A Senior Statesman of Pediatrics

Dr. Bill Speck has Mentored Hundreds of Today’s Leaders in the Field

William T. Speck, MD, has had an extraordinary career—he has been a division chief and department chair, president and CEO, teacher, and mentor—but his most important legacy is likely his impact on several generations of residents: Twenty-one of the chairmen in pediatrics departments around the country served as his residents, as did a hundred or so subspecialty division chiefs. These physicians clearly absorbed one of the central lessons Dr. Speck has passed on throughout his teaching career: pediatricians have a responsibility to become leaders in the field so that

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Textbooks are the most authoritative source of information on any medical condition, practice, or illness. Yet not too long ago, if a physician, student, or patient wanted more information on a topic, he or she would visit a library, search for relevant texts on a card catalog, borrow the publication, and return the book by a certain date to avoid late fees. But all of that has changed. With the internet, anyone can have access to medical information in a matter of seconds. Whether doctors conducting research or students studying the healthcare field, anyone can purchase e-books instantaneously, avoiding trips to bookstores and libraries. What's more, patients can research the facts of an illness or disorder within the comfort of their home. This issue of Connections focuses on the importance of medical textbooks, and how technology is changing the way we access information. In “Medical Textbooks: Bookshelf—or Laptop—Essentials” (page 3), Mary D’Alton, MD, Chair of Obstetrics and Gynecology, and Lawrence Stanberry, MD, PhD, Chair of Pediatrics, discuss “how doctors use medical reference books, the process of producing them, and how they are evolving in the digital age,” while publications by CUMC’s own expert obstetricians, gynecologists, and pediatricians are featured in “By the Book” (page 4). But advances in textbooks are just the beginning. In this issue, you will also discover how CUMC’s doctors are utilizing the latest in medical technology to care for patients, such as Heakyung Kim, MD, Director of CUMC’s Pediatric Physical Medicine and Rehabilitation Department, who uses Botox and ethanol to treat children with conditions such as cerebral palsy (page 12), and Mark V. Sauer, MD, Co-Director of the Division of Reproductive Endocrinology and Infertility, who discusses his cutting-edge research on pluripotent stem cells (on the cover). One thing is clear: all these advances in medicine are just what the doctor ordered to keep you in the best of health.
Medical Textbooks: Bookshelf – or Laptop – Essentials

A Conversation Between Mary D’Alton, MD & Lawrence Stanberry, MD, PhD

Mary D’Alton, MD, Chair of Obstetrics and Gynecology, and Lawrence Stanberry, MD, PhD, Chair of Pediatrics, spoke recently about how doctors use medical reference books, the process of producing them, and how they are evolving in the digital age.

Dr. Stanberry: Physicians need one place where they can find comprehensive information on a topic, whether the source is in print or online. In each field, a few authoritative textbooks generally rise to the top. In women’s and children’s health, I can think of at least four books that fit that description. Dr. D’Alton’s book, Fetology, is without question the authoritative text in that area. Dr. Richard Polin, Director of the Division of Neonatology, has edited the authoritative book, Fetal and Neonatal Physiology Volumes 1 and 2, which is now in its fourth edition. I’ve edited two books since coming to Columbia: Vaccines for Biodefense and Emerging Infectious Diseases and Viral Infections of Humans: Epidemiology and Control, a major text on the topic that is coming out in its fifth edition this year.

Dr. D’Alton: Books become the authoritative text in a particular field if they are comprehensive, up-to-date, and fill a gap. Fetology filled a gap because the practice of prenatal diagnosis has become multidisciplinary and now requires that ultrasound physicians, geneticists, pediatric surgeons, and pediatric neurologists all come together to make the appropriate diagnosis for the family. When we started this book, there were just three authors and we each edited our own chapters. In the second edition, we added a fourth author. For the most recent edition, because of the explosion of knowledge in genetics, we have added two genetics specialists. As soon as new findings are dry on the page, there is something new in genetics and we are now evaluating how we are going to keep up with the literature. Clearly, the answer will be electronic publishing.

Dr. Stanberry: One of the real challenges in being an editor is to convince the most knowledgeable people in the field—people who have done the work to define that topic—to contribute because it is a real commitment and the financial gain is generally pretty modest, while the aggravation level can be pretty substantial.

Dr. D’Alton: I agree; it’s key to get the right people. Unfortunately, the right people are asked a number of times to do chapters for a variety of different books that may be in competition with each other. If you have edited a lot of chapters, you have to make sure they aren’t the same as those you’ve already written. So many of the more senior, knowledgeable people in a field collaborate with a junior person who will be able to wordsmith differently about the same topic. Over time, the junior person will become the senior author and will have a chance to advance.

One thing that I always think about is how we can make a book simple and accessible for our residents and fellows who are on the front-line, in the middle of the night, dealing with patients who have rare diseases. In Fetology, we included a synopsis of each chapter and the major take-home points, which can be very useful in helping young physicians get through a few hours until we can give more detailed information to a family. I also find that a family can benefit greatly when we give them a chapter on the disease or condition that is affecting them because often when I explain a complicated issue, they don’t take in very much, especially if it is new. So giving them information that they can read in a more leisurely way and in a less stressful environment than when they first hear about their baby’s condition gives them much more knowledge and a basis for further questions.

Dr. Stanberry: Like Dr. D’Alton, there are situations where I will give a textbook chapter to somebody about a specific viral disease or a specific vaccine. I’ve also written a book for the general public on genital herpes, Understanding Herpes (University Press of Mississippi, 2006), which deals with mother-to-baby transmission of the virus. The book turns out to be very helpful as people try to sort through this life-long infection.

Dr. D’Alton: Electronic publishing is changing this field in a dramatic way, and we are not really sure where it is going to end up. But most of the generation below us, certainly the fellows who are now entering our field, don’t often read a textbook; they usually read online. So, all of us who are involved in textbooks should be thinking about the future and about updating our electronic books in a very timely and consistent manner. Although it sounds easy, updating requires an ongoing effort, which has its own challenges. I think we will need to identify a process to update our books on a regular basis so that they remain first in class.

Dr. Stanberry: One of the advantages of more books going electronic is that the authors can update them on a rolling basis, and I think the notion of an “edition” will disappear. Another advantage of online publishing is that there is no cost for including color illustrations, which adds an enormous expense to a print publication. You can use very sophisticated illustrations in an electronic book or embed videos into the online version, and now you have created a different tool for educating people.

Many senior authors edit books because it gives them an opportunity to convey their knowledge in a different venue than a lecture hall or a conference room. Helping to lead a project of this nature and working on it with exceptionally bright people in the field is very satisfying. Like many authors, I feel that working on a textbook is a labor of love.

“Like many authors, I feel that working on a textbook is a labor of love,” says Dr. Stanberry.
The Brains Behind the Brawny Neuron

For many decades, it was assumed that the brain contained a finite number of neurons and that after birth, there was a constant and inevitable decrease in their numbers. Significant effort has been devoted to the study of later-onset neurogenesis, also known as adult neurogenesis. In many settings, injury accelerates the ongoing neurogenesis now known to occur, and reservoirs of glial progenitors add to the pool of existing reparative possibilities. *Endogenous Stem Cell-Based Brain Remodeling in Mammals* (Stem Cell Biology and Regenerative Medicine), co-edited by Associate Professor of Pediatrics, Pathology, and Cell Biology Steven G. Kernie, MD, Chief of Pediatric Critical Care Medicine, uses the juvenile mammalian brain as a starting point to describe how different injury mechanisms influence neuronal and glial progenitor response to injury and how, in certain circumstances, these cells might play adaptive or harmful roles in recovery. The book also provides an overview of emerging concepts in progenitor biology and how understanding the process of regulating these cells has tempered some of the initial enthusiasm regarding their therapeutic potential. Chapters are written by experts in the field, predominantly from the United States and Europe. “While it is pretty technical, the book is a great resource about how various currently used medications and therapies might influence the brain’s endogenous repair mechanisms,” says Dr. Kernie.


A Guide to (Finally) Comprehending the Science of Women

For many women, the yearly visit to the gynecologist’s office is a dreaded event. Cold speculums, revealing stirrups, the scraping of the cytobrush as it gathers cell samples from the cervix. As uncomfortable as it might be, seeing a gynecologist on a regular basis is crucial to a woman’s health. And if a gynecologist is well-trained, informed, and possesses the most current knowledge in the field, this expertise can put a woman’s mind at ease—turning what can be an unpleasant experience into a positive one. *Comprehensive Gynecology* (Sixth Edition) is an all-inclusive medical textbook that provides detailed and essential information on “the science of women”—the literal meaning of gynecology, outside of medicine. The 936-page hardcover publication delves into the details of this specialty—such as medical and surgical issues that affect the health of the female reproductive system (vagina, uterus, and ovaries), legal and ethical issues involving the practice of gynecology, and patient treatment. Whether one is a gynecologist or resident studying the field, *Comprehensive Gynecology* provides all the in-depth coverage and up-to-date information one needs to remain—or become—an expert in gynecology. “This book is a classic that has been in circulation for 30 years, so it’s a pretty standard text,” said Professor of Reproductive Endocrinology & Infertility Roger A. Lobo, MD, Fellowship Director of the Division of Reproductive Endocrinology, who co-edited the book. “With its latest information on gynecology, current facts and figures, great illustrations, and easy-to-read format, *Comprehensive Gynecology* is the leading book on this subject.”

