

Dialogue

News for physicians about Mayo Clinic in Arizona

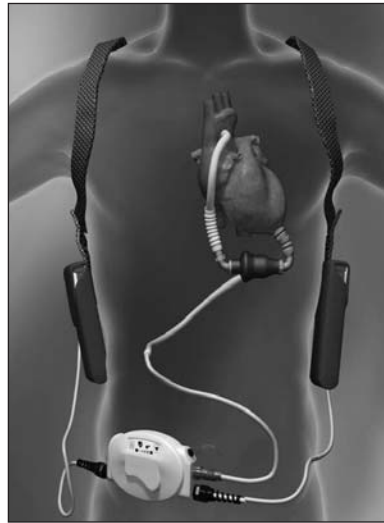
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*Reading time
five minutes*

Non-Pulsatile Ventricular Assist Devices (VADs) Restore Quality of Life for Heart Failure Patients

CLINICAL TIP
New non-pulsatile VADs are small, silent and efficient, allowing patients to resume normal daily activities outside of the hospital.

Until recently, advanced-stage heart failure patients who were awaiting treatment were often fitted with a ventricular assist device (VAD) as a bridge-to-transplant—a lifeline that left them confined to the hospital. Traditional VADs are large pulsatile devices that require large amounts of power to simulate the heart's pump/relax action, and often make loud noise with each beat.

Physicians in the Heart Transplant Program at Mayo Clinic are now using a new, non-pulsatile VAD to restore hemodynamic function and improve patient outcomes and quality of life. The device, called HeartMate II, is just one-third the size of a standard pulsatile VAD and uses silent propulsion to move blood continuously throughout the body—meaning that patients generally do not feel or perceive the device's presence. "It's easy to put in and works beautifully," says Francisco Arabia, M.D., surgical director of the Heart Transplant Program. "And the benefit for patients is immense."



Thoratec HeartMate II Left Ventricular Assist System

One of those benefits is portability. Mayo patients who received the HeartMate II were able to return home and resume their daily activities while waiting for transplant. Another benefit is lower blood pressure due to the continuous flow.

"Readings of 90 over 75 are not uncommon, and that's perfectly okay," Dr. Arabia explains. "Even patients who are not transplant candidates because of other medical complications can benefit from new VAD technology. Instead of working as a bridge-to-transplant, we can put a device in to alleviate heart failure symptoms and allow patients to have an almost normal life," says Dr. Arabia.

Since the Heart Transplant Program began in October 2005, twenty heart transplants have been completed at Mayo Clinic, the only heart transplant program in the Phoenix metropolitan area. ■

Laparoscopic Treatment for Hepatobiliary and Pancreas Disorders

CLINICAL TIP
Laparoscopic pancreas or liver resection provides comparable short-term outcomes to open procedures but with the advantages of minimally invasive treatment.

Laparoscopic hepatobiliary procedures are now performed at Mayo Clinic as a surgical approach for some patients with smaller benign functioning and nonfunctioning hepatobiliary disorders that require resection. "Compared to traditional open surgical procedures such as laparotomy, a laparoscopic approach offers clear advantages including reduced pulmonary complications, more rapid return of gastrointestinal tract function, less blood loss, more rapid recovery, and reduced incidence of long-term incision-related morbidity," says Kristen Mekeel, M.D. hepatobiliary and transplant surgeon.

While candidacy for laparoscopic treatment varies based on size and location of the mass and proximity to other structures, some disorders that can be treated include:

Pancreas:

- Resection of benign pancreatic lesions (cysts, adenomas and intraductal papillary mucinous neoplasms)
- Resection of small malignant pancreatic lesions
- Drainage of pancreatic pseudocysts through the stomach/intestine
- Treatment of complications of chronic pancreatitis

Liver:

- Resection of benign liver lesions (adenomas and focal nodular hyperplasia)
- Resection of malignant liver lesions (cancer metastases and hepatocellular cancer)
- Removal of stones from the common bile duct
- Repair of injuries to the common bile duct
- Treatment of liver cysts (solitary and multiple)
- Ablation of liver tumors that cannot be resected ■

High Dose Rate Brachytherapy Reduces Treatment Time for Cancer Patients

CLINICAL TIP

High dose rate brachytherapy reduces patient treatment times from more than 24 hours to just a few minutes in an outpatient setting.

