

*Central Maine Medical Center*

# Physician Update



A2

FIVE NEW SPECIALISTS BEGIN PRACTICE IN LEWISTON-AUBURN AREA

A4

CMMC BEGINS PERFORMING CORONARY CT ANGIOGRAPHY WITH 64-SLICE CT

A5

SACRAL NEUROMODULATION IS A MINIMALLY INVASIVE TREATMENT FOR BLADDER CONTROL

A6

CLINICIANS MUST GUARD AGAINST CONTRIBUTING TO BRACHIAL PLEXOPATHIES DURING SURGICAL PROCEDURES

# FIVE NEW SPECIALISTS BEGIN PRACTICE IN LEWISTON-AUBURN AREA

Five new specialists have recently joined the Central Maine Medical Center Medical Staff, including two physicians who have taken clinical leadership positions.

John K. Baxter, M.D., a trauma and general surgeon, has been appointed director of the CMMC Center Trauma Program, and urologist Michael L. Parker, M.D., has been named medical director of urology. Endocrinologist Maylene Claire I. Peralta, M.D., neurologist Mitchell K. Ross, M.D., and dermatologist Peter H. Bouman, M.D., have also begun practicing in the Lewiston-Auburn area.

**JOHN K. BAXTER, M.D.,**  
*Trauma and General Surgery*



Dr. Baxter has succeeded Larry O. Hopperstead, M.D., as director of the CMMC Trauma Program. Dr.

Hopperstead was named CMMC's chief medical officer last year.

Prior to beginning his work at CMMC, Dr. Baxter worked for more than eight years as a trauma surgeon at North Memorial Medical Center in Robbinsdale, Minn.

A cum laude graduate of Dartmouth College in Hanover, N.H., he earned his medical degree at the University of Vermont College of Medicine in Burlington, Vt. He later completed coursework for a master's degree in public health administration at the University of Minnesota School of Public Health, in Minneapolis.

He served a residency in general surgery through Harvard Surgical Service at New England Deaconess Hospital in Boston. He also completed a fellowship in hyperalimentation at New England Deaconess Hospital in Boston. In the mid-1990s he completed a fellowship in surgical critical care at the University of Minnesota in Minneapolis.

He is certified by the American Board of Surgery with added qualifications in surgical critical care. He is certified as a nutrition support physician by the National Board of Nutrition Support Certification.

**MICHAEL L. PARKER, M.D.,**  
*Urology*



Michael L. Parker, M.D., CMMC's medical director of urology, has established his primary practice on the CMMC campus,

but will continue to see patients at the Rumford Hospital clinic. He will also lead the development of a regional urology practice to serve central and western Maine residents.

Dr. Parker has practiced urology in the central and western Maine region for more than 20 years. He has served patients in the Farmington and Rumford areas, and

assisted in the development of CMMC's brachytherapy program for prostate cancer. He was the first urologist in Maine to treat enlarged prostate gland problems in an outpatient surgery setting with a photovaporization laser.

Dr. Parker earned his medical degree at the Universidad Autonoma de Guadalajara School of Medicine in Guadalajara, Mexico. He later completed residency training in pediatrics, surgery and urology at Wayne State University School of Medicine in Detroit.

He is board certified by the American Board of Urology.

**MAYLENE CLAIRE I. PERALTA, M.D.,**  
*Endocrinology*

Maylene Claire I. Peralta, M.D.,



will focus her practice in the Lewiston-Auburn area on the treatment of diabetes and lipid disorders.

Prior to joining the Lewiston-Auburn medical community, Dr. Peralta served for three years as medical director at Pleasant Point Health Center in Perry, where she provided medical care to members of Maine's Passamaquoddy Tribe.

A graduate of the University of the Philippines in Quezon City, Philippines, she earned her medical degree from the University of the Philippines College of Medicine in Manila. She completed an internship at the University of the Philippines-Philippine General Hospital in Manila, and served an



internship and residency in internal medicine at the State University of New York Health Science Center at Brooklyn. In 2002 she completed a fellowship in endocrinology and metabolism at Loyola University Chicago Medical Center in Maywood, Ill.

In 2001 the 1st Endocrine Fellows Forum for Excellence named Dr. Peralta an Outstanding Fellow in Endocrinology. The following year, Pfizer Inc. recognized her with the 1st Scholars in Endocrinology Award for exceptional performance as a fellow in endocrinology.

