

# Medifax

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A Newsletter for  
Physicians of Inova  
Fairfax Hospital and  
Inova Fairfax Hospital  
for Children

## GMU-Inova Translational Research Centers to Advance 'Bench to Bedside' Research

The George Mason University-Inova Health System Translational Research Centers, a unique partnership between two respected Northern Virginia institutions, is poised to pave the way for accelerated, cutting edge 'bench to bedside' research. Internationally renowned scientists who embrace innovative technologies and engage in collaborative efforts with clinical investigators will ensure that medical care keeps pace with advances in biomedicine.

The initiative comprises the research efforts of the Center for Applied Proteomics and Molecular Medicine, the Center for Biomedical Genomics and the Center for the Study of Genomics in Liver Diseases. The centers will coordinate multiple programs to apply the advances arising from novel and exciting proteomics, nanotechnology, and genomics technologies to the development of improved diagnostics, prognostics and therapies for cancer, metabolic syndrome, and cardiopulmonary, liver and neurodegenerative diseases. "We are excited that George



**Zobair M. Younossi, MD, MPH**, (far right) co-director of GMU-Inova Health System Translational Research Centers, speaks with **Lance Liotta, MD, PhD**, co-director, Center for Applied Proteomics and Molecular Medicine; **Emanuel F. Petricoin, PhD**, co-director, Center for Applied Proteomics and Molecular Medicine; and **Vikas Chandhoke PhD**, associate dean of Research, College of Art and Sciences, GMU, and co-director, GMU-Inova Health System Translational Research Centers.

Mason University and Inova Health System are working together to develop technologies to enhance treatment for people with cancer, diabetes, liver disease, and other conditions that are increasingly prevalent in our society," says J. Knox Singleton, president and chief executive officer, Inova Health System. "We're honored that the new frontier in translational medicine is right here in Northern Virginia."

These translational research projects address the genomic, proteomic and clinical aspects of a single disease and represent the future of medicine.

Until recently, researchers seeking a treatment for a disease may have tested hundreds of drugs individually over years. Now targeted therapy can be tested simultaneously on thousands of genes and dozens of protein networks in days, greatly accelerating the elimination of drugs with obvious toxicity while identifying those with potential efficacy.

The GMU-Inova partnership traces its roots to the Center for the Study of Genomics in Liver Diseases.

*GMU-Inova Research, continued on page 10*

 **INOVA<sup>®</sup> FAIRFAX  
HOSPITAL**

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HOSPITAL FOR CHILDREN**

## Welcome VCU School of Medicine Class of 2007

In August, we will see new faces on the patient care units and throughout Inova Fairfax Hospital and Inova Fairfax Hospital for Children. Twenty-four third year students from the Virginia Commonwealth University (VCU) School of Medicine in Richmond will be starting their clinical clerkships at our hospital. By the fall of 2006, the full complement of 48 medical students from the VCU School of Medicine will be located on our campus.

These third and fourth year medical students will be serving all of their clinical rotations with us. The third year students will have rotations on Surgery, Medicine, Pediatrics, Family Practice, Obstetrics and Gynecology, and Neurology. The fourth year for the students will be mostly a year of electives. In August we will officially become a "regional" or "branch" campus of the VCU School of Medicine. When this happens, 27 of the 126 U.S. medical schools will have one or more branch campuses. The number of regional campuses will probably continue to increase across the nation. These campuses, such as ours, will "in effect, be mini-medical schools lacking only basic science instruction" according to the Association of American Medical Colleges (AAMC).

The process of our becoming a regional campus began in 1999 when representatives of the VCU School of Medicine and Inova Fairfax Hospital and Inova Fairfax Hospital for Children began working in earnest to establish this branch campus at our institution. In the spring of 2002, the state legislature of Virginia and the governor authorized the creation of the Inova campus of the Virginia

Commonwealth University School of Medicine. This campus was approved, as well, by the Liaison Committee on Medical Education, which included representatives from the AAMC and the AMA.

In my view, this is a very important milestone in the development of our hospital from what began as a relatively small community hospital in the 1960s to our becoming a significant academic medical center. Needless to say, there will be benefits for all of the parties in this relationship. The VCU School of Medicine will have students who will enjoy a clinical experience with a focus both on primary and tertiary care in a community setting that the main campus in Richmond could not by itself adequately provide. Another benefit is a larger and broader patient base. The students themselves will benefit from this affiliation as well. The AAMC reports that student surveys from other regional medical center campuses in the nation consistently show that the students rate the educational experiences provided at these campuses as good as, if not better than, the educational experiences at their primary medical school teaching hospitals. Inova Fairfax Hospital and Inova Fairfax Hospital for Children will benefit from an affiliation that will surely enhance our stature as a medical center. This should also lead to better recruitment of residents and eventually of fellows in our teaching programs.

