GYN Surgery: Building Bridges to Improve Care

Although Arnold Advincula, MD, has been Chief of the Division of Gynecologic Surgery at CUMC for only a few short months, he’s already got a vision. In February Dr. Advincula was appointed Vice Chair, Women’s Health, Gynecologic Surgery, and Urogynecology and Chief of Gynecology at the Sloane Hospital for Women at NYPH/CUMC, in addition to his role as Division Chief. Among his far-reaching plans are organizing and focusing the talent in the department, building a new center for endometriosis treatment and research, offering expanded minimally invasive surgery options, and enhancing the department’s simulation program. “My goal is to create an organized, focused GYN service line that asks, Where do we want to be three years to five years, 10 years from...

CONTINUED ON PAGE 23

Pediatric Surgery: Shaping strategies for women’s and children’s health

Steven Stylianos, MD, trained at Columbia University Medical Center (CUMC) in the Department of General Surgery, spent a portion of his faculty career here, and has deep connections to the Division of Pediatric Surgery and its history. Last fall Dr. Stylianos returned in the dual role of Division Chief at Columbia University and Surgeon-in-Chief of the Morgan Stanley Children’s Hospital. Previous directors of the Division, one of the first such programs of Pediatric Surgery in the country, include Drs. Thomas Santulli, Peter Altman, and Charles Stolar, all of whom have made significant contributions to the field. In reflecting on the division’s past and future, he notes that CUMC has always...
Connections is all about collaborations and relationships—those between Pediatrics and OBGYN, and between our two departments and other caregivers and researchers throughout the medical center and beyond. This, our sixth issue, showcases some of these close relationships, and how they are enabling us to provide the most expert care to the women and children we see. You can read about the plans of several new division chiefs: Steven Stylianos (Pediatric Surgery; page 1), Arnold Advincula (Gynecologic Surgery; page 1), James Riviello (Pediatric Neurology; page 9), and Steven Brooks (Pediatric Ophthalmology; page 10), and how these new leaders plan to revitalize their divisions. An unusual collaboration between maternal-fetal medicine specialist and physician-scientist Joy Vink and biomechanical engineer Kristin Myers and other members of their Collaborative Cervix Research Group (page 7) may shed light on the reasons why some women develop cervical insufficiency, which can lead to preterm delivery. We also include an article on integrative oncology and The Center for Comprehensive Wellness (page 13), where integrative treatments, supportive care, and survivorship wellness are woven into each patient’s plan of care from day one. Look for more news about other critical partnerships like these in future issues of Connections.

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Connections
Strengthening Care Through Cross-Departmental Collaborations
A Conversation Between Mary D’Alton, MD & Lawrence Stanberry, MD, PhD

Mary D’Alton, Chair of Obstetrics and Gynecology, and Lawrence Stanberry, Chair of Pediatrics, spoke recently about how new division chiefs and programs are bolstering care for women and children.

Dr. Stanberry: The Department of Pediatrics has 275 faculty members, but outside of the Department, 17 other divisions—another 130 physicians, oral surgeons, and dentists—housed in departments such as anesthesia, urology, ophthalmology, and so on, are involved in the care of children. We collaborate with them broadly.

Over the past six years, Columbia has recruited a number of really talented new division chiefs in those sections, who are revitalizing their specific programs. In this issue we feature a few of those faculty: Dr. Jim Riviello, the new Head of Child Neurology in the Department of Neurology, Dr. Steve Stylianos the new head of Pediatric Surgery and Pediatric Surgeon in Chief at the Morgan Stanley Children’s Hospital, and Dr. Steve Brooks, the new head of Pediatric Ophthalmology. (See box for the full list of specialties leadership based in other departments.)

Among the many factors that have enabled Columbia to attract these talented people is the recognition that we practice in a women’s and children’s hospital where there is remarkably close collaboration between Pediatrics and OB/GYN services. We are unusual among major academic medical centers in that we deliver 5,000 babies each year within the children’s hospital, and we are equipped to care for the most complex neonatal, pediatric, and obstetrical problems. We are fortunate that the chairs of the departments that predominantly offer services to adult patients (for example urology, neurology, orthopedics, ophthalmology, etc) have developed strong pediatric programs and recruited exceptional individuals to lead these programs.

Dr. D’Alton: In OB/GYN we work with the more than 30 departments in the Medical Center including the divisions of Medical Oncology, Cardiology, and GI in Medicine; the divisions of Hepatobiliary Surgery, Colorectal, Plastics, Surgical Oncology, and General Surgery in Surgery; and the Anesthesia: Pathology; Radiology; Genetics; Urology; Infectious Disease; Family/Internal Medicine; and Endocrinology departments.

Our strongest collaborations are with Pediatrics, and are focused on the Prenatal Pediatric Center and the newer Mother’s Program. At the Prenatal Pediatric Center, we recognized many years ago that no one specialty can best look after the fetus—this has to be a collaboration. We also collaborate very strongly with pediatric cardiology and pediatric cardiac surgery, because the predominant prenatal diagnosis is congenital heart disease, and with anesthesia, because these patients need expertise in both obstetric and pediatric anesthesia to deal with unusual events that can occur at delivery in babies who could have multiple birth defects.

Our collaboration is also very strong with Pediatric Surgery and, along with the new Division Chief, Dr. Steve Stylianos, one of our goals is to work with a fetal surgeon. There is an enormous opportunity for research and for programs that provide even less invasive approaches for fetuses down the road in that field. The major fetal invasive therapy we now provide is twin-twin transfusion, but spina bifida and certain forms of congenital heart disease may be treatable in utero, and we will be developing new approaches on both the clinical and research side.

Through our Mother Center we have reached...
Potential therapeutic target found in pulmonary hypertension

Pulmonary arterial hypertension (PAH)—high blood pressure in the arteries in the lungs—is rare, and is more likely to arise in people with a family history of PAH. The disease may also arise in those with no affected family members and no apparent predisposing factors and is referred to as idiopathic PAH. New therapies have improved the outlook for patients with PAH, but despite progress the disease is still progressive and fatal.

In a recently published study in the *New England Journal of Medicine*, geneticist Wendy Chung, MD, PhD and colleagues analyzed possible genetic causes of the disease in members of a family with multiple affected members. Using a genetic test called whole-exome sequencing the researchers identified mutations in the gene KCNK3, which encodes a member of the superfamily of potassium channel proteins; these proteins help regulate many fundamental cellular processes. The research group showed that all of the mutations they identified resulted in a loss of function of the channels through which potassium ions cross biological membranes. Their findings suggest that KCNK3 is involved in the development of both familial and idiopathic pulmonary arterial hypertension, and the mutations they identified suggest a potential mechanism for a pharmacologic intervention, one that would increase the currents through these channels in patients with PAH.


Genetic drivers in glioblastoma identified

Glioblastoma, the most aggressive and common form of primary brain tumor, is one of the most challenging forms of cancer to treat. In a recently published study in *Nature Genetics*, Anna Lasorella, MD, and colleagues in CUMC’s Institute for Cancer Genetics used a computational tool with the goal of uncovering new driver genes for glioblastoma (GBM)—genes that when mutated contribute to a tumor’s progression. The tool, or algorithm, (called MutComFocal) integrates two genetic hallmarks of driver cancer genes (focality of copy number variants and somatic point mutations) into a single score. The algorithm recognized nearly all genes already known to have functional relevance in GBM, and also validated 18 new genes that occur in a fraction of GBMs, in which these two genetic hallmarks are combined. The newly identified genes include LZTR1, which restrains the self-renewal and growth of specific glioma cells, and CTNND2, which, when mutated, is associated with the transformation of glioma cells into a very aggressive form. These results provide insights into the origins and progression of glioblastoma and highlight new targets for therapy.

