A History of Healing
Pediatric Surgery at The Ohio State University College of Medicine and Nationwide Children’s Hospital: 1950 – 2010

By

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Foreword

Pediatric Surgery at the Ohio State University has been an eminent force in children’s surgery in the United States and beyond. The vision of Dr. Robert M. Zollinger Sr. was to create a world class pediatric surgical service. In order to accomplish this the institution needed to recruit and empower strong leaders in pediatric surgery. In addition a strong partnership was forged between the Children’s Hospital and The Ohio State University. Under the leadership of Drs. Clatworthy, Boles, Cooney and Caniano the vision has been realized. I have been fortunate in my training to work with Drs. Clatworthy, Boles, and Caniano. Not only were they exceptional leaders with great vision and management skills but also excellent surgeons and physicians and outstanding educators. Over the years Pediatric Surgery has provided a rich clinical experience for medical students and surgical residents. In addition the research programs have evolved to be truly innovative with discoveries that will be translated into better care and even prevention of childhood diseases that today require surgical care. In the subsequent book, Dr Caniano describes the story of Pediatric Surgery at The Ohio State University and Nationwide Children’s Hospital.

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Acknowledgments

Surgeons take special pride in the history of their profession, so it is fitting that the first sixty years of pediatric surgery in Columbus be commemorated with this historical perspective. It is not meant to be an exhaustive history, but rather to enlighten the reader about the contributions made by successive generations of surgical leaders.

I am indebted to Dr. E. Christopher Ellison for giving the “go ahead” to proceed with this project, for his support of the Division of Pediatric Surgery, and for his sage advice and counsel. At Nationwide Children’s Hospital I was fortunate to have trusted colleagues and partners in Drs. Jennifer Aldrink, Gail Besner, David Brigstock, Renata Fabia, Jonathan Groner, Brian Kenney, Denis King, Marc Michalsky, Benjamin Nwomeh, and Steven Teich. Our shared vision for pediatric surgery was supported by the administrative leadership of the hospital, who challenged us to constantly improve, innovate, and excel at our mission of patient care, service, education, research, and advocacy.

I am particularly grateful to Cathy Rings and Susan Wilson, who kept me “on task” for so many years, getting everything accomplished yet always making it look easy. To Dennis Mathias, thank you for taking a rough draft and turning it into a finished product. All photographs are courtesy of Nationwide Children’s Hospital, Children’s Grows Up: A Century of Caring, and The Ohio State University.

Donna A. Caniano, M.D.
CHAPTER 1

Introduction

“Children are not little adults”
(Attributed to Willis J. Potts, M.D.)

The development of pediatric surgery in Columbus, Ohio weaves three related stories: the recognition that children should be treated in hospitals devoted exclusively to their care; the specialization of general surgeons to the full-time practice of children’s surgery; and the establishment of organized residency programs to train qualified pediatric surgeons. The first of these stories actually began in the nineteenth century at a time when contagious diseases accounted for the majority of illnesses and deaths in infants and children. When the State Board of Health for Ohio was organized in 1886, it was noted that one-half of all deaths in the cities occurred in children less than five years of age. Epidemics of diphtheria and typhoid fever were commonplace throughout the state. While many advances in medicine were developing in Europe and the United States during the second half of the nineteenth century, hospitals that catered to the illnesses of children were a rarity. The first children’s hospital in the United States, the Children’s Hospital of Philadelphia, opened on November 23, 1855 with twelve beds. In its first year of operation, sixty-seven children were treated as inpatients. When Cincinnati opened the first children’s hospital in Ohio in 1884, it initially occupied a three-bedroom house devoted exclusively to the care of sick children.

Columbus Children’s Hospital: 1892 - 2007

On February 27, 1892 the Articles of Incorporation for the Columbus Children’s Hospital were filed with the Ohio Secretary of State, and two days later a Board of Trustees composed of fifteen male civic leaders and a Board of Lady Managers (fifteen women from distinguished local families) were
named to direct the building of the new hospital. While the trustees handled all of the financial and legal aspects of the enterprise, the Board of Lady Managers actually ran the day-to-day operations. The new hospital, built with more than $18,000 in charitable donations, opened on December 30, 1893 with fifteen beds. The first patient treated at the hospital was six year-old Lucile Metzell who had a diseased hip. She had a six month hospitalization that included medical therapy with cascara, cod liver oil, calomel, salicylic acid, exercising, and bracing.

In 1916 the future of the hospital was bolstered by an affiliation with The Ohio State University (OSU), which guaranteed the presence of medical students and to educate them, the hiring of pediatric faculty as teachers. The hospital also benefited from this affiliation by the availability of the OSU laboratories for testing procedures. Also in 1916 a new women’s organization, the Twigs, was formed for the explicit purpose of raising funds for supplies and services. By the early 1920’s the hospital was admitting more than 1,200 patients annually. With over $500,000 in charitable donations, a new and larger hospital was built adjacent to the original structure. It opened in June 1924 with 75 beds and plans for an immediate expansion to 150 beds. The operating room consisted of three individual suites. A della Robbia bambino graced the entrance, becoming the hospital’s symbol. The hospital staff...
numbered thirty physicians and two interns. By 1925 the hospital had established a nursing school, while the Columbus Board of Education supplied a teacher for inpatients of school age.

Columbus Children’s Hospital survived the years of the Depression and World War II by firmly establishing its importance in providing care for all children in central Ohio, regardless of their family’s financial status. It was during this period that care for all children, including those without the ability to pay, became the fundamental mission of the hospital. The Twigs women’s organization raised funds annually to support charitable care, and also established specialty clinics in orthopedics and cardiology.

In 1941 the Department of Pediatrics was established within the OSU College of Medicine and Dr. Earl H. Baxter was named the first Chairman, as well as Chief of Staff of the hospital. Dr. Warren E. Wheeler, an academic pediatrician, was appointed in 1946 as the first full-time Professor of Pediatrics, whose responsibility was to provide teaching, conduct clinical research, and provide the highest quality of patient care. He recruited pediatric specialists in pathology and cancer (Dr. William E. Newton), and in the emerging field of newborn pediatrics (Dr. Thomas Shaffer).
By the late 1940’s it became apparent that a much larger hospital would be necessary to accommodate the ever-increasing inpatient census. As the polio epidemic reached a critical level in the early 1950’s, the wards were at maximum capacity with iron lung machines forcing non-polio patients to be cared for in makeshift beds along hospital corridors. In 1960 a new wing was added to the existing hospital, providing “rooming in” single patient rooms to allow parents to remain with their children, new outpatient clinics, an expanded emergency department, and a “state-of-the-art” surgical suite with nine operating rooms and a recovery unit. By 1964 Columbus Children’s Hospital was the third largest dedicated pediatric center in the United States with a 304-bed capacity. Annual admissions averaged nearly 14,000 patients, while the surgical case volumes for general pediatric surgery, neurosurgery, orthopedics, and otolaryngology exceeded 5,000 operations.

In 1968 the hospital Board of Trustees approved a ten-year master plan that included construction of a new inpatient hospital building and a separate research facility. When the new six-story main hospital opened in 1976, it featured dedicated surgical inpatient units that were physically adjacent to the operating rooms and a 60-bed neonatal intensive care. Eight years later a new operating room complex provided nine large operating suites dedicated to the unique requirements of specialty services, a 20-bed recovery room with 3
isolation rooms, and a 25-room outpatient surgery unit. In 1987 a five-story research facility was opened which provided 122,000 square feet of laboratory space, 96 laboratories, a vivarium, and advanced scientific equipment. The hospital campus also included a Ronald McDonald House and the Easter Seals for children with developmental disabilities. By the mid-1990’s a separate outpatient surgery building housed four operating suites and two minor surgical rooms. Additionally, a second research facility was opened which doubled the capacity for basic science laboratory investigation. A six story building that joined the main hospital was completed in 1992, providing space for pediatric and surgical faculty to have their educational offices, conference space, and an expanded library. This structure, jointly funded by the hospital and The Ohio State University, recognized the pediatric educational mission in teaching healthcare providers in multiple disciplines, including medical students, postgraduate residents and fellows, nurses, and allied health professionals. In 1994 a seven story outpatient tower provided additional space for medical and surgical clinics, as well as administrative offices.

By 2000 it became obvious that the existing surgical suites and critical care units were inadequate to meet the demands of twenty-first century pediatric care. The nine operating rooms in the main hospital could not accommodate
the increasing surgical case volumes and the operating suites were too small for new technologies, such as minimally invasive equipment. In 2006 the hospital opened a new building with 14 operating suites, an intraoperative MRI suite, an expanded recovery room, and enlarged pediatric and neonatal intensive care units. In the same year a capital campaign was launched to raise funds for a replacement hospital and a third research facility.