The Gold Standard on Perinatal Physiology

The developmental biology and physiology of the fetus and newborn infant has become a major practice in the biomedical sciences. *Fetal and Neonatal Physiology* (Fourth Edition) is a comprehensive, two-volume textbook that focuses on those physiologic developments and their subsequent impact on the clinical practice of neonatology and child development. The only text of its kind, *Fetal and Neonatal Physiology* is considered to be the authoritative textbook on perinatal physiology and features more than 400 expert scientists and clinicians who contributed to the text. “This book should be considered an encyclopedic reference source as both the normal and abnormal physiology of every organ system is discussed,” says Richard A. Polin, MD, director of the Division of Neonatology for the Morgan Stanley Children’s Hospital of New York and professor of pediatrics at Columbia University, who has edited the book since its inception. “*Fetal and Neonatal Physiology* is used by research scientists and physiologists interested in developmental biology, and by neonatologists, pediatricians, and maternal fetal medicine experts.” He and fellow co-editors are currently working on the fifth edition of the textbook.


From A to Z: Understanding Fetal Anomalies

At about the 20th week of pregnancy, an anatomical scan is performed on an expectant mother to determine if the baby is developing normally. If a fetal anomaly is detected, the results can prepare women and their partners for the future of their child—from possible treatment options before delivery to delivering the baby at a hospital that specializes in treating the abnormality detected, preparing for palliative care at the newborn stage, or discussing whether to terminate the pregnancy, depending on the diagnosis. *Fetology: Diagnosis and Management of the Fetal Patient* (Second Edition) provides a multi-disciplinary approach to the full implications of a fetal sonographic or chromosomal diagnosis—from prenatal management to long-term outcomes—for an affected child. With more than 1,000 pages of information, the book serves as a resource for obstetricians seeking answers to the questions parents raise when they are faced with the diagnosis of a fetal abnormality, and provides advice on how to present patients with a coordinated therapeutic plan. For prospective parents, it is also a guide to understanding an abnormal fetal finding. “I find that a family can benefit greatly when given a chapter on the disease or condition that their baby has been diagnosed with; often when I initially explain a complicated issue, the family is overwhelmed and unable to take in much information due to the stressful nature of the situation,” states Mary E. D’Alton, MD, Willard C. Rappleye Professor and Chair of the Department of Obstetrics and Gynecology at the Columbia University College of Physicians and Surgeons, in “Medical Textbooks: Bookshelf—or Laptop—Essentials” (this issue of *Connections*, page 3). “Additionally in *Fetology*, we include a synopsis of each chapter and the major take-home points, which can be very useful to residents and fellows, allowing them to give accurate, preliminary information to families until an experienced subspecialist is available to provide more details.”

When the (Sliver of) Truth is Stranger than Fiction

It’s a case of art imitating a fictitious life. Chris Adrian, MD, M.Div., MFA, Assistant Professor of Clinical Pediatrics at Columbia University Medical Center, is a writer of fiction. His latest work, The New World, follows protagonist Dr. Jane Cotton, a pediatric surgeon, and her husband, Jim, a humanist chaplain. Life couldn’t be better as the couple prepares to celebrate their eighth wedding anniversary. But then, suddenly, Jim collapses and dies. Jane arrives at the hospital and is horrified to discover his head has been removed from his body. Only then does she discover that he has secretly enrolled with a shadowy cryonics company called Polaris. Furious and grieving, Jane fights to reclaim Jim from Polaris while subsequently, in the future, a revived Jim learns he must sacrifice every memory of Jane if he wants to stay alive. In addition to this book, Dr. Adrian has written several novels, including Gob’s Grief, The Children’s Hospital, and The Great Night. According to Dr. Adrian, his role as a fiction writer differs from his position at Columbia “probably most drastically in its solitariness. Patient care is usually face to face. A writer might have a relationship with his readers, but the interaction happens across the distance of two imaginations.” He adds, “I’m tempted to quit writing more often than I’m tempted to quit medicine, and I suppose one of the reasons that I don’t quit fiction is because I occasionally recognize something satisfying and almost true in my fictional representations of the world of the hospital, and the world of the world in general. Right now, I’m working on a collection of short stories about Puritans and America’s religious and political identity; but like most everything else I write, I suppose these are also stories about death, grief, and love.”


Going Viral: A Comprehensive Manual to Human Viruses

West Nile virus, severe acute respiratory syndrome, avian influenza. Over the past two decades alone, these are just a few of the more than 30 newly discovered diseases in humans. While the causes of certain illnesses can be attributed to such factors as global over-population and climate change, the origins of many viruses are still unknown. Viral Infections of Humans: Epidemiology and Control (Fifth Edition) captures both the excitement and frustration of the dynamic struggle between humankind and the viruses that continue to cause immense suffering. The book presents the latest concepts, methods, and technology in epidemiology, detection, investigation, modeling, and intervention. About 60 experts contributed to this 1,216-page “encyclopedia” of viruses, and provide analytic summaries of viruses and prions that cause acute syndromes, chronic illnesses, and/or malignancies. Viral Infections of Humans offers a comprehensive perspective on classic diseases (such as hepatitis, measles, polio, rabies, and yellow fever), viruses with the greatest pandemic impact (including influenza and the human immunodeficiency virus), and illnesses uncovered relatively recently (such as henipavirus, metapneumovirus, and norovirus). “This book is considered the most authoritative text on viral epidemiology,” says Lawrence Stanberry, MD, PhD, the Reuben S. Carpentier Professor and Chairman of the Department of Pediatrics at the College of Physicians and Surgeons, who co-edited the book. “It’s comprehensive. Everyone involved in Viral Infections of Humans is a virologist, and we wanted this book to contain a chapter on absolutely every currently recognized virus that affects humans. The book does just that.”

Collaborations

Visionaries: Researchers Team Up to Learn More About Preeclampsia

During pregnancy, a woman’s body undergoes rapid and profound hormonal, metabolic, and vascular changes to support the developing fetus. In rare cases, complications arise during this process. One of the most serious complications of pregnancy is preeclampsia, a rapidly progressive multisystem disorder that affects six to seven percent of pregnant women. Its most telling symptoms are high blood pressure and high levels of protein in the urine, but it can also cause swelling, headache, nausea, and problems with vision, such as temporary blindness, flashing lights or spots, light sensitivity, and blurry vision. Currently, the only treatment for severe preeclampsia is early delivery of the baby.

Blood vessels in the placenta, the organ that nourishes the fetus, and those in the choroid, the vascular layer lining the back of the eye, are found in very different parts of the body, “but they have remarkably similar characteristics,” says ophthalmologist Srilaxmi Bearelly, MD. She and OB/GYN researcher and Director of Maternal Fetal Medicine Ronald J. Wapner, MD, are building a unique collaboration on these similarities to investigate the abnormalities in the blood vessels of both the placenta and the eyes in women with preeclampsia.

Their goals include developing new techniques to monitor women during the early stages of pregnancy for preeclampsia and learning more about the link between preeclampsia and the risk for health problems later in life, including age-related macular degeneration.

Dr. Bearelly made the initial observation that sparked the collaboration while examining the eyes of a patient with preeclampsia. Using an exam called autofluorescence, she noted abnormalities in the choroid similar to those in patients with macular degeneration. The abnormal findings disappeared after she delivered her baby. “We theorized that these changes signified blood vessel changes in the choroid,” Dr. Bearelly says. She presented this observation at an OB/GYN research conference three years ago. “The remarkably similar imaging findings between the two diseases were so enthralling that we thought we should develop a multidisciplinary relationship to look into it,” says Dr. Wapner. Since then, the collaboration has grown and now includes a number of medical students and additional investigators.

The eye is an especially good vantage point for viewing certain internal processes because it’s one of the few places in the body that you can actually see the blood vessels. Dr. Wapner says, “Ultrasound allows you to detect what’s going on with blood flow in the placenta, but you can’t see it. Using an ophthalmoscope, you can look at the blood vessels in the eye. So our ultimate goal, in addition to learning a lot of science, is to be able to look in a pregnant woman’s eye and determine if she is at risk for preeclampsia and to understand the severity of the disease.” Dr. Bearelly’s goals are different: She hopes to learn more about the genetic basis of the very unique changes in the eye that occur only in preeclampsia. Her question, she says, is, “What’s the relationship between what we see in preeclampsia and eye disorders that develop much later in life?”

The group’s initial study (Choroidal and Retinal Thickening in Severe Preeclampsia. Invest Ophthalmol Vis Sci. 2014 Jul 29) looked at the choroid and retina in women with preeclampsia. “We discovered a significant increase in thickness in the choroid as well as
the retina in women with preeclampsia compared to those who did not have the condition. So we think we’re on the right trail because the eye is responding to the disease process of preeclampsia,” Dr. Wapner says. “This was the first time we actually showed measurable subclinical changes that could explain why patients with preeclampsia develop visual symptoms.”

The researchers also conducted a pilot study to look at circulating levels of vascular endothelial growth factor (VEGF), a signaling protein that stimulates blood vessel development, to see if they correlate with the changes in the thickness of the retina. (Retinal macular volumes may correlate with serum VEGF levels in women with severe preeclampsia: Invest Ophthalmol Vis Sci 2014;55: E-Abstract 1930.) They found VEGF levels to be about twice as high in women with preeclampsia, and are now studying the role of additional growth factors.

A lot of recent literature suggests that pregnancy is a window to a woman’s future health, Dr. Wapner says. “We know that women who get preeclampsia are much more likely to have cardiovascular disease and strokes, and possibly certain eye disorders later in life.” To investigate this link, the group has begun using the data accumulated through the Collaborative Perinatal Project (CPP), a nationwide study that enrolled 55,000 pregnant women between 1959 and 1966. The goal of the CPP was to study the factors influencing pregnancy and birth outcomes, and child health and development. Drs. Bearelly and Wapner and their team are currently following up with patients who were enrolled in the CPP through Columbia and who developed preeclampsia to see if, decades later, they have developed macular degeneration. “If we know that a patient in her 20s or 30s is at high risk for developing blindness later in life, we may be able to change that trajectory by following them more closely and managing them in a more timely way,” says Dr. Bearelly.

