent has its place in patient care, which is dictated by the patient's current presentation and future needs. Cardiac stents are still a very viable and beneficial therapy for patients. In fact, combining a stent with adjusted medical therapy has proven to have tremendously beneficial outcomes.

In addition to stents, Mercy utilizes the full gamut of interventional techniques available to cardiologists. Again, the therapies utilized are dictated by the patient's pathophysiology and presentation at the time of the intervention. Mercy does not automatically

intervene invasively on all patients. With findings from invasive diagnostic testing, Mercy physicians do a superb job at making decisions on how to treat the patients. At times, the recommended treatment will be medical management, while other conditions lead cardiologists to choose to intervene mechanically. Some of the therapies applied are: thrombectomy, atherectomy, balloon angioplasty and various other specific techniques.

Mercy General Hospital opened a third cardiac cath lab in summer 2006 and since that time business for cardiac cath and peripheral interventions continues to grow. With the latest technology available in the cath labs, such as 3-D reconstruction of the cardiac anatomy with the 64-slice scanner, the ability of cardiologists to effectively apply therapy is greatly enhanced. Also, the ability to have "spin" technology, which reproduces a CT-like image of the coronaries or peripheral vasculature, enables physicians to make a more complete diagnosis. Approximately 50% of the procedures in Mercy cath labs are interventional.

Finally, Mercy continues to participate in research that make a significant difference in how the future of cardiac patient care evolves. Mercy General currently completed enrolling 16 patients in the pivotal AMIHOT II Trial. The trial results are scheduled to be announced this year and will be a very exciting time for the company as they are expecting significant improvements in wall motion for the treatment group. So far no other Acute MI trial has shown statistically significant improvements in outcomes.

**Mercy Heart Institute welcomes new cardiac surgeon**

**Henry Le-qian Zhu, MD**, has joined Mercy Heart Institute's team of cardiac surgeons. Dr. Zhu comes to Mercy from California Pacific Medical Center (CPMC) in San Francisco. He served as a cardiac surgeon both at CPMC and Marin General Hospital in neighboring Greenbrae. Prior to that he was a clinical instructor at Stanford University

Medical Center. Dr. Zhu received his medical degree from Harvard Medical School and Massachusetts Institute of Technology. He completed his residency at the University of Pennsylvania Health System. He is board certified in surgery and thoracic surgery. Welcome, Dr. Zhu!

## Use of medication management in stable CAD patients

By James Palmieri, PharmD, Clinical Pharmacist

The recently published COURAGE trial made the controversial observation that the addition of percutaneous coronary intervention (PCI) to optimal medical management affords no significant morbidity or mortality advantage over optimized medical management alone for patients with stable coronary artery disease (CAD). While this study may have significant ramifications, it is clear that more work will be required in this area to define the role of PCI for avoiding cardiovascular events in these stable patients. Regardless, the study's implication is that optimized medical management is a cornerstone in the treatment of patients with stable CAD. This logically extends to unstable patients who undergo PCI as well.

A variety of treatment guidelines are available to assist clinicians in identifying and reaching treatment targets for hypertension, hyperlipidemia, ischemia, chronic kidney disease and diabetes mellitus, each identified as risk factors for, or sequelae of, CAD. Each of these guidelines contains a combination of pharmacologic and lifestyle management strategies to reduce cardiovascular risk. These guidelines often establish risk strata so that, for instance, the goals of blood pressure and lipid levels vary based on the individual patient's inherent risk for subsequent coronary events. The guidelines are an important clinical tool to aid practitioners in reducing patient risk.

Anti-thrombotic therapy with aspirin 81-325mg daily is recommended for all patients at risk for a cardiovascular event who can tolerate it. Alternatively, clopidogrel 75mg daily may be used in the presence of aspirin allergy. Anti-ischemic therapy may include a beta blocker, calcium channel blocker, a nitrate or some combination. If a patient has experienced a myocardial infarction, both a beta blocker and angiotensin converting-enzyme inhibitor (or angiotensin receptor blocker in those who are ACE-I intolerant) are used. Management of diabetes mellitus involves a tailored regimen of hypoglycemic agents to achieve a Hemoglobin A1c value less than 7%. And aggressive lipid management, preferably using a statin alone, or in combination with other lipid-lowering agents, involves targeting LDL-C to less than 100mg/dL, or optionally to less than 70mg/dL in those with CAD who are at highest risk for a cardiovascular event.