**Nationwide Children’s Hospital: 2007 – 2010**

Throughout its history Columbus Children’s Hospital had grown sequentially, adding buildings for inpatient care, outpatient clinics, and ancillary services as demanded by increases in patient volumes. When the hospital Board of Trustees embarked on the construction of a new hospital, their goal included a facility that would establish a pediatric healthcare campus of national prominence. The Nationwide Foundation donated $50 million dollars to the capital campaign, at the time the largest charitable contribution to a children’s hospital in the United States. In recognition of this gift, the Board of Trustees renamed the hospital as Nationwide Children’s Hospital on September 24, 2007. Along with the renaming, the hospital logo of a “heart in a box” was modified into a more contemporary pattern. The capital
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The campaign raised nearly $300 million dollars, or almost half of the construction cost of the new building.

The new twelve story hospital is scheduled to open in 2012 with 460 beds and the capacity to add 48 additional beds. The new facility will have all private family-centered rooms, one of the largest pediatric emergency departments in the country, expanded radiology services, and innovative facilities for outpatient wound and burn treatment. The third research building is under construction and it will provide additional space for clinical and translational research, as well as a state-of-the-art vivarium. Upon completion of these new structures, Nationwide Children’s Hospital will rank among the largest comprehensive pediatric centers in the United States.

During the past two decades along with major physical expansion, Nationwide Children’s Hospital transformed itself from a well-recognized local and regional pediatric hospital to one of the nation’s major pediatric centers. It achieved top ten rankings by several lay publications, including Parents magazine and U.S. News & World Report. The Research Institute ranks among the top ten for National Institutes of Health funding for free-standing pediatric centers. It was also the first pediatric hospital in Ohio to achieve Magnet status for nursing excellence and collaborative care.
Development of Pediatric Surgery

In 1947 Dr. Robert M. Zollinger, a native of Ohio and a Harvard-trained general surgeon, became Chairman of the Department of Surgery at The Ohio State University College of Medicine and Director of Surgery at the Columbus Children’s Hospital. During his years in Boston, Dr. Zollinger witnessed the innovative surgical programs for infants and children at the Boston Children’s Hospital under the leadership of two “giants” in American pediatric surgery, Dr. William E. Ladd and Dr. Robert E. Gross. Dr. Zollinger found the state of children’s surgery to be seriously lacking at the Columbus Children’s Hospital, where voluntary community surgeons rotated care for patients without any particular interest in an academic, research, or educational mission. Calling upon the advice of Dr. Gross, his former Boston associate, Dr. Zollinger reduced the voluntary surgical staff at the Columbus Children’s Hospital to four members, including himself, whom he deemed sufficiently trained to provide adequate care for the pediatric patients. Dr. Zollinger also enlisted the assistance of Dr. Earl Baxter, Chief of Staff, and Dr. Warren Wheeler, Professor of Pediatrics, in promoting the development of a pediatric surgical program with full-time specialists devoted only to the care of infants and children.

In 1948 Dr. Zollinger began an active search for a dedicated and academically oriented pediatric surgeon, a scarce commodity in the United States. Once again, he turned to Drs. Ladd and Gross at the Boston Children’s Hospital for assistance in identifying candidates for a newly created position of chief of pediatric surgery at the Columbus Children’s Hospital and an academic appointment at The Ohio State University College of Medicine. Drs. Ladd and Gross recommended that Dr. Zollinger contact their most recent pediatric surgical fellow, Dr. H. William Clatworthy, Jr., who had completed their program in 1948 and was beginning a two-year senior surgical fellowship with Dr. Owen Wagensteen at the University Hospital of the University of Minnesota. Dr. Clatworthy, a graduate of the Harvard Medical School, had worked with Dr. Zollinger during his first year of medical school. At the time Dr. Zollinger was on the faculty of the Peter Bent Brigham Hospital and conducted “Zollies Follies”, an infamous teaching event held every Saturday morning in the amphitheater at the Brigham hospital and attended by...
Harvard faculty surgeons, community surgeons, residents, and medical students.

Dr. Clatworthy often recalled these Saturday mornings as the most rigorous teaching conferences on the Harvard medical campus, and that every surgical resident and medical student lived in total fear of being called on by Dr. Zollinger.
When Dr. Clatworthy accepted the invitation of Dr. Zollinger to visit Columbus, the state of children’s surgery did not compare favorably to the situation he had enjoyed in Boston. The Columbus Children’s Hospital had three archaic operating rooms without a recovery room, no nursing units designed for children with surgical illnesses, no nurses trained in the care of surgical patients, and inadequate radiology services and clinical laboratories. In 1998 Dr. Clatworthy was interviewed for an oral history project at The Columbus Children’s Hospital. He recalled that he visited the campus three times before he accepted the position. He was concerned that the operating room had no surgical instruments, since the community general surgeons brought their own instruments for each operation. He informed the hospital leadership that he would require adequate surgical instruments for infants and children, of the caliber that were available at the Boston Children’s Hospital. At a cost of over $40,000 the Board of Trustees purchased the surgical equipment, which paved the way for Dr. Clatworthy to come to Columbus. He was also influenced by the enthusiasm of Drs. Zollinger, Baxter, and Wheeler in supporting the development of a first-rate surgical program for children. As often related by Dr. Clatworthy, “I was told by Dr. Ladd and Dr. Gross that I must take the job in Columbus and I could make a name for myself there.” Indeed, Dr. Clatworthy arrived in Columbus in 1950 as the first pediatric surgeon in Ohio and the first Chief of Pediatric Surgery at the Columbus Children’s Hospital. In 1954 Dr. Zollinger appointed him the first Director of the Division of Pediatric Surgery at The Ohio State University College of Medicine.
Dr. H. William Clatworthy, Jr. was born in Denver, Colorado on October 2, 1917 and received his undergraduate degree at Stanford University. He graduated from the Harvard Medical School in 1943 and served in the United States Army Medical Corps from 1944 – 1946. His two year residency in pediatric surgery at the Boston Children’s Hospital was remarkable in that he was the last resident to train with Dr. Ladd and the first resident to train with Dr. Gross. Dr. Clatworthy often related stories about his two years under the tutelage of these “giant” figures in American pediatric surgery: (1) “As Dr. Ladd’s boy, I had to welcome the professor each morning by meeting his car at the entrance to the Boston Children’s Hospital on Longwood Avenue. I was expected to be holding a freshly starched white coat and then to escort Dr. Ladd on rounds.” (2) “Dr. Gross made us round three times a day on each patient, and also to write a new note detailing our clinical exam.” (3) “Dr. Gross never seemed to require sleep. He told us that all of his writing happened between 11pm and 4am.” (4) “Dr. Ladd and Dr. Gross would not tolerate any lateness from us. If you were late, they did the entire case and you were made to hold the retractors for them.”

Improvements in the Clinical Care of Surgical Patients

Dr. Clatworthy embarked on a total reorganization of the clinical management of surgical patients, starting with the creation of a dedicated surgical inpatient unit. Nurses with an interest in caring for children with surgical illnesses were recruited from the existing staff. Rounds were conducted three times daily, as was the practice at the Boston Children's Hospital. Dr. Aaron Canowitz was the hospital’s only anesthesiologist, and it
became obvious that with Dr. Clatworthy’s arrival, the volume of infant surgery was increasing, along with more complex operations. Dr. Canowitz recruited a second anesthesiologist, Dr. John Garvin, and they visited the Boston Children’s Hospital and the Children’s Hospital of Philadelphia to learn about optimal techniques for infant anesthesia. Dr. Canowitz recalled that prior to Dr. Clatworthy’s arrival, most of the abdominal operations were for routine problems such as pyloric stenosis, inguinal hernias, and appendicitis. Dr. Clatworthy began to operate on infants with significant congenital anomalies, so that the anesthetic management had to become more sophisticated, with techniques for blood replacement and maintenance of normothermia. Dr. Clatworthy also established distinct surgical specialty
departments that included Neurosurgery, Ophthalmology, Orthopedics, Otolaryngology and Dentistry, Plastic Surgery, and Urologic Surgery. Although these specialty surgeons were primarily focused on their adult practices and community-based, Dr. Clatworthy held them to strict standards of pediatric care that involved daily rounding on their inpatients.

Gradually word spread throughout Ohio that infants and children with major surgical problems could be treated with successful outcomes at the Columbus Children’s Hospital. Dr. Clatworthy offered life-saving treatment for infants and children with major congenital anomalies, including midgut volvulus, intestinal atresias, Hirschsprung’s disease, and imperforate anus. In Dr. Clatworthy’s words, “We had three little rooms on the third floor, one orthopedic, one for ENT, one for general surgery. Then we started doing lung surgery, heart surgery, Hirschsprung’s disease, Wilms tumor….We took a ladies’ sewing room for a recovery room, established two little rooms for just T&A cases.” By 1956 the general pediatric surgery and orthopedic services had an annual operative volume that exceeded 3000 cases, a nearly 50% increase since 1950.