The collaboration between two different departments—using data collected decades ago about women’s and children’s health through the CPP—may improve the lives of women with preeclampsia, and of both men and women with macular degeneration and “is a demonstration of the importance of a multidisciplinary approach to research,” concludes Dr. Wapner.

—Beth Hanson

This project has received generous support from the New York Community Trust.
Profiles

Pediatric Cardiology: Making Sure That the Beat Goes On

From a single tubular structure present at around the fourth week of pregnancy, humans develop a complex, four-chambered heart that keeps blood moving through the cardiac chambers, lungs, and body over a lifetime. The heart’s development can be altered by a number of genetic and environmental factors during the early stages of fetal growth, causing a range of structural abnormalities that, in general, are termed congenital heart defects or disease (CHD). These are the most common birth defects in the United States, affecting eight in 1,000 newborns. CUMC, site of the world’s first successful pediatric heart transplant in 1984, remains a leader in research and treatment for CHD, and the Division of Pediatric Cardiology is continuing to expand under recently appointed Chief of Pediatric Cardiology Julie Vincent, MD.

Dr. Vincent is an interventional cardiologist who treats pediatric and adult CHD with minimally invasive procedures. She joined CUMC to head the Pediatric Cardiac Catheterization Laboratory in 2008 and was named Division Chief late last year. The division has added three new faculty members in the past year and is in the process of recruiting two additional subspecialists; the team now includes more than 30 faculty members. The division’s growth parallels the availability of new technologies and innovative, less invasive procedures that make it possible to correct heart defects in more patients born with CHD.

This year, CUMC is celebrating a milestone: the 30th anniversary of its pediatric heart transplantation program. The program has been under the direction of Linda Addonizio, MD, Director of the Program for Pediatric Cardiomyopathy, Heart Failure, and Transplantation, since its inception. Transplant medicine has evolved with the recent advent of very small ventricular assist devices and mechanical heart pumps that can move blood through failing hearts in infants and small children, says Dr. Vincent. These devices benefit children with severe heart failure who are waiting for a donor heart (heart transplantation). Such devices may also act as a bridge to recovery for children who have developed a severe immune reaction to their transplanted heart (called rejection) or for children with acute inflammation of their heart (myocarditis), she adds. “These devices have gotten much smaller, allowing their use in very small infants and children. Further, advances in these devices have significantly decreased the incidence of complications, such as clotting in the tubing and subsequent stroke,” Dr. Vincent says.

Because hearts get bigger as children age, those with CHD often undergo several surgeries throughout childhood and adolescence to correct abnormal structures or parts of the organ that do not grow as the child develops. Members of Pediatric Cardiology collaborate closely with Emile Bacha, MD, Chief of the Division of Cardiac, Thoracic, & Vascular Surgery and Director of Congenital and Pediatric Cardiac Surgery. “We refer our patients to Dr. Bacha and his team for surgery, then we follow them over the long-term, before, after, and/or in between surgeries,” says Dr. Vincent. The group collaborates to develop new, minimally-invasive procedures to decrease the number of times children with complex CHD have to undergo open-heart surgery, she adds.

In some cases, surgeons and interventional cardiologists work side-by-side to perform “hybrid” procedures that allow for the least invasive procedure to be performed on select patients. “When patients are very small, big tubes (catheters) and devices
will not fit into their blood vessels during an interventional catheterization procedure, so we have developed methods where the surgeon provides us with access to larger vessels closer to the heart, or even opens up the chest of our patients, giving us access from the front of the heart,” says Dr. Vincent. “We can then close a hole in the heart with a device or put a valve in the heart through a little cut in the organ, and we don’t have to stop the heart or put the patient on the bypass machine.”

CHD often affects the valves that help move blood through the heart and major blood vessels. Surgeons can repair defects using a valve from a cadaver or cow, but until recently these had to be replaced, on average, every 8 to 10 years. A major new technology is the transcatheter pulmonary valve, a metal stent frame holding a valve from the jugular vein of a cow. An interventional cardiologist can insert these valves using a special delivery catheter threaded through a blood vessel in the groin up to the heart. “We don’t have to stop the heart or open their chest,” says Dr. Vincent. As children grow bigger, the metal frame of the valve can be enlarged by the interventionist who inflates a balloon positioned within the valve to expand it and the stent frame.

New imaging techniques are also improving the practice of pediatric cardiology. A recent addition to the division is former fellow Anjali Chelliah, MD, Assistant Professor of Pediatrics at CUMC, who is using MRI, low dose CT scans, and 3D reconstructive technology to create plastic models of patients’ hearts. With these models, the cardiovascular surgeons and interventionalists can see exactly how structural defects relate to the surrounding vessels and valves, and can precisely map out a surgery or catheterization procedure. “If we know these relationships ahead of time, we can have a plan in place before we go into the operating room or catheterization laboratory. In the cath lab, we can decrease the amount of radiation we use for the procedure and the amount of contrast or dye we need for the procedure,” Dr. Vincent says.

The Division is not only growing its clinical enterprise, it has also been expanding its basic science, translational, and clinical research program. Kimara Targoff, MD, a Senior Basic Science Researcher, is studying cardiac morphogenesis—how cells and tissues differentiate in the embryo to establish the heart’s structure. Her laboratory subjects are zebrafish, which share the genes central to the heart’s formation in humans, and she hopes to use them to pinpoint the genes linked to cardiac abnormalities. Teresa Lee, MD, completed her pediatrics and genetics residencies, pediatric cardiology fellowship, and subspecialty training in heart failure and transplantation at CUMC before joining the division. She recently received a CTSA/Irving Institute K12 Award and the John M. Driscoll Jr., MD Children’s Fund Award, both in support of her research in cardiogenetics.

Brett Anderson, MD, MBA, another former Pediatric Cardiology fellow, also joined the team this year and is focusing her research on clinical outcomes and quality improvement in pediatric cardiology and cardiovascular surgery. “My overall hope is to build a team to improve the lives of children and adults with congenital heart disease through research, collaboration, and new ideas and information,” Dr. Vincent says. “Over the past two years, we have really added some good energy and very smart people to the division.” — Beth Hanson
Vaginal Hysterectomy: An Old Approach Gets New Life

Hysterectomy, surgical removal of the uterus, dates back to ancient times: The Greek physician Soranus of Ephesus wrote about removing a gangrenous, prolapsed uterus in 120 AD. Before the advent of antibiotics and anesthetics, though, most women who underwent the procedure died of hemorrhage or sepsis. While surgeons have traditionally removed the uterus through the vagina, this approach fell out of favor over the past few decades as it became easier to access the uterus through either large abdominal incisions or keyhole incisions made for laparoscopic or surgical robotic tools. But despite these advances, vaginal hysterectomy is now making a comeback as surgeons increasingly borrow technologies and techniques from laparoscopy and robotics to improve the exposure and visualization of the vagina and seal the blood vessels during vaginal surgery. Urogynecologic surgeon Rosanne Kho, MD, joined CUMC’s Department of OB/GYN this past July to both perform and teach this minimally invasive procedure. The advantages of vaginal hysterectomy, she says, are faster recovery, no visible incisions, less blood loss, fewer complications, and a significant savings in cost.

"Vaginal hysterectomy is both very difficult to teach and difficult to learn," says Dr. Kho, citing one of the reasons its use declined. “With laparoscopy or robotics, you use a camera to project a magnified view of the procedure on a screen and everyone can watch. Until recently, you couldn’t do that with the vaginal approach—the operating field was visible only to the surgeon through a tiny opening.” Throughout vaginal surgery, two assistants were occupied holding the retracting tools that open the labia and expose the vagina, making it difficult for them to observe and learn the procedure, she added.

Dr. Kho and her colleagues modified their techniques and instruments, and brought some new technologies to the operating table. One technology Dr. Kho has adopted is Google Glass, a voice-activated camera mounted on a pair of eyeglasses. “Whatever I’m seeing is transmitted simultaneously to a screen,” she says, which is not only helpful as a teaching tool, but also makes the procedure much safer because all of the participants—from the anesthesiologist to the nurses—can observe and participate in every step of the surgery. In addition, she uses a self-retracting system, a frame that attaches to the operating room table and holds the tools that expose the vagina. The surgical assistants can focus on learning skills rather than holding the retractors throughout each case.

Another recently adopted technology that has improved the feasibility of vaginal hysterectomy is a vessel-sealing tool—the advanced bipolar handheld energy device, which surgeons have begun using to seal hard-to-reach blood vessels. “The vagina is essentially a long, narrow tube,” Dr. Kho explains, “and when we’re operating on a large uterus, it’s hard to clamp, cut, and tie the blood vessels with your fingers and short instruments. So we are using the new technology to facilitate the procedure.” She and her colleagues also made some simple modifications to several commonly used instruments to allow for easier access to the upper end of the vagina.

In addition to the difficulties of teaching and learning vaginal hysterectomy, gynecologists have accepted a set of guidelines that restricts patient eligibility for the procedure. Dr. Kho says, “Vaginal hysterectomy has been traditionally thought of as appropriate only for women with a large uterus, a previous cesarean delivery, never been pregnant, or had a previous vaginal delivery were deemed ineligible for the procedure,” she says. “But in my experience, the only true contraindication should be malignancy or a high index of suspicion for a malignancy, or pain that’s now been previously evaluated, or known endometriosis. These patients would benefit from an approach that gives the surgeon a magnified view of the abdominal cavity and that does not require morcellation, a technique in which surgeons cut the uterus or uterine fibroids into much smaller pieces.”

