

## Did You Know?



- AROC provides **around the clock service** at the radiology department of SJMO. An AROC radiologist is available for consultation either personally or via phone for all SJMO physicians at any time of the day or night.
- A **preliminary report** is issued for all STAT inpatients and ED examination, allowing clinical decisions to be made right away.
- The **radiology reports are available** to the referring physicians instantaneously after dictation, an average of about eight hours prior to final written report. The dictation can be accessed by phone using the password issued to you.
- The interventional radiologists of AROC provide **outpatient clinical evaluation and management services** at their clinic in the Pontiac office for peripheral vascular disease treatment, uterine fibroid embolization or for any other procedure, upon request. Appropriate follow-up visits are automatically arranged. The patients are promptly referred back to the primary care physicians. Call (248) 338-0491 for additional information.
- A **patient satisfaction survey** done by National Research Corporation (NRC) in June 2002 placed the SJMO radiology department high in overall quality of care. NRC's top quartile is 83.7%, radiology received 85.9%. Patient time waiting for examination in outpatient radiology was 84.8% compared to NRC's top quartile of 83.8%.

## Research Clips

- Researchers at Stanford University Medical Center say that women suspected of having appendicitis benefit the most from preoperative CT or US. Women had a 28% rate of **normal appendix removal** when no preoperative imaging study was done; that rate decreased to 7% when CT was obtained and to 8% when ultrasound was performed preoperatively — *Radiology (October) 2002;225:131-136.*
- A study from Thomas Jefferson University Hospital involving 2,500 **lumbar spine MRI** examinations showed up to a 179% increase in reporting of incidental findings when using a Picture Archiving & Communication System (**PACS**), resulting in recommended follow-up studies. Of the 202 incidental findings, four represented occult malignancies. The most common findings involved renal, pelvic, hepatic, pulmonary, and lymph node abnormalities — *Radiology (October) 2002;225:500-505.*
- **Radio-frequency ablation**, a widely accepted procedure to treat unresectable metastatic (and solitary primary) lesions of the liver, lung and kidney, can also provide relief to patients suffering from **metastatic tumors** elsewhere such as **in bones**, especially those causing extreme pain. Preliminary results from an ongoing study presented in Radiological Society of North America in Chicago on December 4, 2002 showed 44% of patients treated reported complete pain relief, and more than 80% reported considerable pain relief. The treatment offers hope to patients for whom chemotherapy or surgery are not viable options — *RSNA proceedings.*

- A multidisciplinary panel set up by Society of Radiologists in Ultrasound on the **evaluation of postmenopausal bleeding** (PMB) for detection of cancer reported that transvaginal sonography (TVS) and blind endometrial biopsy (EMB) are comparable if appropriate endometrial thickness (ET) is chosen. If the patient is high risk for endometrial cancer (>60 y/o, obese, diabetic) EMB may be preferable, as the first step. The TVS in a woman with PMB should be considered abnormal if ET is >5mm and/or the endometrium is inhomogenous or irregularly marginated — *SRU proceedings.*

**ASSOCIATED RADIOLOGISTS OF OAKLAND COUNTY** is committed to providing imaging services in an atmosphere where patient care, dignity, and respect are paramount. The foundation of our continued success is based on valued, long-term relationships with our referring physicians and patients. We continue to be a leader in our field by providing quality service, education and superior technology.

### AROC Mission Statement



# AROC News

Your Imaging Specialists

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## A Tribute to OUR FOUNDERS



Associated Radiologists of Oakland County, P.C. (AROC), as a corporation, celebrated its 34th anniversary in December 2002. From a historical perspective this is a short time span but for a small professional corporation it has been a long period of growth. We have witnessed many milestone developments of technological innovations such as US, CT, MRI, Interventional Radiology, etc.

We owe our name and reputation to our predecessors who cast the shape of what we have become today. The roots of AROC began in 1927 when Dr. Stewart Galbraith established a department of radiology in the basement of the original hospital building. He died the same year and the medical partnership of Drs. J. E. Church and H. H. Poole provided these services at what is now known as St. Joseph Mercy Oakland (SJMO). Dr. Church died in 1945 and Dr. Poole retired in 1945. Dr. James Morton then became the solo radiologist at SJMO until 1952 when Dr. Eugene J. Keeffe joined him. Dr. Morton died in 1959 and Dr. Eugene Keeffe became the Chair of

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We are anxiously awaiting the final stage of installation of the 16-slice multi-detector CT scanner by Toshiba. This technology is so new that I am told, "this will be the first such scanner in the metro-Detroit area." It will dramatically enhance our diagnostic ability as well as provide significant clinical information for your patients.

One the greatest impacts will result from our new Stroke Protocol, which will include brain perfusion and CT angiography (CTA), when indicated. With these perfusion maps we will diagnose stroke earlier, on the initial scan, as well as give the prognosis of which patients will benefit from tPA and those that are at risk of intracranial hemorrhage.