Currently, we have 60-70 medical students from a number of medical schools performing a small number of their clinical rotations at our hospital at any one time. In addition, we have 167 residents in many different



**F. Joseph Hallal, MD**  
Medical Staff President

specialities with us as well. Our current teaching program is strong and it will be significantly strengthened by this new affiliation with the VCU School of Medicine. In this strengthened academic environment, I believe that we physicians will enjoy a more gratifying academic milieu which should give us the opportunity to further enhance our own continuing medical education. We expect to see a strengthening of the patient care environment as well. This will be good for us all.

In the last issue of *Medifax* the lead article focused on the new Claude Moore Health Education Center. One of the several purposes of the new center will be to house facilities for the VCU School of Medicine, including the administrative offices, classroom space, and a simulation center for the students. Prior to the opening of the Claude Moore Center, the students will be based in the renovated ground floor of the ECC building. As you may know, Russell Seneca, MD, is the associate dean and Craig Cheifetz, MD, is the assistant dean of the Inova branch of the VCU School of Medicine.

The advent of our regional campus status, in my view, codifies what we already believe about ourselves, that, while we came from humble beginnings which many of us were part of, we have now matured to become a significant teaching hospital.

# All Inova Facilities Earn Full JCAHO Accreditation

From: Gregory Burfitt  
To: Inova\_All  
Date: 6/30/2005 3:13:38 PM  
Subject: Announcement of JCAHO's Decision

I am pleased to announce that we received official word today that all Inova facilities have earned full accreditation and the Gold Seal of Approval™ from the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). A team of JCAHO physicians, nurses and other clinical experts independently reviewed each of Inova's hospitals and long-term care facilities in April and May. As you know, we participate in the JCAHO accreditation survey process because it reinforces our commitment to continuously improve and be a learning organization.

I want to take this opportunity to thank you and your staffs for your hard work during these surveys. Literally, thousands of Inova employees and physicians spent many, many hours preparing for, participating in and supporting this effort. And, this was the first time we experienced the tracer methodology, so that added more anxiety than usual. We will continue to be diligent in our preparation as we move forward, as all JCAHO visits will be unannounced in the future. Additionally, I am confident that our learnings from the review process will be hard-wired, enabling Inova to improve upon its already strong foundation and patterns of practice.

Throughout the survey, we heard many positive comments from the surveyors about our staff, patient care and how well they (the surveyors) felt they were treated. The surveyors were particularly impressed with the knowledge of front-line clinical staff and commented frequently that the tracers had gone so well because of the great interviews with nurses, techs, therapists, and other caregivers. Our buildings and environment of care services were also given special recognition. The Engineering and Administrator surveyors were very impressed by the knowledge, skills, and initiatives of our engineering staffs across the system. Two Inova forms - the restraint monitoring form and the long term care resident safety assessment form - were cited by the surveyors as best practice and may be included in JCAHO reference materials for accredited organizations. These were just a few of the many compliments we received.

So, hats off to all of you—our employees, physicians and volunteers—for helping bring world-class health care to our community! We can all be proud of the results of our efforts.

**Gregory Burfitt**  
Executive Vice President and Chief Operating Officer  
Inova Health System



**Richard Binder, MD,**  
accepts the 2005 Caring for  
and About People Award.

## Dr. Binder Honored at Gala 2005

As part of this year's Inova Health System Gala 2005 to support Inova Cancer Services, three outstanding champions of Inova's not-for-profit health care mission were honored on May 7.

Richard Binder, MD, was the recipient of the 2005 Caring For and About People Award. Dr. Binder has been an integral part of Inova Health System Cancer Services for 30 years. He was instrumental in developing and supporting community partnerships, including work with the Avon Foundation and the Colon Cancer Green Team. Dr. Binder also helped to develop the genetic counseling program at Inova Fairfax Hospital, helping people with a personal or family history of cancer obtain information about genetic testing and cancer risk-reducing options.

This year's Community Responsibility award was given to PricewaterhouseCoopers, LLP, and the Innovation Award was given to the Avon Foundation.

