

## Celebrating the 3,000<sup>th</sup> Peña Procedure

**By Marc Levitt, MD, director of the Colorectal Center at Cincinnati Children's Hospital Medical Center**

In Marcus Pfister's children's book, *The Rainbow Fish*, the main character is a fish whose scales incorporate all colors of the rainbow. The fish is bright and beautiful, and admired by all other fish in the ocean whose scales have no color at all. One day, the rainbow fish is approached by one of those fish who asks him for a rainbow-colored scale. Willingly, the rainbow fish gives one of his colors away. Word spreads among the other fish in the ocean, and they each approach the rainbow fish and ask to receive one of his scales. The rainbow fish obliges. Eventually, he gives away all of his colored scales, and the ocean is full of beautiful fish of all colors and shades.

For many hundreds of children, families, doctors, and nurses, Dr. Alberto Peña, is the rainbow fish. He has been passionately committed to educating others about colorectal and genitourinary problems, their treatment, and long-term management. He has done so by hosting educational courses for physicians and other medical professionals, writing prolifically about the subject, and by extensively traveling around the world to perform surgery and to teach. He has welcomed many visitors and encourages physicians and nurses from around our country and the world to come to assist in their patients' operations and care so that they will be able to better manage them when they return home, and to receive education about how to diagnose and treat future children.

He has performed more than 5,000 complex procedures and has cared for many hundreds of other patients who could be treated nonoperatively. Every patient is carefully documented in a treasure of a database, starting from the very first patient he treated. Surgeons, other doctors, nurses, trainees, parents, and children are regular recipients of a "rainbow colored scale" generously given to them by Dr. Peña throughout his career. For physicians who have experienced this graciousness, many are changed forever. To use one of his commonly used phrases, such individuals have been "bitten by the spider." Once one encounters his unique technical elegance and style there is an intense desire to try to emulate these qualities in one's own care of patients.

The path he traveled to become a major contributor to the care of children included his interactions with his mentors, from the military medical school in Mexico City, Dr. Jesus Lasoya, during his residency while training at Boston Children's Hospital; Dr. Robert Gross, Dr. Arnold Colodny, Dr. Judah Folkman (his program director during fellowship), and his co-fellow, Dr. Willis Williams, and Dr. Hardy Hendren, who he would go across town to watch at the Massachusetts General Hospital.

A most powerful influence on his career was his first born son, Gustavo. He and Rosalinda brought Gustavo into the world—and soon realized that the child was jaundiced. Dr. Losoya helped organize the trip for the family to go to Boston in 1965 to meet Dr. Robert Gross, the father of pediatric surgery in North America, who would operate on Gustavo for what turned out to be biliary atresia. Dr. Gross

showed Dr. Peña his operating room and set-up, which made him realize that pediatric surgery could be like a beautiful symphony. An exploratory laparotomy on Gustavo revealed that nothing could be done, and Gustavo died several years later. When Dr. Peña went to the bursar to pay the cost of the hospitalization and surgery he was told that Dr. Gross had paid the bill himself.

That experience changed him forever. It gave him what he likes to describe in others as “moral authority.” It led to his subsequent training at Boston Children’s Hospital with Dr. Gross, Dr. Folkman, Dr. Colodny, and many other icons in our field, from 1969 to 1971. Thereafter he returned to Mexico City as the Chief of Surgery of the International Institute of Pediatrics with “new eyes.” It was this formative period in his life that was the genesis of his intense desire to encourage others and to advance an entire field. When he assembled his faculty, he decided that each should take on an area of specialty, and he let his colleagues choose first. No one chose colorectal—so he accepted that assignment. Thus, began a process Dr. Peña always talks about whereby one takes on one subject in detail and focuses all efforts on “pulling the string,” because only once unraveled, can all secrets be revealed.

Dr. Peña’s innovations in the field of pediatric surgery have been amazing, and each seemed to build on the previous one. Taking what he had learned from Justin Kelly, a visiting fellow from Melbourne at Boston Children’s Hospital when he was there, and a trainee of Douglas Stephens, who brought with him the Stephen’s technique for repair of anorectal malformations, Dr. Peña over time became frustrated with this technique because the key steps of the approach were blind maneuvers. Back in Mexico, Dr. Peña made the posterior incision longer and longer, until in 1980 for the first time he opened the buttocks like a book, performing a posterior sagittal anorectoplasty for the repair of a male child with imperforate anus, making this a safer and more anatomic surgical treatment, one which has now been popularized worldwide. In November of 2012, he and his team performed the 3000<sup>th</sup> operation based on this concept, during a trip to help the surgeons learn the procedure in Bolivia.

In 1982, he applied this approach to the repair of a cloacal malformation, and modified that technique further several years later with the total urogenital mobilization. The innovations continued and included an algorithm for the repair of complex cloacas. The posterior sagittal approach was expanded and applied to solve other problems, such as urogenital sinus, pelvic tumors, urethral strictures, and many other conditions that to use his words are “too low to reach from above and too high to reach from below.” Dr. Peña described reoperations for imperforate anus and for Hirschsprung’s disease, using a transpubic approach (splitting the pubis for complex genitourinary problems inaccessible any other way), and a comprehensive strategy for the management of cloacal exstrophy. He began the process toward understanding the gynecologic concerns of female patients with anorectal malformations. He helped to develop a new area of interest in fetal surgery and maternal fetal medicine—the prenatal diagnosis of anorectal malformations, and applied the transanal approach to patients with severe and intractable idiopathic constipation.



And, what Dr. Peña feels is his greatest contribution is one that is nonsurgical, bowel management for fecal incontinence. This concept, has gotten thousands of children out of diapers and away from their stomas, and put them into normal underwear. Soon one will be able to compare the impact of bowel management for fecal incontinence to that of intermittent catheterization for children with urinary incontinence. Dr. Peña throughout all this time has witnessed other incredible contributions to the field of pediatric colorectal surgery. For example, treatment of Hirschsprung's disease used to be a 3-stage multimonth approach, and now, can be done in a single stage in the newborn period, often using a transanal only approach. This approach is commonly used at the Colorectal Center. Amazing technologic advances have developed in the genetics of these disorders, as well as advances in the understanding of the pathophysiology of motility disorders. .

It was Dr. Peña's willingness to take risks and not be satisfied that began this process of advancing a field. Dr. Peña loves the quote that "it is not the unanswered questions, but rather the unquestioned answers that one must pursue." He was consistently motivated to question the answers we had for problems striving always to do better for our patients. He was always willing to do "the Dirty Job," taking care of all aspects of patient care—preoperative, operative, and postoperative concerns, and always with incredible devotion. The colorectal team likes to say that a colorectal reconstruction is a beautiful 4-hour operation, but requires 96 hours of work. Perhaps most importantly, he was never satisfied with only a perfect anatomic reconstruction. His focus has always been on achieving an excellent functional outcome, which Dr. Peña has shown takes the most time and dedication.

Similar to the prospects for a baby like Gustavo, born today with biliary atresia who can undergo a liver transplantation, children with pediatric colorectal problems face a dramatically improved quality of life, thanks in large part to Dr. Peña, and his capacity for innovation and creativity, and his lifetime of service to improving the lives of children around the world.