CTA is quickly becoming the study of choice in many cases. Intracranial CTA has a higher sensitivity and specificity for aneurysm than conventional angiography as stated in a recent *Neuroradiology* article. It will pinpoint the vascular territory of many infarcts. During the stroke protocol we have the ability to perform CTA of the carotids. Again, the accuracy is similar to conventional angiography and much greater than Ultrasound or MRA. CTA is also utilized for thoracic and abdominal aorta studies such as aneurysm



by Michael J. Swofford, D.O. Neuroradiologist

and dissection. It is also beneficial for renal artery stenosis, mesenteric ischemia, and lower extremity vascular disease.

This scanner has multiplanar capabilities similar to MRI with much faster image reconstruction. This is very useful for evaluation of postoperative hardware in the vertebral column without the artifact seen previously. It provides sagittal and coronal anatomic images of all organ systems.

## SJMO BUYS NEW STATE-OF-THE-ART 16-SLICE CT SCANNER



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## A Tribute To OUR FOUNDERS (continued from page 1)

Department of Radiology. Drs. Raymond A. Gagliardi and Berg joined Dr. Keffe in 1959. The federal government allowed professional corporations to incorporate in 1968, and Associated Radiologists of Oakland County, P.C. was born. Drs. Keffe, Gagliardi and Berg signed the original article of incorporation in December 1968. Dr. Lowell joined the group in 1964, followed by Dr. Browne. Dr. Berg left in 1969 and Dr. Robert Steele joined in 1973. Dr. Keffe was the first president of AROC until his death in 1976. Dr. Raymond Gagliardi succeeded him. Dr. Ting joined in 1978, myself in July 1980 and Dr. Ronald E. Smith in 1981. Dr. Gagliardi remained the President of AROC until his retirement in December 1991. He currently resides in Boca Raton, Florida. Dr. Robert D. Steele became the president of AROC in January 1992 until his recent retirement in December 2002. He also resides in Naples, Florida. Dr. Ting retired in 1991 and now lives in Palo Alto, California. Dr. Browne retired in 1986 to become the VPMA of SJMO, leaving that post after two years to retire in the Upper Peninsula. Dr. Lowell retired in 1996 and lives in Oscoda, Michigan. Dr. Smith retired in 2000 and lives in Waterford, Michigan.

The members of AROC introduced and managed the radiology residency program at SJMO in 1961. Dr. Richard Oslund was the first and lone resident. He is currently practicing in Muskegon, Michigan. The program has always been fully accredited and has never received a major citation from the Residency Review Committee or ACGMA. This program has been a voluntary teaching program by the members of AROC. A training program for X-ray technologists was started in 1963 and ultrasound technologists in 1985.

Members of AROC up until 1975 provided radiation therapy services at SJMO. Interventional procedures were started at SJMO in July 1980. The first percutaneous transluminal angioplasty (PTA) of peripheral arteries was performed in August 1980, and uterine fibroid embolization in 1999. CT scan was first installed in 1975 and at present there are three in service. A mobile 0.5 Tesla MRI scanner started in 1989 and was replaced by a permanent 1.5 Tesla scanner that has been in use since 1996. Our first B-Mode ultra-

sound unit was purchased in 1974; the first real-time unit in 1981, the first duplex unit in 1982, and the first color Doppler unit arrived in 1988. We now utilize seven state-of-the-art ultrasound machines with Duplex Doppler, color and power Doppler, as well as SonoCT technology. Nuclear Medicine services began in 1970. A dual-head gated SPECT Imaging camera now in use was purchased in 1999. Myoview imaging started in 2002. A non-invasive vascular laboratory was started in 1982. The "Business Plan" for Mercy Vascular Institute was written in 1998 to serve as a blueprint for a multimodality service. The Picture Archiving and Communication System (PACS) began in June 2002.

In addition, AROC maintained an office for private referrals at 880 Woodward Avenue in Pontiac. Later when the new medical office building was built at 44555 Woodward Avenue, the administration asked AROC to continue providing services to the tenants of the new building. When the hospital became involved in a medical building in Clarkston in 1990, AROC established a freestanding office in that building. Oakland County Executive Dan Murphy requested that AROC provide radiological services to several county institutions, including their long-term Health Care Facility, County Jail, Children's Village, etc., we provided these services at sharply discounted pricing. Consulting services are also provided to GM Truck Group and Powertrain Division of GM. In addition, we also provide free radiology professional services to patients of Mercy Clinic in the City of Pontiac.

Our gratitude is to our founders; it is because of them that we continue to successfully carry on as a leader of imaging services in Oakland County. They have given us a solid foundation and plenty to build on, while allowing us opportunities to branch out in different directions.

We celebrate 34 years of existence and service to SJMO, Oakland County physicians and the community at large. A piece of history, a time to ponder.

