

Clinical Update

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John Muir Health

Physician News

SERVICE LINE SPOTLIGHT:

Cardiovascular State of the Art: Cutting-Edge Technologies and Research Studies

For this month's Spotlight, JMHPN attended a recent lecture by Gary Gershony, MD, interventional cardiologist and Director of Cardiovascular Research, Education and Technology, to get an update on what's new and exciting in this area.

"The past five years have brought breathtaking change in cardiovascular service line offerings at John Muir Health. I couldn't be more excited to have the privilege of participating in this field," says Dr. Gershony. "When you talk about what we are able to provide now to our patients, it's truly amazing."

"The cardiovascular program at John Muir Health is truly unique. We are so fortunate to have such a talented team of physicians and staff who are laser-focused on innovation, quality and delivering a superb patient experience," says Kim Burch, Executive Director of Cardiovascular Services. "Several years back we set a vision to be the preeminent cardiovascular program in Northern California and developed a strategic plan focused on this vision. We have not wavered from our plan, continually adding new services, bringing the most advanced technology to the community and always improving outcomes and the patient experience."

In his presentation, Dr. Gershony detailed three new procedures that we use to treat our patients, and touched on some of the clinical research studies that have put John Muir Health on the map in terms of participation in national and international cardiovascular trials.

TAVR: Transcatheter Aortic Valve Replacement

This minimally-invasive procedure helps patients with severe aortic stenosis (a narrowed aortic valve) who are not able to have traditional open heart surgery-- or who are at very high risk. The procedure delivers a replacement bioprosthetic aortic valve into the old damaged valve's place, via a balloon-expandable device, through a catheter usually placed percutaneously into the femoral artery.

"About 3 ½ years ago, we first started performing this procedure, bringing together interventional cardiologists, cardiac surgeons, imaging cardiologists, cardiac anesthesiologists, interventional radiologists, and valve clinic RNs," Dr. Gershony says. "These professionals came together with their different areas of expertise and established a true 'Heart Team' at John Muir Health."

He adds, “There is a huge unmet clinical need for critical aortic valve stenosis treatment. Aortic stenosis is highly lethal, and once it becomes symptomatic, can lead to death within 2-3 years if untreated -- faster than some cancers. And most patients are in their 70s or 80s, often with additional co-morbidities, making traditional open heart surgery more risky or a less attractive option.”

TAVR Team

Interventional Cardiologists	Cardiac & Endovascular Surgeons
Gary Gershony, MD	Tanveer Khan, MD
Neal White, MD	Ramesh Veeragandham, MD
Imaging Cardiologists	
Paul McWhirter, MD	
Mark Nathan, MD	
Interventional Radiologist	
Ira Finch, MD	
Valve Clinic Coordinators	
Kristin Groves, RN	
Allison Peterson, RN	



The third-generation device used today (SAPIEN 3 transcatheter valve and others) is significantly miniaturized. Approximately 80-90 percent of procedures can be done percutaneously utilizing a transfemoral approach, according to Dr. Gershony.

“Patients can actually be ambulatory within 24 hours, and home in two days -- a remarkable difference from traditional open heart surgery. As of today, we have done 130 cases, and our results compare very favorably to some of the best centers in the country regarding outcomes,” he says. “The low rate of mortality and stroke after the procedure in elderly patients is very reassuring. We think TAVR will one day become the procedure of choice in most patients with critical aortic valve stenosis.”

MitraClip

Another trans-catheter procedure, which provides a minimally-invasive fix for leaky mitral valves, is known as MitraClip. Mitral valve disease affects an estimated four million patients in the U.S. This newer procedure at John Muir Health also requires the ‘Heart Team’ – with its interdisciplinary expertise. It is performed in the cath lab, using X-ray and ultrasound guidance.

The “clip” is delivered through a catheter and positioned to grab and hold the faulty leaflets together. This allows them to close more fully,



MitraClip device

limiting regurgitation. The clip becomes a permanent part of the valve.

“While open heart surgery is better at decreasing the degree of regurgitation, the catheter treatment is safer, and therefore

FDA approved, particularly for patients at high risk for surgery,” says Dr. Gershony.

“Almost two million patients in the country would be eligible for treatment, and only two percent or so are being treated surgically. So, there is a large portion left untreated,” he says.

MitraClip Team

Interventional Cardiologists	
Andrew Dublin, MD	
Faizul Haque, MD	
Howard Min, MD	
Cardiovascular Surgeons	
Murali Dharan, MD	
Jatinder Dhillon, MD	
Imaging & Heart Failure Cardiologists	Valve Clinic Coordinators
Paul McWhirter, MD	Kristin Groves, RN
Perkin Shiu, MD	Allison Peterson, RN



“MitraClip is first in class technology,” he adds. “We still have a bit of a way to go, but safety favors the percutaneous route, and soon we will see valves delivered percutaneously for mitral regurgitation. We’ll be ready to incorporate this into our armamentarium.”

CardioMEMS™

This wireless system is used to measure and monitor pulmonary artery pressure for heart failure patients. It uses a catheter-delivered implanted pressure sensor that wirelessly picks up pulmonary artery pressures, which are sent to a secure website, accessible to the heart team and heart failure nurses.

“If we can pick up a change earlier, and intervene, we have a chance to more successfully alter outcomes, including the high rate of hospital readmission, in this common and complex disease,” Dr. Gershony says. “CardioMEMS allows us to see pressure changes in the heart significantly before later symptoms are detected, which is usually just before hospitalization is needed.”

He refers to a major recent clinical study, the CHAMPION Trial, which showed that patients managed with the CardioMEMS pulmonary artery pressure monitoring had significantly fewer heart failure hospitalizations and less mortality.

Clinical Research at John Muir Health

John Muir Health’s robust clinical research program is unusual in a community hospital, and is one of the components critical to the service line’s vision.

“Here, we have all the critical components, the people and infrastructure in place, to participate in so many prestigious studies. We are involved with landmark clinical trials – for instance, evaluating new drug therapies, stents, pacemakers or defibrillators –alongside centers such as the Cleveland Clinic, Harvard, Columbia and Duke. We want to continue to grow this program. The FDA approved more exciting therapies and devices last year – a banner year – than in previous years,” Dr. Gershony adds. “An additional benefit from our research program is that the collaboration between specialists participating in our research also spills over into collaboration in our clinical practices, resulting in significant benefit to our patients.”

JMHPN: What do you most want other MDs to know about your department?

Dr. Gershony: I’d like to express how fortunate we are to have such an extraordinary team of committed and highly trained physicians and staff. We also have extraordinarily supportive administration, and all are seeking the best in clinical care and advancing best practices. We have the perfect storm, really, with a critical number of talented cardiologists, cardiac surgeons, nursing staff and forward thinking administrators.”

JMHPN: Of what are you most proud?

Dr. Gershony: I’m most proud of seeing the evolution of a cohesive cardiovascular service line, committed to best-in-class patient outcomes and cutting-edge research.