Combining these pharmacologic treatment modalities with appropriate lifestyle modification will help to prevent CAD sequelae in your patients. Utilizing appropriate treatment guidelines will help you stay on track toward optimizing therapy strategy.

### Medication aims to reduce ischemia injury during CABG surgery

Mercy Heart Institute is involved in a leading-edge clinical trial sponsored by Medicure International called MEND CABG II, which involves the use of an investigational medication for patients undergoing cardiopulmonary bypass surgery (CABG). The purpose of the study is to see if the medication, called MC-1, can prevent or reduce tissue damage during ischemia and reperfusion while the patient is undergoing CABG surgery.

CABG surgery is one of the top 10 most frequently performed procedures in North America and Europe. While CABG surgery effectively relieves angina and results in longer survival, patients may still experience significant ischemia and ischemia-reperfusion injury during the procedure. This injury can lead to subsequent MI and death. In addition, cerebral ischemic injury and cognitive impairment are serious and frequently occurring complications of CABG surgery. There is supportive data suggesting that MC-1 — a naturally occurring metabolite of pyridoxine (vitamin B6) — may protect cardiac and brain tissue when administered to individual patients experiencing ischemia and reperfusion due to CABG surgery.

Patients in the study are randomized to receive MC-1 250mg/day or placebo, beginning prior to CABG surgery and continuing for 30 days post-operative. Patients return for post-operative blood draws to assess CPK-MB, as well as follow-up assessments.

### Newsorthy

#### Mercy hospitals named in nation's 100 Top Hospitals

Earlier this year, Mercy General Hospital and Mercy San Juan Medical Center were named two of the nation's 100 Top Hospitals, with only two other California hospitals receiving this designation from Solucient, an information products company that provides information to help hospitals improve overall performance.

Mercy General Hospital was also named one of Solucient's 100 Top Hospitals in the Cardiovascular Benchmarks for Success report. Mercy General is one of just two hospitals in California to be included in the 2006 list and the only hospital in the greater Sacramento area.

"These 100 Top Hospital honors serve as an incredible tribute to the Mercy physicians, staff and volunteers who focus every day on providing excellent care to our patients," says Denny Powell, President, Mercy General Hospital. "We thank each of them for delivering the best in patient care and are proud of their dedication to the healthcare of our community."

For the complete list of winning hospitals for 2006, visit [100tophospitals.com](http://100tophospitals.com).

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*17th Annual Cardiology Symposium 2007:  
Concepts & Controversies*  
Scott Baron, MD and Richard Kaplon, MD  
Oct. 19-20, 2007  
Hyatt Regency Sacramento  
Call 916.733.6966 for information

**Referral Resources**

The following Mercy programs are available for physicians to refer their patients for help managing heart disease.

Heart Smart and CHAMP™	(916) 564-2880
Anticoagulation Clinic	(916) 733-5350
Cardiac Conditioning:	
Mercy General Hospital	(916) 453-4521
Mercy San Juan Hospital	(916) 537-5296
Smoking Cessation	(916) 453-4927
Mercy Mall Walk Program	(916) 564-2880
ICD Support Group	(916) 733-6966
Mended Hearts Support Group	(916) 773-5263

**American Heart Association  
Heart Walk**

*Sept. 22  
William Land Park*



**2007 Cardiovascular Nursing Update**

Mercy Heart Institute sponsored the fifth annual Cardiovascular Nursing Update on April 20 at the Sacramento Hilton. More than 120 people attended to hear the latest research and advances in cardiac care from Mercy physicians such as Cardiac Surgeon Stephen Rossiter, MD.



Mercy Heart Institute  
3939 J Street  
Suite 220  
Sacramento, CA  
95819-3633

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