Mayo Clinic now offers high dose rate (HDR) brachytherapy, a much more efficient treatment in which a protected source of high energy radiation (Iridium-192) is placed directly on or near the tumor. This procedure allows equivalent doses of radiation to be delivered in just a few minutes. HDR brachytherapy is generally delivered during approximately two to four one-hour outpatient sessions over a 2-3 week course.

Targeted internal radiation therapy (brachytherapy) has long been used to treat cancer patients while limiting radiation exposure to nearby healthy tissues. However, traditional low dose rate brachytherapy requires patients to be admitted to the hospital for at least one night and to remain as still as possible during therapy—meaning patients are often bed-bound for 24 hours or more. Immobility increases the risk of deep

vein thrombosis and can be frustrating for the patient, their family, and the medical treatment team.

“Although HDR brachytherapy has primary application to patients with gynecological cancer, additional candidates may include patients with sarcomas, lung cancers, esophageal cancers, hepatobiliary cancers, and breast cancer,” says Sujay A. Vora, M.D., radiation oncologist at Mayo Clinic.

In 2007, Mayo Clinic will begin offering MammoSite brachytherapy for breast cancer patients. This treatment will be another specialized technology that will reduce the standard six week course of radiation treatment to one week.

This technology allows Mayo Clinic physicians to provide highly localized, cost effective, and increasingly convenient treatment options for cancer patients requiring radiation therapy. ■

Team Approach to Endovascular Therapy and Conventional Vascular Surgery Offers More Patient Benefits

CLINICAL TIP

Endovascular therapy may benefit patients who might otherwise need more conventional surgery but are at a high risk of complications from pre-existing medical problems.

Endovascular therapy is an increasingly popular minimally invasive procedure for treating vascular diseases (e.g. aneurysms, stroke or occluded vessels) involving both arteries and veins, literally from the head to the toes. Unlike traditional invasive surgery, endovascular therapy does not require general anesthesia or an “open” operation. During most procedures, a catheter is placed into the femoral artery through a small incision and is advanced to an aneurysm or a blocked vessel, where the physician performs surgical repair from within the vessel.

“We use a multidisciplinary approach to treat vascular diseases with Mayo Clinic physicians within the Divisions of Vascular and Interventional Radiology, Interventional Cardiology and Vascular Surgery available to collaborate on our patients’ treatment,” says Jack Sweeney, M.D., director of Cardiac Cath Lab. Samuel R. Money, M.D., Chair of Vascular Surgery adds, “Using minimally invasive endovascular techniques we are able to revascularize the patient

literally from head to toe. We can repair aneurysms and re-establish flow in occluded vessels.”

“We have found that innovative solutions to clinical problems are more common when the perspective and skills of the vascular surgeon, the cardiologist, and the interventional radiologist, are combined in a unique environment,” points out Brian W. Chong, M.D., endovascular surgical neuroradiologist. “Ultimately, the patient reaps the benefit.”

Endovascular therapy offers many benefits to patients including a small incision, less heart stress, reduced need for blood products, and shorter recovery time, as well as fewer risks for patients with other disorders such as coronary artery disease and kidney or lung problems. Not all patients, however, are good candidates for endovascular procedures. Mayo Clinic physicians use advanced diagnostic procedures to determine whether patients are candidates for minimally invasive therapy. ■

Research Protocol

The Division of Gastroenterology at Mayo Clinic is conducting a research study for patients with chronic abdominal discomfort, bloating, or early fullness after eating a meal.

NIH-sponsored Clinical Trial for Subjects With Functional Dyspepsia

The purpose of this research study is to determine whether amitriptyline and escitalopram are effective in treating symptoms of functional dyspepsia and gastric emptying.

The nine month study involves laboratory testing, nutrient drink tests, and gastric emptying scans. A sample of blood for DNA will be drawn and stored for future testing. The study requires

participants to come to Mayo Clinic on at least 10 different occasions. Visits will range from 2-6 hours and remuneration is offered.

If you have a prospective candidate, or are interested in learning more about the study, please contact **Michaele Menghini at 480-301-6651** for further details.

If you have a question about *Dialogue*, or know of a physician who would like to be added to the mailing list, please call 480-301-4796.