Oregon Heart & Vascular INSTITUTE
In Affiliation with Sacred Heart Medical Center

OHVI QUARTERLY

PREMIER ISSUE, WINTER 2005

FEATURE STORY

Powerful new scanners now available

This clinical image of the heart was acquired using the SOMATOM Sensation 64™ computed tomography system. The system takes 64 "slices" of the human anatomy, delivering unprecedented diagnostic detail at 0.4mm resolution in less than ten seconds.

Two new top-of-the-line, state-of-the-art CT scanners are now available to physicians and their patients in western Oregon. The new high-speed, multi-slice scanners — one at Sacred Heart Medical Center (SHMC) in Eugene and one at Oregon Imaging Center (OIC) in Eugene — cost about $1.5 million each, representing the largest investment in imaging equipment in the Eugene-Springfield community at one time. Sacred Heart's SOMATOM Sensation 64 CT scanner was manufactured by Siemens; OIC's Brilliance 40-slice CT scanner was made by Philips Medical Systems.

With the purchase of the 64-slice scanner, SHMC and the Oregon Heart & Vascular Institute (OHVI) join the Mayo Clinic and Johns Hopkins and Stanford universities in providing the latest imaging technology for improved patient care.

The technology behind the 64-slice scanner — developed only about a year ago — is rapidly becoming the standard in medical imaging. The Siemens scanner combines a new X-ray tube one-third the size of a typical CT tube, ultrafast ceramic detectors and a new process that makes a precise deflection of the X-ray focal point 4,640 timers per second. The Philips scanner is configured with an 8.0 MHU MRC tube, an onboard 60 KW high-frequency, high-voltage generator and high-resolution reconstruction matrices.

(Technical information about Siemens' SOMATOM Sensation 64 CT scanner is available at www.ohvi.org/CT_Scanner.)

Both scanners deliver clear and detailed images of the body quickly for the physician and painlessly for the patient. As an alternative to exploratory surgery, the scanners save staff time and resources, and reduce potential patient discomfort because of their speed in creating images.

OIC uses its scanner in an outpatient setting. Radiologists and cardiologists affiliated with OHVI apply the scanner for inpatient use or for patients coming to the ER. It replaces OHVI's 1-slice scanner.

The new scanner at Sacred Heart will be integrated into the hospital's digital imaging system, allowing Web-linked physicians to view their hospital-bound patients' scans from remote locations, including their offices and homes.

An important application for cardiac care is for patients with acute coronary syndrome. Scans may replace diagnostic exams in the cath lab to help physicians evaluate coronary artery disease. With the scan, disease may be discovered at an early stage.

"In an emergency situation in which a patient is admitted to the hospital," says

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WELCOME

Welcome to the premier issue of OHVI Quarterly. The purpose of this quarterly newsletter is to keep the medical community of western Oregon apprised of the services and opportunities at Oregon Heart & Vascular Institute (OHVI).

Each issue of OHVI Quarterly will contain updates on improved procedures, advancements in medical technology, innovative programs, CME's, and staff profiles at OHVI.

It is our hope that the news and information contained in these pages will help you to make better medical decisions that lead to desired outcomes for both you and your patients.

Our lead story in this first issue describes OHVI's new CT scanner. This state-of-the-art imaging system, by Siemens, provides increased imaging resolution and more slices faster than earlier CT scanners.

Please let us know what you think of OHVI Quarterly and how we can improve it to make it more valuable to you. Contact Kate Kloos, Director of Marketing Communications, at (541) 686-3986 or ohviquarterly@ohvi.org with your comments.

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PEOPLE IN PROFILE

Cardiothoracic Surgeon Joins OHVI


Paul Koh, MD

Paul Seungjoon Koh, M.D., a cardiothoracic surgeon, has joined the staff of Oregon Heart & Vascular Institute and has been appointed to the medical staff at Sacred Heart Medical Center. His specialty interests in adult cardiac surgery include coronary surgery, valve repairs and arrhythmia surgery. Clinical interests in general thoracic surgery include thoracic oncology and minimally invasive approaches to thoracic procedures. He has had substantial training in surgery for heart failure and heart and lung transplantation. Dr. Koh is a graduate of Northwestern University Medical School and completed general surgery residency at Oregon Health & Science University. Following surgery residency, he

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PeaceHealth Oregon has new CEO


Mel Pyne, CEO

Mel Pyne took over as the chief executive officer and chief mission officer for the Oregon Region of PeaceHealth in July.

