**U.S. News ranks Aurora St. Luke’s cardiac program in nation’s top 50**

The cardiology and heart surgery department at Aurora St. Luke’s Medical Center, Milwaukee, is the only heart program in Wisconsin nationally ranked by U.S. News & World Report in its 2012 evaluation of the nation’s best hospitals.

This year, 26 fellows-in-training are participating in Aurora Health Care’s active Cardiology, Interventional Cardiology and Electrophysiology fellowship programs, which include basic, translational and clinical research components.

Aurora cardiologists conduct six continuing medical education programs annually.

World-renowned cardiac and vascular specialists diagnose and treat all types of cardiovascular conditions and disorders, using the most advanced state-of-the-art tools and technologies available today.

Its reputation as the best for handling difficult cases put the Aurora St. Luke’s cardiology and heart surgery department ahead of the pack in Wisconsin. The department also saw improvement in survival of patients to the top classification: “Much better than expected.” This means the department experiences few deaths of medically challenging patients within 30 days after admission compared with the number expected after adjusting for severity and other risks.

U.S. News & World Report reviewed nearly 5,000 hospitals in 16 adult specialties. More than 700 cardiology and heart surgery programs experienced in treating difficult cases qualified for recognition.
Patient success story
Aurora surgeon, transplant cardiologist use total artificial heart as bridge to transplant

Danielle Sommer, 22, received a CardioWest total artificial heart (Syncardia Systems Inc., Tucson, Ariz.) as a bridge to transplant, which she successfully underwent three weeks later.

Complications developed during repair of her heart valves, which had been affected by endocarditis. Sommer, who was born with Marfan syndrome, previously had received a pacemaker and an artificial aortic graft. Her parents decided to try the total artificial heart.

“Endocarditis is not a standard indication for the use of the total artificial heart,” said Aurora St. Luke’s Medical Center cardiovascular and thoracic surgeon Frank Downey, MD. “The structure and function of her native heart had deteriorated to such a degree that the decision was to try the total artificial heart or let her die in the operating room.”

Three weeks after receiving the total artificial heart, a donor heart became available and Dr. Downey performed the successful heart transplant surgery. Sommer’s care now is managed by transplant cardiologist Andrew Boyle, MD, and the cardiac transplant team in the Aurora St. Luke’s Transplant Clinic.

Julie Sommer, Danielle Sommer’s mother, was a heart transplant coordinator at Aurora St. Luke’s when the hospital’s transplant program was in its infancy.

“When Marfan syndrome affects heart valves, the treatment usually requires a valve (repair) replacement,” Julie Sommer said. “It rarely gets to the point of needing a total artificial heart and then a heart transplant.”

In response to her transplant, Danielle Sommer said, “I’m only 22 years old. It’s nice to know I’m going to live to see another birthday.”

Since 1998, Aurora St. Luke’s has been a leader in transplant surgery. Aurora physicians have performed more than 700 heart transplants since the program began in 1984, putting the program in the top 10 percent in the nation for volume of transplant procedures. The cardiac transplant program at Aurora St. Luke’s is the largest in Wisconsin.

For information about Aurora’s heart transplant services, call 414-469-5876 or email cardiovascular@aurora.org.

Clinical trial: Aurora cardiac team tests safety, effectiveness of bilateral renal denervation in patients with uncontrolled hypertension

Device only available at approved study sites

Principal investigator Anjan Gupta, MD, and his team are testing the safety and effectiveness of renal denervation using the Symplicity Catheter System® (Medtronic Inc., Minneapolis, Minn.) in patients with uncontrolled hypertension at Aurora St. Luke’s Medical Center. The device is not commercially available in the U.S. and only available at select clinical study sites for investigational use. There are 90 SYMPLECTIC HTN-3 study locations nationwide; Aurora St. Luke’s is one of only two sites in Wisconsin participating in the trial [ClinicalTrials.gov Identifier: NCT01418201].

Patients who enroll in this multicenter, prospective, single-blinded, randomized, controlled study are on three or more medications to treat their hypertension but unable to achieve target blood pressure levels. After randomization, patients either undergo bilateral renal denervation with the Symplicity catheter during a minimally invasive percutaneous procedure that delivers radiofrequency energy through the luminal surface of the renal artery or receive antihypertensive medications only.

Dr. Gupta and his team are measuring changes in systolic blood pressure from baseline to six months and major adverse events at one and six months postrandomization.

“We are trying to determine if this procedure can safely and effectively reduce target blood pressure levels in patients previously resistant to maximal pharmacological therapy,” Dr. Gupta said. “This procedure could result in other as yet unknown benefits, such as improved blood glucose control, decrease in cholesterol levels and others.”