Dr. Kho is directing her research efforts toward one of the big controversies in gynecologic surgery: the use of power morcellation, which makes the uterus or fibroids easy to remove through the small incisions made during laparoscopy. “The FDA has issued warning statements about power morcellation, and there has been a lot of attention from the media about it. We don’t use power morcellation during vaginal surgery, but the same concerns apply to manual morcellation—the surgeon could inadvertently cut up tissue containing malignant cells and spread them through the abdomen,” says Dr. Kho. She is investigating ways to contain the specimen before morcellation, and is developing an algorithm to determine a patient's risk factors for cancer before surgery. “If a woman’s risk scores high, she would not be a candidate for a minimally invasive approach and would be seen by an oncologist instead,” she says.

Dr. Kho is excited to pass on the skills and techniques she has developed and honed, and says CUMC offers her that opportunity. “The OB/GYN residents at Columbia are very bright and eager to learn,” says Dr. Kho. "I hope that the residents finish their training here feeling really comfortable with the vaginal procedure. That’s how I finished my residency many years ago, and I hope to pass that confidence on to the residents here." —Beth Hanson
Pediatric Rehabilitation: Early Intervention Leads to Best Outcomes

The brain is intimately connected to every other part of the body, and when the brain is injured, organ systems, including the muscles, lungs, and digestive tract, are affected, too. The ripple effects of brain injury are different and sometimes more acute in children than adults, since their bodies are changing and growing, says Heakyung Kim, MD, Director of CUMC’s Pediatric Physical Medicine and Rehabilitation Service. Dr. Kim is one of just 250 board-certified pediatric physiatrists in the country, and she provides rehabilitation to children with chronic, hereditary, and post-trauma neurologic conditions that cause pain and problems with function.

Dr. Kim treats patients with not only cerebral palsy (CP) and traumatic brain injury, but also children with brain tumors, stroke, peripheral neuropathy, spinal disorders, spinal cord injury, spina bifida, and movement disorders. While her patients range in age from infancy to 21, she is treating a small but increasing number of adults with CP. As Associate Director of Rehabilitation for the Weinberg Family Cerebral Palsy Center, Dr. Kim collaborates closely with center executive director David Roye, MD, on research initiatives and patient care.

Along with her treatment team (pediatric physiatrist Patricia Tan, MD, and nurse practitioner Mary Laura Sewsatsky, PNP), Dr. Kim consults on the care of children with critical and chronic conditions who are admitted to the hospital, as well as those in the pediatric intensive care unit (PICU), inpatient units, and from pediatric and adolescent subspecialty offices. The team’s rehabilitation tool kit includes injections with Botox and ethanol (alcohol), as well as intra-thecal baclofen therapy, which all relieve muscle stiffness (spasticity), spasm, and pain. They also employ physical therapy, occupational therapy, and bracing to improve patients’ functioning.

Patients with CP typically have muscle spasticity or involuntary muscle contractions (dystonia) and pain. Muscle spasticity can cause a range of complications, including dislocation of the hips and other joints, gastrointestinal issues such as reflux, and trismus (lockjaw). “Patients with CP have musculoskeletal pain, pain from spasticity and stiffness, and pain from other complications, and many specialists and pediatricians have a hard time sorting out the causes of these problems,” Dr. Kim says. “I help them pinpoint the source of their pain, then triage them to the right specialist, such as a pediatric gastroenterologist or pulmonologist.”

Children are constantly growing, and during periods of accelerated growth, “the bones lengthen, then the spastic muscles get even tighter and cannot catch up with the bones’ growth, so the ratio between the bone and muscle is off,” says Dr. Kim. She uses an approach called single event multi-level chemoneurolysis (SEMLC), injections of Botox or ethanol to the nerves and muscles, to relax the tightened muscles. These substances have different mechanisms, but both prevent the nerves from stimulating the muscles. Botox also works as a strong pain reliever. “We generally recommend regular injections every four to six months until children finish their growth, and after that, on an as-needed basis,” she says. Very few doctors in the United States or around the world use these two medications, “but the outcomes are outstanding,” she adds.

Another tool Dr. Kim uses for patients with diffuse and very severe spasticity is baclofen, a muscle relaxant, which is administered intra-thecally into the cerebrospinal fluid in the spinal canal from a hockey puck-sized titanium pump implanted in the abdomen. This approach relaxes the whole body and is useful for children with CP, traumatic brain injury, and spinal cord injury who have severe spasticity or dystonia in their legs, as well as their arms.

More than 60 percent of patients with quadriplegic CP have posterior drooling and aspirate saliva to the lungs. These patients are very frequently admitted to the intensive care unit with aspiration pneumonia. In a retrospective study, Dr. Kim and colleagues demonstrated that preventing aspiration pneumonia with Botox injection to the salivary glands prevented hospital admissions to the PICU and resulted in a significant financial saving for the institution. (Botulinum Toxin: An Injection of Salivary Glands in Children with Drooling and Chronic Aspiration. Vasc Interv Radiol. 2009 Mar;20(3):368-73.)

Spastic muscles are very weak, Dr. Kim notes, and after relaxing these muscles with injections, the muscles must be strengthened to improve their function. Exercise to strengthen muscles and improve structured movements become most effective when they can be repeated many, many times, she says. Robots designed for rehabilitation can increase the number of repetitions of an exercise much more than is possible with manual repetition. “By repeating the same action a million times, we are reeducating the muscle and, therefore, improving both their strength and muscle use.” Robots used in rehab are so effective that children who cannot walk by themselves can learn how to walk with a therapeutic robot, she says.

Dr. Kim has also been collaboratively researching approaches to improve hand function with Sunil Agrawal, PhD, who directs the Robotics and Rehabilitation Laboratory in the Departments of Engineering and Rehabilitation and Regenerative Medicine. Dr. Agrawal has developed a prototype robot for improving gait function, which is available to Dr. Kim’s team.

Dr. Kim stresses that early intervention and continuum of care are extremely important for children with neurologic conditions. She adds, “If we are involved in children’s care earlier in their life, we can prevent the multiple complications they might develop, and help them be as functional as possible.” — Beth Hanson
Off the Starting Block: Driscoll Fund Gives Young Researchers a Boost

Federal funds for biomedical research have slowly evaporated over the past decade, and the funding landscape is currently bleak. The number of researchers getting the green light on their National Institutes of Health (NIH) grant applications decreased from about 30 percent in 2000 to just 15 percent in 2013. Because the competition is so fierce, older, more established investigators—those who already have a research portfolio—are getting the majority of funds, while younger researchers are coming up dry. Many of those young MDs and PhDs are giving up their research aspirations and turning to other career paths. In this funding environment, endowments like the Pediatrics Department’s John M. Driscoll Jr., MD Children’s Fund are critical. The Driscoll Fund’s purpose is to give younger researchers a financial boost early on in their careers, making it easier for them to get NIH grants in the future.

The Department of Pediatrics created the John M. Driscoll Jr., MD Children’s Fund in 2005. The endowment fund honors John Driscoll, MD, who retired in 2007 after a 40-year career at CUMC; during the last 15 years, he was Chairman of Pediatrics.

Before retiring, Dr. Driscoll assessed the department’s research faculty and saw a need. “For many years, the department had a reasonable number of senior, well-known faculty researchers who were supported by the NIH, but we didn’t have a lot of young people just beginning on the faculty who had support of any kind. I decided to use my retirement as a way to raise financial support for them to use as a pathway to an NIH award, which might ultimately lead to a large independent investigator award (R01),” he says. “I thought that if we can begin to build a research base with young people and let them mature, the department’s research efforts would flourish. We would always have a promising, up-and-coming group of young people who would be the future of our pediatric research efforts.”

The Driscoll Fund was initially established with two lead gifts from retired CUMC Pediatrician Karen A. Kennedy, MD, and her husband, Kevin, and from the Donahue Family Foundation, founded by Mr. and Mrs. John F. Donahue. More than 200 family members, friends, and colleagues have also contributed to the Fund since its creation, and the endowment has increased substantially. “Our hope is that it will grow to $5 million so that we can support even more young researchers,” Dr. Driscoll says.

Since it began disbursing funds in 2008, the Fund has supported the work of 21 junior faculty for a wide range of research projects (see page 14). Residents, fellows, and other young faculty are nominated for the award by their division chiefs. An internal advisory committee, whose members include Dr. Driscoll and Lawrence Stanberry, MD, PhD, Chair of Pediatrics, reviews the applications and makes one- and two-year awards ranging from $40,000 to $60,000 per year.

When the advisory committee met in the early years, “it was relatively easy to make decisions about who would get the awards; but over the past 10 years, the number of applicants has grown significantly,” says Dr. Driscoll. “It’s now a true competition and some of the people who didn’t get awards this last go-round probably would have when we started.

The other thing that’s happened is that the original Driscoll Scholars have turned around and mentored subsequent Driscoll Scholars, so there’s a continuous feeding of the system.”

Adam Ratner, MD, MPH, whose research focuses on pathogenesis of bacterial diseases that affect children, received Driscoll funding in 2008. “We are in a particularly difficult era for pediatric-scientists trying to start a research career,” says Dr. Ratner. “The Driscoll award provides support at the time of a crucial transition—from mentored scientist to independent investigator. In my case, the award allowed my fledgling research group to take on additional trainees and to explore new, riskier projects—even before we had independent NIH funding. My group has grown considerably since receiving the award, and I have been lucky enough to have two other Driscoll Scholars (Tara Randis, MD, and Tom Hooven, MD) train in my laboratory. It is extremely rewarding to see the Driscoll Children’s Fund give these young scientists traction at a most important stage, as it did for me.”