Tumor Suppressor Gene Mutated in ALL

Acute lymphoblastic leukemia (ALL) is the result of many genetic alterations in lymphoid progenitor cells, which together contribute to the transformation of these cells to malignancy. In a study published recently in the journal *Blood*, Adolfo Ferrando, MD, PhD, leader of the Lymphoid Development and Malignancies Program in the Herbert Irving Comprehensive Cancer Center, and research collaborators focused in on one of these mutations. They tested the hypothesis that the gene SH2B3 functions as a tumor suppressor, and that when mutated the gene is disabled and ALL can arise. The researchers studied members of a family of Eastern European Ashkenazi Jewish background with a rare familial inherited disorder who all shared a genetic mutation SH2B3. Family members with this mutation had problems including growth retardation, developmental delay, chronic hepatitis, Hashimoto autoimmune thyroiditis, as well as B-precursor ALL. The researchers demonstrated that, in lymphoid cells derived from study participants, cell proliferation rates were increased, and that, in a mouse model of the mutation, leukemia developed. These results, together with similar mutations in SH2B3 found in sporadic ALL cases, demonstrate a tumor suppressor role of SH2B3 in human leukemia.


Exploring New Avenues in GI Disorders

Meenakshi Rao, MD, PhD, and Esi Lamoussé-Smith, MD, PhD, junior faculty in Pediatric Gastroenterology, have received funding to study normal and disordered GI function from different angles. Dr. Rao was recently awarded both a Driscoll Children’s Fund Award and the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) Foundation’s George Ferry Young Investigator Development Award, while Dr. Lamoussé-Smith received the Harold Amos Faculty Research Development Award from the Robert Wood Johnson Foundation and the Columbia University Provost Diversity Award. Dr. Rao is studying the biology of the enteric nervous system (ENS) and how a cell type in the ENS, called glia, may regulate gastrointestinal function. Gial cells form an extensive network throughout the central nervous system (CNS), and defects in CNS glia can lead to epilepsy, brain tumors, multiple sclerosis, and ALS. Gial cells also form an extensive network in the gastrointestinal tract, but considerably less is known about their normal role there. Previous studies in vitro suggest that enteric glia play a role in epithelial wound repair, and also that they may be able to generate new neurons in the ENS. Using mouse models that lack intestinal glia, Dr. Rao hopes to define the normal biology of these cells in order to better understand digestive diseases and the mechanisms of intestinal injury and repair. Dr. Lamoussé-Smith’s interest is in the role of the gastrointestinal flora in children’s health and disease—specifically the role of the gastrointestinal flora in immune system development and function early in life and how antibiotic use during early infancy may alter the flora. In the lab she studies how antibiotics alter the intestinal flora of infant and juvenile mice affect their ability to fight infection or respond to immunization. She has also studied germ-free mice (born and maintained without a gastrointestinal flora) to better understand interactions between gastrointestinal tract flora and immune function. Dr. Lamoussé-Smith is also interested in how probiotics may boost immune function and help manage gastrointestinal disorders in children. Discoveries from the research in her lab may have implications for understanding how to effectively use probiotics to prevent the antibiotic-related changes of the intestinal flora that have consequences for normal immune function.
Reducing Maternal Deaths Following Cesarean Delivery

Thromboembolism—deep vein thrombosis and pulmonary embolism—is a leading cause of maternal mortality, and is a particular concern for women who undergo cesarean delivery. A World Health Organization review of maternal death determined embolism to be responsible for 14.9% of maternal deaths in developed countries, while data from the United Kingdom’s Confidential Enquiries into Maternal Death found thromboembolism to be the cause of 31.1% of deaths directly related to pregnancy between 2003 and 2005. Many risk factors for thromboembolism are common such as obesity, cesarean delivery during labor, and preeclampsia. Thromboprophylaxis, in particular pneumatic compression devices applied before cesarean delivery and/or post-cesarean heparin, are the only means identified in the US of systematically reducing maternal mortality, according to a 2008 report from the Hospital Corporation of America. Thromboprophylaxis is supported by the American Congress of Obstetricians and Gynecologists. Alexander M. Friedman, MD, a maternal-fetal medicine specialist, and colleagues in the Department of Obstetrics and Gynecology designed a study to characterize contemporary practice patterns for post-cesarean thromboprophylaxis. They looked at 1,263,205 women who underwent cesarean delivery and found that although the rate of prophylaxis increased from 8.4% in 2003 to 41.6% in 2010, the rates varied significantly by geographic region, and that overall more than half of the women studied received no thromboembolism prophylaxis at all. They concluded that thromboembolism has remained a leading cause of maternal death in the United States, and that thromboprophylaxis is underused and represents a major opportunity to reduce maternal morbidity and mortality. “Our findings support the need for clear guidelines and protocols for thromboembolism prophylaxis,” the authors write, “Risk assessment tools that simplify decision-making may aid hospitals in providing uniform, high-quality care.”

Collaborations

Unraveling the Knot: Understanding the Causes of Cervical Insufficiency

Over the course of a normal nine-month-long pregnancy the uterus expands to accommodate the growing fetus and its fluid-filled amniotic sac. If the uterus could be described as a balloon, the cervix, the cylindrical tissue connecting the vagina and uterus, is like the balloon’s knot, keeping the uterus tightly sealed even as the growing pregnancy can increase the weight on this knot to more than 10 pounds. Then the cervix miraculously remolds, softens, and opens at time of delivery. In some women, though, the knot does not hold long enough—the cervix shortens and opens prematurely, and babies are born too early. This problem, called premature cervical shortening or cervical insufficiency (CI), causes painless cervical dilation that increases the risk of preterm delivery; it is relatively rare but is thought to cause as many as 20 to 25 percent of second-trimester miscarriages and is a significant precursor to spontaneous preterm birth. To date, little is known about the mechanisms that lead to this complex obstetric dilemma.

The Collaborative Cervix Research Group, which includes CUMC specialist and an engineering professor from the Columbia School of Engineering and Applied Science (SEAS), along with a group of investigators here and at other institutions are undertaking a remarkable multidisciplinary approach to understand the fundamental alterations that occur in cervical tissue from women with cervical insufficiency compared to women without cervical insufficiency. Joy Vink, MD, a Maternal-Fetal Medicine specialist in the Department of OB/GYN who is the recipient of the American Association of Obstetricians & Gynecologist Foundation/American Society for Maternal-Fetal Medicine Award, is working on the problem along the entire spectrum, “but literature on the mechanics of the cervix and cervical remodeling during pregnancy did not exist,” Dr. Vink says. “I think that is the uniqueness of our group.”

New data on preterm births around the world show that preterm birth rates are on the rise in most countries. According to the March of Dimes’ 2012 report, Born Too Soon, “preterm birth remains the single most important cause of neonatal deaths (babies that die in the first 28 days of life) and the second leading cause of death in children under five.” In addition, the US is among the 10 countries with the highest rates of preterm births. “We don’t really understand the actual causative factors and the pathways that are triggered to result in a spontaneous preterm birth,” although there are many theories, Dr. Vink says. These include excessive stretching of the uterus (because of twins, triplets, or too much amniotic fluid), external factors such as infection and stress, and genetic factors.

The cervix is composed mainly of rope-like collagen fibers (connective tissue), smooth muscle cells, and fibroblasts (connective tissue cells that secrete collagen proteins). Collagen fibers are the main component of the tissue that keeps the cervix strong and closed as the fetus grows during pregnancy. Sometime before term the rope-like properties of these fibers change and the cervix starts to soften up so that it can dilate, shorten, and open at delivery. Large studies have shown that if the cervix is short, particularly if it is less than 2.5 centimeters (as measured by transvaginal ultrasound), the risk of preterm delivery increases, explains Dr. Vink.

Current approaches to treating cervical insufficiency are limited, she says. They include a cerclage, a stitch that, like a purse-string, ties the cervix closed throughout the pregnancy; this is removed at term so women can deliver vaginally. If the transvaginal cervical cerclage fails, then as a last resort women undergo a laparotomy, an incision through the abdomen, so that physicians can put a permanent stitch around the cervix to close it. Other interventions for a short cervix in pregnancy include progesterone supplements or a pessary, “but studies have not fully delineated how these interventions work,” Dr. Vink says.

Research has been published on the properties of other tissues including bone, cartilage, tendon, and heart, “but literature on the mechanics of the cervix and cervical remodeling during pregnancy did not exist,” Dr. Myers says. “So we had to start from scratch.” To explore the many unknowns about the cervix, the collaborative group is “working on the problem along the entire spectrum,” says Dr. Vink. “In looking at the biochemical properties of the tissue, I’m asking the following questions: What are the different...
types of collagens and what are the cellular components of the cervical tissue? What role do the smooth muscle cells play in the cervix? Which cells in the cervical tissue make and remodel the collagen? And in somebody who has cervical insufficiency, is that collagen altered in some way so it is not as strong and if so, what cells are causing that to happen?" 