Aurora Health Care is one of the state’s leading health care systems in coronary interventions, including cardiac catheterization, balloon angioplasties, atherectomy and stent implantation. Aurora physicians performed 3,231 percutaneous coronary interventions in 2011. Aurora St. Luke’s is continuing to screen patients for enrollment in the Symplicity clinical trial.

For information or to learn who may benefit from this procedure, contact research coordinators Dena Gustafson, BSN, CCR, at 414-469-3490, dena.gustafson@aurora.org, or Don Lobacz, RN, CCR, at 414-469-3438, donald.lobacz@aurora.org.

Learning opportunity
Aurora Health Care cardiologists will share their expert knowledge Dec. 7 and 8 at AF, VT, VF Summit 2012 at Solfield Chicago Water Tower, 20 E. Chestnut St., Chicago.

Course directors include Clinical Professors Jasbir Sra, MD, and Masood Akhtar, MD, of Aurora Cardiovascular Services. Aurora faculty invited to present are: Arshad Jafangir, MD, David C. Kress, MD, and Imran Niaz, MD.

The latest results of basic and clinical research in ablation, imaging technologies and device therapies for cardiac arrhythmia will be presented through lectures, panels and prerecorded “live” cases delivered by national and international faculty.

The symposium is cosponsored by Heart Rhythm Society and Aurora Health Care, which is accredited by the Wisconsin Medical Society to provide continuing medical education for physicians. Attendees can claim a maximum of 18.0 AMA PRA Category 1 Credits.

To register, visit AuroraHealthCare.org/ CMEActivities. Click on Live Courses. Click on December. Select AF, VT, VF Summit 2012. Select Register. Follow prompts on screen.

For information, contact Laurel Landis at laurel. landis@aurora.org or 414-219-7684.

See Page 7 for additional Medical Education Events.
Aurora Health Care cardiologists study stem cell therapies for chronic myocardial ischemia, STEMI

Researchers test use of CD34+ stem cells for improving exercise capacity (RENEW)

Steven C. Port, MD, Tanvir Bajwa, MD, and their team are studying the efficacy and safety of targeted intramyocardial delivery of autologous CD34+ peripheral blood stem cells (Baxter International Inc., Deerfield, Ill.) for improving exercise capacity in subjects with refractory angina and chronic myocardial ischemia (RENEW).

There are 49 CD34+ stem-cell study locations in the U.S. and Canada: Aurora St. Luke’s Medical Center is one of only two sites in Wisconsin participating in the trial [ClinicalTrials.gov identifier: NCT015089710].

Patients who enroll in this prospective, randomized, double-blinded, active-controlled and unblinded standard-of-care controlled study have chronic refractory angina that persists despite maximal tolerated doses of antiangina drugs and revascularization interventions (such as coronary stents insertion and heart surgery).

After randomization, patients undergo an interventional procedure to receive 10 injections of the autologous CD34+ stem cells in a percutaneous, or receive standard-of-care treatment.

Dr. Port and Bajwa and their team are measuring changes in exercise tolerance and frequency of angina from baseline to six months and one year postrandomization. Major adverse cardiac events and other serious adverse events will be reviewed two years postrandomization.

For information on who may benefit from the CD34+ stem cell therapy, contact research coordinators: Deb Waller, BSN, CCRC, at 414-649-3429, deborah.waller@aurora.org, or Dena Gustafson, BSN, CCRC, at 414-649-3490, dена.gustafson@aurora.org.

Aurora builds on its 20 years of cellular therapy research

The 2003 discovery of stem cells in the heart started an exploration in regenerative medicine of generating new tissue and fully restoring the health of tissues damaged by cardiovascular disease.

“Aurora Health Care’s patient-centered research program is building on its 20 years of experience in cellular therapy for patients with cancer to research and develop innovative, regenerative therapies using minimally invasive techniques to improve outcomes in patients with cardiovascular diseases,” said Nina Garle, PhD, director of the Regenerative Medicine Center.

With his team of researchers at Aurora Health Care, Arshad Jahangir, MD, Director of the Center for Integrative Research on Cardiovascular Aging (CIRCA), Professor of Medicine and Chair of the Cardiovascular Research Committee, is working to understand the cellular mechanisms that lead to cardiovascular disease in the elderly and develop interventions to reduce such susceptibilities.