## JCAHO Results Positive

In May, Inova Fairfax Hospital, Inova Fairfax Hospital for Children and the Inova Heart and Vascular Institute participated in the triennial JCAHO survey. We hosted 11 surveyors during the five-day review, which represented our first experience with the tracer methodology (following patients through the care process).

I acknowledge the many hours physicians, staff and Inova employees spent preparing for and participating in this effort. Senior leadership and I thank you for your support.

During the survey, it was extremely gratifying to hear many positive comments. It is my pleasure to share some of this feedback with you:

- the knowledge of front-line clinical staff is impressive
- the tracers went well because of the great interviews with nurses, techs, therapists, physicians and other caregivers
- two Inova forms—'restraint monitoring' and 'resident safety assessment'—were cited as best practice and may become part of JCAHO reference material for accredited organizations
- we deal exceptionally well with challenges presented by cultural diversity, 'hospitals within hospitals,' wide-range of services, patient flow and ED overcrowding as well as staff retention
- building and environment of care services deserve special recognition

I am proud to say that on several occasions, and in a variety of care settings, the surveyors mentioned they would feel comfortable seeking care for themselves or a loved one at our

facilities. I am sure you will agree that this is the highest compliment we could hope to receive. Again, I thank and congratulate all of you for your hard work and dedication.

Every survey presents opportunities for improvement as JCAHO and others continue to "raise the bar". Public scrutiny also is on the rise, and the public's expectations of us are significant. By increasing our efforts, we will maintain our proud tradition of providing the highest quality care and become the very best.

JCAHO's requirements for improvement (RFI) reflect some areas we were already working on and identify others that are new. The RFIs that impact medical staff include issues with the following:

- complete and correct medication orders
- completeness of boarding passes
- procedure pause in moderate sedation cases
- timely operative report dictation

It is apparent that failure to uphold the standards of care these RFIs address will have serious implications. These RFIs must be addressed promptly and unconditionally for us to maintain full accreditation.

The Medical Executive Committee, in their June meeting, decided that the medical staff must commit to 100 percent compliance to meet the above requirements. The committee asks that physicians take the following actions:

- Dictate operative/procedure reports immediately after the procedure (i.e., before the patient goes to the next level of care).



HI-RES ON DISK

### Doug Cropper

Administrator, Inova Fairfax Hospital, Inova Hospital for Children and Inova Heart and Vascular Institute

- Ensure that all medication orders are legible and include dose, frequency, date, time, signature, Inova ID number. Never include "do not use" abbreviations or range orders for the frequency of administration. Review orders for completeness and accuracy with the RN, when possible. If clarification or correction is needed, nursing will contact the practitioner.
- Fully complete the 'boarding pass' prior to any surgery or invasive procedure.
- Conduct a procedure pause prior to the administration of moderate sedation.

The fact that the Inova hospitals on the Fairfax campus are staffed by a team of smart, dedicated and caring physicians and other providers was one of the main reasons I accepted the position of administrator. Now I have every confidence we will seize the opportunity to learn from our recent JCAHO survey and emerge providing a higher level of quality care.

Thank you again for all of your efforts in conjunction with the JCAHO survey. Senior leadership and I look forward to working closely with you. Together we will achieve our mutual goals.

Please call me at **703-776-3332** with your suggestions and/or concerns.



## Altieri Award

**Deborah Archer, MD**, far left, third year resident, was given the first Michael Altieri, MD, annual award on June 16. Dr. Archer is pictured with **Rose Altieri, Imo Ibia, MD**, and **David Ascher, MD**, chair, Department of Pediatrics. Dr. Altieri is a former chairman of Pediatrics who died in 2004.

## Palliative Care Offers Treatment Options for Progressive Chronic Illness

People with progressive chronic illness who may one day need the full spectrum of hospice care often require pain and symptom management. And family members who must navigate the medical system while suffering the emotional distress of watching a loved one decline also may need specialized care. Physicians managing this population face the challenge of meeting the difficult and time consuming physical and psychosocial needs of patients and families.

Physicians specializing in palliative care can bring a substantial measure of relief to chronically ill patients, their families and their physicians. “There exists a tremendous unmet need in our community long before the ‘six months or less’ prognosis,” says J. Cameron Muir, MD, a physician board-certified in internal medicine, medical oncology and palliative medicine, who consults at Inova Fairfax Hospital. “Improving access to palliative care has a positive impact that extends beyond patients and their caregivers.”

It has been documented that early palliative care improves quality

of life and function. Palliative care also increases hospital efficiency. By supporting the work of intensivists, palliative care specialists help move patients along the continuum of care, reducing ICU and overall length of stay, thus making beds available so physicians may continue admitting patients.