Dr. Myers is approaching the question from a mechanics perspective: How does its biochemistry make the cervix strong? What is the intrinsic mechanical strength of the tissue? “In our study, we are currently enrolling women who are having their uterus and cervix removed for non-cancerous reasons. Once the uterus and cervix is removed, and before it is disposed of, we take a small sample of tissue from the cervix so we can measure its mechanical strength," she says. Using these data, and MRIs of pregnant women, her lab has created computer simulations of a pregnant woman’s pelvic region, including the uterus, cervix, and surrounding tissues. “We have the anatomy modeled on our computer and we know the mechanical strength of the tissue because we measured it on the bench,” she says. “Then we can ask the model, if the baby weighs this much, the female cervix is made out of this kind of material which is this strong, and if the woman stands up and we add the force of gravity, will her cervix open or not?” 

One of the big unknowns in this research is whether cervical tissue in a woman who is pregnant is the same as in one who is not pregnant, because no one yet actually sampled tissue throughout gestation and compared it. But the group received IRB approval to obtain cervical tissue from pregnant women last fall and they are beginning to perform biochemical and mechanical tests on these samples. “The beauty of our multidisciplinary approach is that we can correlate the structure of the tissue that I see under the microscope to the mechanical function of the tissue. For example, if I see that the cervical tissue from women with CI has certain “weaker” collagens, Dr. Myers can perform mechanical tests on the tissue to confirm that it is actually more compliant or softer. That is how we establish the correlation between “structure and function,” Dr. Vink explains. 

Dr. Myers adds, “and that is how Dr. Vink and I collaborate: we are together, in parallel, building structure-function relationships of cervical tissue during pregnancy.” And the collaboration is beginning to result in published research: Dr. Myers’ lab has three biomechanics publications (see below), and three more studies will be coming out in a couple of months, Dr. Vink says. 

Once they gain a better understanding of the composition of cervical tissue and how it is different in women with premature cervical shortening or CI, says Dr. Vink, “then we can start to come up with more effective therapies for this obstetric problem. These new therapies may include noninvasive therapies that actually reverse either the processes that are weakening the tissue or changing the collagen structure with rather than using a stitch. The ultimate goal with these new therapies is to decrease the rate of spontaneous preterm birth.” — Beth Hanson

Recent Publications:


Pediatric Neurology: Building on Success

The subspecialty of child neurology had its origins at the Babies Hospital of Columbia Presbyterian. It’s here that Sydney Carter, MD, created the first pediatric neurology training program in the United States, and during his tenure as Chief of the Division of Pediatric Neurology, he established child neurology as a recognized subspecialty of neurology. His successor Darryl De Vivo, MD, moved the division into a new era of laboratory-based investigation and related clinical research in the 1980s. Taking up the baton, newly appointed Division Chief James Riviello, MD has plans to expand the division, and like his predecessors, he will retain a devotion to clinical excellence.

Dr. Riviello plans to add to the division’s current 13 faculty members significantly over the next five years, and to add a third residency spot to the current two per year. Richard Mayeux, MD, the recently appointed Chairman of Neurology, had targeted Child Neurology for growth, and brought in Dr. Riviello in 2013. After just five months on the job Dr. Riviello feels he has found his niche. “Person for person, this is the best group of neurologists I’ve ever worked with,” he says.

The division’s current strengths include care for children with neuromuscular diseases, particularly spinal muscular atrophy and muscular dystrophy. Dr. Riviello notes that Dr. De Vivo, Chief of the Division from 1979 to 2000, “is one of the world’s foremost experts in pediatric neuromuscular disease.” He hopes to build on Dr. De Vivo’s success and further bolster the neuromuscular disease program. His first new recruit is pediatric neuromuscular specialist, Jahannaz Dastgir, DO, whose expertise is using noninvasive techniques to image muscle with ultrasound and MRI. Hospitalists, doctors dedicated to caring specifically for in-patients, are not only increasingly common in inpatient units, they are more and more specialized. Neurohospitalists who care for adults offer expertise for emergent neurologic conditions like stroke and status epilepticus. Hospitalized children with acute neurologic disorders also require a uniquely high level of care, and Dr. Riviello is very interested in growing the ranks of CUMC’s pediatric neurohospitalists. “In-patients are sicker now than 20 years ago, and doctors who spend just a month or two a year on the in-patient service are not going to be as up-to-date in handling acute neurological injuries or emergencies,” he says. “We know that if you have hospitalists on the floor the quality of the care improves, patients’ length of stay is shortened, resident education is better, and parent and patient satisfaction are better. They really improve care.” The division has hired a pediatric stroke specialist, Sally Sultan, MD, as its first hospitalist.

In conjunction with Steven Kernie, MD, Chief of Pediatric Critical Care Medicine, Dr. Riviello plans to develop a pediatric neurocritical care service, and the Morgan-Stanley Children’s Hospital plans to have a dedicated pediatric neuro ICU. “CUMC has a rich history in adult neurointensive care, and the expertise on the adult side will be very helpful for us in becoming the referral center for the area for acute brain injuries.” He plans to staff the service with doctors who are expert in neonatal seizures, strokes, and other disorders.

One of the measures that will be available to patients in the pediatric neuro ICU is continuous EEG monitoring, says Dr. Riviello, who is an epileptologist with expertise in both the medical and surgical treatment of patients with refractory epilepsy. This type of monitoring is used to detect subclinical seizures—seizures that lack any outward manifestations—but that may amplify the damage in patients who have an acute brain injury. “If you see changes on the EEG first—before there are any clinical changes—you can intervene and perhaps prevent irreversible neurological dysfunction.”

Other areas that Dr. Riviello will develop include:

- a pediatric concussion program offering same-day evaluations and services for children with concussions
- a neurogenetics programs to analyze the genetic origins of neurologic disorders that affect children and to develop treatments based on those findings
- a dedicated center for the care of patients with Tuberous Sclerosis complex, a multisystem, genetic disorder that can now be treated
- a learning disabilities program to augment Reet Sidhu, MD’s autism program
- a pediatric neuroimmunology and multiple sclerosis program

Dr. Riviello concludes that, “The size of Morgan Stanley Children’s Hospital—the full complement of pediatric specialties and the large volume of patients—will really enable us develop these programs. We are well on our way to establishing Columbia as one of the premier child neurology programs in the country.” —Beth Hanson

Milestones in Pediatric Neurology at CUMC

- **1933:** Bernard Sachs, who along with Warren Tay first described Tay-Sachs disease, became the first Chief of Pediatric Neurology at the Neurologic Institute.
- **1951:** Sidney Carter, MD, became Chief of Pediatric Neurology. Dr. Carter played a major role in establishing child neurology as a subspecialty.
- **1957:** Dr. Carter was awarded the first NIH Pediatric Neurology Training Grant.
- **1967:** the American Board of Psychiatry and Neurology offers subspecialty board certification in pediatric neurology; Dr. Carter was one of the founders.
- **1979:** Dr. Darryl C. De Vivo succeeds Dr. Carter as Director of Child Neurology, and is named the first Sidney Carter Professor.
- **1991:** The Colleen Giblin Laboratories for Pediatric Neurology Research are established as the core research facility of the Division.
- **2013:** Dr. Riviello is appointed Chief of the Division.
Pediatric Ophthalmology: Envisioning a Patient-Friendly, Integrated Service

Pediatric ophthalmology at the Columbia University Medical Center (CUMC)/Morgan Stanley Children’s Hospital has new facilities, a new direction, and with the recruitment of two new faculty members including a division chief, the service has gained much needed momentum. New division head Steven Brooks, MD, has several short- and long-term goals that he hopes will not only build on Columbia’s long-standing tradition of excellence in clinical care and research, but greatly expand its access to patients as well. His associates, Dr. Lauren Yeager and Dr. John Flynn, share these goals, he adds, and together they are taking the steps needed to transform them into a reality.