She is certified in endocrinology and metabolism by the American Board of Internal Medicine.

**MITCHELL K. ROSS, M.D.,**  
*Neurology*

Prior to joining the Lewiston-Auburn area medical community, Mitchell K. Ross, M.D., practiced at MaineGeneral Medical Center in



Waterville and Augusta. He serves on the consulting medical staffs at a number of Maine hospitals.

A graduate of Harvard University in Cambridge, Mass., Dr. Ross earned his medical degree at Dartmouth Medical School in Hanover, N.H. He served an internship at Mary Imogene Bassett Hospital in Cooperstown, N.Y., and completed residency training at Dartmouth-Hitchcock Medical Center in Ha-

nover, N.H. He was also a neurobehavior fellow at the University of Iowa Hospitals and Clinics in Iowa City, Iowa.

He is certified by the American Board of Physiatry and Neurology, American Board of Electrodiagnostic Medicine, and American Board of Electroencephalography and Neurophysiology. He is a fellow of the American Academy of Neurology and the American Association of Neuromuscular and Electrodiagnostic Medicine.

**PETER H. BOUMAN, M.D.,**  
*Dermatology*

Before beginning his practice in the Lewiston-Auburn area, Peter H. Bouman, M.D., completed residency training at the Uni-



versity of Miami Medical Center in Miami. He also completed an internship in internal medicine at Rochester General Hospital in Rochester, N.Y.

A 1990 Phi Beta Kappa graduate of Carleton College in Northfield, Minn., he completed a year of post-baccalaureate premedical education at Bryn Mawr College in Bryn Mawr, Pa. He graduated Alpha Omega Alpha in 2001 from the University of Rochester School of Medicine in Rochester, N.Y.

Before he began his medical studies, Dr. Bouman served four years with the United States

Marine Corps, attaining the rank of captain. He served in Operation Restore Hope in Somalia. He was awarded the Navy Achievement Medal shortly before his discharge from the Marine Corps.

**NEW SPECIALISTS DIRECTORY**

**JOHN K. BAXTER, M.D.**  
CENTRAL MAINE SURGICAL ASSOCIATES  
12 HIGH STREET, SUITE 401, LEWISTON  
795-5767

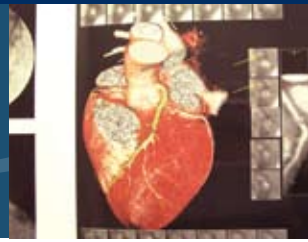
**MICHAEL L. PARKER, M.D.**  
CMMC UROLOGY CENTER  
287 MAIN STREET, SUITE 200, LEWISTON  
795-2171

**MAYLENE CLAIRE I. PERALTA, M.D.**  
CENTRAL MAINE ENDOCRINOLOGY  
287 MAIN STREET, SUITE 301, LEWISTON  
795-7520

**MITCHELL K. ROSS, M.D.**  
CENTRAL MAINE NEUROLOGY  
10 MINOT AVENUE, AUBURN  
795-2927 OR 1-800-308-0460.

**PETER H. BOUMAN, M.D.**  
BATES MILL DERMATOLOGY  
BATES MILL No 6  
70 LINCOLN STREET, LEWISTON  
795-7540

# CMMC BEGINS PERFORMING CORONARY CT ANGIOGRAPHY WITH 64-SLICE CT



Central Maine Medical Center in Lewiston has installed a 64-slice General Electric Lightspeed Volume CT (VCT) scanner that allows the hospital to perform coronary CT angiography, according to CMMC radiologist Michael Miller, M.D.

“Non-invasive imaging of the coronary arteries has long been the Holy Grail of diagnostic imaging. With the advent of 64-slice multidetector CT technology, this has become a reality,” says Dr. Miller.

Working in collaboration with cardiologists from the Central Maine Heart and Vascular Institute, Dr. Miller began performing coronary CT angiography (CCTA) studies in May.

“CCTA was initially performed on four-slice multidetector scanners. These exams were limited to evaluation of the proximal vessels because of long acquisition times and limited temporal and spatial resolution. Sixteen slice scanners made it possible to image the entire coronary circulation in a 15- to 20-second breath hold. With the new 64 slice multidetector CT, the entire coronary circulation can be imaged in a five- to six-second breath hold and can yield a negative predictive value of greater than 97 percent, effectively ruling out coronary artery disease,” Dr. Miller says.

