

Children's

MEDICAL CURRENTS

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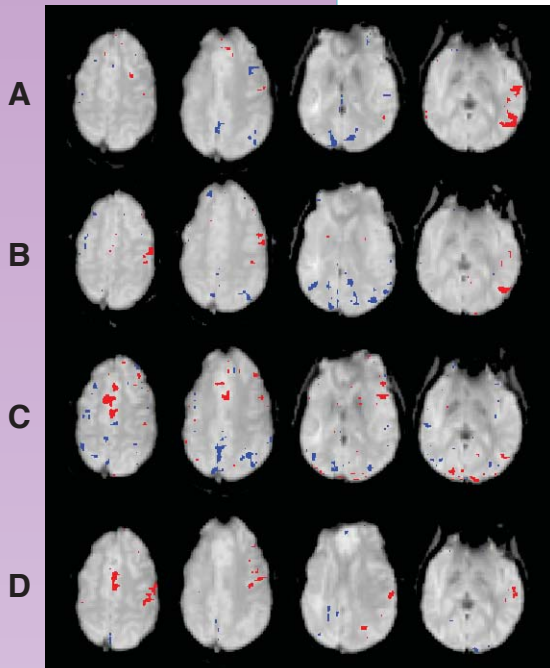
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Groundbreaking Research Using Functional Imaging

William Gaillard, MD, is the principal investigator for the National Institute of Neurological Diseases and Stroke, National Institutes of Health funded research studies on epilepsy. Dr. Gaillard, director of Children's Surgical Epilepsy Program, is investigating the effect of epilepsy on cognitive organization and language development in children ages 4 to 12 years with newly diagnosed and chronic epilepsy. Using functional imaging, Dr. Gaillard is looking at specific language tasks to understand the normal development of cognitive processes and the effect of disease states, such as epilepsy, on the neuronal organization of language systems during childhood. Approximately 1.5 percent of children in the United States have epilepsy.

Dr. Gaillard is also the co-investigator with Chandon Vaidya, PhD, in the Division of Psychology, for a study on brain systems in attention deficit hyperactivity disorder, (ADHD), also using functional imaging. The investigators are particularly interested in the effect of medications on the brain system in children with ADHD.

Children's Pediatric Clinical Research Center and Georgetown Hospital are collaborating on functioning imaging studies on patients with autism as part of the national STAART program. This study examines visual perception, motor control and executive function using Functional MRI (fMRI) in children with autism aged 6-14 years.

For more information about these studies, contact Erin Moore, research assistant, at 202-884-2545.

WHAT IS FUNCTIONAL IMAGING?

Functional imaging involves the use of standard MRI scanners — traditionally used to image brain structure — to identify brain function. Functional MRI (fMRI) creates blood flow “maps” while the patient performs certain tasks or functions, such as tapping fingers, remembering pictures,

listening to a story, generating words, and reading. Areas of increased blood flow show up as a brain image with fMRI technology. In essence, hemoglobin is used as a contrast agent that can be analyzed for comparisons and the locations of specific functions in the brain. Functional imaging is

primarily used when planning surgery for a child with a brain tumor or epilepsy. In the past, surgical procedures were used to obtain the same information provided by the fMRI. This technology “minimizes or eliminates the use of more invasive surgical procedures,” says Dr. Gaillard.

Nurse Practitioners Link Medical Care, Family and Community

Nurse practitioners in the Center for Cancer and Blood Disorders have a unique role at Children's National Medical Center. These highly trained, nationally recognized professionals provide health care and education for children and families while in the hospital and serve as the community liaison for children who need help with the transition back into their community after their illness. Indeed, the nurse practitioner is the primary contact for families while children are hospitalized for treatment of cancer and blood disorders.

Nurse practitioners have a major role in the coordination for palliative care. Children's nurse practitioners have specialized and in-depth expertise in given diseases.

primarily managed and coordinated by the nurse practitioners. They provide the "treatment roadmap" says Revonda Mosher, RN, MSN, CPNP, CPON, who treats patients with acute lymphoblastic leukemia. The nurse practitioner's role includes performing medical procedures, teaching parents how to administer medications, helping the family develop a routine that is compatible with frequent doctor's visits and providing information to the child's teacher and classmates in order to help smooth the child's transition back to school.

Additionally, nurse practitioners have a major role in the coordination for palliative care. Children's nurse practitioners have specialized and in-depth expertise in given diseases.