“Because of its commitment to providing state-of-the-art therapy to our patients, Aurora Health Care is able to offer stem cell therapy in attempts to improve myocardial performance and exercise capacity in patients with refractory angina and chronic myocardial ischemia, and to prevent future major adverse cardiac events via clinical research trials,” Dr. Jahangir said.

Aurora’s participation in additional myocardial regeneration therapy studies is in the works.

Investigators examine stem cell product’s use for prevention (PreSERVE-AMI)

Tanvir Bajwa, MD, Suhaill Alqaabandi, MD, and their team are testing the safety and efficacy of autologous AMR-001, a selected cell product of CD34+ bone marrow stem cells (Armoocyte LLC, a NeoStem Inc. company, Allendale, N.J.), in subjects post-ST-segment elevation myocardial infarction to prevent future major adverse cardiac events (PreSERVE-AMI).

There are at least 40 planned AMR-001 cell study locations in the U.S.; Aurora St. Luke’s Medical Center is currently the only site in Wisconsin participating in the trial [ClinicalTrials.gov identifier: NCT01495364].

Patients who enroll in this prospective, randomized, double-blinded, placebo-controlled study have undergone successful stent placement and reperfusion post-STEMI.

After randomization, patients undergo an interventional procedure to receive either an injection of the autologous AMR-001 cells or a placebo.

Dr. Bajwa and Alqaabandi and their team are testing the efficacy of intra coronary infusion of AMR-001 on myocardial perfusion as compared to the control group using gated single-photon emission computed tomography (SPECT) myocardial perfusion imaging at baseline and six months postrandomization.

Clinical endpoints and safety of the therapy will be measured three years postrandomization.

For information on who may benefit from the AMR-001 cell therapy, contact research coordinator Don Lobacz, RN, CCRC, at donald.lobacz@aurora.org or 414-649-3418.
Model of CARE continued from front cover

practitioners, infectious disease specialists, anesthesiologists, gastroenterologists, nurse coordinators, social workers, financial counselors, pharmacists and psychologists. Patients benefit from receiving all these services in one place, Dr. Zwick said. The result is comprehensive diagnosis, treatment, disease management and support for the patients and their family members.

Pulmonary Hypertension Clinic
Aurora St. Luke’s Medical Center
2900 W. Oklahoma Avenue – 5th Floor Galleria
Milwaukee, WI 53215 – 414-646-2657

Gianne Zwick, MD, FACC, FACP
Medical Director of the Pulmonary Hypertension Clinic

Renegopal Tapamuli, MD, FACC, FSCAI, FACP
Cardiologist

“Health is a state of complete physical, mental and social well-being, and not merely the absence of disease,” said cardiologist Ramgopal Tapamuli, MD. “To achieve this, every individual patient with pulmonary hypertension should receive the highest standard of care, education and support.”

The preceptorship program is an excellent model of educating referring/treating physicians and other health care professionals involved in the care of patients with pulmonary hypertension, Dr. Zwick said. It provides the foundation for nurturing a successful centralized multispecialty pulmonary hypertension clinic.

“We’ve set up a model of medical care in which patients can get care expeditiously, 24 hours a day,” Dr. Zwick said of the patient-management model. “We are here to diagnose, treat and keep you out of the hospital.”

The clinic’s nurse-coordinator model permits all patients rapid access to a nurse coordinator familiar with each individual patient’s situation. The nurse coordinator assigned to each patient manages all test results, provides patient education on pulmonary hypertension, coordinates appointments and connects patients with support groups and financial counselors to manage costs.

Nonemergency patients referred to the clinic are contacted by a nurse coordinator within 24 hours. Urgent patients are immediately directed to clinic with expertise in pulmonary hypertension who are available 24 hours a day. The majority of diagnostic testing can be done on an outpatient basis. Patients traveling a long distance usually can complete all testing and consultation in a single day, with telephone follow-up for results and a treatment plan.

The clinic, part of a high-volume tertiary care center, is one of only a few in the U.S. that offers expert physicians in the multiple specialties needed to diagnose and treat patients with pulmonary hypertension, as well as the full array of treatment modalities, including infusion therapies, new medications in development through cutting-edge clinical trials, surgical or percutaneous repair of congenital heart disorders and pulmonary thromboendarterectomy.

The preceptorship program offers didactic, clinical and departmental sessions over a day and a half. Aurora Health Care is accredited by the Wisconsin Medical Society to provide continuing medical education for physicians. The program is available five to six times per year.

U.S. News
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hospital was listed only if at least 1,308 patients in need of a high level of expertise in the specialty were treated there in 2008, 2009 and 2010. The top 50 hospitals were ranked based on score. The rest were listed alphabetically.