Pyne's career spans 30 years in health care. He has been responsible for operations of both physician clinics and a number of hospitals, including McKenzie-Willamette Hospital in Springfield from 1987 to 1994.

Pyne holds a bachelor's degree from Brigham Young University and a master's degree in management from the University of Utah. He is a member of the American College of Healthcare Executives and was previously a management instructor at the University of Utah and at Northwest Christian College in Eugene.

He replaces Alan Yordy, who assumed the positions of president, CEO and chief mission officer for the PeaceHealth system in Bellevue, Wash.

—End

FACILITIES

OHVI to add 25 beds

At times, Oregon Heart & Vascular Institute has had more patients than beds. Occasionally, patients scheduled for elective procedures have had to wait while staff tended to emergency cases. Something had to be done to ease the overflow.

"We don't turn anyone away," says OHVI Executive Director Angela Christensen. "We need to accommodate all patients as quickly as possible."

Waiting until OHVI moved to the RiverBend site was not an option. So space has been carved out for 25 new beds on the second floor of the institute. The new beds will be available in November.

"These new beds will free up our inpatient space for those who are acutely ill coming from Mercy Medical Center or Coos Bay Hospital, and for patients suffering a heart attack coming to the ER," Christensen says.

To make room for the beds, the Medical Records Department moved to the basement.

At least seventeen of the new beds will be "roomettes," individual private spaces. These roomettes are more costly to build, but Christensen believes it is important to meet patients' and their families' need for privacy.

"With 25 new beds," she says, "OHVI will be able to provide better service and care, and better meet the growing needs of our large community."

—End

CME OPPORTUNITES

Pediatric and Adolescent Diabetes
Friday, November 18, 2005, 8 a.m. – 1:30 p.m.
Hilton Hotel, Eugene

Cardiovascular Symposium 2006: ***Breakthroughs in Diagnosis and Treatment***
Saturday, February 25, 2006, 9 a.m. – 4:30 p.m.
Valley River Inn, Eugene. Reception immediately following.

Symposium Topics

- Congestive Heart Failure Controversies in Management
- Role of Complementary Medicine and Cardiovascular Disease Management
- Curing A-Fib: The Minimaze Procedure
- Computed Tomography vs. Nuclear Testing: What is the Best Noninvasive Testing Algorithm?
- Looking into the Future of Cardiovascular Care
- Vascular Disease Update: Carotid and Aortic Stenting 2006
- Acute MI Triage
- New Treatments for Pulmonary Hypertension

To register, call (541) 335-2671, or e-mail cme@peacehealth.org.

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Joseph Chambers, MD, a cardiologist with Oregon Heart & Vascular Institute, "the detailed images available via these new scanners should lead to improved and faster decision-making. The time saved could mean an important difference in outcome for critically ill patients."

Other uses of the 64-slice scan include:

- Diagnosis of trauma and stroke patients
- Head and neck angiograms
- Abdominal aortic angiograms
- Cardiac angiograms
- Lower extremity angiograms
- Pulmonary angiograms
- Stroke perfusion studies

Word is traveling to area physicians about the availability of the new CT scans.

"We've already received a call from a physician in Albany wanting us to scan two patients with suspected back problems," says Jon Ekstrom, MD, radiologist and president of Radiology Associates PC in Eugene. "The opportunity for quick and accurate diagnosis and the potential for new applications is exciting."

"Patients are the real winners here," explains Chambers. "The expertise of many specialists will be brought together to treat the epidemic of cardiovascular disease."

—End

Core Measures Key to Continuous Improvement

PERFECT CARE SCORE FOR AMI OVER 95

The Oregon Heart & Vascular Institute (OHVI) treats 60 to 70 AMI patients and 40 to 50 heart failure patients a month. To help provide the best patient care, OHVI has chosen to measure itself against national clinical performance measures, or standards, known as core measures. These are benchmarked with many hospitals across the country through JCAHO. These performance measures help OHVI physicians, nurses and administrators mark progress over the past year.

"We take these core measures very seriously," says OHVI Executive Director Angela Christensen. "They are critical to physicians, nurses, everyone who cares for patients. Our goal at OHVI is to be among the top 10 percent of major heart hospitals in the country when it comes to providing patient care."