Once children are diagnosed, their medical care is



Children's sickle cell disease program is the largest in the region. The medical team manages more than 1,000 patients and "we get on average four new patients every week," says Barbara Speller-Brown, RN, MSN, CPNP, one of three nurse practitioners who specializes in sickle cell disease.

Children are encouraged to attend school as much as possible.

Children's Hemophilia Treatment Center (HTC) is one of 140 centers in the United States that receives federal funds and is the only local pediatric Hemophilia Treatment Center. There are important benefits for patients receiving care at HTCs. "Research has proven that children treated at federally funded centers have fewer missed school days and less morbidity than at other medical centers," says Christine Guelcher, MS, RNCS, PNP. "Patients here have the advantage of access to comprehensive specialized services all in one place." Children using this center will need physical therapy, dental care, social workers, and genetic counseling. Nurse practitioners coordinate these services for the patients.

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Patients with uncomplicated obesity rarely have a treatable endocrine disorder, and diet and lifestyle counseling is all one can offer.



Paul Kaplowitz, MD

Division of Endocrinology Streamlines Consultation and Referral Process

For a number of years, there has been a national shortage of pediatric endocrinologists. However, experience has shown that many children referred to endocrinologists, do not need to be seen by these specialists. Paul Kaplowitz, MD, Children's chief of Endocrinology, has made changes in procedures for handling referrals.

1) Dr. Kaplowitz has noted a significant percentage of new patients are referred because of a mildly abnormal lab test result (most often a thyroid test) which usually does not explain the symptom the patient was originally tested for and does not require treatment. In order to deal with these situations efficiently, he is offering to review any lab tests which physicians are concerned about and let them know within 48 hours whether a full consultation is warranted. There are two ways this can be done. The form on the back of this publication can be copied, filled out and faxed to Dr. Kaplowitz, at 202-884-4095 or he can be reached by email at pkaplowi@cnmc.org.

2) Certain urgent situations also arise which require an expedited appointment, but in many cases, patients are told to call to schedule an appointment and are then given an appointment date too far in the future. The best example of this is a child with newly diagnosed symptomatic

hyperthyroidism ($T_4 > 15$ or very elevated free T_4 , and $TSH < 0.1$). Although many cases of hypothyroidism are subclinical and waiting 2-3 months for evaluation may help decide if therapy is needed, patients with very elevated TSH levels (> 30) are usually symptomatic and should also be seen quickly. In such situations, the form on the back of this publication can be faxed to Dr. Kaplowitz at 202-884-4095 or the endocrine office can be called, (202-884-2121) and the patient can usually be seen within a week by the on-call physician.

3) Patients with uncomplicated obesity rarely have a treatable endocrine disorder, and diet and lifestyle counseling is all one can offer. The growth chart should be reviewed, and any overweight child who is short or growing at a subnormal rate should have thyroid tests and an early morning cortisol level, but hypothyroidism and Cushing's syndrome in obese children is rare. The division will continue to see overweight patients with signs of polycystic ovary disease (hirsutism and/or irregular periods), and children with evidence of type 2 diabetes (fasting BG > 120 , random BG > 150 , hemoglobin A1c $> 6.5\%$).

It is expected that these changes to the consultation and referral process will help to address the high demand for endocrinology services in the DC metropolitan area.

CNMC Endocrinology Consultation Request Form

Please use the request form located on page 8 to:

- 1) Request an expedited appointment for a problem which cannot wait until a regular appointment is available (e.g., newly diagnosed hyperthyroidism, severe hypothyroidism [$TSH > 40$], severe hypocalcemia)
- 2) Get an opinion as to whether an abnormal lab test or x-ray merits a full consultation

Profit from PDAs in Your Practice

Wouldn't it be great if pediatricians could access all the medical information they needed without leaving the patient's side? A Personal Digital Assistant (PDA), known to many as a "palm pilot," can actually help today's pediatrician spend more valuable time with young patients. Children's National Medical Center recently introduced PDAs for PEDs, an online service designed to help pediatricians make personal handheld technology a valuable and timesaving asset in any clinical practice. PDAs for PEDs can help any physician learn how a device that fits in their lab coat pocket can become a full medical library, drug dosing calculator and even a word processor. There are hundreds of medical software programs that can help pediatricians deliver care more quickly and effectively. For PDA beginners, the site has a simple tutorial to get them started, with information about buying a PDA and downloading basic programs. For more experienced, tech-savvy physicians, PDAs for PEDs is equally useful by providing the latest information on software programs and links to the most

current products, all with a focus on what's helpful to pediatricians. The site also has a forum where visitors can post questions and offer their own feedback about handheld programs. Handhelds can be a great tool for parents, too. PDAs for PEDs also has links to software to help parents keep track of their child's health and personal information.