In 1955 Dr. Robert J. Izant, Jr. joined the faculty as the second full-time pediatric surgeon, followed one year later by Dr. E. Thomas Boles, Jr. The presence of three full-time pediatric surgeons allowed for expansion of clinical care, to include outpatient specialty surgical clinics devoted to children with solid tumors and children with surgically corrected major congenital anomalies. Dr. Clatworthy also recruited full-time faculty for other surgical specialties: Dr. Martin P. Sayers came in 1951 to lead pediatric neurosurgery and Dr. Morris Battles arrived in 1953 as the chief of ophthalmology. In 1957 Dr. Howard Sirak, recently hired as the chief of pediatric cardiac surgery, performed the first pediatric open heart operation in Ohio.

In less than a decade Dr. Clatworthy had transformed the clinical care of pediatric surgical patients at the Columbus Children’s Hospital, with exacting standards, dedicated surgical nurses, and full-time pediatric anesthesiologists and specialty surgeons. The surgical services comprised over half of all hospital admissions and visits to the emergency department, while operative case volumes continued to increase on an annual basis. In the mid-1950’s Dr. Clatworthy introduced the clinical innovation of outpatient surgery for
healthy infants and children undergoing elective herniorrhaphy. He pioneered outpatient surgery as a way to reduce hospital-acquired infections and lessen family stress, as well as the financial burdens associated with an inpatient hospitalization. The Columbus Children’s Hospital was the first pediatric center in the United States to champion outpatient surgery for routine operations in healthy children.

The Research Program in Clinical and Basic Science

Within months of his arrival in Columbus, Dr. Clatworthy started a pediatric surgical research program using laboratory space in the School of Veterinary Medicine on The Ohio State University campus. He believed that surgical research should be directed at clinical problems capable of being investigated and solved by laboratory investigation. With the encouragement of Dr. Zollinger, he enlisted the assistance of residents in the general surgery program for projects in experimentally produced coarctation of the aorta, short bowel syndrome, small intestinal or colonic transplants in the management of severe esophagitis, and portal hypertension. A promising undergraduate student at The Ohio State University, Judah Folkman, worked in Dr. Clatworthy’s laboratory and, influenced by this experience, decided to embark on a career in pediatric surgery and basic science investigation. Dr. Clatworthy’s first publication from his Columbus research, published in Surgery in 1952, concerned the effects of extensive small bowel resection on the growth and development of young dogs. Among Dr. Clatworthy’s thirty-three publications from 1950-1960, two were considered groundbreaking: a novel portal-systemic shunt to correct portal hypertension in children with bleeding esophageal varices, today known as the Clatworthy shunt, and the first report of meconium plug syndrome as a cause of neonatal intestinal obstruction.

In 1962, the Clatworthy laboratory moved to Ross Hall, a building adjacent to the Columbus Children’s Hospital. There Dr. Clatworthy directed numerous investigations and mentored countless residents and fellows, many of whom came to Columbus from Europe, Asia, and other distant locations. The research program became well-known for its application to clinical problems, as well as its ability to foster the academic careers of aspiring pediatric
H. William Clatworthy, Jr., M.D.

surgeons. Dr. Clatworthy and his clinical and basic science research collaborators published over 140 papers on seminal topics in pediatric surgery, including solid tumors (rhabdomyosarcoma, liver, kidney, and thoracic), polyhydramnios as a risk factor for neonatal intestinal obstruction, incidence of bilaterality in childhood inguinal hernias, mesocaval shunts for portal hypertension, and the “long loop” orchidopexy.

**Development of Standards for Training Programs in Pediatric Surgery**

In 1953 Dr. Luis Diaz Bonnett finished a year of pediatric surgery at the Columbus Children’s Hospital, becoming the first individual to complete a training program under Dr. Clatworthy. By June 2010 seventy individuals had completed either a one year or two-year residency in pediatric surgery at the

institution. Over half of the graduates became chiefs of academic divisions of pediatric surgery within major medical universities in the United States and abroad, two were chairmen of departments of surgery, and eight were directors of accredited training programs in pediatric surgery in the United States and Canada. Seven of Dr. Clatworthy’s former trainees were elected president of the American Pediatric Surgical Association, four served as chairperson of the Section on Surgery of the American Academy of Pediatrics, and one is the editor-in-chief of *The Journal of Pediatric Surgery*.

By the early 1960’s children’s hospitals and medical universities in North America were seeking qualified pediatric surgeons to bolster their programs. Dr. Clatworthy and other academic leaders became concerned about maintaining educational excellence and sufficient exposure to the breadth of pediatric surgical conditions. In 1965 the Section on Surgery of the American Academy of Pediatrics appointed Dr. Clatworthy to lead an Education Committee charged with assessing the educational processes of pediatric surgeons in the United States and Canada. Dr. Clatworthy’s committee evaluated the existing training programs and also made recommendations for minimum requirements in education and operative experience for the training of a qualified pediatric surgeon. The committee found that eleven programs in the United States and two programs in Canada met their standards, including the program in Columbus. Their report formed the basis of all future efforts to standardize the educational experience and maintain quality among the training programs in pediatric surgery. Ultimately, the training programs would come to be accredited by the Accreditation Council of Graduate Medical Education (ACGME), in conjunction with a Residency Review Committee for Surgery. In addition, Dr. Clatworthy’s efforts laid the initial groundwork for the American Board of Surgery in 1975 to grant a Certificate of Special Competence in Pediatric Surgery to individuals who completed an accredited training program in pediatric surgery, were board-certified in general surgery, and had passed a written and oral examination in pediatric surgery. Dr. Clatworthy served as the first representative for pediatric surgery on the Residency Review Committee for Surgery from 1974-1980, during which he had a major role in the accreditation of training programs in pediatric surgery.
**Honors and Accolades for Dr. Clatworthy**

During his long career in academic surgery Dr. Clatworthy was a member of every major professional organization, including the American Surgical Association and the Society of University Surgeons, the most prestigious surgical societies in the United States. He was a charter member of the American Pediatric Surgical Association and served as its third president in 1972. Dr. Clatworthy was an invited lecturer all over the world, and was proud that he had spoken about pediatric surgery on every continent but Antarctica.

In 1958 Dr. Clatworthy received the first of many honors, when his hometown of Denver, Colorado gave him the Distinguished Citizen Award in recognition of his achievements in the “new field of pediatric surgery.” His reputation as an extraordinary surgical teacher became legendary, so that
aspiring and established pediatric surgeons from all over the world came to
the Columbus Children’s Hospital to learn “from the master.” In 1979 the
American Academy of Pediatrics awarded Dr. Clatworthy the highest honor
for a pediatric surgeon, the William E. Ladd Medal. The British Association
of Paediatric Surgeons recognized Dr. Clatworthy in 1984 as the recipient of
the Denis Browne Gold Medal, their highest honor. He remains one of only a
handful of pediatric surgeons in the world to have received both of these
prestigious awards.

On October 30, 1986 over 200 pediatric surgeons from the United States,
Europe, Japan, and South America, including all of his former residents,
gathered at the Columbus Children’s Hospital for the Clatworthy Retirement
Celebration. Many of his program’s graduates presented their scholarly work
at a day-long Scientific Symposium, followed by dinner and the dedication of
a bronze bust of Dr. Clatworthy which was sculpted by his wife, Dr. Nancy
M. Clatworthy. An endowed professorship at The Ohio State University
College of Medicine, the H. William Clatworthy, Jr. Professorship in Pediatric
Surgery, was established by his grateful colleagues and former trainees. When
asked that day what his greatest accomplishment was, Dr. Clatworthy
answered immediately, “I’m basically a teacher. These people who have come
back have helped me establish my hand all the way around the world.”

Reflections on Dr. Clatworthy from his Colleagues and Former Residents

Dr. Clatworthy’s legacy of extraordinary teaching was matched by an uncanny
ability to recognize leadership talent in the individuals whom he trained at the
Columbus Children’s Hospital. When queried about how he managed to find
so many future academic leaders in pediatric surgery, Dr. Clatworthy could
not easily explain his decision making process. He would admit that after a
probing conversation with a prospective candidate, he could usually tell “what
the person was made of.” Among his graduates four individuals were
recipients of the William E. Ladd Medal: Dr. Marc I. Rowe (1996), Dr. Jay L.
Grosfeld (2002), Dr. Eric Fonkalsrud (2006), and Dr. James A. O’Neill, Jr.
(2007).
The Section on Surgery of the American Academy of Pediatrics sponsored interviews with several of the recipients of the Ladd Medal, including conversations with the four winners from Dr. Clatworthy’s training program. The following excerpts are from their recollections of Dr. Clatworthy, and are quoted from *In Their Own Words*, published by the American Academy of Pediatrics in 2008.
Comments of Dr. Marc Rowe

Question: How was your experience in Columbus?