Another prolific pediatrics researcher, geneticist Wendy Chung, MD, investigates the genetics underlying autism and other diseases. “It would have been extremely difficult to launch my scientific career without funding from the Driscoll Children’s Fund,” Dr. Chung says. “The Fund provided me with initial start up funds at a critical time in my career to catalyze the programs that ultimately went on to successfully funded NIH grants.”

Dr. Driscoll’s hope is that the fund will continue to grow, because currently there’s not enough funding to go around, and the advisory committee is choosing “the best of the best,” he says. “But Pediatrics now has many young researchers who are truly worthy of funding, and who have the potential ultimately to get NIH support and develop careers as researchers; but funding limitations are restricting their early progress.” — Beth Hanson

DRISCOLL SCHOLARS ADAM RATNER, MD, MPH (LEFT) AND WENDY CHUNG, MD (RIGHT), HAVE BOTH RECEIVED SUBSTANTIAL NIH FUNDING FOR THEIR RESEARCH.
### SCHOLAR

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<td>Emilio Arteaga-Solis (Pulmonary)</td>
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<td>Shan Zha (Hem/Onc/Stem Cell)</td>
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<td>Kara Gross-Margolis (GI)</td>
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<td>2008</td>
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A MAGEC Approach to Treating Childhood Scoliosis

Scoliosis—curvature of the spine—is not uncommon, affecting six to nine million Americans. It is most often diagnosed between the ages of 10 and 15. When scoliosis develops in the first few years of life—so-called “early-onset scoliosis” (EOS)—prompt and appropriate treatment is critical to ensure that affected children can breathe easily and have a good quality of life.

“Early-onset scoliosis is not your average scoliosis, like the kind we see in teenagers,” explains Michael Vitale, MD, MPH, Associate Chief of the Division of Pediatric Orthopaedic Surgery and Chief of the Pediatric Spine and Scoliosis Service at NewYork-Presbyterian/Morgan Stanley Children’s Hospital, as well as the Ana Lucia Professor of Pediatric Orthopaedic Surgery at Columbia University Medical Center. “It can diminish the growth of the chest and lungs and cause significant respiratory problems. If the curve progresses, scoliosis can even affect life expectancy.”

Dr. Vitale and his colleagues recently became the first team in New York City to implant magnetically-controlled spinal rods into a young child with EOS—Jeremiah Knowlton, six-years-old, who developed a 75-degree curve in his spine during the first few years of his life. Called MAGEC®, the treatment Jeremiah received involves the surgical placement of special growing rods in the child’s spine, which can be adjusted every few months afterward using a remote-controlled device applied to the outside of the child’s back during a routine outpatient visit.

The approach is a significant improvement over conventional growing rod surgery, which requires children to come back for an additional operation every six months throughout childhood so surgeons can lengthen the rods. “It’s a misnomer to call them ‘growing rods’ because they don’t grow on their own; we actually have to go in and expand them,” says Dr. Vitale. Repeated surgeries require general anesthesia each time, increase the risk of infection because the same incision site is re-opened, and can cause psychological distress for children.

Fusion of the spine is another technique used to treat scoliosis, but it is best suited for teenagers. In young children, fusing the spine is not an
option because it stops the growth of the chest and lungs. Very young children, under the age of three, may be fitted with external casts every few months, which enable them to move and play and can obviate the need for surgery in some cases. NYP/Morgan Stanley Children’s Hospital has the largest casting program in the Northeast for children with early-onset scoliosis.

The MAGEC system includes growing rods that surgeons implant into the spine of a child with scoliosis and an external remote control. Both the rods and the controller contain magnets. Applying the controller to the child’s back, the surgeon can lengthen the rods with extraordinary precision. "You can know within a tenth of a millimeter how much you’re lengthening the rods," Dr. Vitale notes.

MAGEC was the ideal treatment for Jeremiah, whose spinal curve required him to use leg braces and a walker to move. Dr. Vitale implanted the MAGEC rods into Jeremiah’s spine in April 2014. This past August, his parents brought him back to Dr. Vitale for his first adjustment. Jeremiah felt very little discomfort during the procedure and returned to his home in New Jersey that same day.

This milestone surgery builds on NYP/Morgan Stanley Children’s Hospital’s leadership in the treatment of EOS. As head of the Pediatric Orthopaedic Society of North America task force on pediatric medical devices, Dr. Vitale had visited the U.S. Food and Drug Administration (FDA) seven times over four years to advocate for the unmet needs of children with scoliosis. The FDA approved the MAGEC system on April 1, 2014. Dr. Vitale and his team developed the classification system for EOS, created a questionnaire to assess outcomes in children with the disorder, and are developing ways to reduce the risk of complications. NYP/Morgan Stanley Children’s Hospital remains the only hospital in New York City offering the MAGEC system for children with EOS.

Children who receive growing rods progress and become what Dr. Vitale calls “growing rod graduates.” Research is ongoing to see if children with scoliosis who enter their teens with growing rods can continue living with the rods in place and avoid the need for spinal fusion.

Children with EOS often have other medical problems that require care. For example, Jeremiah was also born with cleft lip and palate, and communicates via an iPad. Dr. Vitale explains, “As a hospital with subspecialists in every field of pediatrics—including genetics, cardiology, pulmonary medicine, and neurosurgery—NewYork-Presbyterian/Morgan Stanley Children’s Hospital has all of the specialists a child with early-onset scoliosis may need, on the same multidisciplinary team, all in one center.”

“Early-onset scoliosis is not your average scoliosis, like the kind we see in teenagers. It can diminish the growth of the chest and lungs and cause significant respiratory problems. If the curve progresses, scoliosis can even affect life expectancy,” says Dr. Vitale.

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JEREMIAH (CENTER) WITH HIS MOTHER, GRACE, AND DR. VITALE AFTER HIS GROWING RODS WERE LENGTHENED DURING AN OFFICE PROCEDURE.

AN X-RAY OF JEREMIAH’S SPINE, SHOWING THE MAGEC® GROWING RODS IN PLACE.
Washington Times-Herald

Pregnancy Discrimination Claims on the Rise

Despite a law that’s been in place since 1978 to prohibit pregnancy discrimination, a growing number of women are asserting that their employers are not making reasonable, legal, and fair accommodations for them, and are filing pregnancy discrimination claims. Wendy Chavkin, MD, MPH, professor of public health and obstetrics and gynecology, has researched how pregnancy affects women’s ability to work, and spoke to the Washington Times-Herald about these impacts. Physical changes that occur during pregnancy can lead to back pain, carpal tunnel syndrome, gestational diabetes, hypertension, edema, fatigue, and a host of other conditions. “But all of that is relevant on the job only if it makes a difference in whether you can do it or not,” said Dr. Chavkin. “There is some data to show that some arduous, physically demanding jobs can collide with the needs of pregnancy. But that can often be reasonably accommodated...and if we make work accommodations for men who have hernias and heart attacks, why not for pregnant women?”


New York Times

Under HIPAA, Baby Pictures Disappear from Medical Offices

Obstetricians and midwives across America have long posted photos on their office walls of the generations of babies they have delivered. But the federal patient privacy law known as HIPAA (the Health Insurance Portability and Accountability Act) is changing this tradition. Under HIPAA, baby photos are considered protected health information, just like a medical chart, birth date, or Social Security number, according to the Department of Health and Human Services. So doctors are relegating the bulletin boards covered with smiling babies to the private parts of their offices and replacing them with artwork. “I’ve had patients ask me, ‘Where’s your baby board?’” Mark V. Sauer, MD, Chief of Reproductive Endocrinology and Infertility, told the New York Times. “We just tell them the truth, which is that we no longer post them because of concerns over privacy.”

http://nyti.ms/1rQ3unK

New York Daily News

CUMC Team Treats Pregnant Woman With Brain Cancer

When Pamela Sternberg was 22 weeks pregnant, she was diagnosed with glioblastoma, the most common and aggressive form of a primary brain tumor. She wanted to both continue her pregnancy and start radiation as soon as possible, so a CUMC team consisting of Clinical Director of Maternal-Fetal Medicine Anita LaSala, MD, Neuro-oncologist Andrew Lassman, MD, and Radiation Oncologist Tony Wang, MD, discussed her case with ethicists, conducted experiments, and coordinated with physicists at Columbia’s Center for Radiological Research. They came up with a special care plan—creating a shielding device for her uterus—and Sternberg was able to receive radiation treatment during her pregnancy. She is now continuing treatment without any tumor regrowth. “We really spent a lot of time [on this], but trying to do it rapidly, to figure out the best way to get her treatment so her disease did not progress, but not affect the baby. It was really a team effort,” Dr. LaSala told the Daily News. “So often when someone is pregnant, the response is, ‘Oh my God, we can’t do anything.’”

http://nydn.us/1ncdL5
In the News

NEW YORK TIMES
Mitochondrial Replacement Therapy Coming of Age
In a new technique called mitochondrial-replacement therapy, researchers can now pair the nuclear DNA of one egg with the mitochondria of another. When these eggs are fertilized with a sperm, the result is a viable three-parent embryo. The aim of this research is not to cure infertility, but to prevent a variety of devastating diseases caused by mutations in mitochondrial DNA. This new technique is very controversial, and has been compared by one opponent to “the creation of different biological ‘Gattaca’-like classes of human beings and the dissolution of our common humanity.” Dieter Egli, PhD, research scientist in molecular genetics, told the New York Times that the goal of his and his colleagues’ research is to use cells to cure disease. “We are made of cells: tiny, complex, independent ecosystems...Rather than open the door to eugenics, we might be opening the door to curing degenerative diseases like diabetes, Alzheimer’s, and Parkinson’s, even the atrophy of aging. The coming century in medicine will be the century of the cell.”
http://nyti.ms/1ppAaFd