PDAs for PEDs grew out of a partnership between CNMC and one of its physicians, David Stockwell, MD, a pediatrician, PDA expert and advocate for the expanded role of technology in pediatric medicine.

PDAs for PEDs can be accessed from the CNMC web site at www.dcchildrens.com/PDAs.

>>Nurse Practitioners, from page 3

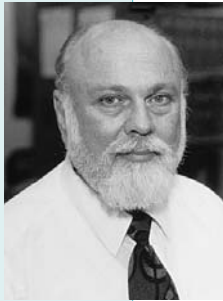
"School is not only important for the child's education, but the school environment is critical to the child's social development," says Debbie LaFond, MS, RNCS, PNP, CPON, a nurse practitioner in the Neuro-oncology Division. Nurse practitioners routinely visit schools to talk with students about a classmate's illness.

Children's hematology/oncology nurse practitioners are nationally recognized for their work with patients. They serve on national committees representing nursing in both hematology and oncology and engage in research resulting in published articles. Current research studies include ones examining hypertension in children, developing a

long-term survivor's database, researching stroke prevention in children with sickle cell disease and following the long-term effects of treatment.

All of Children's nurse practitioners are eager to speak with the child's primary care pediatrician to discuss any aspect of the patient's medical care. Often more accessible than physicians, they are available by phone to talk through the care of a broviac or answer questions regarding the administering of medications, for example. Children's nurse practitioners in the Division of Hematology/Oncology can be reached by calling 202-884-2800.

CONSULT ON CHILD BEHAVIOR



Ipecac Abuse and Eating Disorders

by Tomas Silber, MD

Ipecac abuse occurs predominantly among those who are either experimenting with purging, developing an eating disorder or have an already established anorexia nervosa, purging type of bulimia nervosa.

Eating disorders manifest with extreme dieting, fasting, binge eating, self-induced vomiting, and the abuse of laxatives or other medications in order to lose weight or prevent weight gain. They occur primarily among adolescent and young adult females.

Anorexia nervosa is characterized by maintaining a low weight and severely limiting food intake, expressing a fear of gaining weight, and having a distorted view of body size. Girls and young women with the disorder become obsessed with food, often weighing and dividing food into very small portions and refusing to eat normal amounts of fat containing food. Individuals with bulimia nervosa regularly eat large amounts of food, but engage in self-induced vomiting or abuse laxatives and appetite suppressants in order to prevent weight gain. Unlike anorexia nervosa, individuals with bulimia nervosa are generally at the appropriate weight for their age and height.

Young people who have difficulty in self-inducing vomiting have discovered that ipecac syrup, purchased over the counter, will induce emesis. This is extremely dangerous, as I have recently testified to the Advisory Committee on Over the Counter Status of Ipecac for the Food and Drug Administration. Ipecac abuse occurs predominantly among those who are either experimenting with purging, developing an



eating disorder or have an already established anorexia nervosa, purging type of bulimia nervosa. Psychiatric comorbidity is common. Death is usually of cardiac origin. Morbidity includes, among others, myocarditis with arrhythmias, myositis, gastroesophageal pathology, including Mallory Weiss tears, diarrhea and metabolic abnormalities (alkalosis, hypokalemia, dehydration).

A high index of suspicion is needed for early detection of ipecac abuse. Classical findings are abnormal EKG and echocardiography and/or elevation of muscle enzymes (CPK, adolase). Emetine, the alkaloid in ipecac, can be confirmed in serum, urine and tissue by high performance liquid chromatography.

At its November 2003 annual meeting, the American Academy of Pediatrics (AAP) issued a new policy statement recommending that syrup of ipecac should no

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longer be used routinely as a home treatment for poisoning. In the past, AAP advised parents to keep a bottle of syrup of ipecac on hand to induce vomiting if a child had swallowed a poisonous substance. Now, however, research shows that ipecac is not beneficial to children. Instead, activated charcoal, as used in emergency rooms, is far more effective in cases of poisoning.

Summary and Recommendation:

Ipecac abuse is a secret activity, engaged compulsively by individuals with eating disorders. It is dangerous, and even deadly. If abuse is discontinued the cardiac and muscle damage it produces tend to reverse. However, the best solution to

this serious health problem remains the removal of ipecac from over-the-counter status, which would eliminate or significantly reduce its potential for abuse. If the FDA would rule for ipecac syrup to continue to be available over-the-counter, I recommend updated warning labels should be included as well as information about its toxicity and potential for abuse.