The core measures consist of seven indicators, or standards, for AMI care and four indicators for heart failure care. OHVI tracks each indicator for each patient and a Perfect Care Score is determined as a measurement of how many patients receive all 7 standards of care for AMI. OHVI achieved a Perfect Care Score of 95.5 in July.

A quality council reviews every patient's care monthly. If someone did not receive the care as defined by the core measures, that care is analyzed by a review team to see where improvements can be made. If there is a problem, it usually has more to do with process than personnel, Christensen says.

For example, the ACEI/ARB indicator was of concern because it was taking too long to attain the 100 percent level. The review team poured over patient charts, eventually finding a problem with documentation. It was clear from the record why a physician thought that the drug was contraindicated. But that is not enough. The standard requires that the physician must document exactly why the drug is contraindicated. To solve the problem, visual controls were set up at documentation stations to remind physicians to record the data. In addition, reminders were included in physicians report cards. Now, the ACEI/ARB indicator for AMI is at 100 percent.

Likewise, we have a specific focus on improving PCI within 120 minutes. The OHVI has created an interdisciplinary AMI team to address the full continuum of acute myocardial infarctions care in our community. Again, our goal is to be in the top 10 percent nationally for the "PCI within 120 minutes."

"Referring physicians can rest assured that we are carefully checking on their patients and on our processes," Christensen says. "We also check with referring physicians to get details about their patients or interventions. This continuous feedback loop is helping us get closer to our goal. Quite simply, we are shooting for perfection, 100 percent, on all indicators. We're not quite there yet, but we're getting close."

To see OHVI's clinical performance measures, log on to www.ohvi.org/quality.

—End

AMI CARE	Top 10	Average*+	Jan-Mar 05	Apr 05	May 05	Jun 05	July 05
ASA on Arrival	100+	97*	100	100	100	100	100
Beta Blocker on Arrival	99+	92*	96.3	100	94.1	98.3	94.1
ACEI/ARB for LVSD	100+	80+	82.9	93.3	100	100	100
Smoking Cessation	100+	84+	98.1	100	100	100	100
PCI within 120 Minutes	99+	67*	65	80.0	71.4	62.5	71.4
ASA on Discharge	100+	98*	97.9	100	97.7	98.3	97.7
Beta Blocker on Discharge	100+	93*	96.8	98.2	93.0	96.7	93.0
Perfect Care Score				95.0	89.0	95.6	95.5

HEART FAILURE CARE	Top 10	Average*+	Jan-Mar 05	Apr 05	May 05	Jun 05	July 05
Discharge Instructions	86+	50+	84.8	97.6	86.7	76.5	95.0
LVEF Assessed	98*	87+	99.4	100	95.1	100	100
ACEI/ARB for LVSD	100*	80*	89.3	90.9	73.7	100	76.9
Smoking Cessation	98+	70+	87.0	83.3	83.3	90.0	100

Top 10% Nationally | Below National Average

**Oregon Statisitic* *+National Statistic* Note: Higher Average between Oregon & Nation was used

CryoAblation Now Available in Oregon

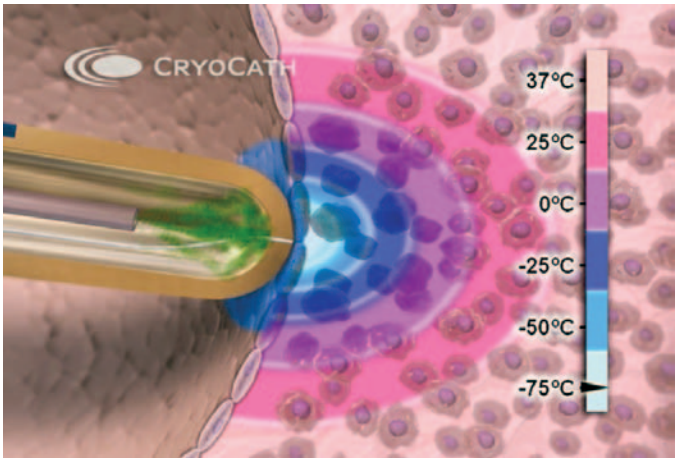
Although not new, cryoablation is creating a new buzz at Oregon Heart & Vascular Institute, thanks to advances in cryotechnology. Companies such as CryoCath Technologies, Inc., in Montreal, Quebec, have put new tools in the hands of cardiac surgeons and electrophysiologists. Instead of using a large, stiff surgical probe, the standard tool for the past 35 years, electrophysiologists can now ply a small, flexible catheter for transvenous ablation of cardiac arrhythmias.