With a gantry speed of 350 milliseconds (msec), temporal resolution as low as 44 msec and spatial resolution of 0.35 mm can be achieved with a 64-slice multidetector CT. Though catheter angiography has a superior temporal resolution of 10 msec and spatial resolution of 0.1 to 0.2 mm, the resolution of CCTA allows physicians to accurately image vessels smaller than 2 mm. (Intervention is generally not performed on vessels smaller than 2 mm.)

Perhaps more importantly, Dr. Miller explains, CCTA makes it possible to image that which is not visible with catheter angiography: the vessel wall and the much heralded vulnerable plaque. Only 15 percent of acute coronary syndromes are caused by the large, luminal-narrowing plaques seen at angiography. The rest are secondary to the rupture of a soft plaque, which has not resulted in severe luminal narrowing. CCTA compares favorably with intravascular ultrasound in detecting soft plaque and, further, can begin to characterize the plaque as fatty, atheromatous, fibrous, and calcific.

This information can be helpful in modifying the medical management of patients and in directing the appropriate patients to catheterization.

Dr. Miller says indications for CCTA include: patients with a low to intermediate risk for coronary artery disease (CAD); inconclusive stress EKG's, nuclear stress tests, and stress echoes; the evaluation of patients with suspected graft closure; patients at high risk for conventional angiography; young patients with a question of aberrant coronaries; and assessing stent patency

Contraindications to CCTA include: cardiac arrhythmias (a future software upgrade will allow for editing of ectopic beats); creatinine over 1.8; patients who cannot tolerate beta blockade (a heart rate of 65 or below is optimal); and patients with acute coronary syndromes

In addition to imaging the coronaries, the cardiac exam can generate an ejection fraction and provide a coronary calcium score. Though still somewhat controversial, the calcium score serves as a marker for atherosclerotic plaque and correlates with CAD risk, though not on a 1:1 basis.

*Anyone seeking more information about 64-slice multidetector CT scanning is urged to call the CMMC CT Section at 795-2410.*



# SACRAL NEUROMODULATION IS A MINIMALLY INVASIVE TREATMENT FOR BLADDER CONTROL

**Many people suffer from anxiety, depression, limitations of social activities, and embarrassment because of voiding dysfunction.**

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Symptoms of the problem may include urge incontinence, urgency-frequency, and retention. Despite the huge impact this issue has on quality of life, it continues to be a hidden problem for many patients. They are embarrassed to talk to their healthcare providers, and many of those who do broach the topic with their doctor will not receive an evaluation or assessment.

“One may think of the bladder as a ‘clever’ organ,” says Ted M. Roth, M.D., of Central Maine Medical Center’s Women’s Specialty Center and Bladder Control Center. “The bladder spends about 23.5 hrs a day storing urine and the other half hour emptying. However, the innervation required for bladder control is extensive: requiring suprapontine inputs, intact spinal connections between the pons and sacral cord, and intact peripheral nerves. Almost as important is the physiologic coordination between the detrusor muscle of the bladder and the pelvic floor/external urinary sphincter muscles.”

“Sacral neuromodulation is a FDA-approved treatment developed by Minneapolis-based Medtronic Corp. It is a minimally invasive therapy that provides an effective alternative for patients with voiding dysfunction who have not been helped by, or could not tolerate, more conventional treatment, including pharmacotherapy,” Dr. Roth says.

Interstim therapy consists of two steps: 1. test stimulation and 2. implantation of a permanent intermittent pulse generator (IPG). Proposed mechanisms of action include inhibition of the so-called guarding reflex, modulation of abnormally elevated excitatory outflow to the urethral sphincter, and modulation of aberrant sensory outflow from the urothelium and detrusor muscle.

The test phase involves percutaneous placement of a neuroelectrode into the S3 foramen under fluoroscopic guidance. The electrode is connected to an external stimulator device. The test phase lasts about two weeks and if the patient achieves greater than 50 percent improvement, he/she is a candidate for the permanent IPG implant, which is about the size of a pocket watch. This is implanted into a subcutaneous pocket, usually in the upper buttock. The procedures are performed under conscious sedation with local anesthetic and the patient is discharged the same day.

“Sacral neuromodulation has been extensively studied in multi-center randomized controlled trials in Europe and North America. In one study, 79 percent of patients had clinical success for the treatment of urge incontinence – 45 percent of these patients remained completely dry. Eighty-two percent had clinical success for symptoms of urgency and frequency. Efficacy for treatment of non-obstructive retention is 77 percent with 61 percent of patients eliminating the use of self-catheterization,” Dr. Roth says.