“I’m proud to be able to build on the notable contributions that Columbia Ophthalmology has made in the field of pediatric ophthalmology,” says Dr. Brooks. In the 1960s—before pediatric ophthalmology was established as a distinct specialty—Columbia ophthalmologists Algernon Reese, MD and Robert Ellsworth, MD created the first classification for retinoblastoma, a life-threatening pediatric cancer originating in the eye. “Dr. Reese’s and Ellsworth’s classification system played an integral role in patient care and scientific research for a very long time,” Dr. Brooks notes. Philip Knapp, MD, director of the Children’s Eye Clinic at Columbia from 1961-75, was also an influential thinker in the clinical management of complex strabismus and eye muscle disorders, and trained numerous subspecialists in the field.

The changes currently under way in pediatric ophthalmology mirror changes in the Department of Ophthalmology as a whole. Until 1995, the department was composed of a group of affiliated private ophthalmology practices housed in the Edward S. Harkness Eye Institute. These ophthalmologists had service agreements and teaching appointments with Columbia, but their practices were privately run. Now the Department of Ophthalmology and the Eye Institute are staffed largely by full time Columbia faculty, representing the spectrum of subspecialties. In spite of this shift toward a full time faculty, affiliated physicians with private practices continue to play an active and important role in the teaching mission of the department, including pediatric ophthalmologists Pamela Gallin, MD, Howard Eggers, MD, and Steven Kane, MD, PhD. “The contributions of these physicians, as well as others who donate their time and expertise, are an extremely valuable asset to the division,” Dr. Brooks says.

To achieve his goals for the division, Dr. Brooks notes that some re-building is a necessary first step. “The absence of a full time pediatric ophthalmology practice at CUMC for the past several years has left a void in patient volume and steady referral sources,” he says, adding, “it will take some time, some marketing, and a lot of hard work, to build things to the robust level needed to move forward.”

The combined ophthalmic expertise available at the Morgan Stanley Children’s Hospital and the Edward S. Harkness Eye Institute includes specialists in cornea, retina, oculoplastics, glaucoma, cataract and refractive surgery, and neuro-ophthalmology. “The strength of our division can be seen, in part, in the close collaboration we have with other ophthalmic specialties, which means we can provide a much higher level of eye care for kids with tertiary eye problems—pediatric tumors, pediatric glaucoma, and pediatric cataract—the kind of care that people aren’t going to easily find elsewhere in the region,” says Dr. Brooks. “And as part of the Morgan Stanley Children’s Hospital, we are part of a much larger healthcare team for kids.”

Other changes are in the works. Later this year the division will move its practice into a new shared clinical space with pediatric ENT, on the fifth floor of the children’s hospital. This move will enable the division to become more closely integrated with the hospital’s other pediatric services in a new, modern space specially designed for pediatric eye care. In addition, this spring Columbia Ophthalmology is opening a new vision center (The Robert Burch Family Eye Center) at the Lighthouse-Guild Headquarters on West 65th St. This site has been designed to provide general and pediatric eye care in a location that’s easily accessible for families in Midtown and on the Upper West Side, and complements the vision center the division currently operates at 880 Third Ave, at 53rd St.

On the research side, division members will continue to work toward understanding the causes of, and new treatments for, pediatric eye disease, in collaboration with other pediatric specialties, says Dr. Brooks. An area of particular research focus is retinopathy of prematurity, a potentially blinding disorder affecting low birth weight premature infants. Drs. Brooks and Flynn, and Dr. Brooks’ predeces-
In the early 1990s methicillin resistant *Staphylococcus aureus* (MRSA), which had been present in hospital settings since the 1950s, underwent a transformation. The bacteria suddenly became much more transmissible between humans and appeared outside of hospitals in the community. Over the 15 years since then MRSA has become a major public health problem, causing severe pneumonia and blood infections, and in rare instances death. CUMC pediatrician and infectious diseases specialist Paul Planet, MD, PhD is featured in a new series of video shorts, part of a set of teaching materials about the evolution of MRSA, that was developed and produced for high school students and teachers by the American Museum of Natural History (AMNH). Dr. Planet explains how he and other researchers used genomic sequencing to unravel the evolution of one of the most virulent and antibiotic-resistant MRSA strains, USA300, which is responsible for several rapidly progressive, fatal diseases. The researchers determined that USA300 likely incorporated a segment of DNA—a gene called SPE-G—from a close relative (*Staphylococcus epidermidis*), which has enabled it to live and thrive on the skin and to be more transmissible. This is just one example of how the transfer of genes from one organism to another can have profound effects on epidemiology and human health, Dr. Planet says. “Understanding the factors that differentiate bacteria that are benign, or maybe even useful to us, and the bacteria that cause disease is probably the most important thing that we can be investigating right now.”

Dr. Planet did the research for his PhD in evolutionary microbiology at the museum and he is a Research Associate there; he helped develop the teaching materials with a group of AMNH colleagues. The series entitled, “Bacteria Evolving: Tracing the Origins of a MRSA Epidemic,” is part of the Museum’s collection of teaching materials, Curriculum Collections. The four short videos are each accompanied by two articles, one for teachers and one for students, and also include activities and datasets using the DNA Subway interactive web site, developed by the Cold Spring Harbor Laboratory and part of the NSF-funded iPlant Collaborative, an online bioinformatics workspace that makes high-level genome analysis available to teachers and students.

**Watch video series here:**

Annual Robert Mellins Memorial Lecture Series Inaugurated

The Pediatrics Department held the first annual Robert Mellins Memorial Lecture on January 24, 2014. Dr. Gabriel Haddad, Professor and Chairman of the Department of Pediatrics at the Rady Children’s Hospital, University of California at San Diego, was the series’ first guest speaker. He entitled his talk: “Flying High: A Bob Mellin’s Guiding Principle.” Dr. Lawrence Stanberry opened the lecture with the following remarks about Dr. Mellins and his contributions to the department.

Welcome to the inaugural Robert B. Mellins, M.D. Lectureship. This endowed lectureship was established as a tribute to honor the memory of an extraordinary specialist of Pediatric Pulmonology, Dr. Robert Mellins. Born in Brooklyn, he received a BA degree from Columbia University and a MD degree from Johns Hopkins University, and subsequently returned to Columbia to be trained in pediatrics, cardiology and pulmonology.

Dr. Mellins became the first Director of the Division of Pediatric Pulmonary here at the College of Physicians and Surgeons and is remembered as one of the founding fathers of the specialty of Pediatric Pulmonology.

As a career-long advocate for multidisciplinary research and patient care, Dr. Mellins welcomed into his laboratory and clinics trainees from disciplines as diverse as allergy, anesthesiology, engineering, health education, psychology, and nutrition.

We remember Dr. Mellins as a devoted physician, an inspiring mentor, and as an international authority in the field of pediatric asthma. Additionally, Bob was an accomplished musician, skier, figure skater, and gardener, and an intellectual with deep and varied interests.

He served as the president of the American Thoracic Society, President of the Fleischner Society, as Vice President of the American Lung Association and on the Strategic Planning Committee for the Arnold F. Gold Foundation.

Bob received many honors including ATS Distinguished Achievement Award and the Will Ross Medal from the American Lung Association. In recognition of his many contributions to his academic community, he was awarded the Distinguished Service Award at Columbia University Medical Center and the Distinguished Alumnus Award of the College of Physicians and Surgeons.

Bob was a great advocate for those with lung disease, and thousands upon thousands of patients are the better for his efforts. He always tried to help everyone that he could, and he was always gracious, warm, and generous to friends, colleagues, students, and patients,” said Meyer Kattan, MD, director of the Pediatric Pulmonary Division at Columbia University Medical Center.

For more information about Dr. Mellins and his career, you can read “Remembering Robert Mellins” in the Annals of the American Thoracic Society: http://bit.ly/1WZ4q90

Dr. Mellins is remembered as one of the founding fathers of the specialty of Pediatric Pulmonology.
A walk through the pediatric hematology and oncology outpatient clinic may reveal some familiar sites: Children receiving treatment. Parents speaking with nurses. Doctors examining patients. But look closely, and you may see something else: A child getting a foot massage. A teenager receiving acupuncture. A parent learning how to use guided imagery to relax.