Answer: It was a wonderful experience, because Bill Clatworthy was an absolute master teacher, and he loved little babies. He changed my life in a lot of ways, but one way in particular. He used to like me, so he dragged me in and made me sit down beside him, and we’d talk. He’d say, “We have to play a game.” And what was that game? The game was, how is a baby different from an adult? “Okay, Dr. Clatworthy, how is a baby different from an adult?” And he’d say, “Okay, a baby is smaller. Now it’s your turn.” And then I’d say something like, “A baby doesn’t like cold.” And Dr. Clatworthy would say to me, “Why?” And I’d say, “Well, as a matter of fact, I don’t know.” He’d say, “Well why the heck don’t you?”

Dr. Rowe goes on to relate that these conversations with Dr. Clatworthy prompted him to obtain a notebook and write down all of his questions about how babies differed from adults in their physiology and response to stress. This notebook formed the basis of Dr. Rowe’s subsequent research in neonatal pathophysiology, work which directly impacted how pediatric surgeons cared for the surgical neonate during the perioperative period.

Comments of Dr. Jay Grosfeld

Question: You said that during your two years in Columbus, you wrote about forty papers. How?

Answer: Right. I’d do that at night. Actually, at the beginning Dr. Clatworthy would say, “Gee, the Central Surgical Society abstract deadline is coming up. What do you have?” He then said, “Why don’t you look up rhabdomyosarcoma? We’ve been doing some pretty good work with the combined therapy.” And I said, “Okay. When is the abstract due?” He said, “Two days.” So, I called the lady in the records room to get out the charts. We worked all night and got the data on 42 patients, and brought him an abstract the next day. He looked at the abstract. He’s shake his head, and he’d just shake his head and out would come the red pen. It looked like a blood bath.
by the time he got through with it, and then he’d say, “Here. Let me see the next version of it later today.” I replied that I had OR cases. Dr. Clatworthy said, “I am leaving at three today.” So, I got it done. He was a master of abstract writing, and he taught me. It was a lot of bloodbath on paper, but I learned. He really taught me.”

Question: Tell me about education in your career.

Answer: “Well, I’ve always thought that if you had somebody who could stimulate your intellectual curiosity, it would make you think and pursue things. And I learned that from Bill Clatworthy.”

Comments from Dr. Eric Fonkalsrud

Question: Was Columbus competitive?

Answer: We were expected to be in Columbus on July 1st, 1963, but I couldn’t leave my job as a senior resident until the 30th. So, we jumped in the car—it was all packed—when I stopped working at UCLA, and we drove as fast as we could across the country. We got to Columbus, and I thought I’d better go right to the hospital and get checked in. And when I got into the Children’s Hospital, they said, “Where in the hell have you been? You’re supposed to have started last night. And you’ve got to stay here for the next two days.” So, I couldn’t remember where I’d left Peggy. I just knew how to drive there. And she wondered where I was. Eventually I got home exhausted after two days and two nights.

Question: Was Dr. Clatworthy an easy person to work with?

Answer: Clatworthy was a very good technical surgeon and a great teacher, but a bit temperamental. But we learned a lot from him and from each other. But, Clatworthy was an extremely bright person, very innovative, so he was a good mentor for us. And he was very interested in developing the field of pediatric surgery nationally and did quite a lot to develop the whole residency training programs in the US and upgrade them and have review committees go around to see them. He was one of the first to develop that.
Comments of Dr. James O’Neill

Question: How did you come to obtain your training in Columbus?

Answer: Dr. O’Neill relates that he was advised by Dr. Gross that Columbus was where he should train in pediatric surgery. Dr. O’Neill was interviewed by Dr. Clatworthy, who had invited him to Columbus for a visit that included dinner at his home. After dinner, Dr. Clatworthy said, “Let’s have a chat.” So they went outside and walked along the river. Dr. Clatworthy said, “I think you’ll do. We’ll take you on. I want you to realize one thing. If you don’t work out, you’ll be gone in six months.” So, I said, “I assure you I will work out.”…. My two years with Dr. Clatworthy were wonderful. As far as I’m concerned, there were two great teachers in my life who were outstanding, and who were born teachers. One was H. William Clatworthy. We had a teaching session every Thursday with Dr. Clatworthy. He would go into ethics, he would go into the organization of surgery, he’d go into boards, he’d go into intricacies of pediatric surgery. And he would ask questions like, “Why?” He never asked what, “What is this?” He’d ask why. And most of the questions there was no answer to. He was as stimulating a mind as you could ever encounter. And I think I benefited from that as well as everybody else. That manner of his and the stimulation of research ideas on his part — I think that’s why those were the golden years of producing academic surgeons.

I think that if you look at the output from Columbus, it’s remarkable in that period how many academic surgeons he produced. To this day, there isn’t another training director, including Dr. Gross, who put out as many academic surgeons; and none who put out people who later became chairmen of major departments of surgery in the United States. And I think his influence and his ability to transfer his talents and his inspiration that made a difference. Plus his continuous support through the careers of these individuals. And that’s what made Bill Clatworthy unique. He was a tough customer. But at the same time, he was giving and kind and inspiring.
Recollections of Dr. Donna A. Caniano

Donna A. Caniano, M.D. held the H. William Clatworthy, Jr. Professorship in Pediatric Surgery from 1999 – 2010, and was a resident in pediatric surgery under Dr. Clatworthy from 1981 – 1983. Dr. Caniano first met Dr. Clatworthy during the interview process for the national Match Program in Pediatric Surgery.

I visited the Columbus Children’s Hospital on a cold November day in 1980 and was welcomed by a secretary who informed me that Dr. Boles, the program director, was in the operating room and would meet with me later. But, Dr. Clatworthy was in his office and was waiting for me. Fortunately, I had read many of Dr. Clatworthy’s papers and felt that I could respond to questions he might ask about surgical issues. I had also heard many stories about “the Professor”, that he was very tall, had red hair, and was stern in manner. So, it was not without a little trepidation that I entered his office. Indeed, he towered over me, but had a welcoming smile. “So, Donna, I see you went to Vassar. Did they teach you anything there?” I need not have worried that we would be discussing pediatric surgery, because for the next hour or so, we talked about art history, the value of a liberal arts education, why I liked to read short stories, and about my Italian heritage. Then, Dr. Clatworthy took me on rounds and the pediatric surgery grilling began in earnest. We went to the bedside of a premature baby with a giant omphalocele and a serious heart defect. “So, Dr. Caniano, when would you do the first operation on this little baby?” It took about two minutes for him to penetrate all that I knew about giant omphalocoeles, but unheeded, he persisted in forcing me to think through one difficult question after the next. He prefaced each question with either “why” or “how”, never using what or list your reasons. I was convinced that I would never have any chance of training in Columbus, when, on the walk back to his office, he said, “Donna, I think you could be a fine pediatric surgeon someday, especially after we get done with you.”

When I returned to the Columbus Children’s Hospital to begin the residency in pediatric surgery, it was customary for the assistant chief resident to scrub with Dr. Clatworthy every Tuesday. I was told by the chief resident that “the
Professor” always did the smaller cases himself, so I was prepared to assist on the first case, which was scheduled as an outpatient excision of a dermoid cyst of the eyebrow on a six month old infant. Dr. Clatworthy watched me prep and drape the patient, and then announced that I would be doing the case. I had noticed that the cyst had a bluish discoloration, but, not being all that familiar with dermoid cysts, thought nothing was out of the ordinary. Upon making the skin incision it became obvious that we were dealing with a hemangioma, and that my incision had caused enough bleeding to disturb Dr. Clatworthy. “Donna, you are going to kill this baby. The baby will bleed to death unless you get control.” I assume that I did manage to “get control” because he let me complete the operation, but to this day, I cannot remember anything except his comment as he left the OR. “Donna, the next time you should be more delicate in making the skin incision. We could have watched this baby’s hemangioma since it would have probably gone away.”

In 1999 when I was appointed to the Clatworthy Professorship, Dr. and Mrs. Clatworthy invited me to their home for dinner. After a wonderful meal, we sat by the fire and began discussing my goals for the department. Dr. Clatworthy left the room and returned with a dusty cardboard box. “Donna, here are a few things that you might like for the office.” He then proceeded to show me the photograph given to him upon completion of his training at the Boston Children’s Hospital. The framed picture held signed photographs of Dr. Ladd and Dr. Gross. At the bottom of Dr. Ladd’s picture was written: “To Bill Clatworthy, with best wishes from his former Chief, William E. Ladd.” Similarly, at the bottom of Dr. Gross’ picture was written: “To Bill, with kindest regards and with high professional esteem. Robert E. Gross.” This picture is the centerpiece on a wall in the departmental Clatworthy Library, serving as a reminder of our profession’s heritage.

