Heart Disease and Stroke

Areas of focus for VA research on heart disease include evaluating and developing new treatments, probing the genetic and lifestyle causes of heart 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

- **Umbilical-cord stem cells and heart attack**—A VA research team found that stem cells obtained from human umbilical cord blood could significantly reduce the effects of heart attacks in rats, even when administered up to 24 hours after the onset of the attacks. If the therapy eventually proves safe and effective for humans, it could pose a way to make heart attacks less deadly.

- **Robotic stroke therapy**—A trial is under way involving 158 veterans at four VA sites to test the use of a robot called the MIT-Manus to help chronic stroke patients move their affected limbs and eventually restore muscle function. The robotic therapy is designed to mimic what human therapists do when they provide "hand over hand" therapy.

- **Benefits of implanted defibrillators**—VA researchers found that the use of implanted defibrillators reduced the risk of dying and improved quality of life for veterans with heart failure. Other VA investigators are studying the overall risks and cost-effectiveness of this new technology.

- **Depression and heart failure**—VA nurse researchers are seeking to link biochemical markers of heart failure with patterns of depression to aid in earlier screening and treatment for depression in heart-failure patients. The researchers are also exploring how patients can play a more active role in their own care for heart failure.

Facts About Heart Disease

Cardiovascular disease, which includes coronary heart disease (chest pain or acute heart attack), congestive heart failure, high blood pressure, stroke, and congenital heart defects, is America's number-one killer and the leading cause of hospitalization in the VA health care system. A stroke involves the sudden death of brain cells due to a lack of oxygen, caused when blood flow to the brain is impaired by the blockage or rupture of an artery. Each year, more than 15,000 veterans are hospitalized for stroke. The after-effects range from mild or moderate loss of function to severe disability. In recent years, research has demonstrated that therapy can help restore lost function to stroke survivors even many years after their stroke.

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