These approaches are all part of the multifaceted Center for Comprehensive Wellness (CCW) at NewYork-Presbyterian Morgan Stanley Children’s Hospital at Columbia University Medical Center. Integrative therapies have been making their way into the care of people with cancer for several years. What makes this program different is how integrative treatments, supportive care, and survivorship wellness are being woven into each patient’s plan of care from day one.

Cancer therapy has been moving in the direction of “personalized medicine,” with treatments designed to target the specific molecular abnormalities of each patient’s tumor. Doctors are now seeing how “wellness care” can be personalized in a similar way. Treatment for children’s cancers can be a lengthy and emotionally exhausting experience. The CCW was created to meet the nonmedical needs of patients and their families and ease their journey with the disease.

“As we move forward with technology to better define the biology of each patient’s cancer, we want to pay equal attention to the way we advance our ability to provide support,” says Andrew Kung, MD, PhD, Chief, Division of Pediatric Hematology/Oncology/Stem Cell Transplantation. “The CCW helps us deliver the compassionate care necessary to see patients and their families through treatment. Everyone involved in each patient’s care is working together to determine what the patient’s and family’s needs are, and providing support tailored to meet those needs.”

Many of the components of the CCW have existed for years, but were formally unified in 2012 to better coordinate care. “As providers, we need to have an understanding of the emotional and educational needs of our young patients at different points in their care, and provide services...”
The CCW’s services are provided in both the inpatient and outpatient settings, and include:

- **Integrative therapies**, through a program created by Kara Kelly, MD, Professor of Pediatrics at Columbia University College of Physicians and Surgeons, and led by Dr. Ladas. Examples include massage therapy, reflexology, acupuncture and acupressure, Reiki and therapeutic touch, exercise and yoga, aromatherapy, and mind-body techniques such as meditation and guided imagery. These treatments improve the delivery of care to patients and their families by helping to control the symptoms and stresses of treatment.

- **Nutritional counseling** regarding the use of herbal and other supplements, provided by CCW dietitians. Maintaining nutrition status during treatment has been shown to improve quality of life, decrease the incidence of infections, and reduce therapy-related side effects. Many families are also interested in nutritional and herbal supplements to help manage the side effects of therapy or to promote health. CCW dietitians provide evidence-based counseling on the use of nutritional and herbal treatments during and after cancer therapy.

- **Neuropsychological assessment and psychosocial support.** Children may undergo neuropsychological assessment before and after therapy to gauge the effects of cancer and its treatment on their cognitive function—information that can be used to help tailor individualized educational plans to promote a child’s successful return to school. Individual psychotherapy and group counseling as well as support groups are offered to patients, parents, and other family members.

- **Child life specialists,** who provide emotional support to patients and their families and use age-appropriate therapeutic play and education to help children understand their illness and medical procedures.

- **Social workers,** who provide emotional support, advocacy, crisis intervention, and referrals to resources, and help coordinate a safe and secure plan when it is time to leave the hospital.

- **Pastoral care** to provide for the religious and spiritual needs of patients and their families.

- **A long-term survivor program** to monitor for late complications of cancer treatment and to promote survivor wellness.

Thanks to vital philanthropic support from organizations such as the Hope & Heroes Children’s Cancer Fund, the Valerie Fund (which supports psychosocial care), the Tamarind Foundation (supporting integrative and nutrition services), and private donors, services are provided free of charge. Other services, such as neuropsychological assessment and survivorship visits, may be covered by insurance companies.

Research has shown that providing psychosocial support services to families results in less depression and anxiety among family members and patients. “We teach specific coping skills to help patients and their families throughout treatment and survivorship,” says Stephen Sands, PsyD, Associate Professor of Pediatrics and Psychiatry at CUMC and Director of the Valerie Fund Psychosocial Program in the Center for Comprehensive Wellness.

For example, facilitating open communication between patients and parents, as well as between parents and staff, during the many aspects of medical treatment improves quality of life for families. Additionally, connecting survivors with the appropriate level of educational services and psychosocial resources in their communities can improve their return to school, intellectual functioning, and academic success.

Long-term care of survivors of childhood cancer is a growing area of focus in oncology. As childhood cancer survival rates continue to rise, thanks to advances in therapy, more children diagnosed with cancer today are being cured and growing up to become productive adults. But some therapies carry a risk of long-term health effects—such as heart disease due to radiation therapy to the chest, or infertility due to chemotherapy.

Through the CCW, survivors of childhood cancers treated at Morgan Stanley Children’s Hospital can be monitored for long-term complications, receive integrative therapies and nutritional guidance, and be educated about how to live a healthy life. Reproductive endocrinologists are also available to provide fertility support, including fertility preservation, if desired.

The CCW is planning to expand its services to include palliative care. Palliation involves relieving symptoms, and has been traditionally associated with end-of-life care. But today practitioners know that helping patients and their families to feel comfortable from the moment of diagnosis is just as important. “Being able to provide these kinds of resources is really phenomenal,” concludes, Dr. Levine. “We are changing the way we think of ‘whole-person’ care.” — Rosie Foster

To learn more about the Center for Comprehensive Wellness at Columbia University Medical Center, Morgan Stanley Children’s Hospital, call (212) 305-2355.
In the News

US NEWS AND WORLD REPORT

Dr. Stanberry Comments on Experimental Drug for Genital Herpes

In people with genital herpes the experimental drug pritelivir substantially curbed viral shedding, according to a small, preliminary study published in the New England Journal of Medicine. Pritelivir works differently from existing medications for genital herpes, and “it’s exciting that there’s a new class of drugs,” Chairman of Pediatrics and infectious disease expert Lawrence Stanberry, MD, told US News and World Report. “This has the potential to improve treatment.” The three medications currently available to treat HSV symptoms (acyclovir, famciclovir, and valacyclovir) had a big impact on managing genital herpes when they came out, Dr. Stanberry said, but the drugs fall short when it comes to preventing HSV transmission. Researchers ultimately hope to develop drugs that eliminate dormant HSV from nerve cells, said Dr. Stanberry. “But we don’t have anything like that, and [pritelivir] is not it either.”

http://bit.ly/1mVJCO6

NEW YORK TIMES

Giving Vaccines Together Increases Fever Risk, Dr. Stockwell Finds

Babies who get two common vaccines on the same day are more likely to develop fevers than those who don’t, CUMC researchers showed in research published recently in JAMA Pediatrics. Children who got shots for both the flu and pneumococcal disease at the same time were about three times more likely to develop fevers on the day they were vaccinated or the day after, compared to kids who were vaccinated separately. But these findings are not a reason to avoid the vaccines, according to the lead author, pediatrician Melissa S. Stockwell, MD. “We think it’s important that children be vaccinated,” she told The New York Times. “And when you weigh the risks and benefits, the vast majority of children should get the vaccines together. It’s the best way to protect them against these serious diseases.” Getting the vaccines at the same visit increases the time of protection and eliminates the problem of failing to return for the second shot, she said.

http://nyti.ms/1aUKWwu

This story also appeared on NPR MORNING EDITION, ABC NEWS 4, FOX NEWS, MEDPAGE TODAY and WEBMD

CBS NEW YORK

Over-The-Counter DNA Tests Could be Misunderstood, Says Dr. Chung

Cheap, easy-to-use mail-order DNA tests from companies like DNA Traits, Gene Planet, DNA DTC, and 23 And Me promise users a glimpse of their future health and their likelihood of developing dozens of diseases and conditions from arthritis to many different kinds of cancer. Medical geneticist Wendy Chung, MD told CBS New York that many other factors come into play to determine whether someone will develop a specific disease or not. “It’s not all driven by our genes. For many different conditions it has to do with things that happened over the course of our lifetime,” Dr. Chung said.

http://cbsloc.al/PYOzYx
NEW YORK TIMES
Dr. Berkowitz Lauds William Pollack, co-developer of Vaccine for Rh Disease