The Clatworthy Legacy

Dr. Clatworthy died on December 11, 2000 at the age of 83 after a six month illness. His obituary in The Columbus Dispatch chronicled his illustrious career in academic pediatric surgery. Through his leadership in surgical education the Columbus Children’s Hospital became “the place” to train as a pediatric surgeon. Dr. Jay Grosfeld, the chairman of the Department of Surgery at the
University of Indiana and one of Dr. Clatworthy’s former residents, was quoted in the obituary, “He was internationally known for his expertise and his brilliance as an educator.”

*Signed photographs of Dr. William E. Ladd (left) and Dr. Robert E. Gross.*
Dr. E. Thomas Boles was born in Cleveland, Ohio on May 6, 1921. He attended the Upper Arlington High School and The Ohio State University, and in 1941 he graduated from the College of William and Mary. After receiving his medical degree at the Harvard Medical School, he served an internship at St. Luke’s Hospital, New York. He completed a residency in general surgery under Dr. Robert M. Zollinger at the University Hospital, The Ohio State University, followed by pediatric surgery training under Dr. Robert E. Gross at the Boston Children’s Hospital.

In 1954 Dr. Boles joined the Department of Pediatric Surgery at the Columbus Children’s Hospital, becoming the second full-time pediatric surgeon with Dr. Clatworthy. He was appointed Assistant Professor of Surgery at The Ohio State University College of Medicine.

Dr. Boles quickly established himself as a meticulous surgical technician who was unafraid to tackle major tumor resections, reconstructive operations for anorectal malformations and Hirschsprung’s disease, and neonatal intestinal anomalies. Like Dr. Clatworthy, he shared a love of infant surgery with a fascination for the variation in congenital anomalies. Dr. Boles was an exacting clinician who conducted a particularly thorough physical examination of his patients. He typically placed a hand-drawn illustration of the patient’s anomaly in the medical record, with periodic updates after each surgical procedure.

In 1959 Dr. Boles and Dr. John Terry, a plastic surgeon, established the first burn unit in Ohio at the Columbus Children’s Hospital. Dr. Boles directed the management of the burn unit for thirty years, during which time he oversaw
many successive improvements in the surgical care of children with severe thermal injury. Under his leadership the Firefighters’ Group of central Ohio raised funds on an annual basis to support an endowment for research and other academic activities. The burn unit remains a vital part of the activities of the Department of Pediatric Surgery, and in 2003 it received accreditation by the American College of Surgeons and the American Burn Association as a certified pediatric burn program.

Dr. Boles also directed the unit for surgical neonates, a place that became the centerpiece of training and education for the residents in pediatric surgery. As noted by Dr. Boles in his reflections on the “surgical nursery”, it permitted a
concentration of nursing and medical staff with a primary interest in the surgical problems of the newborn. As a consequence, the vital details of management could be addressed in a dedicated and expert fashion. One striking example concerned the impressive survival that Dr. Boles and his colleagues achieved in infants with gastroschisis. While the survival rate for an infants with this abdominal wall defect was about 10% before the mid-1960’s, advances in intravenous nutrition and operative techniques for abdominal closure resulted in a survival over 90% within a decade. Since the Midwest had a high incidence of gastroschisis compared to other regions of the country and since all surgical neonates were treated in a single unit directed by Dr. Boles, infants with gastroschisis had the best survival statistics when managed at the Columbus Children’s Hospital.

In 1978 Dr. Boles led a team of pediatric surgeons in the first successful separation of conjoined twins in central Ohio. Mark and Matthew Myers, who were joined at the chest and upper abdomen (thoracopagus), underwent surgery after months of preoperative diagnostic testing and planning. Today they are healthy and physically active young adults.

Dr. Boles established follow-up clinics for children with solid tumors, ensuring that they would have timely diagnosis of morbidity associated with surgical and adjuvant therapy, as well as second malignancies. He also instituted Surgical Index Clinic, for long term follow-up of children with major congenital anomalies, such as esophageal atresia, Hirschsprung’s disease, and anorectal malformations.

Dr. Boles embraced the scholarly aspects of academic pediatric surgery by engaging in multiple clinical projects on the surgical treatment of portal hypertension, congenital diaphragmatic hernia, intestinal anomalies, abdominal wall defects, and solid tumors. By 1972 Dr. Boles had achieved the rank of Professor of Surgery, due in large part to his copious record of presentations at national and international professional surgical meetings and publications in prestigious surgical journals.
Development of the American Pediatric Surgical Association

In 1969 Dr. Boles was discussing the state of pediatric surgery with his colleague, Dr. Lucian Leape, chief of Pediatric Surgery at the Boston Floating Hospital, while they were attending a burn meeting in Atlanta, Georgia. They determined that pediatric surgery was sufficiently “mature” to have its own dedicated professional society. Within a year of that fateful conversation, they had organized a group of “younger” pediatric surgeons who met in April 1970 at an organizing session for the newly created American Pediatric Surgical Association (APSA). They elected Dr. Robert E. Gross as its first president and Dr. C. Everett Koop as the president-elect. APSA, now in its fortieth year, serves as the dominant professional organization for pediatric surgeons in the United States, with an annual meeting each spring. Dr. Boles served as its eighth president in 1977. The papers presented at the annual APSA meeting are published each year in a dedicated issue of The Journal of Pediatric Surgery.

Surgical Educator

It was in the operating room that Dr. Boles truly made a lasting impact on the twenty-two residents who completed training under his directorship of the residency in pediatric surgery. Dr. Boles had a very organized approach to each operation and a distinct methodology that was designed to keep each step in its proper sequence. He insisted that the overhead lights be in proper position before the patient was prepped and that the skin preparation be neat, without any dripping onto the operative table. At all times his goal was to teach safe and easily reproducible techniques, so that the trainee could feel comfortable in almost any situation. For example, assisting Dr. Boles in an orchidopexy was a highlight for each trainee, since he invoked the “nine steps” to accomplish scrotal positioning of the testis, each step needing to be performed in the same sequence.

In the surgical clinic Dr. Boles maintained exacting standards for the medical record, insisting that each patient have a detailed listing of each prior operation that included any postoperative complications, a completed growth
charts, often a line drawing of the pertinent physical findings, and an easily understood plan of care.

As recalled by Dr. Donna A. Caniano, “Being the chief resident in pediatric surgery under Dr. Boles could be intimidating. Each morning I had to stop by his office after patient rounds and review my plans for his patients. He stressed attention to the details, and expected that I should have all of the relevant data in my head, without the need for a clipboard. Afterwards, he would make rounds on his own, and I lived in fear that he would discover something that I had overlooked.”

National Leadership

Dr. Boles was a prominent figure in every professional organization in pediatric surgery. In addition to serving as the president of the American Pediatric Surgical Association, he was on numerous professional committees, and invited as a visiting professor in several prestigious academic institutions in the United States, Canada, and overseas. In 1971 Dr. Boles was appointed as a Governor of the American College of Surgeons, serving in that capacity for six years. From 1976-1981 he was an examiner for the American Board of Surgery and from 1980-1986 he was the pediatric surgery representative to the Residency Review Committee for Surgery.

The Boles Legacy

In addition to academic excellence, Dr. Boles created an environment that exemplified the highest standards in patient care. By insisting that his trainees pay “attention to the details”, he graduated individuals who gave meticulous pre-and postoperative care to their patients. By teaching a “delicate” touch for operating on fragile premature infants, he was responsible for saving countless infants with major congenital anomalies. Two of his trainees became program directors of pediatric surgery residency programs, while many had productive careers in academic and community practice.
Dr. Boles retired in 1991 and he continues to enjoy vigorous health, travel within the United States and abroad, and his avocations of classical music, downhill skiing and biking.
Dr. Donald R. Cooney was born on February 7, 1943 in Zanesville, Ohio. He graduated from The Ohio State University in 1965 and received his medical degree cum laude from The Ohio State University College of Medicine in 1970. He initiated his training in general surgery at The Ohio State University and completed his residency at the Indiana University Medical Center in 1975. He was a resident in pediatric surgery at The Children's Hospital of Buffalo from 1975-1977.

Dr. Cooney was a member of the surgery faculty at the Mayo Clinic until 1980. He returned to The Children's Hospital of Buffalo and in 1982 was appointed Surgeon-in-Chief and program director of the residency in pediatric surgery. In 1985 he became Professor of Surgery and Pediatrics at the School of Medicine and Biomedical Sciences, University of Buffalo, State University of New York.