In addition to cardiology and heart surgery, Aurora St. Luke’s gynecology, endocrinology, and neurosurgery, and pulmonology departments ranked nationally among the top 50 hospitals in their respective categories. Three other Aurora Health Care system medical centers were listed as among the best hospitals in the states: Bay Care, Sinai and West Allis.

Recent publications
Aurora Cardiovascular Services physicians have a long history of publishing cutting-edge articles in peer-reviewed medical journals.

Current Problems in Cardiology
Aurora electrophysiologists Atul Bhatia, MD, Jasbir Sra, MD, and Missoud Ahktar, MD, explored repolarization syndromes in the August issue of Current Problems in Cardiology.

“Repolarization syndromes represent primary electrical disorders, which are associated with sudden cardiac death in the absence of any underlying structural heart disease,” Dr. Bhatia said.

The limited review identified the genetics, clinical features and therapy options of early repolarization, Brugada and long QT syndromes in the context of preventing sudden cardiac death.

“These disorders can be identified on simple surface ECG, and awareness of these entities is crucial in making a diagnosis,” Dr. Bhatia said. "Such patients usually present with unexplained recurrent syncopal episodes with or without palpitations.

“Early repolarization and short QT syndromes, in particular, are the newest identified primary electrical disorders, which warrant urgent attention for evaluation and management.”

Aurora electrophysiologists are experienced in the latest treatment options for repolarization syndromes and other heart rhythm disorders. Aurora’s electrophysiology department was one of the first programs in the U.S. to treat patients with cardiac arrhythmias. Since 1977, the program has expanded, blending clinical and teaching elements with active clinical and translational research.

Journal of the American College of Cardiology
In a multi-site effort, Bipin K. Khanderia, MD, and his co-authors summarized the contemporary understanding, discussed current treatments and explored some of the knowledge gaps pertaining to the clinical significance of patient foramen ovale.

The state-of-the-art paper, "Patient Foramen Ovale: The Known and the To Be Known," was featured in the May 8 issue of the Journal of the American College of Cardiology.

"Patient foramen ovale is an incidental finding in 25 percent of the population," Dr. Khanderia said. "Furthermore, it has been implicated in migraine headaches and stroke with controversial evidence to suggest a cause-and-effect relationship.

"Treatment of patient foramen ovale has evolved over the last 10 years from operation to percutaneous closure. This article presents the perspective and treatment options when a patient foramen ovale is suspected or found." Aurora has a multispecialty approach to handling patients with patient foramen ovale, atrial septal defects and other structural heart diseases, starting with the Valvular Heart Disease Center, which offers advanced, noninvasive imaging techniques and effective monitoring.

Sneak peek
To provide a new option for patients with above-the-knee peripheral artery insistent restenosis, principal investigator Anjan Gupta, MD, and his team are testing the safety and efficacy of laser atherectomy with balloon angioplasty compared to balloon angioplasty alone using Turbo Elite® and Turbo-Tandem® laser catheters (Spectranetics Corp., Colorado Springs, Colo.) at Aurora St. Luke’s Medical Center, Milwaukee.

Check out the next issue for a story on this trial, which is enrolling patients at 27 study locations nationwide. Aurora St. Luke’s is one of only two sites in Wisconsin participating in the trial.

Aurora Cardiovascular Services
Medical education events
To request information or register, please email Lauren Lomans at lauren.lomans@aurora.org or call 414-219-3864, unless otherwise noted.

October 20, 2012 | Milwaukee, WI
Milwaukee Atrial Fibrillation Surgery Symposium
December 7 to 8, 2012 | Chicago, IL
AF/VT/VF Summit

January 26, 2013 | Pewaukee, WI
22nd Annual New Developments in Cardiology

April 6, 2013 | Milwaukee, WI
Eighth Preventive Cardiology Conference: Diabetes and Cardiovascular Disease

May 17, 2013 | Pewaukee, WI
Care of Patients With Arrhythmias: From Bedside to Clinic

May 2013 | New York, NY
Sights and Sounds of Echocardiography: In the Heart of the Big Apple – Denise Mezydlo 414-649-5616 • desnie@mdmeeting.org

August 2013 | San Diego, CA
ePTC Excellence in the Practice of Cardiovascular Ultrasound – Denise Mezydlo 414-649-5616 • desnie@mdmeeting.org

August 2013 | Milwaukee, WI
Echo Milwaukee: Challenging, Provocative and Informative

October 2013 | Lake Geneva, WI
Cardiology Update 2013: A Weekend Review at Lake Geneva

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