“Palliative care increases patient, family and physician satisfactions,” Dr. Muir says. “Programs also help hospitals meet accreditation standards.”

Dr. Muir is president of Capital Palliative Care Consultants, the only office-based palliative care practice that serves patients in hospitals, nursing homes, assisted living or long-term care facilities and at home throughout Northern Virginia, Washington, DC, and suburban Maryland. The practice has extensive fellowship training in palliative medicine and is an arm of Capital Hospice, which has served the area since 1977.

Physicians may request a palliative care consultation, or patients and their family can self-refer. “We consider it a privilege to be ‘invited to

the dance,” Dr. Muir says. “However we never consult on a patient without an order from the primary physician.”

Palliative care often provides expertise and support in conjunction with curative care. Round-the-clock coverage facilitates access to services and relieves referring physicians of time-consuming patient/family communication.

“We are eager to emphasize that our services are a consultation, not a takeover,” Dr. Muir explains. “And they never compromise revenue for referring physicians.”

At a minimum, consultations include the patient, the patient’s primary medical decision maker, the palliative care consultant and the palliative care nurse practitioner. Ideally, the referring physician also participates. In some instances, only an initial consultation is needed. The majority of cases require a number of follow up visits.

For more information about appropriate palliative care options, speak to a nurse case manager or call Inova’s physician referral number—**703-204-3366**—to request a consultation.

# Correctly Delivering Asthma Medicine Critical to Effective Treatment

*Leigh Hume, RN, MN*  
*Respiratory Program Manager*  
*HealthSource*

Whether your practice caters to adults or children, choosing the correct delivery device can play a critical role in effectively treating asthma. The three mainstays for delivering asthma medications are:

- nebulizers
- pressurized Metered Dose Inhalers (pMDI)
- dry powder inhalers (DPI).

The amount of medicine delivered to the lung using any one of these devices can vary from one to 40 percent, depending on a multitude of factors. Narrowing this variance by optimizing drug delivery allows the physician a clearer picture of how well a patient is responding to a prescribed regimen. Understanding the factors that cause these variances will assist the physician in both prescribing the right delivery device and educating the patient on the importance of proper inhalation techniques.

Nebulizers require minimal coordination to administer medication properly. Poor coordination, however, is not the only factor related to poor drug delivery. Output from a nebulizer can be reduced 50 percent if not washed properly. For optimum delivery, nebulizers should be washed in soapy water, rinsed and dried between each use and cleaned daily with one part vinegar and four parts water. In the pediatric population, common practices that can result in less than one percent of medication reaching the lungs is the “blow by” technique and administering a nebulized treatment while a child is crying. Crying is a prolonged exhalation, followed

by a rapid, shallow inspiration, thus allowing no medication into the respiratory tract.

A more time efficient alternative to the nebulizer is the metered dose inhaler. Once activated, medicine from a CFC pMDI travels between 60-90 mph. As a result, as little as five percent of medicine can be deposited in the lung and as much as 80 percent to the oropharynx, thus increasing systemic absorption. A pMDI with a valved holding chamber (Aerochamber™) “slows down” the delivery process and can increase lung deposition to 15-30 percent and reduce oropharyngeal deposition to 15 percent. If patients wash their holding chamber before its first use, reducing the electrostatic charge, the half life of respirable particles in the holding chamber can extend beyond 10 seconds, allowing for optimal inhalation. Thus, the purpose of a holding chamber extends beyond assisting young children with limited coordination skills, and should be prescribed with any age population.

Because of environmental concern, CFC pMDIs will soon be phased out and replaced with HFA inhalers and dry powder inhalers (DPI). Patients tend to prefer DPIs because they are less complicated to use than a pMDI and require fewer “puffs” than the MDI. DPIs were designed to deliver more medicine to the lung than pMDI, but this can only occur if the patient has a sufficient inspiratory flow rate. The most modern DPIs require a fairly low inspiratory flow rate to be effective. Most adults and healthy children over five can use the Turbuhaler (AstraZeneca) since it requires an inspiratory flow rate of  $\geq 60$  L/min. The Diskus (GlaxoSmithKline) requires an inspiratory flow rate of  $\geq 30$  L/min. A potential problem with DPIs is

exhaling into the device prior to inhalation, which can result in an empty dose. Humidity is also a potential problem since it can decrease output.