In 1991 after an extensive national search process, Dr. Cooney was appointed the first H. William Clatworthy, Jr. Professor of Pediatric Surgery at The Ohio State University College of Medicine and Surgeon-in-Chief of The Columbus Children's Hospital.

During his tenure Dr. Cooney was instrumental in the development of the Pediatric Surgical Laboratory and in the recruitment of a basic scientist, Dr. David Brigstock, and a pediatric surgical scientist, Dr. Gail Besner. Within a few years Drs. Besner and Brigstock were awarded RO1 grants from the National Institutes of Health for their growth factor studies in heparin-binding-epidermal growth factor (HB-EGF) and connective tissue growth factor (CTGF), respectively. Dr. Cooney’s leadership fostered a scholarly
environment that permitted the Pediatric Surgical Laboratory to thrive, with participation of medical students, pre and post-doctoral Ph.D. students, residents in general surgery, and visiting scientists. During this period the members of the Pediatric Surgical Laboratory gave multiple presentations at basic science and surgical meetings, in addition to publishing several articles in prestigious journals.

In 1998 Dr. Cooney was appointed Professor of Surgery and Pediatrics and Medical Humanities at Texas A & M Health Sciences Center College of Medicine. He served as the Director of the Division of Pediatric Surgery and Chief of Children's Surgery at Scott and White Hospital. During his long
career in academic surgery, Dr. Cooney inspired countless medical students to enter the field of surgery and he encouraged several residents to pursue training in pediatric surgery. Dr. Cooney died on June 21, 2008 in Temple, Texas.
A HISTORY OF HEALING
Dr. Donna A. Caniano was born on July 21, 1950 in Albany, New York. She graduated magna cum laude from Vassar College and received her medical degree from Albany Medical College in 1976. She completed a residency in general surgery at Albany Medical Center Hospital, a fellowship in pediatric surgical critical care at the Johns Hopkins Hospital, and a residency in pediatric surgery at the Columbus Children’s Hospital in 1983. She was an Assistant Professor of Surgery at the University of Maryland and the Johns Hopkins Hospital from 1983-1985.

In 1985 Dr. Caniano returned to Columbus as Assistant Professor of Surgery at The Ohio State University College of Medicine and attending pediatric surgeon at the Columbus Children’s Hospital. She focused her scholarly activities in Hirschsprung’s disease, postoperative outcomes after antireflux surgery in children with developmental disabilities, and pediatric surgical ethics. Dr. Caniano was awarded the Armand Hammer Traveling Surgical Scholarship in 1991 by the American College of Surgeons for the study of ethical decision making in surgical neonates. This honor allowed her to visit the neonatal surgical units at prestigious American, Canadian, and Dutch children’s hospitals. From 1994-1997 she was the director of the medical humanities program for the first year medical students, during which she introduced the White Coat Ceremony for the incoming class. In 1998 Dr. Caniano received the Ohio State University College of Medicine Distinguished Educator Award in recognition of distinguished service to the tradition of excellence in undergraduate medical education.

In 1998 Dr. Caniano was appointed interim director of the Division of Pediatric Surgery, and she also served as interim program director of the
residency in pediatric surgery and interim chief of the Department of Pediatric Surgery at the Columbus Children’s Hospital. In 1999 she became Professor of Surgery and Pediatrics and the H. William Clatworthy Professor of Pediatric Surgery at the OSU College of Medicine. She was appointed Surgeon-in-Chief at the Columbus Children’s Hospital and program director of the residency in pediatric surgery.

Dr. Caniano served on the Pediatric Surgery Board of the American Board of Surgery from 2000-2006. She was the chairperson of the Section on Surgery of the American Academy of Pediatrics in 2005 and secretary of the American Pediatric Surgical Association from 2003-2006. She served on the
Donna A. Caniano, M.D.

Editorial Boards of *The Journal of Pediatric Surgery* and *Pediatric Surgery International*. She was named a Woman of Achievement in 2006 by the Columbus YWCA and received the Jimmy Crum Labor of Love Award in 2009.

Dr. Caniano assumed several leadership challenges within the Division of Pediatric Surgery, the residency training program, and the status of pediatric surgery at the Columbus Children's Hospital. Some of the longtime faculty in pediatric surgery had resigned their academic positions in the early 1990's and established a private practice, a situation that destabilized the cohesive educational mission of the division. In addition, an atmosphere of intense clinical competition threatened the historically collaborative relationship among the community pediatricians and the pediatric surgeons. It also became clear that the research and clinical care missions of the division would be best served in an organizational model more closely aligned to the goals of the Columbus Children's Hospital. While the Division of Pediatric Surgery continued its longstanding professional and educational relationship with the Department of Surgery, it adopted a corporate structure under Columbus Children's Hospital. This model had several advantages in streamlining clinical care and in fostering the research and scholarly activities of the faculty. By the early 2000's all of the pediatric surgeons, including the members who were in a private practice, came together into a single corporate model. Over the next decade the Columbus Children's Hospital adopted similar corporate models with the pediatric surgical subspecialties of cardiothoracic surgery, otolaryngology, urology, neurosurgery, orthopedics, and plastic surgery.

With the approach of the millennium, the Board of Trustees of Columbus Children's Hospital established an ambitious plan to move from local and regional excellence to national prominence in research, clinical care, and advocacy. A far-reaching mission, CARES, was dedicated to providing the highest quality of care, advocacy for children, child health research, education, and outstanding service.

The Division of Pediatric Surgery set forth a comprehensive plan that encompassed the CARES mission by:
(1) Highest quality of patient care: recruitment of additional faculty to the existing complement of five pediatric surgeons; accreditation by the American College of Surgeons and American Burn Association for the Burn Program; development of a pediatric surgical bariatric program; development of a comprehensive fetal medicine program for central Ohio; recruitment of Advanced Practice Nurses with surgical expertise to support the inpatient pediatric surgical service

(2) Advocacy for children: expansion of the Level I pediatric trauma program to include outreach, training of emergency services professionals

(3) Child health research: support for the Pediatric Surgical Laboratory; enhancement of clinical research programs

(4) Education: development of an ACGME-accredited fellowship in pediatric surgical critical care; refinement in the educational curriculum in the residency in pediatric surgery

(5) Outstanding service: improvements in the availability of pediatric surgical outpatient clinics for patients with thermal injuries, routine and emergency conditions; multiple clinical pathways for routine pediatric surgical conditions to reduce variability in pre and postoperative care and lessen length of hospital stay

On September 24, 2007 when the hospital was renamed Nationwide Children’s Hospital, the momentum for national prominence was well underway, as the hospital was recognized as a leading pediatric healthcare institution and research facility.

**The Highest Quality of Patient Care**

In 2000 Dr. Marjorie Arca joined the faculty upon completion of a residency in pediatric surgery at the C.S. Mott Children’s Hospital and the University of Michigan. Her arrival marked the first in an aggressive recruitment of talented and academically committed pediatric surgeons. Dr. Brian Kenney joined the faculty in 2003, bringing expertise in minimally invasive surgery. He was also appointed director of the new ACGME-accredited fellowship in pediatric surgical critical care, upon the relocation of Dr. Arca to a position at the Milwaukee Children’s Hospital. In the following year three additional
faculty members joined the Division of Pediatric Surgery. Dr. Renata Fabia, a graduate of the residency in general surgery at The Ohio State University, became one of the first surgical hospitalists in a pediatric surgical program. Her expertise in burn and trauma care brought significant enhancement to these clinical areas. Dr. Benedict Nwomeh, a graduate of the residency in pediatric surgery at the Pittsburgh Children’s Hospital, was named a research fellow by the Association for Surgical Education. Dr. Marc Michalsky, an alumnus of the residency in pediatric surgery at the Columbus Children’s Hospital, relocated from a faculty position at the University of Virginia in Charlottesville, where he acquired special expertise in bariatric surgery. He was appointed director of the Bariatric Program and within a year, he developed a comprehensive adolescent bariatric program. Dr. Allen Browne, a 1982 graduate of the residency in pediatric surgery at Columbus Children’s Hospital, joined the faculty from 2008-2010 to support the bariatric program. In 2009 Dr. Jennifer Aldrink, a graduate of the residency in pediatric surgery at Nationwide Children’s Hospital, was appointed director of surgical oncology. Dr. Aldrink has special expertise in surgical oncology, including thyroid disorders and melanoma. She established the first interdisciplinary outpatient surgical oncology clinic for children and adolescents in Ohio. At the close of the 2010 academic year the faculty in pediatric surgery at Nationwide Children’s Hospital included:

Donna A. Caniano, M.D.  Professor of Surgery and Pediatrics
Jennifer H. Aldrink, M.D.  Assistant Professor of Clinical Surgery
Gail E. Besner, M.D.  Professor of Surgery and Pediatrics
David R. Brigstock, Ph.D.  Professor of Surgery
Renata B. Fabia, M.D., Ph.D.  Assistant Professor of Clinical Surgery
Jonathan I. Groner, M.D.  Professor of Clinical Surgery
Brian D. Kenney, M.D., M.P.H.  Assistant Professor of Clinical Surgery
Denis R. King, M.D.  Clinical Associate Professor of Surgery
Marc P. Michalsky, M.D.  Associate Professor of Clinical Surgery
Benedict C. Nwomeh, M.D., M.P.H.  Associate Professor of Clinical Surgery
Steven Teich, M.D.  Clinical Associate Professor of Surgery

In 2003 the Pediatric Burn Program received accreditation by the American College of Surgeons and the American Burn Association, making it the first free-standing children’s hospital to be so recognized following an intensive
review of its multi-disciplinary inpatient, outpatient, and outreach programs. This effort was directed by Dr. Gail Besner, under whose leadership the Burn Program provides state-of-the-art care for children with thermal injuries, including innovative strategies to encourage outpatient treatment and reduce inpatient hospitalization. The Burn Program averages over 100 inpatient admissions annually and manages over 1000 outpatients in clinics held three times weekly. In 2009 Dr. Renata Fabia assumed the position of director of the Pediatric Burn Program.

The Bariatric Program, directed by Dr. Marc Michalsky, became an integral part of Nationwide Children’s Healthy Weight and Nutrition Program. Dr. Michalsky forged a collaborative relationship with members of the Division of General Surgery, including Dr. Bradley Needleman, an experienced bariatric and minimally invasive surgeon. Dr. Needleman provided guidance during the initial phase of the clinical program, assisting with laparoscopic Roux-en-Y Gastric Bypass procedures and the LapBand operation. In addition, joint clinical research projects were undertaken between the Divisions of General Surgery and Pediatric Surgery and the Division of Endocrinology at OSUMC, to evaluate the effect of weight reduction surgery on patients’ metabolic derangements. In 2005 Dr. Michalsky received industry funding to participate in a multi-institutional clinical trial sponsored by the FDA to evaluate the safety and efficacy of the LapBand in adolescents with morbid obesity.

In 2006 the Perinatal Care Center, under the auspices of the OSUMC and Columbus Children’s Hospital, was formed to provide expert care for pregnant women with high-risk fetal conditions. Led by Dr. Richard O’Shaugnessey, Professor of Obstetrics and Gynecology, and Dr. Donna Caniano, this program endeavored to offer high quality and seamless diagnostic, therapeutic, and counseling services for patients in central Ohio. Building on the success of this program, the leadership of the four hospital systems in Columbus (OSUMC, OhioHealth, Mount Carmel, and Nationwide Children’s) set about to create an innovative fetal collaborative that brought together all the hospital systems, including their perinatal, pediatric, and surgical specialists, to provide comprehensive fetal care. In 2009 the Columbus Fetal Medicine Collaborative became the first community-wide
fetal program in the United States, treating pregnant women from Ohio and five surrounding states.

An Advanced Practice Nurses Program for the inpatient pediatric surgical units was begun in 2002. These highly trained colleagues became members of the Pediatric Surgical Service, bringing expertise in pediatric surgical care that enhanced communication with families, reduced delays in hospital discharges, improved compliance with clinical pathways, and reduced variation in clinical care. The Advanced Practice Nurses developed special expertise in burn therapy and negative pressure management with the wound VAC system.

Advocacy for Children

The Division of Pediatric Surgery led an extensive community outreach program under the auspices of the Level I Pediatric Trauma and Burn Programs. Annually over 1000 bicycle helmets were distributed to children in central Ohio, along with education in safe riding habits. On-going educational sessions were offered to first trauma responders throughout the referral region, with special emphasis on differences in resuscitative care between adults and pediatric patients.

Service to community non-profit organizations by members of the Division of Pediatric Surgery included:

1. Dr. Caniano and Dr. Groner served on the Board of Directors of Recreation Unlimited, an organization that provides year-round camping and outdoors activities for children and adults with special needs;

2. Dr. Caniano provided service to the Columbus YWCA, including mentorship for young women with interests in the health professions and speaking to professional groups about careers in medicine; and

3. Presentations by members of the Division of Pediatric Surgery (Drs. Besner, Caniano, and Groner) to local and national groups as part of fund-raising efforts by Nationwide Children’s Hospital.
The Basic Science and Translational Research Programs

By 2010 the Pediatric Surgical Research Laboratory, directed by Dr. Gail E. Besner and Dr. David R. Brigstock, had achieved continual funding by the National Institutes of Health for work in growth factor biology. Three NIH grants supported Dr. Besner’s work in the cytoprotective and preventive effects of heparin-binding EGF-like growth factor (HB-EGF) in intestinal ischemia/reperfusion injury, while two NIH grants funded Dr. Brigstock’s investigation of the role of connective tissue growth factor (CTGF) in hepatic and pancreatic fibrosis. HB-EGF has been found by Dr. Besner’s research team to confer substantial protective effects on neonatal small animal intestine subjected to ischemia/reperfusion injury, a model similar to the deleterious effects of human necrotizing enterocolitis in premature infants. Dr. Besner collaborated with a biotechnology company, which developed the capacity to produce large quantities of high-grade HB-EGF, suitable for human consumption. In 2010 the Federal Drug Administration approved the clinical use of HB-EGF for phase I clinical trials in adult volunteers. The ultimate goal will be the prevention and/or amelioration of necrotizing enterocolitis by prophylactic administration of HB-EGF to the highest risk premature infants. Dr. Besner was awarded the Tech Columbus TopCat Award for Outstanding Woman in Technology in 2006 for her work with HB-EGF. In 2009 she was appointed to the John E. Fisher Endowed Chair in Neonatal Research at the Nationwide Children’s Research Institute, in recognition of her research endeavors.

The Clinical Research Programs

Dr. Benedict Nwomeh conducted several prospective clinical projects on communication issues with parents and patients needing emergency and elective operations. These studies included the benefits of portable computer-assisted parental education for children requiring emergency appendectomy, optimal preoperative counseling for routine elective operations, and barriers to effective communication with non-English speaking families.

Dr. Marc Michalsky was a co-investigator on several prospective multi-institutional clinical studies, funded by the National Institute of Diabetes &
Digestive & Kidney Diseases, to evaluate postoperative outcomes and metabolic parameters in adolescents undergoing weight reduction procedures. These studies, TEEN-LABS, are funded through 2012 and represent adolescent patients from several pediatric centers.

The Educational Programs

The Division of Pediatric Surgery received accreditation by the ACGME in 2002 for a one-year fellowship in pediatric surgical critical care. Since that year nine individuals have completed the fellowship, all of whom passed the examination in surgical critical care of the American Board of Surgery. In 2005 the residency in pediatric surgery received a commendation for excellence in its educational curriculum by the ACGME and the Residency Review Committee for Surgery, the only postgraduate program to be so recognized at the Columbus Children’s Hospital.

In April 2005 the Division of Pediatric Surgery hosted the 3rd International Necrotizing Enterocolitis Conference, bringing clinicians and research scientists together to address advances in research and therapy for this devastating disease of premature infants. The proceedings of this conference, edited by Dr. Caniano, were published in the August 2005 issue of Seminars in Pediatric Surgery. Four years later in April 2009 the Division of Pediatric Surgery, under the leadership of Dr. Marc P. Michalsky and Dr. Steven Teich, sponsored a multi-disciplinary international symposium, Chronic Diseases in Childhood Obesity: Risks and Benefits of Early Intervention, attended by pediatric specialists and surgeons from North and South America, Australia, and Europe. An issue of Seminars in Pediatric Surgery, co-edited by Drs. Michalsky and Teich, featured the proceedings of this conference.

In 2008 the textbook, Reoperative Pediatric Surgery, was edited by Drs. Teich and Caniano, representing the first book to focus on the surgical challenges presented by children requiring reoperative procedures.
Outstanding Service

In 2003 the members of the Division of Pediatric Surgery assumed in-hospital coverage on a twenty-four hour basis, becoming one of the first major pediatric surgical programs to offer such comprehensive attending-level service. The outpatient pediatric surgical clinics expanded to five days per week, with same-day available appointments for emergency consultations. By 2010 the outpatient burn clinics were offered three times weekly.

