



MODESTO
RADIOLOGY
IMAGING

THE VIEW

SUMMER 2003

IN THIS ISSUE

A New Era!

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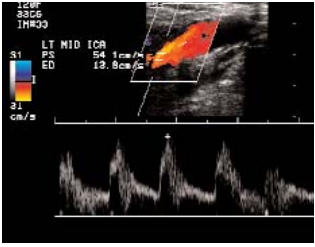
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Welcome Kurt C. Litvin

Modesto Radiology Imaging is pleased to welcome Kurt Litvin, as new Chief Operating Officer.

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A NEW ERA IN RADIOLOGY TECHNOLOGY...

With the advent of multi-detector spiral computed tomography (CT) and the increasing availability of shorter exam times for magnetic resonance imaging (MRI), the question of where ultrasound now fits into the imaging armamentarium often comes up in discussion with referring physicians.

Ultrasound technology has not sat idle while improvements were occurring in CT and MRI. Current generation ultrasound machines offer much improved spatial resolution and image reconstruction algorithms, in addition to improvements in contrast discrimination as well as color and spectral doppler sensitivity. The use of harmonic imaging not only allows for considerable improvement in image quality in those patients who before were considered not to be "ultrasound friendly," but also serves to allow improved ultrasound surveillance of patients with hepatic cirrhosis.

Along with the improvements in ultrasound technology, the previously considered benefits of ultrasound remain applicable today, namely; the absence of ionizing radiation, general availability, and cost.

This article is intended to serve as a brief reminder of some of the less commonly utilized areas where ultrasound may be of value in helping achieve a rapid diagnosis of patient conditions.

Pediatrics

Ultrasound has much to offer in imaging the pediatric patient. The patients in this population, in general, have less body fat and the smaller body habitus allows for improved visualization of all solid abdominal organs. Ultrasound also has the added advantage for the younger pediatric patient in that the parents can be at the bedside to comfort the patient during the exam and sedation is not an issue.

In the neonatal period ultrasound serves as initial screening for occult spinal dysraphism when sacral dimples, hair tufts, or pigmentation changes are found on physical exam. It also can serve as an initial screen for hydrocephalus prior to closure of the anterior fontanelle when head circumference is found to be rapidly increasing.

Ultrasound also serves well in the initial evaluation of various "lumps and bumps" found on the extremities or neck by establishing the cystic or solid nature of the mass and also quite often being able to determine site of origin.

Evaluation of the empty scrotum or solitary testicle often allows for localization of the testicle within the inguinal canal. Routine evaluation of the scrotum is important even following the initial documentation of bilateral descent in the newborn period as the initially descended testicle may become retracted with patient

growth.

Ultrasound evaluation of the patient suspected of having hypertrophic pyloric stenosis has nearly supplanted the upper gastrointestinal barium exam for diagnosis. This exam requires patience on the part of the examiner and familiarity with examination techniques in order to obtain an exam of diagnostic quality.

Women's Imaging

Ultrasound plays a significant role in women's imaging as the mainstay of gynecologic imaging and as an adjunct to mammography. Most painful adnexal masses are well characterized by ultrasound and ultrasound is quite often the first and last imaging modality utilized in the evaluation of the female pelvis. MRI and CT generally having a larger role in the evaluation of gynecologic malignancies initially diagnosed with ultrasound.

Transvaginal ultrasound allows for high resolution imaging of the adnexa and endometrium allowing for the visualization of uterine changes associated with adenomyosis a condition that, until the development of recent generation ultrasound machines, was primarily diagnosed by the pathologist from hysterectomy specimens.

A transvaginal ultrasound exam is required for the ultrasound evaluation of post-menopausal bleeding. Transabdominal evaluation in the setting of post-menopausal bleeding does not provide adequate resolution for accurate measurement and characterization of the post-menopausal endometrium. Transvaginal evaluation also lends itself to sonohysterography a method of evaluating the abnormally thickened endometrium for suspected polyps, subendometrial fibroids, and endometrial carcinoma in both the pre- and post-menopausal patient.

Ultrasound evaluation of breast lumps in conjunction with mammography has sharply curtailed the number of breast biopsies performed on simple breast cysts. Also ultrasound guided aspiration of the painful isolated breast cyst is a quick and safe means of treating this condition.

Vascular Imaging

The increased sensitivity of color and spectral doppler in conjunction with nondirectional power doppler allows for rapid evaluation of both arterial and venous disease in the extremities as well as in within



HELPING MORE PEOPLE THAN EVER BEFORE!

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the abdomen.

Ultrasound has replaced venography in the initial evaluation of the swollen or painful lower extremity. The well performed ultrasound exam of the upper extremity venous system is a quick and accurate initial screen of the swollen upper extremity and when coupled with spectral waveform analysis provides diagnostic information on the patency of the superior vena cava in suspected superior vena caval syndrome.

Ultrasound serves as an initial screen in the evaluation of suspected lower extremity claudication. This is particularly important in the diabetic patient who may be experiencing neurogenic claudication or suffering from ischemia secondary to small vessel disease. Ultrasound has little, if any role, in the evaluation of the acutely pulseless and ischemic extremity as it serves only to delay appropriate angiographic evaluation and potential interventional therapy.

Ultrasound plays an important role in the follow up of patients with hepatic cirrhosis both in the surveillance for hepatoma and in those patients who have undergone trans-jugular intrahepatic portosystemic shunt (TIPS) procedures. Ultrasound allows for early detection of shunt malfunction prior to new onset of ascites or variceal bleeding. Shunt evaluation is generally performed within 24 hours of shunt placement, followed by one, three, and six month evaluations. Subsequent evaluations of the shunt occur at six month intervals.

