Vascular Cures is changing the way we care for patients by developing treatments that address the unique genetic and biological makeup of each person. We’re building the first national biobank of blood and tissues from thousands of patients undergoing vascular surgery – a resource for researchers throughout the world for decades to come.

**Growing New Blood Vessels to Prevent Amputation and Save Lives**

Peripheral artery disease (PAD) affects approximately ten million Americans, whose leg arteries become clogged with fatty plaque that limits blood flow. Advanced stages of PAD can lead to chronic limb ischemia (CLI), where the blockage is so severe that blood flow is cut off, resulting in painful sores and even gangrene. CLI can lead to amputation of the limb and death.

Ulka Sachdev, MD and Edith Tzeng, MD, who received Vascular Cures’ prestigious Wylie Scholar awards, and their team at the University of Pittsburgh discovered that the nuclear protein HMGB1 is released when the blood supply is limited or obstructed, and may help initiate new blood vessel growth. By understanding how to grow new blood vessels to restore blood flow, they plan to develop new treatments that reduce the incidence of gangrene, amputations and death in patients who cannot get a bypass or stent.

When an artery becomes clogged, vascular surgeons often use a patient’s vein to bypass the blocked area and restore blood flow. But not all patients have enough vein tissue to use this way.

Dr. Paul DiMuzio, Director of the Division of Vascular and Endovascular Surgery at Thomas Jefferson University and winner of Vascular Cures 2003 Wylie Scholar Award, uses adult stem cells and advanced tissue-engineering technology to create new blood vessels for bypass grafts. Dr. DiMuzio has successfully created arterial grafts from the stem cells isolated from the fat tissue of patients undergoing vascular surgery to create new arteries from a person’s stem cells. This innovative treatment offers hope for patients with limited options, including those with coronary artery disease, peripheral artery disease and kidney disease that requires hemodialysis access. Dr. DiMuzio is currently working with industry partners to bring this work to clinical usage.
Abnormally enlarged blood vessels, such as aneurysms and arteriovenous malformations (AVMs), can occur throughout the body and cause life-threatening damage that can lead to strokes, seizures, and even death. Research scientists at the Laboratory for Accelerated Vascular Research at UCSF showed in mice that these inflated vessels can be normalized by affecting a particular gene. Their work was recently the cover story in *Science Translational Medicine*, a prestigious national medical journal.

This discovery about the mechanics of artery and vein growth may lead to new treatments for cardio, cerebral and peripheral vascular diseases as well as cancer.

**World Renowned Medical Leaders Join Vascular Cures Scientific Advisory Board**

Vascular Cures created a powerful new Scientific Advisory Board to provide research leadership and strategy for our new biobank initiative and consortium. Members include surgeon-scientists from six leading research institutions including three former recipients of the Vascular Cures’ Wylie Scholar award.

In addition, we’ve been joined by Renu Virmani, MD, Medical Director of CVPath and the leading consulting pathologist to cardiovascular medical device companies; and Jodi Black, PhD, MMSc, Deputy Director, Division of Extramural Research Activities (DERA) for the National Heart, Lung and Blood Institute of the NIH who oversees a $2.8 billion research portfolio. Dr. Black is also the Acting Director of the NHLBI Office of Translational Alliances and Coordination.

**Patients, Not Postage!** Join us in saving the environment and ensure that more of your money goes to fight vascular disease. Let us know if you prefer to receive communications electronically by emailing us at info@vascularcures.org, calling 650-368-6022 or signing up for email updates at www.vascularcures.org.

**Save the Date!**

Our Annual Dinner will be held on Saturday, September 8, 2012 at the Olympic Club in San Francisco.