Surgical teams at OHVI will begin performing cryoablations in November. OHVI is the first medical center in Oregon to offer this cutting-edge cryotherapy for the treatment of arrhythmia. Until now, patients in Oregon have had to travel to San Francisco for this procedure.

"We feel this cryotherapy procedure holds very high promise for excellent outcomes in qualified patients," says James McClelland, MD, a cardiologist with a specialty in electrophysiology. "Making it available in Oregon provides convenient, quality treatment close to home."

Whereas radio frequency ablation, the standard procedure, delivers heat, cryoablation actually removes heat from tissue. Removing heat creates a "frozen-tissue zone" without disrupting the connective tissue matrix. The result is a uniform, well-fibrosed lesion.

To destroy the diseased tissue, it is cooled to -75 C. Liquid nitrous oxide refrigerant is injected under high pressure through an ultrafine tube down a center lumen in the catheter. The N_2O is maintained under vacuum and further pressurized. It then changes from liquid to gas. As the N_2O meets the catheter tip, which is in contact with the tissue, the refrigerant absorbs heat from the tissue and then evaporates. The warmed vapor is returned to the console, kept under constant vacuum, and passed through the hospital's vacuum system. (For more details, log on to http://www.cryocath.com/en/1.medical.professionals/100.ep.usa.asp.)



The zone is thermally "dynamic" over time – cells remaining above zero sustain a transient electrical effect, cells reaching and remaining at subzero temperatures are ablated.

Numerous cases in the United States have shown cryotherapy to be safe and effective in the treatment of AVNRT arrhythmias. So far, the FDA has approved the procedure only for arrhythmias that occur near the AV node.

"Cryoablation makes sense for patients at higher-than-average risk of heart block and who may need a pacemaker if traditional ablation were to be performed," Dr. McClelland adds. "It is thought to be safer than a standard ablation, which heats instead of cools the spot."

Ablation therapy, in general, and RF ablation, in particular, has an outstanding safety profile. Cryoablation expands the use of ablation therapy to arrhythmia patients in whom RF ablation had been avoided because of certain safety concerns.

With cryoablation, "site testing" is possible because hypothermia provides reversibility and additional safety when ablating near critical structures such as the AV node. Cryoadhesion provides improved catheter stability, reducing the risk of inadvertent damage to the AV nodal block. With cryotechnology, there is no burning or charring, which reduces the risk of thrombosis and of cardiac perforation. There is also reduced risk of vein stenosis and damage to adjacent coronary arteries. Finally, with cryo, there is no perceived pain for the patient.

—End

OHVI QUARTERLY

OHVI Quarterly is a publication from the Oregon Heart & Vascular Institute in affiliation with Sacred Heart Medical Center. Its purpose is to share information about the institute with physicians and allied health professionals. If you would like to receive OHVI Quarterly electronically or be added to or removed from this mailing list, please contact us in writing or via e-mail to ohviquartely@ohvi.org.

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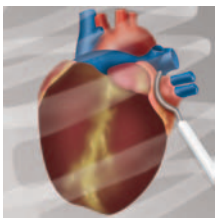
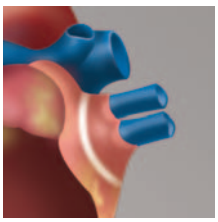
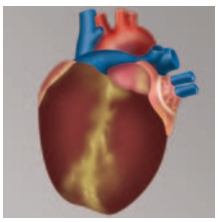
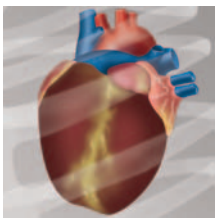
New procedure corrects atrial fibrillation

A relatively new minimally invasive surgical procedure offers hope as a safe and effective cure for many patients with atrial fibrillation. The Wolf MiniMaze™ is an innovation of the minimaze procedure pioneered by Dr. Randall Wolf of the University of Cincinnati. It differs from other procedures in that it addresses the causes, as they are currently understood, of the AF. Patients who have otherwise healthy heart tissue, are relatively young and who have failed at least two other medications in an attempt to treat the irregular beats benefit most from the procedure.