An added benefit of the DPI is the dose counter, which lets the patient know how many doses are left at any given time. Most patients using an MDI are under the misconception that if they are able to hear airflow noise or “feel” medication when shaking the canister, there is medication still available. In reality, patients who use an inhaler until it no longer makes a sound when actuated, have inhaled more than 40 puffs with little to no medication. In addition, “floating” the canister to determine whether an inhaler still contains medicine has no merit. Researchers found that each brand of inhaler has its own distinctive floating pattern regardless of content. The only way to determine if a CFC pMDI has medication is to count puffs. The American Respiratory Alliance has developed a “Scratch-A-Dose” card that sticks on the inhaler. The card provides patients an easy way of tracking doses.

The margin for error when using inhaled medications far exceeds that of oral medications. Educating patients on some of the concepts mentioned above could significantly impact their response to medications and ultimately improve control.

For further information on educating the asthma patient, call Inova HealthSource at **703-208-5606**. The HealthSource CARE (Community Asthma Resource and Education) program provides education services to both physician office staff and the community.

# Deep Brain Stimulation for Parkinson's Patients

Deep brain stimulation (DBS), which uses high frequency, pulsatile, electrical stimulation to mimic the effects of ablative surgery without destroying tissue, offers an exciting treatment option for certain Parkinson's patients.

"Deep brain stimulation is the biggest breakthrough we've seen for treating Parkinson's disease in decades," says James Leiphart, MD, PhD, a neurosurgeon practicing at Inova Fairfax Hospital. "And if even more advanced therapies become available, the DBS procedure can be easily reversed."

The DBS system consists of a stopwatch-sized neurostimulator, a lead and an insulated wire that is passed under the skin of the head, neck, and shoulder to connect the two. The lead is implanted in the target area of the brain through a small opening in the skull. The neurostimulator is implanted under the skin near the collarbone.

Prior to the procedure, MRI or CT scanning locates the precise target - thalamus, subthalamic nucleus or globus pallidus - where abnormal electrical nerve signals underlie the Parkinson's symptoms. The patient is awake during the procedure. Microelectrode recording monitors the activity of nerve cells to confirm optimal lead placement and together with macrostimulation provides physiological verification of the target.

The stimulator is implanted under general anesthesia either at the time of electrode implantation or later. Within a few weeks, neurologists program the neurostimulator and make adjustments, as needed, to optimize symptom control.

The system is generally very well tolerated with no significant change in brain tissue around the electrodes.

"DBS allows us to interfere with the signals that cause debilitating symptoms without damaging the

brain," Dr. Leiphart says. "Patients often can resume activities abandoned for years and enjoy a greatly improved quality of life."

Parkinson's patients who may benefit from DBS are those with tremor uncontrolled by medication and those with symptoms that respond to medications yet who experience severe motor fluctuations, including wearing off and dyskinesia.

Beneficial effects of DBS have been shown to last for several years. Most patients can drastically reduce their levodopa dosage. Patients with dyskinesia due to their medications, experience over 80 percent reduction in their involuntary movements. Patients who initially responded well to medications, but over time developed side effects, may experience 60-80 percent improvement in tremor and slowness of movement. Patients on average report a 50 percent improvement in walking and balance. For

some, neurostimulation alone can suppress dyskinesia.

Risks associated with DBS include a two to three percent chance of brain hemorrhage that may be insignificant or may cause paralysis, stroke and speech impairment and a 15 percent chance of a minor or temporary problem. Infection, which occurs rarely, may require removal of the electrode, but does not cause lasting damage.

Disadvantages associated with DBS therapy include equipment failures, such as fractures or erosion, and additional surgery required for battery replacement.

DBS requires time and effort on the part of the patient and the medical team for programming and medication adjustments to achieve optimal symptom control.

For more information about deep brain stimulation, Dr. Leiphart can be reached at **202-741-2750**.



## NICU check presentation

**Robert Beck, MD, Kathleen Schaffer, RN, and Jerrod Uillah, RN, thank Lee Brown for his \$5,000 donation in honor of his fifth birthday in June. His parents Leonard and Diane Brown are on the right.**

# Organ Donation Committee Recognized by HHS

Members of the Organ Donation Committee, on behalf of Inova Fairfax Hospital and Inova Fairfax Hospital for Children, were recently awarded the Department of Health and Human Services (HHS) Medal of Honor for excellence in organ donation rates. This honor was given to hospitals across the country that achieved the HHS goal of at least a 75 percent conversion rate in organ donation over a year. (Conversion rate is the number of actual organ donors out of the total number of eligible donors.)