William Pollack, PhD, who helped develop the vaccine that virtually eradicated erythroblastosis fetalis (Rh disease) in collaboration with CUMC researchers Vincent J. Freda, MD and John G. Gorman, MD, died late last year. The disease at one time was the cause of 10,000 infant deaths a year in the US. The vaccine, made from a passive Rh-negative antibody, dispatches invading Rh-positive cells throughout the mother’s body and preventing her immune system from mounting a full-fledged response to the fetus. “It was an absolutely brilliant idea,” Richard L. Berkowitz, MD, obstetrics and gynecology director of resident education, told the New York Times. “A lot of people know who Jonas Salk is, but they should know William Pollack’s name, too. This disease was a major, major problem, and it’s been virtually eradicated.”

http://nyti.ms/1gn2wif

NEW YORK TIMES
Dr. Polin Comments on Study Showing Tainted Breast Milk is Often Sold Online

A cottage industry has sprung up facilitating the sale and donation of human breast milk on the Internet, but a study in Pediatrics found that breast milk bought from two popular Web sites was often contaminated with high levels of bacteria, including, in a few instances, salmonella. The amounts detected in some samples were sufficient to sicken a child. “The study makes you worry,” Richard A. Polin, MD, director of neonatology and perinatology, told the New York Times. “This is a potential cause of disease. Even with a relative, it’s probably not a good idea to share.”

http://nyti.ms/1kn48Hg

SALON.COM
Abortion is Sometimes Necessary to Save a Woman’s Life, Dr. Davis Says

During an interview on the campaign trail, Wendy Davis, gubernatorial candidate in Texas, recently suggested that a world without abortion is something everyone wants. “The goal that we should have is that we see zero abortions,” she said. In response to her statement, Anne Davis, MD, MPH, a second-trimester abortion provider and consulting medical director at Physicians for Reproductive Health, told Salon.com, “The thing that makes me absolutely nuts is when people say abortion is never necessary to save a woman’s life. To say abortion does not save women’s lives is false, plain and simple. And to base policy on that kind of lie sacrifices the health of our patients,” she said.

http://bit.ly/1HZ2CF
In the News

**NBCNEWS.COM**

Dr. Westhoff on Long-Acting Contraception after Abortion

Women who get an abortion may be interested in long-acting forms of birth control (intrauterine devices, contraceptive implants, and hormone shots), but might not return for another visit to get them, so offering women long-acting contraception immediately after their abortion could lower the chance of another unintended pregnancy. “Our patients already had access to effective contraceptives at no cost through a community clinic; however that required organizing an additional visit,” Carolyn Westhoff, MD, Director of Family Planning and Preventive Services, told NBCNEWS.com. “That might sound easy, but for many it is hard to arrange childcare and additional time off from work that would permit another visit,” she said. “The result was that many women simply didn’t make it back.” She and colleagues undertook a study to see what would happen if the obstacle of an extra visit was removed, and found that the number of subsequent pregnancies, abortions, and live births was substantially reduced among women offered long-acting reversible contraception right away. “Women are willing and even eager to adopt a highly effective method when offered,” Dr. Westhoff said.

http://nbcnews.to/1g293t5

**NEW YORK TIMES**

Dr. D’Alton Comments on the case of Marlise Munoz

Fort Worth, Texas woman Marlise Munoz was brain-dead after developing a pulmonary embolism, and met the legal criteria for death in all 50 states, but Texas law prohibited the hospital from disconnecting her from the ventilator because she was pregnant. Munoz was tethered to life support machines for eight weeks, despite her husband’s and parents’ wishes, before she was disconnected. Commenting on the effect of a pregnancy dependent on artificial organ maintenance on the fetus, Mary D’Alton, MD, Chairman of Obstetrics and Gynecology told the New York Times, “It’s extremely risky for fetal development,” but, added, “If the family is willing and it’s something they want, it’s something I would attempt—and have attempted… The family will live with the impact,” she added.

http://nyti.ms/1mVKeTM

**NEW YORK TIMES**

Dr. Planet supports global surveillance of infectious diseases

In a letter to the editor of the New York Times, pediatrician Paul Planet, MD wholeheartedly agreed with the new initiative for global surveillance of infectious diseases recently announced by the Obama administration. “Preventive measures and prompt responses clearly save thousands of lives,” he and a colleague wrote. “The obvious examples come from emerging diseases with rapid and devastating outcomes like SARS or Ebola, but surveillance must include diseases with less dramatic clinical courses, especially for antibiotic resistance. Many common diseases have the potential to become epidemics with just a few seemingly trivial genetic changes. These are precisely the diseases that creep up without causing much of a stir.” Dr. Planet cited the MRSA epidemic as an example, and “a similar insidious rise in CRE, or carbapenen-resistant Enterobacteriaceae. Monitoring common diseases creates new surveillance challenges, but new technologies offer cost-effective strategies that can be carried out now.”

http://nyti.ms/1qkKySk
In the News

DNA INFO NEW YORK

Smoke’s Danger Depends on what has been Burned, According to Dr. Miller

Following the mid-March explosion that leveled two Park Avenue apartment buildings in East Harlem, New York, killing seven people and injuring more than 60, Mayor Bill de Blasio urged residents near the site to stay inside and avoid exposure to smoke from the still-smoldering fire. Many area residents also bought face masks because they were afraid of breathing the smoke. The health dangers of the smoke, though, “really does depend on what burned,” allergy specialist Rachel Miller, MD, told DNAInfo New York. “Some things burn dirtier than others. I think the most sound thing to do is to contact your doctor if you’re feeling sick,” she said.

http://dna.infyo/1AcgAi

CBS NEW YORK

Dr. Lewin on Obesity and Ovarian Cancer Risk

A large-scale review of ovarian cancer research by The World Cancer Research Fund has confirmed that obesity can be a risk factor for ovarian cancer. The Fund looked at 25 previous studies involving 4 million women and found that for every five additional BMI units women had a 6 percent increased risk of developing ovarian cancer. Being obese increases a woman’s risk because fat tissue makes estrogen, which is known to increase ovarian cancer risk. Gynecologic oncologist Sharyn Lewin, MD, explained that the disease is typically detected in its later stages. “We do not have an effective screening mechanism for detecting ovarian cancer at early stages so we usually, unfortunately, detect women when they are stage 3 or 4. Very advanced stages,” she told CBS New York. “Identifying a healthy body weight and ways to modify that with exercise, appropriate diet, that is one risk factor that patients can really do something about,” Dr. Lewin said.

http://cbsloc.al/1mYUbNs

NEW YORK DAILY NEWS

Insurance Plans Should Cover the cost of Breast Pumps, says Dr. Ohly

Despite a new provision in the Affordable Care Act that requires many plans to cover lactation devices, New York City employees’ insurance companies do not pay for the $300 devices. The Obamacare provision covering breast pumps and other preventive-care services kicked in Jan. 1, 2013, but the City is not violating the new healthcare law because plans already in effect before Obamacare passed can be exempt from some of the law’s regulations. They also say nursing helps reduce a host of health problems, including respiratory diseases and childhood obesity. N. Tanya Ohly, an obstetrician and gynecologist, pointed out to the NY Daily News that that moms who can’t get breast pumps covered by their insurance are facing a major disadvantage. “It’s already overwhelming to take home a newborn,” she said. “And then to sort out the details of your insurance plan and whether you can get a breast pump, it’s extremely aggravating.”

http://nydn.us/1nFL30O
Each year, members of the Departments of Obstetrics and Gynecology and Pediatrics publish several hundred research articles in medical journals. Below are highlights from those publications.


Anne Armstrong-Cohen, MD (Child and Adolescent Health) has been nominated as one of the 30 Arnold P. Gold Foundation Humanism in Medicine Award, presented by the Association of American Medical Colleges (AAMC) with the support of the Arnold P. Gold Foundation. Members of the Organization of Student Representatives at our medical school submitted the nomination on her behalf. The recipient of the award will be recognized during the November 2013 AAMC Annual Meeting in Philadelphia, PA. Dr. Armstrong-Cohen was also selected as a faculty “Cloaker” for the White Coat Ceremony for the Columbia P&S Class of 2017.

Emilio Arteaga-Solis, MD (Pulmonology) was elected to membership in the Society for Pediatric Research.

David Bell, MD (Child and Adolescent Health) has been invited on behalf of the IPDP Beyond 2014 Coordination Secretariat and the Gender, Human Rights, and culture Branch of the Technical Division, UNFPA, to participate in a Dialogue on Men, Masculinities and Sexual and Reproductive Health.

