



CARDIOVASCULAR DISEASE

Areas of focus for VA research on cardiovascular disease include evaluating and developing new treatments, probing the genetic and lifestyle causes of cardiovascular disease, and developing new rehabilitation methods, especially for stroke. Studies range from biomedical lab experiments on animal models of heart disease to large, multisite clinical trials involving thousands of patients.

EXAMPLES OF VA RESEARCH ADVANCES

TELEPHONE COUNSELING CAN CONTROL BLOOD PRESSURE—Some patients can benefit from managing their blood pressure at home. About 600 Veterans with high blood pressure were randomly assigned to receive one of three interventions, or usual care. The interventions were all telephone-based. One involved behavioral counseling from a nurse. Another involved medication counseling from a nurse or physician. The third intervention involved a combination of both types of counseling. People with the poorest blood pressure control benefited from combined counseling. Their systolic blood pressure (the higher number) decreased by an average of 8 mm Hg after 18 months.

PLAQUE LOCATION IS MORTALITY RISK—Calcified plaque in certain arteries may be a marker for increased mortality risk. A San Diego VA team completed CT scans on 4,544 patients, and then tracked them for about eight years. During that time, 163 of the patients died. The researchers found that calcium in the thoracic aorta, carotid arteries, and iliac artery was associated with an increased risk of dying from any cause. Calcium in any coronary artery was linked with more than triple the risk of mortality from cardiovascular disease.

BIOMARKERS PREDICT COMPLICATIONS—Certain biomarkers in urine and blood may help to predict who is at risk for acute kidney injury, a common complication of cardiac surgery. VA teams at multiple centers conducted the study, which involved 1,219 adults. Urine and blood samples were taken six hours after surgery. Higher urine IL-18 levels predicted nearly seven times the risk of acute kidney injury. Higher urine and blood NGAL levels predicted about five times the risk. Patients with the highest levels of these two chemicals were most likely to have longer hospital stays, longer stays in the intensive care unit, and higher risks of dying or needing dialysis. Using biomarkers to diagnose acute kidney injury may allow for earlier diagnosis, which could decrease complications and deaths.

★ **FACTS ABOUT CARDIOVASCULAR DISEASE**—*Cardiovascular disease, also called heart disease, is an umbrella term for the diseases and conditions that affect the heart and blood vessels. These include stroke, heart attack, congestive heart failure, coronary heart disease, and congenital heart defects. Cardiovascular disease is America's number-one killer and the leading cause of hospitalization in the VA health care system. Modifiable risk factors for heart disease include smoking, high blood pressure, high cholesterol, obesity, lack of physical activity, and uncontrolled diabetes.*