Tomas Silber, MD, is an attending in the Division of Adolescent and Young Adult Medicine, medical consultant to the Donald Delaney Eating Disorders Program, and the director of the Adolescent Medicine Fellowship Program. He can be reached at [Tsilber@cnmc.org](mailto:tsilber@cnmc.org).



Lavdena Orr, MD

Lavdena Orr, MD, has rejoined Children's and accepted the position of executive director for Community Partnerships. Dr. Orr is responsible for the management and oversight of the DC KIDS program, a joint effort between Children's and the District of Columbia Child

and Family Services Administration, to provide coordinated clinical services to children in foster care. Dr. Orr will also oversee compliance for Children's partnership with the DC Health Care Alliance, including school health services and other partnerships.



Roger J. Packer, MD

Roger J. Packer, MD, executive director of the Center for Neuroscience and Behavioral Medicine and division chief of Neurology, was awarded the Raimondi Medal of Honor by the Midwest Childhood Brain Tumor Foundation. This award is given to honor a

researcher who has made a significant contribution to the field of Pediatric Neuro-Oncology. Additionally, Dr. Packer was named to the Peripheral and Central Nervous Advisory Committee of the Food and Drug Administration.

PEOPLE NOTES



Ronald Przygodzki, MD

Ronald Przygodzki, MD, has joined Children's as the new chief of Pathology. Dr. Przygodzki received his medical degree from the Medical University of Warsaw, where he continued as a resident in the University's Department of Pathology. He returned to the United

States and continued studies in anatomic and clinical pathology, initially at the University of Illinois at Chicago and more extensively at Brown University, Rhode Island Hospital, in Providence, Rhode Island. He has done fellowship training in surgical pathology at Brown University, Rhode Island Hospital and pulmonary and mediastinal and molecular pathology at the Armed Forces Institute of Pathology and the National Cancer Institute. Dr. Przygodzki is board-certified in anatomic and clinical pathology and in molecular genetic pathology.

NEWS NOTES

In October, Children's initiated Pediatric Emergency Department (ED) Grand Rounds. Pediatric ED Grand Rounds was spearheaded by Shireen Atabaki, MD, MPH, director of Resident Training and Medical Student Education for the Division of Emergency Medicine, and Chief Pediatric Residents Drs. Ratnayaka and Meier. The Grand Rounds will be held on the second Tuesday of every month from 7-10AM in the ED conference room. Topics covered include workshops on ED technical skills, wound management, splinting, didactic, and case based presentations on core PEM topics.

All are invited to attend.

Members of the divisions of psychiatry and psychology faculty have contributed chapters to the premier textbook of child and adolescent psychiatry, **Textbook of Child & Adolescent Psychiatry** edited by Jerry Weiner and Mina Dulcan and published by the American Psychiatric Publishing, Inc.

Irene Chatoor, MD
Feeding & Eating Disorders of Infancy & Early Childhood

Paramjit T. Joshi, MD
Jay Salpekar, MD
Peter Daniolos, MD
Sexual Abuse of Children

Paramjit T. Joshi, MD
Peter Daniolos, MD
Jay Salpekar, MD
Physical Abuse of Children

Thomas Walsh, MD
Edgardo Menvielle, MD
Disorders of Elimination

Adelaide Robb, MD
Lisa Efron, PhD
Group Psychotherapy

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CNMC Endocrinology Consultation Request Form

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Attention – Dr. Kaplowitz

Note: Please use this form

- 1) To request an expedited appointment for a problem which cannot wait until a regular appointment is available (e.g., newly diagnosed hyperthyroidism, severe hypothyroidism [TSH >40], severe hypocalcemia) and
- 2) To get an opinion as to whether an abnormal lab test or x-ray merits a full consultation

Patient's name _____ Date of request _____

Date of Birth _____ If CNMC patient, MR# _____

Person to contact for scheduling appt _____ relationship _____

Phone: home _____ work _____ cell _____

Referring physician (first and last name) _____

Phone # _____ Fax # _____

Do you want a specific attending or the first available appointment?

Reason for referral: Please attach relevant labs and/or reports of imaging studies and a growth chart if the problem concerns growth or puberty.

What question(s) do you wish the consultant to answer?

Space for comments from consultant:

Appointment scheduled for ___/___/___ at _____ am/pm with Dr. _____

Or _____ No appointment necessary

This form faxed to office of Dr. _____ on _____

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