GENOMEWEB
CUMC Makes New Clinical Cancer Exome and Transcriptome Test Available
CUMC’s Laboratory of Personalized Genomic Medicine recently launched a whole-exome and transcriptome sequencing test as part of a wider effort to incorporate personalized medicine approaches into the pediatric oncology program, Andrew Kung, MD, chief of pediatric hematology, oncology, and stem cell transplantation, told Clinical Sequencing News. With the rapid development of next-generation sequencing technology and a decrease in sequencing costs, “the feeling was that three to five years from now, instead of looking at panels for specific mutations, looking at the whole genome will be the way that cancer medicine will be practiced,” Dr. Kung said. “That’s why we set off to develop a comprehensive approach for looking for changes in cancer genomes.”
http://bit.ly/ZwoAx0

CNN
How to Fix the Obesity Crisis
“One way to fix the obesity crisis is to focus on obesity prevention, which starts in the home, school, and community,” Michael Rosenbaum, MD, professor of pediatrics and researcher at the Naomi Berrie Diabetes Center, wrote in an opinion piece on CNN.com. “The risk of a fat child becoming a fat adult is doubled at age 2-3, but over 20-fold after age 9. Numerous studies suggest that the behaviors we learn early in life influence our behavior as adults. We can potentially delay or even prevent adult diseases by fostering better health habits in our children,” he writes. Because behavioral interventions appear more effective if started in early childhood, “we need to start early at home, in classrooms, neighborhoods, and even in the pediatrician’s office. School lunches should be a part of school education, and we must actively oppose efforts to undermine them, such as recent Republican efforts to allow schools to opt out of requirements for more fruits and vegetables in meals.”
http://cnn.it/1x3DiGx
In the News

WALL STREET JOURNAL

So Many Celiac Cases, So Few Diagnoses

People with celiac disease may have any of hundreds of symptoms, from gas to insomnia to rickets. Children with celiac often have a developmental delay or physical condition, such as being short in height, but they may also have no symptoms at all. Most children don’t know how they should feel nor have the words to communicate symptoms, Joel Lavine, MD, chief of pediatric gastroenterology, hepatology, and nutrition told the Wall Street Journal. For this reason, children are often diagnosed with celiac disease only after a parent or grandparent tests positive for it. “Not everyone who is susceptible to celiac disease ultimately gets it,” said Dr. Lavine. “Screening over time—and for several factors—is key.”

http://bit.ly/1mFAjJK

TODAY SHOW – NBC NEWS NETWORK

Rates of Induced Births Declines

Today’s expectant moms and their doctors are increasingly deciding not to induce labor, but to let nature take its course. As a result, the length of pregnancies in the United States is on the upswing, a new study by the Centers for Disease Control and Prevention shows. From 2006 through 2012, the investigators tracked labor started through surgical or medical means. They found that induction rates at 38 weeks—once considered full-term gestation but now called an early-term gestation—declined for 36 states and the District of Columbia during this period. Declines ranged from 5 percent to 48 percent. “I think this study is very positive since several of us have now provided evidence that babies have better outcomes (with longer term births),” Kimberly Noble, MD, assistant professor of pediatrics, told NBC News Network.

http://on.today.com/T316vg

NEW YORK DAILY NEWS

ACP Changes Guidelines on Pelvic Exams

When women visit their gynecologists, they typically undergo a much-dreaded pelvic or “bimanual” exam, during which doctors look for signs of disorders such as ovarian cysts, sexually transmitted infections, uterine fibroids, or early-stage cancer. The American College of Physicians (ACP) recently released a new clinical practice guideline recommending against pelvic exams for non-pregnant, healthy women during their annual checkups. Carolyn Westhoff, MD, professor of obstetrics and gynecology and director of family planning and preventive services, has long argued against the need for routine, annual pelvic exams unless patients have symptoms such as vaginal discharge, abnormal bleeding, pain, urinary problems, or sexual dysfunction. “I would like women to see this ACP recommendation as good news,” Dr. Westhoff told the Daily News. “I think the ACP is right on target. The exam is so embedded in a gynecologist’s practice. It’s how we’ve all been trained to take care of our patients. But it’s way out of date.”

http://nydn.us/1piqU0E
WALL STREET JOURNAL & NEW YORK TIMES

Study Shows Cancer Risk from Hysterectomy Device

Hysterectomy is the most common gynecologic surgery, but one of the tools commonly used in minimally invasive hysterectomy is now implicated in the spread of cancers that are asymptomatic or masquerading as a benign condition, such as uterine fibroids. The power morcellator minces the uterus into smaller pieces so that the surgeon can easily extract them from the abdomen, but it may also seed cancer cells throughout the abdomen. A CUMC study, led by Jason Wright, MD, chief of gynecologic oncology, was published in The Journal of the American Medical Association and showed that “one in 368 women undergoing a hysterectomy had cancerous tumors that risked being spread by morcellation,” Dr. Wright told the New York Times.

TODAY SHOW – NBC NEWS NETWORK

Fetuses Practice Newborn Behavior in the Womb

Life in the womb is much busier than you might expect. Bill Fifer, MD, professor of psychiatry and researcher in neonatology, told the NBC News Network in an article about fetal and newborn learning. “Everything that a newborn baby does, a fetus has pretty much done already,” Dr. Fifer said. “They’re exquisitely able to sense information over all parts of their body, although some are more sensitive than others, like around the mouth, around the feet, and around the hands.” But if you’re an expectant parent, that doesn’t mean you need to provide extra stimulation in order for your little one to thrive in mom’s belly, he added. “Nature provides pretty much all the sources of stimulation that a baby is going to need.”

WBUR-FM – ONLINE

Diabetes Rates at an All-Time High

Twenty-nine million American adults are affected by diabetes, and the numbers are surging, up another 9 percent since 2010. People with diabetes have much higher rates of stroke, blindness, kidney failure, and amputation. The cost of the disease to the U.S. economy is also extremely high—nearly $250 billion a year. Type 2 diabetes is linked to poor diet, obesity, and lack of exercise and accounts for 95 percent of cases. Robin Goland, MD, professor of clinical medicine and pediatrics and co-director of the Naomi Berrie Diabetes Center, was a guest on WBUR’s radio program On Point. On the hour-long show (“America’s Diabetes Surge”), Dr. Goland said, “It’s hard to have diabetes... The good news is there are a lot of things we can do to prevent and treat it.”
TEACHING OLD CELLS NEW TRICKS

By switching off a single gene, scientists at Columbia University’s Naomi Berrie Diabetes Center have converted human gastrointestinal cells into insulin-producing cells, demonstrating in principle that a drug could retrain cells inside a person’s GI tract to produce insulin. The new research, published in Nature, raises the possibility that cells lost in type 1 diabetes may be more easily replaced through the re-education of existing cells than through the transplantation of new cells created from embryonic or adult stem cells. The Columbia researchers were able to teach human gut cells to make insulin by deactivating the cells’ FOXO1 gene. Co-author Rudolph L. Leibel, MD, professor of pediatrics and medicine and co-director of the Naomi Berrie Diabetes Center, said that “this work provides a new research tool for investigating the basic biology underlying the important relationships between the gut and insulin-producing cells, as well as a clear indication of the potential clinical utility of stem cell-based approaches to diabetes.”

http://bit.ly/1vBhS3x

PROMISING RESULTS FOR AN EXPERIMENTAL HERPES DRUG

Herpes simplex virus type 2 (HSV-2) is a serious, chronic disease that fundamentally alters people’s lives. Genocea Biosciences has developed an immunotherapeutic against HSV-2, GEN-003, and recently announced positive data from a Phase 1/2a study of the drug. At 12 months after the final dose, the mean reduction in the genital lesion rate was 42 percent below baseline, indicating that GEN-003 may continue to provide a durable effect on genital lesions beyond the six months previously reported. Genocea is planning a Phase 2 dose optimization study, which may identify a dose that further improves the magnitude or durability of the immunotherapeutic. "The results reported to date for GEN-003 are very exciting for the HSV-2 community, and an effective immunotherapy would be a significant advance in the field," said Lawrence Stanberry, MD, PhD, chairman of pediatrics. “I look forward to the upcoming Phase 2 dose optimization study, where I hope to see data that builds upon the impressive results at six months and identifies an optimal dose that potentially shows an increase in either or both of the magnitude and durability of effect.”

http://bit.ly/1vBcZiZ
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.

**PediATrics**


**OB/GYN**


Westhoff CL, Reinecke I, Bangarter K, Merz M. Impact of body mass index on suppression of follicular development and ovulation using a transdermal patch containing 0.55-mg ethinyl estradiol/2.1-mg gestodene: a multicenter, open-label, uncontrolled study over three treatment cycles. Contraception. 2014 Sep;90(3):272-9.

**Publications**

Notable Publications

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.
The Department of Pediatrics is pleased to sponsor Linda Aponte-Patel, MD’s (Critical Care Medicine) attendance at the 2014 Minority Faculty Career Development Seminar in Vancouver, Canada. Dr. Aponte-Patel is Associate Director of the Pediatric Residency Program.

Wendy Chang, MD (Clinical Genetics), received an award from the Simons Foundation in recognition of her outstanding leadership in clinical research and in support of her work in autism and developmental disorders.

Associate Professor of Obstetrics and Gynecology Anne R. Davis, MD, accepted the 2014 Leadership and Management Institute Award, sponsored by Columbia Doctors, the Columbia Faculty Practice Organization, and the Office of the Dean at the College of Physicians and Surgeons. The Leadership and Management Institute program is designed to improve competencies in leadership and management skills. Also, she was the recipient of a midcareer/mentor grant from the Society of Family Planning.