Through its participation in the national Organ Donation Breakthrough Collaborative over the past year, the Organ Donation Committee is dedicated to sustaining this success by spreading the best known practices in organ donation throughout the hospital. Only a third of the nation's largest hospitals met the 75 percent goal, but the award will now be given annually to those that do. Prior to the Collaborative, the national average conversion rate was 46 percent. But as a result of this national effort, a record breaking additional 1,400 lives were saved or



Members of the Inova Fairfax Hospital and Inova Fairfax Hospital for Children Organ Donation Committee, left to right, are: **Jamie Dubbs, RN, NSICU**; **Tori Scott, RN, TICU-Trauma ICU**; **Kimberly Stahl and Kenny Boyd, Washington Regional Transplant Consortium (WRTC)**; **Elizabeth Duke, MD, administrator, Health Resources and Services Administration**; **Christopher Michetti, MD, Trauma Services**; **Marjorie Avery, RN, patient care director, TICU**; **Lori Brigham, CEO, WRTC**; and **Susan Hartmus, RN, NSICU**.

enhanced through transplantation in 2004. The award was given at the First Annual Organ Donation National Learning Congress in Pittsburgh on May 19, 2005.

Anyone interested in learning more about the organ donation process at Inova Fairfax Hospital and

Inova Fairfax Hospital for Children is encouraged to contact **Tori Scott, RN, Trauma ICU**; **Margorie Avery, RN, PCD of Trauma ICU**; **Susie Hartmus, RN, Neuroscience ICU**; or **Christopher Michetti, MD, Trauma Services**.

## Online Medical Abbreviation Resource Available

Medical abbreviations are a double-edged sword – they can save time, but they can also be misinterpreted. The Inova Fairfax Hospital Health Sciences Library introduces the online companion to an Inova Fairfax Hospital standard, *Medical Abbreviations: 26,000 Conveniences at the Expense of Communication and Safety*, by Neil Davis. This resource can assist physicians and staff in recognizing commonly used medical abbreviations and includes Inova Health System's "Do

Not Use" list – abbreviations that must be avoided to help ensure patient safety.

You can access Medical Abbreviations from any computer workstation within the hospital. From the InovaNet home page, click on "Manuals/References" on the left side, then click on "Safe Medical Abbreviations [Neil Davis]" under the "Clinical" heading. This will take you to the Medical Abbreviations Web site. Features on this site include Inova's dangerous abbreviations and

dosage designations not to use (listed under "Your Facility's Do Not Use List"), other common dangerous abbreviations and dosage designations, and an alphabetical abbreviation search. For more information on this resource or other Library services call the Inova Fairfax Hospital Health Sciences Library reference staff at **703-776-3357**.

# There's HELP for Older Patients

*Elder Life Program Aims to Improve Hospital Experience*

With almost half of hospital patients being age 65 or older, health care providers at Inova Fairfax Hospital are taking measures to ensure excellent care for older patients.

Being in the hospital can upset normal routines and activities. As a result, 25 to 60 percent of older patients will experience delirium or confusion, which can lead to functional and cognitive changes that can persist for months and slow recovery. The Hospital Elder Life Program, or HELP, is being developed to improve their hospital experience by helping them to maintain their mental alertness and functional abilities.

A team of professionals and trained volunteers will carry out interventions specially designed to meet the needs of hospitalized older patients. Patients and families will also have access to Joanne Crantz, MD, FACP, a geriatric specialist, and Deirdre Carolan, PhD, CRN, a geriatric clinical nurse specialist. During daily visits, volunteers offer assistance during mealtimes, walk with patients, and engage in social and mental stimulation activities.

In addition to benefiting older patients, The HELP program is also very beneficial for their family and friends. A waiting room on the 10th floor of Inova Fairfax Hospital is being set up as a geriatric community resource room. Materials on caregiver support, end-of-life issues, the latest technology and a directory of geriatric services offered in the community will be available for families.

Anyone 70 years and older who has some risk factors for delirium or functional/cognitive decline can be evaluated for admission to this program. There is no charge for these services, and Inova encourages calls for information or referrals.