In an effort to streamline inpatient care, eliminate variability, and decrease hospital length of stay several clinical pathways were developed for the most common surgical conditions, including hypertrophic pyloric stenosis, intussusception, appendicitis, and gastroschisis. These clinical pathways had the additional benefit of allowing parents to be aware of their child’s expected postoperative course and anticipated discharge.

The Caniano Legacy

During Dr. Caniano’s tenure the Division of Pediatric Surgery developed a cohesive mission of excellence in clinical care, research, and education. She recruited faculty with diverse talents and facilitated programs in bariatric surgery, surgical oncology, and pediatric burn treatment. Her vision of a community-wide fetal treatment program was realized with Columbus Fetal Medicine Collaborative. At the national level, Dr. Caniano was a respected leader in the major pediatric surgical organizations and pediatric surgical journals. She was considered an expert in the field of pediatric surgical ethics, a topic in which she was widely published and a frequent invited speaker. Upon retirement in 2010, Dr. Caniano joined the field staff of the Accreditation Council for Graduate Medical Education.
Past and Future of Pediatric Surgery

Scholarship from 1950 – 2010

From 1950 – 2010 the members of the faculty in pediatric surgery, along with residents and fellows have contributed nearly 1,000 peer-reviewed publications, abstracts, and book chapters to the surgical, pediatric, and basic science literature. They have given over 1,500 national presentations at surgical and basic science professional meetings, either as podium presentations or in poster format. The senior members of the pediatric surgical faculty have been invited to deliver named invited professorship lectures in over 200 institutions in the United States, Canada, and abroad. Since 1950 the Division of Pediatric Surgery has hosted visiting scholars in pediatric surgery and related fields from all over the world, who have delivered lectures and shared in the exchange of professional expertise. Annually since 1991, the Division of Pediatric Surgery has sponsored a Boles Research Fellow, who completes a basic science project in the Pediatric Surgical Research Laboratory under the mentorship of Dr. Gail Besner. Upon completion of their research experience, many of these individuals have completed a residency in pediatric surgery.

The Division of Pediatric Surgery: 2010 and Beyond

Dr. R. Lawrence Moss, the Robert Pritzker Professor of Surgery and Pediatrics at Yale University School of Medicine and Surgeon-in-Chief at the Yale New Haven Children's Hospital, will assume leadership for the Division of Pediatric Surgery in early 2011. Dr. Moss is a graduate of Stanford University and received his medical degree at the University of California at San Diego. He completed a residency in general surgery at Virginia Mason Medical Center, a fellowship in surgical critical care at Northwestern University, where he also completed a residency in pediatric surgery at the Children's Memorial Hospital, Chicago, Illinois. Dr. Moss is a highly regarded expert in surgical outcomes research and surgical quality improvement.
A History of Healing

Nationwide Children’s Hospital pediatric surgery faculty - 2010

Donna A. Caniano, M.D. Jennifer H. Aldrink, M.D. Gail E. Besner, M.D.

David R. Brigstock, Ph.D. Renata B. Fabia, M.D., Ph.D. Jonathan I. Groner, M.D.

Brian D. Kenney, M.D., M.P.H. Denis R. King, M.D. Marc P. Michalsky, M.D.

Benedict C. Nwomeh, M.D., M.P.H. Steven Teich, M.D.
ADDENDUM

Faculty in the Division of Pediatric Surgery: 1950 – 2010

H. William Clatworthy, Jr., M.D.  Professor of Surgery (1950-1986)
Robert J. Izant, Jr., M.D.  Assistant Professor of Surgery (1955-1958)
E. Thomas Boles, Jr., M.D.  Professor of Surgery (1956-1991)
Thomas S. Morse, M.D.  Associate Professor of Surgery (1960-1980)
Blanca Kent, M.D.  Associate Professor of Surgery (1962-1993)
Denis R. King, M.D.  Clinical Associate Professor of Surgery (1978–)
Richard P. Harmel, Jr., M.D.  Associate Professor of Surgery (1981-1989)
Donna A. Caniano, M.D.  Professor of Surgery (1985-2010)
Steven Teich, M.D.  Clinical Associate Professor of Surgery (1989–)
Donald R. Cooney, M.D.  Professor of Surgery (1991-1998)
Gail E. Besner, M.D.  Professor of Surgery (1991–)
David R. Brigstock, Ph.D.  Professor of Surgery (1991–)
Jonathan I. Groner, M.D.  Professor of Clinical Surgery (1993–)
Marjorie J. Arca, M.D.  Assistant Professor of Surgery (2000-2003)
Brian D. Kenney, M.D.  Assistant Professor of Clinical Surgery (2003–)
Benedict C. Nwomeh, M.D., M.P.H.  Associate Professor of Clinical Surgery (2003–)
Renata Fabia, M.D., Ph.D.  Assistant Professor of Clinical Surgery (2003–)
Marc P. Michalsky, M.D.  Associate Professor of Clinical Surgery (2004–)
Allen F. Browne, M.D.  Associate Professor of Clinical Surgery (2008-2010)
Jennifer H. Aldrink, M.D.  Assistant Professor of Clinical Surgery (2009–)
Graduates of the Residency in Pediatric Surgery: 1952 -2010

Luis A. Diaz Bonnett, M.D. ................................. 1952-1953
Victor G. McDonald, Jr., M.D. ........................... 1955-1957
Michel G. Gilbert, M.D. ................................. 1956-1958
James R. Lloyd, M.D. ................................. 1957-1959
Blanca Kent, M.D. ................................. 1958-1960
Jacques Charles Ducharme, M.D. .......................... 1958-1960
William C. Bailey, M.D. ................................. 1959-1961
Peter K. Kottmeier, M.D. ................................. 1960-1961
Chadwick F. Baxter, M.D. ................................. 1960-1962
Loyd R. Schultz, M.D. ................................. 1960-1962
James E. Allen, M.D. ................................. 1962-1963
Alfred A. DeLorimier, M.D. ............................... 1962-1964
H. Biemann Othersen, Jr. ............................... 1962-1964
Eric W. Fonkalstrud, M.D. ................................. 1963-1964
Dick G. Ellis, M.D. ................................. 1963-1965
Marc I. Rowe, M.D. ................................. 1964-1966
Donald M. Buckner, M.D. ................................. 1965-1966
Cedric J. Priebe, Jr., M.D. ............................... 1965-1967
William Taylor, M.D. ................................. 1966-1967
William E. Bomar, Jr., M.D. ............................... 1966-1967
Arnold S. Leonard, M.D. ................................. 1967-1968
Michael Bankole, M.D. ................................. 1967-1968
Darius Naffis, M.D. ................................. 1968-1969
Jay L. Grosfeld, M.D. ................................. 1968-1970
Medad Schiller, M.D. ................................. 1969-1970
Malvin Weinberger, M.D. ................................. 1969-1971
Michel H. Nahmad, M.D. ................................. 1971-1972
Burton H. Harris, M.D. ................................. 1971-1973
Louis E. Vassy, M.D. ................................. 1973-1974
Denis R. King, M.D. ................................. 1974-1975
Ellen E. Hrabovksy, M.D. ............................... 1974-1976
Addendum

Gregory R. Hoy, M.D. .......................... 1975-1977
Victor N. Ortiz-Justiniano, M.D. .................. 1976-1978
Ahmad Toufanian, M.D. .......................... 1977-1978
Gerald M. Haase, M.D. .......................... 1977-1978
Philip J. Knight, M.D. .......................... 1978-1979
Christopher Chidi, M.D. .......................... 1979-1980
Thom E. Lobe, M.D. .............................. 1979-1980
Donna A. Caniano, M.D. .......................... 1981-1983
Karen F. Kovacs, M.D. .......................... 1982-1984
Dennis W. Vane, M.D. .......................... 1983-1985
Gary A. Birken, M.D. .......................... 1984-1986
Perry Stafford, M.D. .......................... 1985-1987
Troy M. Reyna, M.D. .......................... 1987-1989
Kurt P. Schropp, M.D. .......................... 1988-1990
Daniel Teitelbaum, M.D. .................. 1990-1992
Denis R. Bensard, M.D. .................. 1993-1995
Nisith Bhattacharyya, M.D. .................. 1994-1996
Ravindra Vegunta, M.D. .................. 1997-1999
Diane W. McCarthy, M.D. .................. 1998-2000
Marc T. Downing, M.D. .................. 1999-2001
Marc P. Michalsky, M.D. .................. 2000-2002
Cynthia A. Corpron, M.D. .................. 2002-2004
Sanjay Krishnaswami, M.D. .................. 2003-2005
Shahab F. Abdessalam, M.D. .................. 2004-2006
Jeffrey M. Halter, M.D. .................. 2006-2008
Dorothy V. Rocourt, M.D. .................. 2008-2010
Artist rendering of the Nationwide Children’s Hospital main building, to be completed in 2012.