Morgan Stanley Children’s Hospital has been selected to participate in the Value in Inpatient Pediatrics (VIP) Network (a network of the Quality Improvement Innovation Networks, or QIN) Improving Community-Acquired Pneumonia (ICAP) Project. Jessica Gold, MD and Teresa McCann, MD (Child and Adolescent Health) will be the team leaders, along with John Babineau, MD (Emergency Medicine), and Jason Topolksi, PharmD, (Pharmacology).

The project aims to improve adherence to the recent Infectious Diseases Society of America guidelines regarding treatment for patients admitted with uncomplicated community acquired pneumonia.

Kara Kelly, MD (Hematology, Oncology and Stem Cell Transplantation), along with Andrew Lassman, MD (Neurology) and Al Neugut, MD (Medicine) were awarded a clinical research infrastructure grant (LR21) from the National Cancer Institute (NCI) for the Columbia University Minority/Underserved Site NCI Community Oncology Research Program. The five-year award provides support for NCI-sponsored cancer cooperative group studies, especially those promoting minority participation. CUMC was one of 12 sites around the United States to receive an award.

Eai Lamouse, MD (GI, Hepatology, and Nutrition), in collaboration with Brent Williams, PhD (Department of Pathology and Cell Biology), were selected as the recipients of a 2014 Irving Institute Collaborative and Multidisciplinary Pilot Research Award for Basic Science and Clinical/Translational Investigations (IICP/BSIC) for their proposal, “Maternal Dysbiosis during Pregnancy and Its Impact on Tryptophan Catabolism and Perinatal Brain Development and Behavior.”

Joel Lavine, MD (GI, Hepatology, and Nutrition) received a five-year renewal as Principal Investigator from the NIDDK for his grant (Clinical Research in Nonalcoholic Steatohepatitis).

Teresa Lee, MD (Cardiology) has been awarded a CTSA/Irving Institute TRANSFORM K12 award.

Fangming Lin, MD (Nephrology) was nominated to be an Associate Editor of the Journal of the American Society of Nephrology. Dr. Lin is the only pediatrician on the 12-member team of Associate Editors who will manage manuscript submissions on the topics of kidney/urinary tract development and stem cells. She will also assist with submissions on acute kidney injury.

Assistant Clinical Professor of Obstetrics and Gynecology Annette Perez-Delboy, MD, FACOG, Director of Labor and Delivery and Co-Director of the Mother’s Center at CUMC, recently participated as a panelist in a town hall meeting for Univision’s Health Week, where she addressed questions and concerns regarding the Affordable Care Act, leading up to the law’s full implementation in January 2015.

Stephanie Lovinsky-Desir, MD, in the Division of Pediatric Pulmonology, is the recipient of the CHEST Foundation’s 2014 Diversity Committee Young Investigator Faculty Scholar in Pulmonary, Cardiovascular, Critical Care, or Sleep Research Grant for her project, “Urban Tree Canopy Exposure, DNA methylation, and Allergies in Pediatric Asthma.”

Richard Polin, MD (Neonatology and Perinatology) was recently honored at the Neo Symposium in Guadalajara, Mexico. The conference organizers dedicated the entire three-day meeting (July 23-27, 2014) to Dr. Polin.

Alice Prince, MD (Infectious Diseases) has been granted a four-year renewal of her RO1 grant for her project, “Staphylococcus Aureus Activation of TNF Signaling Pathways.”

Meenakshi Rao, MD (GI, Hepatology, and Nutrition) received an award from GlaxoSmithKline as lead investigator for her project, “Ret Receptor Tyrosine Kinase Signaling in the Postnatal and Adult Enteric Nervous System.”

Lisa Saiman, MD (Infectious Diseases) and Adam Ratner, MD, MPH (Infectious Diseases) have received a five-year renewal of their T32 award (Training in Pediatric Infectious Diseases) from the National Institutes of Health.

Karen Soren, MD (Child and Adolescent Health) has been asked to be the Society of Adolescent Health and Medicine liaison to the American Academy of Pediatrics Committee on Pediatric Education.

Melissa Stockwell, MD (Child and Adolescent Health) has been granted a four-year RO1 Award for her project “PRISM: Personalized Reminders for Immunization using Short Messaging Systems.” In addition, Dr. Stockwell and Dr. Saiman were awarded an additional one-year supplement to the MOSAIC (Mobile Surveillance for ARI and ILI in the Community) grant from the CDC to assess asymptomatic influenza infection.

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Dr. Mark V. Sauer will serve as the guest speaker for this special program, sponsored by the CWRC. At the conclusion of this presentation, participants should be able to identify ethical, medical, and social interests and conflicts arising from the use of assisted reproduction; summarize reproductive options now available through assisted reproduction; and list interests, rights, and duties of patients, their physicians, and resulting offspring related to the use of ART. For more information, contact Erich Atherr at ea2592@cumc.columbia.edu.

NOVEMBER 5, 2014
Hope & Heroes 13th Annual Dinner
6:30 PM
THE LIGHTHOUSE AT CHELSEA PIERS
The 13th Annual Hope & Heroes Dinner will honor board members Abigail and Steven Hoffman and their son Avery with the Legacy of Hope Award. Jeffrey Binder, a longtime supporter of the Center for Survivor Wellness at Columbia, will receive the Dustin Drapkin Memorial Award. For ticket and sponsorship information, please contact Kathryn Leiby at (212) 305-5010 or kl2601@cumc.columbia.edu.

NOVEMBER 14, 2014
The 36th Annual Stephanie Lynn Kossoff Memorial Lecture
11:00 AM – 12:00 PM
THE MYRNA L. DANIELS AUDITORIUM
MILSTEIN HEART CENTER, FIRST FLOOR
Dr. Steven Rowe, associate professor of pediatrics at the University of Alabama at Birmingham, will deliver the Stephanie Lynn Kossoff Memorial Lecture on “CFTR Modulation: A New Era of Personalized Therapeutics.” For more information, please contact Peggy Dubner at m1977@cumc.columbia.edu.

DECEMBER 6, 2014
Specialty Updates for the General Pediatrician
THE MILSTEIN HEART CENTER
173 FORT WASHINGTON AVENUE, NY, NY
This one day CME event is aimed at presenting general pediatricians and primary care practitioners with significant updates across a broad range of subspecialties within the field of pediatrics. Expert faculty in ophthalmology, surgery, urology, gastroenterology, dermatology, neurology, nutrition and obesity, and otorhinolaryngology will discuss important and clinically relevant updates in each field. For additional information contact cme@columbia.edu or call 212-305-3334.

MARCH 5, 2015
28th Annual Babies Heart Fund Gala
THE PIERRE
TWO EAST 61ST STREET
NEW YORK, NY
The Babies Heart Fund Gala is a longstanding event that raises funds for the Division of Pediatric Cardiology. This year’s event will honor Dr. Linda Addonizio, director of the program for pediatric cardiology. In addition, Barbara Walters will be in attendance as a distinguished guest. For more information, please contact Whitney Potter at whitney.potter@columbia.edu.

ONGOING
Gynecologic Oncology Support Group
4:00-5:30 PM
HIP-8 CONFERENCE ROOM
The Gynecologic Oncology Support Group meets the second Tuesday of each month from 4:00-5:30 p.m. A speaker is featured at each meeting. For more info, contact Liat Kabel at lk2538@cumc.columbia.edu.

Woman to Woman Program
In the Woman to Woman group, a new program from NewYork-Presbyterian Hospital/Columbia Doctors, women survivors of gynecologic cancers support newly diagnosed women of gynecologic cancers. Volunteers are professionally trained and supervised and offer support, comfort, and compassion. Gynecological cancers are more mysterious and personal than many other illnesses. The program hopes to help debunk the myths, shed some light on the darkness, and provide support to patients. For more information, please contact Allison or Cirah at (212) 305-3410.

Resident’s Corner
Third-year pediatric resident Anoop Rao, MD, recently received an American Academy of Pediatrics Community Access to Child Health (CATCH) Resident Grant to pursue his interest in community outreach and research. With his mentor, Heidi Beutler, MD (child and adolescent medicine), Dr. Rao is designing and implementing a scalable pilot to match patients with specific sub-specialists by patient location, language, and health insurance. The project is based at the Broadway Clinic in the Ambulatory Care Network. Dr. Rao attended medical school in India before receiving a master’s degree from the Massachusetts Institute of Technology and a biomedical informatics fellowship at Harvard Medical School.
Molecular Genetics in Pediatrics; and Rudolph L. Leibel, MD, Professor of Clinical Medicine and Pediatrics, both co-Directors for the Naomi Berrie Diabetes Center, has successfully created a diploid pluripotent stem cell, which has the potential to differentiate into any of the three germ layers: endoderm (interior stomach lining, gastrointestinal tract, the lungs), mesoderm (muscle, bone, blood, urogenital), or ectoderm (epidermal tissues and nervous system)—stem cell lines that are capable of developing into any type of cell or tissue. The researchers created these stem cells by transferring the nuclei from somatic cells (non-germ cells) from a newborn into oocytes (egg cells) of an adult female with type 1 diabetes. They then showed that the resulting pluripotent stem cells could be differentiated into insulin-producing beta cells, the cell type lost in patients with type 1 diabetes.

Simply put: the team created an avenue to a potential cure for diabetes and many other currently incurable diseases.

“This is a long line of research that goes back six years, when we worked on the first stem cell donor at the Center for Women’s Reproductive Care (CWRC) in 2008,” says Dr. Sauer. “Dr. Egli figured out that if you keep the calcium out of the egg, transferred the somatic cell with a diluted virus, and then triggered cell division, you can grow blastocysts (the cluster of cells from which the embryo arises). It’s really advanced science.”