## HELP Services

HELP volunteers provide these services to hospitalized older patients:

- **communication/comfort**— keeps patients aware, alert and oriented to their surroundings using hearing and vision equipment and orientation boards
- **relaxation**—promotes better sleep by easing anxiety symptoms through breathing techniques, music and massage
- **therapeutic**—offers stimulating activities for the mind and body through exercise and help with walking socialization, card playing, puzzles and reading material
- **meals**—encourages healthy eating and drinking and offers companionship during mealtimes

## HELP Goals

The primary goals of the Hospital Elder Life Program (HELP) are:

- maintain cognitive and physical functioning of high-risk older adults during hospitalization
- prevent delirium
- maximize independence at discharge
- decrease LOS
- prevent unplanned hospital readmissions
- increase patient and family satisfaction

For more information about the HELP program or to make a referral, call **703-776-6824** or e-mail [susan.heisey@inova.com](mailto:susan.heisey@inova.com).

## Save the Date: Annual Medical Staff Meeting

- Tuesday, Nov 8, 2005
- Fairview Park Marriott, Falls Church
- Registration, 5:30 p.m.; meeting, 6 p.m.

Election of officers and members-at-large. Nominations must be submitted to medical staff president by early September. More info to come.

## Medication Order Writing for JCAHO Compliance

Physicians please note the following:

- The date and time must be on all orders.
- Your signature, Inova ID #, and printed name must be on all orders.
- Write indication for PRN medications, i.e., prn pain, prn headache, prn insomnia, and prn anxiety.
- Do not use abbreviations such as QD, QID, QOD, U, IU, AU, AS, AD, MS, MS04, MgS04, AZT, Nitro drip.
- Do not use range orders for frequency of administration (use: q 4 H, do not use: q 4-6 H)
- Sign all verbal orders within 72 hours.
- Post procedures and transfers. Do not write "Resume previous meds".
- Rewrite all medications. Use the IDX/CARECAST Active Medication List order sheet.

Try to be as clear as possible with your orders - This is mandatory for JCAHO compliance!

*Thank you from the hospital administration and pharmacy.*

Established in 2000, the center grew out of a research effort between the Center for Liver Diseases at Inova Fairfax Hospital and the George Mason University genomics team to study the genetic epidemiology of obesity-related nonalcoholic steatohepatitis (NASH). Zobair Younossi, MD, MPH, a leader in clinical research of liver diseases, including NASH and hepatitis C (HCV), serves as medical director of the Center for Liver Diseases, which has conducted pioneering research in genomics of obesity-related fatty liver, liver fibrosis, obesity and metabolic syndrome and made more than a dozen presentations. Based on the academic success of this type of research, it was time to go to the next level, Dr. Younossi says.

"The ability to conduct translational research requires a basic science partner," he adds. "It makes good sense to partner with a university with an excellent basic science infrastructure."

The partnership with GMU puts Inova ahead of the curve. "Patient care, research and education are Inova priorities, and academic and media exposure will enhance the image of our health system as a leader in translational research," Dr. Younossi says. "This integrated approach will certainly help our patients, our colleagues and our students."

Dr. Younossi and Vikas Chandhoke, PhD, associate dean of research for the GMU College of Arts and Sciences, co-direct the George Mason University-Inova Health System Translational Research Centers. Since its inception, they have also co-directed the Center for the Study of Genomics in Liver Diseases.

Dr. Chandhoke serves as director of the Center for Biomedical Genomics, which is dedicated to applied genomic research in biomedicine using microarray technology, and the Shared Research

Instrumentation Facility at GMU. He also leads the development of medical and scientific research programs with molecular bioscience and informatics scientists who use synergistic junctures of cutting-edge applied research. Current studies include cancer genomics, genomics of liver diseases, cartilage studies, and development of large scale relational database integrating clinical and gene expression data.

"This partnership offers an integrated approach to translational research where scientists and clinicians work as a team to accelerate the latest research findings and technologies directly to patient care," Dr. Chandhoke says.

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*"This partnership offers an integrated approach to translational research where scientists and clinicians work as a team to accelerate the latest research findings and technologies directly to patient care,"*

— Vikas Chandhoke, PhD

George Mason University has appointed Lance A. Liotta, MD, PhD, formerly of the National Cancer Institute, and Emanuel F. (Chip) Petricoin III, PhD, formerly of the Food and Drug Administration, to its faculty. The two pioneers in proteomics and molecular medicine will co-direct the Center for Applied Proteomics and Molecular Medicine. Research will focus on protein biomarker discovery for early disease detection and risk stratification as well as molecular network analysis of tissue to create targeted treatment.

Much of George Mason University's success has resulted from a commitment to draw upon and contribute to our region.

"Our expanding partnership with Inova Health System is one of the highlights of several new innovative initiatives and is the basis for future key activities," says Alan Merten, president of George Mason University. "Our ability to attract

and support Dr. Liotta and Dr. Petricoin is possible only because of this partnership."