**Shahzad Sadiq, M.D., F.A.C.R.**  
**President and CEO**



## Dr. Rizwana Afzal Joins AROC

We are pleased to announce the association of **Dr. Rizwana Afzal** who joined AROC and the radiology staff of St. Joseph Mercy Oakland on January 1, 2003. Rizwana is a graduate of Dow Medical School in Karachi, Pakistan. She completed her internship at Henry Ford Hospital, and radiology residency from William Beaumont Hospital in Royal Oak, MI. She went on to do her one-year fellowship training in Body Imaging from John Hopkins Hospital in Baltimore, MD. She brings to us a wealth of knowledge and will interpret Ultrasound, CT, MRI, Neuro and Mammography.

She is affectionately known as "Dr. Rizzy." Rizwana is married with four wonderful children. Her husband is an engineer by profession. We at AROC welcome her into our group and look forward to a long association.

## New CT Scanner

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Additional features that are in the final research stages include virtual colonoscopy and bronchoscopy, which provide endoscopic-appearing images of the colon and lungs. The new scanner will also provide us with the technology to perform up-to-date research.

We were greatly supported by SJMO hospital administration because they realized the cutting-edge superiority of the technology would provide the best care possible for our patients.

These are a few applications of our new CT Scanner and the diagnostic impact it will have on your patients. Please call any of the radiologists with your questions at 248.858.3040.



**A non-invasive CTA of pelvic vessels using Toshiba's 16-slice scanner.**



**Dr. Judith Bender reviews an ultrasound study.**

## A Novel Therapy for a Disabling Condition PERCUTANEOUS VERTEBROPLASTY

Over the last several years, percutaneous vertebroplasty has increasingly been utilized for the treatment of painful compression fractures of the spine. Originally developed in France, it has gained rapid acceptance in the United States, as it has proven to be a minimally invasive, yet highly effective treatment for pain associated with these fractures. Physicians who care for the elderly are well aware of the debilitating nature of vertebral fractures. Of the 700,000 osteoporotic vertebral fractures diagnosed each year, approximately 84% are associated with significant pain. Often, this can leave patients bedridden and dependent upon analgesics, accelerating bone loss, as well as increasing the risk of pneumonia, DVT, and other complications related to immobility. Fortunately, in most patients the pain subsides after several weeks. However, in some the pain persists and in those vertebroplasty can offer a definitive treatment.

The procedure itself employs many of the same techniques as traditional image guided biopsies. At most institutions, vertebroplasty is done in the radiology department's angiography suite, as high quality imaging is crucial for the success of the procedure and in minimizing the likelihood of complications. Under fluoroscopic guidance, an 11 or 13 gauge bone biopsy needle is advanced into the vertebral body using a transpediculate approach. Once appropriate positioning is achieved, polymethylmethacrylate (PMMA) is injected into the vertebral body, again under close fluoroscopic guidance to avoid inadvertent injection of the "cement" into venous structures or neural foramina. The procedure is typically done with local anesthesia and conscious sedation. General anesthesia is avoided but is rarely used in cases in which the patient is in severe pain and unable to cooperate. Vertebroplasty is performed on an outpatient basis, with most being discharged in 4-6 hours following the procedure. The mechanism by which pain relief is achieved is not fully understood, but may be related to the

stabilization of micro fractures or possible thermal damage to neural receptors. In any event, studies have shown at least moderate to complete pain relief in up to 90% of patients.

The ideal candidate for vertebroplasty is the patient with a relatively recent osteoporotic compression fracture (less than one year) whose pain is unresponsive to medical therapy. Patients with vertebral fractures secondary to malignancy may also be candidates. Preprocedure imaging evaluation is performed by MRI, CT or bone scintigraphy. MRI is preferred as it can

demonstrate bone marrow edema associated with acute or subacute fractures, which is very helpful in patients with multiple fractures of uncertain age. It can also demonstrate other causes for pain, such as canal stenosis or degenerative disk disease.

Relative contraindications to vertebroplasty include severe collapse of the

vertebral body (vertebra plana), and greater than 20% stenosis of the spinal canal. Active infection and uncorrected bleeding diatheses are absolute contraindications.

Minor or transient complications occur in 1-3% of treated osteoporotic compression fractures. This number is higher for metastatic lesions. Severe or permanent complications occur in less than 1%. Possible complications include migration of cement into the epidural venous plexus or leakage through the fracture itself into the canal resulting in spinal cord or nerve root compression, cement embolization, rib fractures, infection, and hemorrhage. Complications can be avoided by appropriate patient selection, strict aseptic technique, and the use of high-quality imaging equipment.

In summary, percutaneous vertebroplasty is a very effective, minimally invasive technique, associated with a low complication rate. As such it will likely be increasingly utilized for the treatment of painful compression fractures of the spine, in those who do not respond to traditional medical therapy.



**by Rod Golovoy, M.D.,  
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