Sacral neuromodulation is FDA-approved for symptoms of overactive bladder, including urgency-frequency, and non-obstructive urinary retention. Expanding indications include interstitial cystitis, irritable bowel syndrome, and neurogenic bladder. Similar neuromodulators have long been used in non-urologic conditions, including chronic headaches, intractable chest pain, and gastric motility disorders.

“In treating voiding dysfunctions, we no longer have to rely only on medications that are simply ‘ok’ or on more invasive surgeries that have a potential for significant complications,” Dr. Roth says.

*CMMC Bladder Control Center  
795-2121 or 1-877-836-3900.*

# CLINICIANS MUST GUARD AGAINST CONTRIBUTING TO BRACHIAL PLEXOPATHIES DURING SURGICAL PROCEDURES



**Multiple operative procedures have been implicated in causing brachial plexopathies, says neurologist Mitchell K. Ross, M.D., of Central Maine Neurology in Lewiston.**

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This problem is related to improper patient positioning on the operating table and inadequate support of the patient's body weight by the shoulder region during general anesthesia.

"Brachial plexopathies symptoms are usually transient arm weakness or numbness. There is an effect of traction and pressure, usually at the trunk level, although any portion of the brachial plexus may be affected. Recovery times can range from within three weeks to four months, but more profound injuries have caused prolonged disability. Thorough electrodiagnostic consultation helps resolve questions about the location and severity of the injury," Dr. Ross says.

Possible medical and legal complications should inspire OR float nurses, anesthesiologists, and less experienced surgeons to be aware of potential high risk patients (i.e., morbid obesity, diabetes, and anticipated long procedures). "Prevention of the injury is of prime consideration," he says.

The sequelae of a brachial plexopathy as a perioperative complication is often due to traction or compression of the nerve bundle against the first rib or clavicle. Inordinate stretching

on the lower trunk or medial cord, failed patient repositioning, or inattention to protocol during a prolonged procedure may result in detectable axonal destruction with reduced amplitude of the sensory nerve action potential, reduced amplitude of compound motor action potential, and spontaneous membrane activity (needle EMG examination demonstrates positive sharp waves and fibrillation potentials) in the muscles innervated by the portion of the plexus which is injured. For instance, if the lower trunk is squeezed, the median and ulnar nerve distributions will show changes.

"There is no specific care for the paralysis and return of function is dependent on tincture of time," Dr. Ross observes.

A patient lying prone for more than three to eight hours on a Jackson table, with focal pressure from balled-up Gelfoam pads beneath the axilla, may experience stretching of the delicate nerves between the clavicle and first rib which can lead to direct ischemia of the brachial plexus, stretching of the epineural vessels to the point of rupture (also causing ischemia within the nerve), and direct pressure or compression of myelin insulation (neurapraxia).

"The more unfavorable the position of the arm and/or the longer the position is maintained, the more the skeletal muscles of the patient are relaxed, the greater the risk of brachial plexopathy. Trapped nerve bundles between the anterior scalenes and the underlying bones may also lead to an upper trunk topography. Electrophysiologic and radiographic evaluations are

complimentary and understanding of the brachial plexus anatomy is essential to the specific brachial plexus disorder," Dr. Ross says,

Axillary arteriography and venous cannulation and other procedures requiring placement of a needle or cannula in or about the region of the brachial plexus may rarely damage those nerves. This usually presents as a compartment syndrome. Median sternotomy may cause stretch injuries to the plexus.

"Regional anesthesia can result in peripheral nerve injury. In patients who have peripheral neuropathies, multiple entrapment neuropathies, or radiculopathies who sustain a plexopathy, the determination of which process is responsible for detected abnormalities may be nearly impossible," he adds.

Electrophysiologic data may also indicate whether the brachial plexus injury is in continuity or if there is a complete wallerian degeneration affecting the relevant nerves. Prognosis for functional return may be offered from the clinical and electrophysiologic evidence, and temporary reassignment of work may be reasonable because of the anticipated outcomes.

"Without doubt, this form of muscular weakness, although temporary, can be quite disruptive, particularly if physical dexterity and strength are required by the patient's employment. An appropriate consultation must be obtained to prevent the arm from advancing to a need for more extensive rehabilitation," Dr. Ross says.

*Central Maine Neurology  
795-2927.*

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