Washington Hospital Healthcare System
SINCE 1948

Press Release

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DATE: August 13, 2009

Washington Hospital Physician Pumps Life Back Into Heart Patients

Studies Underway on New Cardiac Tool to Extend Lives

***Fremont, Calif.* --** A tiny device about the width of a drinking straw could be the key to helping people that suffer a devastating heart attack. Washington Hospital's Heart program is the only program in the Bay Area using a new heart pump -- *Impella 2.5 Cardiac Assist Device* -- that can help a weakened heart function while damage is repaired. Two clinical trials of the cardiac assist device are now underway at Washington Hospital, which is the only facility in the Bay Area conducting these two studies.

"There are basically two reasons to use a heart pump," says Dr. Ash Jain, Medical Director of the Cardiac Catheter Lab and Peripheral Vascular Services at Washington Hospital. "The first case would be when the patient's heart function is less than 30 percent and the left ventricle needs help pumping blood out to the body. Heart pumps also may be used for high-risk patients to keep the blood flow going during balloon angioplasty procedures."

The Impella 2.5 is a miniature heart pump that helps the left ventricle chamber of the heart pump blood from the heart and through the aorta (the main artery leading from the heart) into the body. When inserted into the heart, the device speeds up the flow of blood and makes it easier

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for the heart to do its job. While it is in place for hours or days, a seriously damaged heart gets crucial time to recover. Or, it can give doctors time to perform procedures such as opening blocked arteries, which might otherwise kill the critically ill patient.

The device has received clearance from the U.S. Food and Drug Administration (FDA) to provide immediate, minimally invasive circulatory support for critical patients.

Dr. Jain notes that surgeons currently use two types of cardiac assist devices:

- A heart pump that is surgically inserted directly into the open chest.
- An intra-aortic balloon pump (IABP) that is inserted with a catheter through an incision in the groin into the aorta to augment blood flow.

"Inserting the Impella 2.5 device doesn't require an incision," adds Dr. Jain. "It is inserted percutaneously – meaning just under the skin with a needle-puncture into the groin. Then it is guided up through the femoral artery into the left ventricle. The Impella 2.5 sucks blood from the left ventricle and pumps it out at the rate of two and a half liters per minute. The IABP also is inserted via catheter, but it has limitations of supporting heart function. Since the IABP is placed in the aorta, rather than the heart's left ventricle itself, it doesn't pump as well."

The two studies being conducted will compare the performance of Impella 2.5 devices with that of IABPs in different circumstances:

- **Recover II –** Inserting the device when a patient comes in with a heart attack and experiences extensive damage in cardiogenic shock.
- **Protect II –** Inserting the device prior to performing balloon angioplasty in high-risk patients.

"IABPs do not work well when the patient's heartbeat is irregular, if the aortic valve is not functioning, or if the heart muscle is weak," Dr. Jain says. "We are trying to see if the Impella works better in these conditions, as well as in general. Other trials have shown that because there is no incision or surgery, patients can anticipate faster healing, fewer complications and less risk of infection. Whenever there is an option, minimally invasive procedures generally are the better choice."

Dr. Jain has been conducting clinical trials of various medical devices – including coronary artery stents – for more than 15 years. So far, he has used the Impella 2.5 in two patients, both of whom did very well with the procedure. The studies will continue for one to one and a half years.

Candidates for high-risk balloon angioplasty, who would like more information about the Protect II clinical trial, or to schedule a consultation, please call (510) 796-0222.

Washington Hospital Healthcare System includes a 359-bed acute-care hospital; the Taylor McAdam Bell Neuroscience Institute; The Gamma Knife® Center; Washington Radiation Oncology Center; Washington Outpatient Surgery Center; Washington Outpatient Rehabilitation Center; Washington Outpatient Catheterization Laboratory; Washington Center for Joint Replacement; the Institute for Minimally Invasive and Robotic Surgery; and Washington West, a complex which houses Washington Women's Center, Outpatient Imaging Center and additional outpatient hospital services and administrative facilities.

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(For more information, please contact Christopher Brown, director of Community Relations, Washington Hospital Healthcare System, (510) 791-3417.)