Julia Glade-Bender, MD (Hematology/Oncology/SCT) was awarded a five-year grant from Alex’s Lemonade Stand entitled, “Columbia University Developmental Therapeutics Program: Striving for Excellence.” Dr. Glade-Bender and the Pediatric Oncology Team at Columbia University Medical Center were nominated for the “BEST CARE Community Award 2014” by The Salmar Bikur Cholim. She was honored at an event on January 29th at the Bais Rochel Paradise Ballroom in Monroe, NY.

Erika Berman Rosenzweig, MD (Cardiology) has been invited to serve on the SMFM Editorial Review Committee. She will help coordinate the Research Committee, and to the Education Committee, the Hepatology Committee, the Endoscopy Committee, to the Gastroenterology Committee, and was appointed to the FDA’s GI & Nutrition External Advisory Board.

Esi Lamouse-Smith, MD, PhD (Hepatology & Nutrition) was invited to present, “Probiotics as Immune Therapy: Lactic Acid Bacteria to present, “Probiotics as Immune Therapy: Lactic Acid Bacteria and Their Potential Role in Health and Disease”,” by the Korean Society of Lactic Acid Hepatology & Nutrition. This year she has been accepted as part of a special enhanced learning session and invited to speak at the Children’s Hospital Association 2014 Transforming Children’s Health Care Together: Care Coordination in a Complex Environment Conference.

Rachel Miller MD (Allergy and Immunology) received a four-year RO1 from NIH/NHLBI for the project entitled: “Secondhand smoke and the Mechanistic outcomes of DNA methylation in T cells.” She is a co-Principal Investigator in collaboration with Dr. Kari Nadreau at Stanford University and will be looking at epigenetic modifications in a cohort of monozygotic twins.

Mara Minguze, MD (Child and Adolescent Health) was selected as the Physician of the Year for the American College of Nursing. This award is given to one physician annually, through an extensive nomination and voting process by Nursing.

Betsy Pfeffer, MD (Child and Adolescent Health) was invited to be the inaugural speaker at the Developmental Brown Bag Series, Department of Psychology, Virginia Tech, in September, 2013; and was also invited to speak at the Department of Psychology, Wesleyan University in October, and at NYU’s Institute of Human Development and Social Change. Dr. Noble will be the PI on a new grant awarded by the Annie E. Casey Foundation on, “Income and Brain Development: A Randomized Controlled Trial.”

Sharon Oberfield, MD (Endocrinology) was appointed to serve a three-year term on the Editorial Board of The Journal of Pediatrics.

Betsy Pfeffer, MD (Child and Adolescent Health) and her colleague in Uganda, Dr. Natasha Bbere-Kitaka, received the iCATCH grant from the American Academy of Pediatrics to support their project, “Promoting Adolescent Medicine in Uganda.”

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Michelle DiVito, RN, MSN, Senior Director of Research Administration in the Department of Obstetrics and Gynecology, is this year’s winner of the Pregnancy Foundation’s Steven Gabbe Award for Service. The Award was established in 2011 to honor Steven Gabbe, MD, one of the world’s leading experts on the complications of diabetes and pregnancy, and is given each year to an individual who has made a considerable contribution to the Foundation.

Ms. DiVito oversees the administrative, operational, and financial aspects of all research in OB/GYN. When Mary D’Alton, MD, Chair of the Department of OB/GYN, was appointed Chair of the Foundation’s Scholarly Activities Program Committee seven years ago, Ms. DiVito began coordinating the Program. Dr. D’Alton became Chair of the Foundation this past year and Ms. DiVito’s role expanded. She now assists Dr. D’Alton in managing the details of all of the Foundation’s activities, while continuing to coordinate the Scholarly Activities Committee.

“Since the inception of my leadership of the Pregnancy Foundation-AACOGF Scholarship, Michelle has been key to its success,” says Dr. D’Alton. “She has organized many of the retreats, created a database of candidates and coordinated the many conference calls for discussion. She is an effective facilitator who is recognized throughout the OB/GYN research community for her complete commitment to research in women’s health. It has been a pleasure for me to see this recognition translate into the Steven Gabbe Award.”

In her role as the senior director of research, Ms. DiVito is responsible for planning, administering, analyzing, monitoring, and evaluating the Department’s sponsored and non-sponsored research activities. She has worked in partnership with Ronald Wapner, MD, Vice Chair of Research, to develop a clinical research infrastructure that is embedded in the clinical care systems at CUMC, as well as to develop a consortium of institutions that collaborate in research initiatives requiring large and diverse patient cohorts. Ms. DiVito and Dr. Wapner have worked with clinical and basic science investigators in OB/GYN to move the department into the top NIH-funded OB/GYN Departments nationally.
Fellows Corner

Dr. Dina Ferdman is a 2nd year fellow in the Pediatric Cardiology Division. Colin’s Kids has honored Dr. Ferdman with the Andrew King Research Award, a $5,000 research grant toward her work in pediatric cardiology. The award, presented annually, was established to support the Colin’s Kids’ mission of providing critical funding to advance medical research related to the diagnosis, life-improving treatment, prevention and cure of congenital heart defects. Dr. Ferdman, Postdoctoral Clinical Fellow, will use her award to support her ongoing research on validation of a measurement of fetal cardiac function. It is her hope that these studies will help illuminate detection of normal and abnormal cardiac function in various forms of congenital heart disease so that physicians can manage patients from an earlier age and better predict their outcomes.

Dr. Amy Brown is a 2nd year fellow in the Pediatric Pulmonary Division. Dr. Brown is currently working on exciting research exploring the phototherapeutic potential of naturally derived compounds and their implications for complementary asthma therapy. Dr. Brown’s mentor, Dr. Charles Emala (Department of Anesthesia), has recently published work that illustrates the ability of purified ginger compounds, as well as the flavonoid Quercetin, in potentiating acute smooth muscle relaxation and acting synergistically with beta-agonist therapy. Dr. Brown is now extending this work to other flavonoid compounds to characterize their effect on acute airway smooth muscle relaxation and has found that the flavonol compound Galangin has similar relaxation properties and this has been demonstrated in a murine myograph model. She is now undertaking enzymatic assays and further human myograph studies to characterize the mechanism by which this acute relaxation takes place. Dr. Brown’s abstract of her preliminary findings has been accepted for poster presentation at the 2014 American Thoracic Society International Conference in San Diego.

Upcoming Events

APRIL 25, 2014
Babies Hospital Alumni Day: The Hattie Alexander Memorial Lecture
11:00 AM, P&S AMPHITHEATRE 1
Kathryn Edwards, MD, Sara H. Sell and Cornelius Vanderbilt Chair in Pediatrics and Director, Vaccine Research Program at the Vanderbilt University School of Medicine will speak on, “Pertussis: What are we going to do about increasing disease?” Michael Katz, MD will receive the 2014 Babies Hospital Distinguished Alumnus Award following the lecture. For more information, please contact Peggy Dubner at ml977@columbia.edu.

APRIL 30, 2014
Have A Heart reception
6:00 - 8:00 PM, ALICE + OLIVIA SHOWROOM, 450 WEST 14TH STREET, ELEVENTH FLOOR
For more information, please contact Erin Jadney at erin.jadney@columbia.edu.

MAY 18, 2014
Columbia Children’s Gala
6:00 - 10:00 PM, THE METROPOLITAN OPERA, LINCOLN CENTER
The inaugural gala held by the Children’s Board at Columbia (CBC) will feature cocktails, dinner, and a special performance. Gala co-chairs Cynthia Kempner and Susan York join Karen Kennedy, MD, Chair of the CBC. For more information, please contact Erin Jadney at erin.jadney@columbia.edu.

JUNE 23RD, 2014
Hope & Heroes Golf
6:00 - 10:00 PM, BALTUSROL GOLF CLUB, NEW JERSEY
The 18th Annual Hope & Heroes Golf will return to New Jersey’s legendary Baltusrol Golf Club for the first time in seven years. Foursomes for this popular event typically sell out, so email Kathryn Leiby at kl2601@cumc.columbia.edu to join the mailing list.
now in terms of the services we provide regionally, as well as nationally?”
Dr. Advincula says. “We have the ingredients here—the existing service
lines, personnel, and expertise—to achieve national stature for sure. We
just need to focus them, and add some new elements and new expertise
to the mix.”