"We are very pleased with the outcomes using the minimaze procedure in the cases that we have completed," says David Duke, MD, a cardiovascular surgeon. "The incisions are significantly smaller, no heart-lung bypass machine is required and recovery time is short compared to other heart surgery. We feel that this will become the standard operating procedure for addressing irregular heartbeat."

Duke and James McClelland, MD, a cardiologist with a specialty in electrophysiology, together have performed more than a dozen minimaze procedures at the Oregon Heart & Vascular Institute (OHVI) and have several more scheduled for October and November.

The procedure is performed on the normally beating heart. Incisions are made between the ribs; only one true incision is made on the heart. The surgical team, which includes an electrophysiologist, places a clamp on the left atrium near the pulmonary veins, and, using radio waves, ablates the atrial tissue, which cauterizes the area and damages the tissue so it can no longer conduct electrical signals. In most cases, the left atrial appendage is removed to reduce the possibility of stroke.

"The long-term success of the surgery," McClelland notes, "depends on electrically isolating the pulmonary veins; reducing or eliminating nerve input to the heart; removing the ligament of Marshal, a known problem in AF; and removing the left atrial appendage."

Dr. McClelland believes that another contributor to the success of minimaze is the team approach, which involves the skills of a cardiac surgeon and an electrophysiologist.

"Previous procedures to correct irregular heartbeat have not been nearly as effective in part because they were either all about surgery or all about electrophysiology," he says. "The minimaze combines both skill sets to benefit the patient."

Doctors Duke and McClelland traveled to Cincinnati last year to learn first-hand from Dr. Wolf about minimaze. Later this year OHVI, in conjunction with the University of Oregon, will become one of only three formal training sites for the procedure in the United States.

To learn more about the minimaze procedure, go to www.ohvi.org/minimaze.

—End

Cardiothoracic continued from page 2

completed a one-year fellowship in general thoracic surgery at Dalhousie University Medical School in Halifax, Nova Scotia, and a three-year fellowship in cardiovascular and thoracic surgery at the University of Minnesota.

As he begins his first real assignment in a busy heart and vascular hospital, Dr. Koh appreciates the team approach at OHVI. "One of the major attractions of OHVI, to me, is the overall professional team approach," he says. "From the surgeons to the PAs to the ICU staff to the ward nurses, everyone works together. People here like what they do and are good at it."

—End

A.W.S.E.M. Pearls

Heart failure is a growing national problem that results in one million hospital admissions each year. New guidelines were recently released by the American College of Cardiology and the American Heart Association that emphasize early diagnosis and aggressive treatment and control of risk factors. Key recommendations include the following:

- Use *heart failure* without the adjective *congestive* because not all heart-failure patients have volume overload at the time of evaluation.
- Consider primary prevention ICD therapy for LVEF less than or equal to 30 percent and are in NYHA Class 2 or 3.
- Evaluate heart-failure patients for sleep disorders.
- Use beta-blockers, including Bisoprolol, Carvedilol and sustained-release Metoprolol, unless contraindicated.
- Discuss end-of-life care issues, including advanced directives and hospice care services, with all patients and their families.
- Adding aldosterone antagonists is reasonable in patients with moderate to severe symptoms of heart failure (with reduced LVEF) with appropriately low creatinine and potassium levels.
- Consider LV-assist-device therapy in highly selected patients with end-stage heart failure and a greater than 50 percent estimated one-year mortality.

The complete guidelines are available at http://www.acc.org/clinical/guidelines/failure/summary.pdf.

Contact the Heart Failure Center at Oregon Heart & Vascular Institute for questions or comments, (541) 335-2789.

OHVI QUARTERLY

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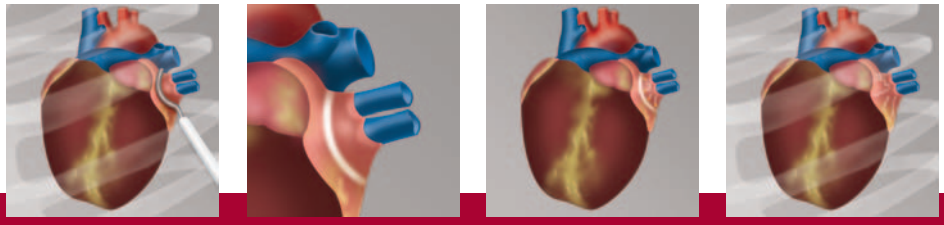

New procedure corrects atrial fibrillation

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