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## Cardiac Catheterization Lab

A cardiac catheterization lab is a mystery to most people—until they need the services of the interventional cardiologists who practice there.

**Tiny incisions can achieve big results** in the new cardiac catheterization lab inside University of California, Irvine Medical Center's new UC Irvine Douglas Hospital. This state-of-the-art cardiac cath lab is staffed by subspecialists called interventional cardiologists. They handle the most complicated heart problems in a nonsurgical way. Their job: to examine and treat the heart and coronary arteries using catheters—flexible, plastic tubes that are the diameter of spaghetti. “The catheter’s entry point into the body is an artery in the arm or leg, which is accessed through a pinpoint-size incision,” says **Dr. Pranav Patel**, director of the cardiac catheterization lab.

The most common test performed in the cath lab is angiography. During this catheter-based imaging procedure, a special dye is injected into the patient’s vascular system and X-ray pictures are taken. “The

result is an angiogram—a detailed picture of the patient’s coronary arteries, the blood vessels that supply blood to the heart. We can locate blockages with precision,” says Patel. “Cardiac catheterization is also used to measure the pumping ability of the heart muscle, diagnose abnormal heart rhythms, evaluate heart valves, and obtain samples of tissue to identify the cause of certain heart-muscle diseases or infections.”

**Time is muscle.** Nonsurgical treatment of heart disease is also a major focus of interventional cardiologists. One of the most common therapeutic procedures is angioplasty. This method of unclogging heart arteries often immediately follows an angiogram. Angioplasty uses a balloon-tipped catheter combined with the insertion of stents—tiny, spring-like metal cages that help to keep cleared blood vessels open.

Although some patients have angioplasty on a scheduled basis, a large number are emergency room patients who need the procedure immediately to stop heart attacks already in progress.

“There’s a saying in the world of cardiology: Time is muscle,” says **Dr. Morton Kern**, an internationally recognized interventional cardiologist. “This means the sooner a heart-attack patient’s blocked artery is opened, the less damage occurs to the heart.” For this reason, the American College of Cardiology stipulates that balloon angioplasty should be performed within 90 minutes from the time a patient enters the doors of the emergency room. Because UC Irvine’s “door-to-balloon” time is less than the 90 minutes, the hospital is a designated cardiovascular receiving center, said **Dr. Jagat Narula**, an internationally acclaimed cardiologist and co-director of UC Irvine’s Cardiovascular Center. Cath lab doctors also repair and replace heart valves, implant pacemakers, correct congenital cardiac defects, perform high-tech procedures to eliminate atrial fibrillation, and remove plaque from artery walls using a high-speed rotator blade.

**More to come.** Located in the new UC Irvine Douglas Hospital, the cardiac cath lab currently consists of two suites, each equipped with leading-edge digital imaging systems to guide doctors during procedures. In the future, two new procedure rooms will be added—one for the treatment of abnormal heart rhythms and insertion of pacemakers, the second for hybrid angioplasty and surgical procedures in which vascular surgeons and interventional cardiologists work together, Narula said. With the state-of-the-art cardiac care units now in operation and the outpatient Cardiovascular Center to open soon, UC Irvine provides Orange County’s only university-caliber cardiovascular program.

For referral to a UC Irvine Healthcare cardiologist, call 714.456.6699.

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