Small Parts

Ultrasound has evolved into a first screen exam for thyroid nodules and thyromegaly. Ultrasound evaluation allows for discrimination of solid versus cystic lesions and also serves as a means of guidance for

fine needle aspiration biopsy of non palpable thyroid nodules or cyst aspiration.

Ultrasound has replaced nuclear medicine as the first line evaluation of the acutely painful scrotum. Testicular torsion is accurately diagnosed and quite readily ruled out. Generally an alternative diagnosis, such as epididymitis for example, can be made when testicular torsion is excluded by the ultrasound evaluation. Ultrasound is the modality of choice for the evaluation of testicular nodules and scrotal swelling. Ultrasound also plays an important role in the evaluation of male infertility as its vascular imaging capabilities make it a sensitive and specific means of detecting scrotal varices.

Conclusion

Ultrasound technology has improved along with the technology of other imaging modalities and continues to play an important role in the imaging evaluation of a wide variety of conditions. In many instances ultrasound, CT, and MRI are complementary and knowledge of and familiarity with all three modalities is quite useful in directing the imaging work up of a patient.

This brief article is in no way all inclusive and is intended to serve solely as a reminder of some of the less utilized benefits of the new ultrasound technologies currently available at Modesto Radiology Imaging. As always, we at Modesto Radiology Imaging are more than willing to discuss your individual patient imaging needs.

- Joseph L. Higgins, Jr., M.D., PhD



Kurt C. Litvin

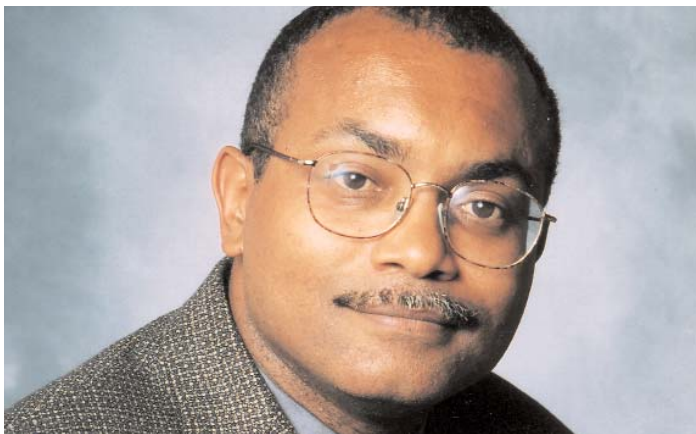
Modesto Radiology Imaging is pleased to welcome Kurt Litvin, as new Chief Operating Officer. Kurt comes to us from the Pacific Northwest, where he spent 28 years in Radiologic imaging as a technologist, supervisor and practice manager- in both hospital and outpatient clinical environments.

He received his technical training at Oregon Health Sciences University and holds a degree in Business Administration. Kurt has served on state radiologic licensing and school boards, and has been published in various trade journals including Administrative Radiology, Diagnostic Imaging, Advance for Radiology Administrators, and Cath Lab Digest. He is a regular contributor to Advance for Radiologic Technologists, and active member in Medical Group Practice Management and Radiology Business Management Association national societies. Kurt lives outside LaGrange with his wife of 26 years, and has two daughters ages 20 and 23--who live in Oregon.

DOCTOR BIOS

Introducing

Joseph Lionel Higgins, Jr., M.D., PhD



College

UC San Diego, Revelle College 1975-1979
B.A., Applied Mechanics and
Engineering Sciences Bioengineering

Medical School

UC San Diego School of Medicine 1979-1988
UC San Diego
M.D.

Internship

Saint Mary's Hospital and Medical Center 1988-1989
San Francisco, California

Residency

Stanford University Hospital 1989-1993
Stanford, California
Diagnostic Radiology

Fellowship

UC San Francisco SF General Hospital 1993-1994
CT, MRI, Ultrasound

Professional Appointments

Associate Professor of Clinical Radiology 2000-2002
LSU Health Sciences Center, New Orleans

UPCOMING EVENTS



**National
Screening for
PVD Leg Pain**

Saturday September 13, 2003 - 8am to 3pm

Sponsored by: Doctors Medical Center

Location: DMC Pre-admission Center

Participating Modesto Radiology Physicians:

James Hankin, M.D.
Thomas Rhodeman Jr., M.D.
Richard Haak, M.D.
Stephen Liu, M.D.

ANNOUNCEMENTS

Retired: Dr. Jesse Kahn and Dr. Joe Grinsell. We wish them a happy retirement and thanks for their many years of service to the community.

Elected: Congratulations to Dr. Micheal Tekautz for being elected as the President of Modesto Radiological Medical Group.

We wish to thank Dr. Dennis Boyce for his leadership as president for the past seven years.

Newsletter and Website design



BB&E Media, LLC.

209.338.0067 / info@bbemedia.com
www.bbemedia.com

LOCATIONS

Modesto Radiology Imaging

1524 McHenry Avenue #100
Modesto, CA 95350
Scheduling: 209.577.4444
Toll Free: 877.870.6700
General Business: 209.577.4444

Modesto Radiology Imaging Associates

1401 Spanos Court Suite 103
Modesto, CA 95355
Scheduling: 209.577.4444
Toll Free: 877.870.6700
General Business: 209.525.3161

Modesto Radiology of Los Banos

807 Illinois Avenue
Los Banos, CA 93635
Phone: 209.827.0444
Toll Free: 877.870.6700
Fax: 209.522.2877