Dr. Liotta and Dr. Petricoin will also hold research appointments at Inova Fairfax Hospital. "Translating the results of bench research directly into patient care through clinical research and trials holds the promise of a shift to personalized medical treatment," says Douglas Cropper, administrator, Inova Fairfax Hospital. "The positive impact on healthcare of the George Mason University and Inova Health System collaboration may be far beyond what we currently envision."

Dr. Liotta and Dr. Petricoin have developed technologies that can map

the hyperactive protein circuits in cancer cells from a biopsy specimen. Circuit mapping enables tailoring drug therapy that targets individual aberrant circuitry. "Our new proteomic technology will be employed to eventually help the clinician know exactly how the patient's diseased cells have changed, and then use this information to tailor the treatment for that specific individual," Petricoin says. "We are excited to work with Inova Health System to bring these technologies to the bedside as rapidly as possible."

Recently, Dr. Liotta and Dr. Petricoin discovered that a rich archive of protein biomarkers is bound to common blood proteins, such as albumin. These abundant proteins act as molecular 'mops,' which by harvesting and amplifying the biomarkers, enable protein sequencing, a facile approach that can

GMU-Inova Research, continued on next page



## PICU Tour

**Craig Futterman, MD, Senator Jeannemarie Devolites Davis and David Sas, DO, touring the Pediatric Intensive Care Unit at Inova Fairfax Hospital for Children on May 4.**

*GMU-Inova Research, continued from page 10*

uncover and identify thousands of candidate biomarkers that fluctuate with disease stages. Simultaneous measurement of panels of multiple biomarkers results in higher sensitivity and specificity than does individual biomarker measurement.

“We have uncovered a huge untapped repository of potential biomarkers that we never before knew existed and in the future we can envision measuring multiplexed panels of these biomarkers,” Liotta says. “The goal is to improve diagnostic accuracy so we can detect disease earlier and provide better guidance for patient management.”

Dr. Liotta and Dr. Petricoin have intersected this discovery with nanotechnology, using engineered nanoparticles as molecular harvesting agents to directly capture the disease-associated biomarkers. Once the disease is diagnosed and a tissue biopsy is obtained, the scientists’

protein microarray technology can map the protein circuitry. The proteomic ‘barcode’ of the circuitry of the diseased cells can then predict a patient’s response to conventional therapy. The technology also provides a roadmap for new drug combinations that may improve outcomes for patients unresponsive to traditional approaches.

“The relationship between Inova Health System and George Mason University is a true paradigm shift,” Liotta says. “When our colleagues hear about the relationship and our plans, they are very excited. We really do have an opportunity to do something that no one else in the world has been able to do.” Petricoin adds, “A lot of people and entities talk about personalized medicine, but this relationship throws a gauntlet down that says, ‘Hey we understand this is not an easy path, but we are really going to do this.’”

The Center for Applied Proteomics and Molecular Medicine will facilitate the translation of this research into clinical trials conducted under Inova Health System.

The creation of the George Mason University-Inova Health System Translational Research Centers is one of the most exciting recent developments in the long-term collaboration between the two institutions.

“The laboratory facilities and academic environment of GMU, coupled with the outstanding clinical set up at Inova has been key in attracting to our region some of the greatest scientists in the entire world,” says Daniele Struppa, PhD, dean of the College of Arts and Sciences at GMU. “The work we will be doing with Drs. Liotta and Petricoin and their group is changing the paradigm through which we understand cancer and other molecular diseases. I would not be surprised if this was the beginning of an operation that within a decade dramatically changes the way in which we think about these diseases.”

Funding for the George Mason University-Inova Health System Translational Research Centers will come from grants and contracts, strategic alliances with the biotechnology and pharmaceutical industries, technology agreements and royalties, as well as philanthropic donations. Laboratories and support facilities will be maintained at George Mason’s Prince William Campus in Manassas and at Inova Fairfax Hospital in Falls Church. Additional scientists are expected to join the centers within four years.

For more information on the Translational Research Centers, contact Dr. Younossi at **703-208-6650**.



**INOVA® FAIRFAX  
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Inova Health System is a not-for-profit health care system based in Northern Virginia that consists of hospitals and other health services including emergency and urgent care centers, home care, nursing homes, mental health and blood donor services, and wellness classes. Governed by a voluntary board of community members, Inova's mission is to improve the health of the diverse community we serve through excellence in patient care, education and research.

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