With a 13-year background in minimally invasive GYN surgery, Dr.
Advincula’s interest and expertise in the field are the drivers behind
his plan to build the Center for Women’s Specialized Gynecologic
Surgery at the Sloane Hospital for Women. He and his colleagues at
the Center will provide women with team counseling and advice on the
best surgical options, and then if they choose one of those options, “we
can execute it,” he says. Dr. Advincula has special expertise in robotic
surgery for complicated conditions including fibroid removal with uterine
preservation for future fertility, advanced endometriosis surgery, complex
hysterectomy (for patients with a very large uterus, a uterus involved
with pelvic adhesions, or with comorbidities like obesity), and pelvic
reconstruction.

He says he and his team aims to offer the best outcomes for surgical
procedures and management, while continuing to develop new
techniques and instrumentation for GYN surgeries, and to teach others
how to perform them as well. “I’m interested in not only providing good
clinical services but also teaching others in practice how to elevate their
surgical game,” he says. To that end, the GYN division has already es-
lished a new fellowship in minimally invasive surgery since his arrival
at CUMC.

Dr. Advincula has also announced the addition of urogynecologist
and pelvic reconstructive surgeon Rosanne Kho, MD, to the division;
she will join CUMC in June. “There is a big push nationally to bring back
vaginal surgery and vaginal hysterectomy; and that’s Dr. Kho’s forte. She
is going to add a whole new element to the department,” Dr. Advincula
says.

As part of the newly created Center for Endometriosis Treatment and
Research, specialists in reproductive endocrinology and infertility will
work with specialists in other departments including Urology, Colorec-
tal Surgery, and Radiology, “to develop a comprehensive approach to
managing patients with this complex diagnosis,” says Dr. Advincula.
Radiologists help evaluate whether endometriosis has invaded a pa-
tient’s bowel, ureter, or bladder; and during the often complex surgeries
required to treat the condition GYN surgeons collaborate with colorectal
and urologic surgeons to perform bowel resections or remove disease
from the ureter or the bladder if needed.

“The bridges we develop with other departments will also enable us
to build a nice research infrastructure so that we can study endometrio-
sis from those different perspectives,” Dr. Advincula adds. “Columbia is
probably one of the best places to develop a Center like this because of
the resources and talent here, and no other place in the area is offering
comprehensive treatment for women with endometriosis. These are big
surgeries and we want to provide that kind of care here.”

Dr. Advincula is building another bridge through the collaborative
work he is planning with Beth Rackow, MD, Assistant Professor of
Obstetrics and Gynecology in the Division of Reproductive Endocrinol-
ogy & Infertility and Director of the Pediatric and Adolescent Gynecology
program. When they reach adolescence, girls with müllerian anomalies
begin to show signs of this abnormal development of the female genital
tract, “and you really need a collaborative effort that includes a specialist
in pediatric gynecology to treat them,” he says.

To speed the process of diagnosing gynecologic disorders and
diseases Dr. Advincula foresees collaborating with colleagues in various
departments, including radiology. “Our colleagues in radiology have
already been in touch with me about streamlining the process so
patients can get their imaging done same day. It’s awesome when you
can figure out ways to make it easy for a patient to be seen, imaged, and
set up for what will hopefully be the best treatment option for them.”

Dr. Advincula and Dr. Kho are both involved with several national and
international organizations and societies. Dr. Advincula is president-elect
for the AAGL, the largest organization of minimally invasive gynecologic
surgeons. “A lot of the things that shape what we do as clinicians comes
from these societies, so our involvement will help us be on the front end
of developments nationally and globally,” he says. “We’re going to be
able to implement things ahead of the curve in credentialing, privileging,
techniques, and technology because we’re helping setting up the poli-
cies for future practices.”

Dr. Advincula also foresees increasing the role of surgical simulation
for members of the division using both low fidelity and high fidelity simu-
lators, and individual simulation as well as team training. While it’s easy
to simulate the work done by the surgeon at the console of the surgical
robot, “the difficulty lies in simulating everything else for the team,
and that’s hugely important,” says Dr. Advincula. “You cannot do robotic
surgery by yourself without a support team to help with all of the other
aspects of the surgery, and that’s where the team training is critically
important. This is an area that you’re going to be hearing and seeing a
lot more about within the department over the next year.

“Arnie’s arrival brings exciting changes for our department that will
not only improve upon our current programs and services but will also
advance us as a national and international leader in minimally invasive
surgery, surgical training, and simulation,” notes OBGYN Chair Mary
D’Alton. “His vision for women’s health, with its focus on collaboration,
will enhance our continued goal to provide women with the most innova-
tive and comprehensive care available.”

“Our division is going to cover the continuum of care for women
with GYN issues from menarche all the way beyond their reproductive
years,” Dr. Advincula says. “And when we can create cross-departmental
bridges in the hospital to provide the most comprehensive care, it’s a
win-win for everybody.” — Beth Hanson
Pediatric Surgery

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drawn very talented, multifaceted surgeons who covered all the bases of an academic career, “performing very varied surgeries in fields ranging from neonatal, congenital, cancer, and elective work as well as teaching in one of the most coveted fellowship programs in the country and performing clinical or basic science research.” In the coming era under his watch, the division will recruit the same kinds of talented, multifaceted surgeons, he says, but ensure that each faculty member has or develops an area of special expertise. “When we blend all of that expertise together, we’re going to have a very powerful division.”

This increasing focus on training subspecialists is an acceptance that obtaining funding from the National Institutes of Health (NIH) is more and more difficult every year, Dr. Stylianos says. “You can’t be a generalist and do everything, and at the same time command the respect of an NIH. In order to procure NIH funding you should be an expert.”

The division already has a very strong regional and national reputation in bariatric surgery, chest wall defects, and congenital diaphragmatic hernia, according to Dr. Stylianos. He plans to expand division expertise in vascular malformations; bowel problems including short bowel rehabilitation, inflammatory bowel disease, anorectal malformations; fetal care; cancer; and critical care, he says.

Medical centers throughout the region are offering increasing subspecialization, but what makes NewYork-Presbyterian Morgan Stanley Children’s Hospital different is that the division and hospital have the expertise to care for really sick children, says Dr. Stylianos. “Most children get better at the other places, but seriously ill and injured children who are really in trouble end up here.” The Children’s Hospital offers high-powered expertise in areas like extracorporeal membrane oxygenation (ECMO)—bypass machines for children whose lungs or hearts fail—and organ transplantation. “The courage of our practitioners to try incredibly innovative and cutting-edge strategies really sets us apart,” Dr. Stylianos says. “We wish we could get that word out to vulnerable families and pediatricians earlier, before kids are on desperate measures.”

For many of the conditions they treat, CUMC’s pediatric surgeons are moving toward increasingly minimally invasive approaches. “Members of our division like to do more for our patients by doing less to them, and that defines the strategies for minimally invasive surgery that we now use in almost every condition,” says Dr. Stylianos, adding that, following minimally invasive surgery patients recover faster, and their time away from home and their parents and siblings is shorter.

The number of surgeries the division’s surgeons now do that use minimally invasive techniques keeps growing. Almost all surgeries done on the abdomen and chest begin, and usually end, in a minimally invasive fashion. In the past surgeons removed lung lesions through a very large chest incision that resulted in a significant healing period, and patients often had subsequent problems with their ribs and developed scoliosis. “These surgeries are done here now with the scope, and that’s been a huge addition to the armamentarium,” Dr. Stylianos says. The standard approach for acute appendicitis is a three-instrument procedure, but surgeons here do them with one instrument through the belly button. “We’ve made minimally invasive even more minimally invasive, and we keep pushing the envelope.”

Areas of research in the division include a collaboration between Angela Kadenhe-Chiweshe, MD, and June Wu, MD, a pediatric plastic surgeon and basic scientist. In their vascular malformations laboratory, the pair is uncovering some of the biological mysteries of these lesions and hope to develop less invasive or nonsurgical treatments, sparing children tremendous morbidity. Pediatric surgeons are also participat-