As program director for CWRC, Dr. Sauer played a pivotal role in the experiment—obtaining the abundant amount of oocytes necessary for the project. He spoke to women who originally planned to donate their eggs for reproductive purposes, and he told them how donated eggs could also be used for medical and scientific research. In fact, Dr. Sauer’s argument was so compelling that many of the women decided to donate their eggs to the project. Women were offered similar payment to donate eggs for medical research as what they would normally receive if providing eggs for reproductive purposes—a controversial, yet accepted, practice in New York. By supplying Drs. Egli, Leibel, and Goland with the abundant amount of oocytes needed for the research, Dr. Sauer earned the nickname “The Egg Collector.” These oocytes eventually turned into the primary ingredient for the team’s stem cell studies.

The team published their findings as a “Research Letter” in a recent issue of the prestigious scientific journal Nature (April 28, 2014).

More exciting than the research itself are the possibilities it holds for the future of both science and medicine. For example, in one potential case study, pluripotent stem cells can be used to analyze disease pathogenesis and, ultimately perhaps, generate cells for therapeutic cell replacement for illnesses such as diabetes, multiple sclerosis, Parkinson’s Disease, and dementia. The findings may also be useful in studying mitochondrial disease—a group of disorders caused by dysfunctional mitochondria, the organelles that generate energy for the cell.

Drs. Egli, Leibel, Sauer and Goland plan to continue this research to study diabetes in the hopes of finding new treatments—or maybe even a cure—for an illness that affects more than 300 million people worldwide.

“One day, we might be able to generate replacement cells for what are today incurable diseases,” says Dr. Egli. “I definitely think that diseases that are currently just managed will become curable using stem cell transplantation. The human body consists of cells and when they are missing, there is no drug that can replace all of the functions of these cells. We know that cells can do that job from transplantation medicine. But thus far, these cells are from someone else (e.g. an organ donor), which has limitations, too.”

“The initial goal is to develop a cell replacement therapy for type 1 diabetes,” explains Dr. Egli. “We know these cells can make insulin producing cells. How do we make them into grafts that would be both effective and safe to transplant into people? Work to generate cells that are safe and effective for transplantation is ongoing in diabetic animals. The preliminary results are promising, but still far from application in Humans.”

Another line of research study the authors have established relates to mitochondrial diseases and appears closer to therapeutic application. Drs. Sauer and Egli recently presented to the FDA their research efforts aimed at preventing the transmission of mitochondrial disease from mother to child.

Unlike the stem cell study with somatic cells, the goal of this project with mitochondrial disease also has a reproductive purpose. The authors found that the transfer of the nuclear DNA from one egg to another results in an exchange of the mitochondrial DNA, and would therefore allow a woman with abnormal mitochondria to have a healthy, and genetically-related, child. This remarkable discovery was also published in the journal Nature in 2013.

How else can this study impact medicine? In fetology, Dr. Sauer believes this research has huge potential in fetal medicine. “Another exciting spin-off of the original line of stem cell work that is really exciting but has yet to make it to ‘primetime’ is the use of the same technology described in our Nature manuscript: taking the nucleus out of a woman who carries mitochondrial DNA mutations in the cytoplasm of her eggs and putting her nucleus into a healthy egg. This should allow a woman who has the flawed, possibly fatal egg to have healthy children,” says Dr. Sauer.

Yet he explains, “That’s a really big project, often labeled as ‘three parent IVF’ and is highly controversial. I don’t agree that it should be criticized, though. Only a small fraction of mitochondrial DNA is coming from the egg donor. The traits and phenotype that makes us who we are are comes from our nuclear DNA, and this DNA is still coming from the biological parents that seek our care.” And Dr. Egli emphasizes that this technique does not alter the genetic material, but merely prevents abnormal mitochondrial DNA from being inherited.

Furthermore, this process has the potential to eradicate diseases from family lines, making these particular hereditary diseases obsolete. “Women who know they carry these highly disabling and often fatal genetic abnormalities have delivered severely affected babies,” explains Dr. Sauer.
The Perfect Storm of Science

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“They don’t want to have another child suffering such a fate for obvious reasons. With this method, you can stop mitochondrial diseases from passing down to future generations by getting rid of that mitochondrial DNA from the mother’s own egg and replacing it with new DNA from the donated egg.”

So what’s next for this discovery? It might take time to find out. Dealing with the Food and Drug Administration’s (FDA) rules and regulations is like walking a tightrope, according to Dr. Sauer. He hopes the FDA expedites the approval needed so that the team can continue their research and explore its clinical implications.

As long as institutions can form partnerships with diverse departments, institutions, scientific disciplines, and medical fields—much like the collaboration that currently exists with the research group at CUMC and the New York Stem Cell Foundation (NYSFC)—Dr. Sauer trusts that with the future of pluripotent stem cells, anything is possible. “This is an excellent example of how translational research is supposed to work; a dynamic collaboration of experts in different fields and specialties collectively focused on a common goal,” he says. “What’s exciting as a clinical researcher is to see something so scientifically basic translate into various clinical applications which promise to cure diseases. From bench to bedside, as they say.”

In the short-term, researchers and scientists from all over the world now have access to these remarkable findings through the group’s published research letter in Nature, and can now use them as a catalyst for other research. “Scientists are doing this type of work for a variety of different reasons universally,” says Dr. Sauer. “They might learn something from our research published in Nature and say, ‘Oh, I never thought of that modification. Let’s try this technique,’ and perhaps a roadblock to progress in their laboratories has been lifted.”

One thing is certain: CUMC’s experts are far from reaching the limits of this cutting-edge research. So stay tuned. —Cecilia Martinez

A Senior Statesman of Pediatrics

CONTINUED FROM PAGE 1

they can affect the care of not only their own patients, but those outside their practice, and of children in general.

Dr. Speck’s career at Columbia began in 1968 when he joined the staff at the Babies Hospital at Columbia Presbyterian as an intern. He completed his residency, became chief resident, remained for a fellowship in infectious diseases, and eventually had appointments in both Pediatrics and Microbiology. “I went into pediatrics, in part, because I liked the concept of taking care of the whole community, and I chose Columbia because the Babies Hospital was not just interested in its own patients, but in all of the children in the Washington Heights area,” he says. “And that was very different from many of the other academic institutions that I looked at during that time.”

In 1977, Dr. Speck left Columbia for a 15-year hiatus at Rainbow Babies Hospital in Cleveland, where he was chairman of pediatrics, then chief medical officer of the hospital; but he returned to Columbia Presbyterian Medical Center in 1992. At that time, Columbia was struggling financially, and “we were a distressed hospital,” he says. “The first thing I did was develop a distressed hospital plan, which would basically be like bankruptcy.” But by implementing targeted and aggressive cost-cutting measures, the hospital was able to avoid that route. Its long-term prospects remained bleak, though. And Columbia was not alone.

New York Hospital/Cornell just 100 blocks south was also struggling, and the hospitals were in a fierce competition with each other, says Dr. Speck. To resolve this battle and to create a brighter future for both institutions, he and his counterpart at New York Hospital/ Cornell, David Skinner, MD, orchestrated the merger that created NewYork-Presbyterian Hospital. “This was the hardest thing I ever did in my life,” he says. He and Dr. Skinner both faced a good deal of opposition from within their medical centers, but they forged on, says Dr. Speck, because “at the time we were competing against each other for business, and in the end nobody would win. We came together and formed something so large and so powerful, that it was really hard for the insurance companies to chip away at us in terms of pricing and costs. We got to be too big to mess with.”

Other academic medical centers have merged, but in almost every case those alliances eventually dissolved, he adds. “This was the only successful merger of two major academic medical centers.”

What made it possible for the hospitals to merge, and has enabled the merger to endure, is that “we didn’t try to merge the medical schools,” Dr. Speck says. “We just merged the hospitals and integrated all of the backhouse functions like the hospital administrative staff. We figured that, over time, the programs would eventually become integrated, and that’s slowly happening. As time goes on, I think you’ll see more assimilation and maybe full integration of some of the smaller clinical departments. That will probably improve their efficiency.”

During his tenure as CEO, Dr. Speck established the Ambulatory Care Network (ACN), a system of 15 preventive care and wellness programs that provide services throughout the Bronx and Manhattan. This is one of his most gratifying accomplishments, he adds. “One of the unique things about the pediatric program here is that we have academicians from one of the leading academic medical centers providing community-based care in satellite practices.”

Following a one-year term as president of the newly formed NewYork-Presbyterian Hospital, Dr. Speck left Columbia once more—and went on to help oversee another merger. He directed the Marine Biology Laboratory in Woods Hole, Massachusetts, for six years, and headed up the committee that engineered its union with the University of Chicago.

Dr. Speck came full circle—again. In 2008, he returned once more to CUMC as a professor of pediatrics to teach a new generation of residents. “Columbia is the place I started out, the place I wanted to see prosper, and the place I really love,” he says.

This past spring, Dr. Speck was named Professor Emeritus of Clinical Pediatrics. He continues to teach, attending residents’ intake rounds twice a week, and keeps up with his extensive reading in the medical literature and attends as many conferences as possible, he says. In recognition of his evident skills as a teacher and mentor, more than 60 former residents and other donors have contributed funds to the recently established William T. Speck Professorship in Pediatrics, designated for a faculty member “who has demonstrated commitment and passion for teaching interns and residents.” The first incumbent of the professorship is Richard Polin, MD, Director of Neonatology. Dr. Speck was chief resident in Pediatrics when Dr. Polin was a resident, and the two have been close friends ever since. “Bill Speck is an outstanding educator,” Dr. Polin observes. “He knows how to make learning fun and interesting, and I have modeled my teaching approach on his. Bill is a friend, colleague, and role model, and it’s a great honor for me to be the first appointee to this professorship.” —Beth Hanson