

RAINBOW SURGICAL SPECIALISTS

Some of the nation's best pediatric surgeons, operating at one of the top children's hospitals in the country, have come together to create Rainbow Surgical Specialists, an association that significantly enhances the ability of Rainbow Babies and Children's Hospital to provide patients and families with state-of-the-art surgical solutions.

This new team approach offers a coordinated delivery of the hospital's entire range of surgical specialties, from the beginning of the intake process through to discharge. By incorporating Rainbow's focus on minimally-invasive surgery in all disciplines, and bloodless surgery wherever possible, this joint effort means more efficient surgical care, leading to safer operations and faster recoveries.

Add to this the overriding commitment to family-centered healing, and it's easy to see how the Surgical Specialists team has contributed to Child Magazine's naming Rainbow Babies and Children's Hospital #1 in neonatology, and #3 overall in its ranking of the nation's best pediatric hospitals. U.S. News and World Report ranks Rainbow best in the Midwest, and #6 in pediatrics nationwide. The Surgical Specialists' vision of creating an internationally recognized center of excellence for treating childhood disorders through surgery is becoming a reality.

The group's mission is threefold: to deliver the finest surgical care possible; to promote cutting edge surgical research leading to new and novel treatments; and to provide state-of-the-art training. Fulfilling this mission begins with including the family as part of the team, and providing the highest levels of skill and precision in the operating room, delivered by teams of surgeons including all the different disciplines necessary, using minimally-invasive approaches and state-of-the-art tools, with the support of the finest intensive care units in existence.

Dr. Alan Cohen leads the Rainbow Surgical Specialists as Surgeon-in-Chief of Rainbow Babies and Children's Hospital, a newly created post. Says Cohen, "We felt that we could better serve our needs and those of the patients and their referring physicians by working as a team. As often happens in hospitals, in some cases some of the surgeons didn't know what was going on a few rooms down the hall. So we decided to organize, meet monthly, and speak with a common voice." And this has led to the dissolution of boundaries between specialties in the operating room. "We're able to do certain things here that can't be done at other places. With different specialties working so closely, we can do more, more quickly and more safely."

Cohen cites the case of a tumor at the base of the skull, which he describes as a “no-man’s-land”, where sometimes the neurosurgeon can approach it from the top or the ENT surgeon can come at it from below. “We can attack it in a combined fashion, north and south of the disciplinary border,” he explains, “With all hands working as one, at once, we can take out tumors that can’t be taken out elsewhere, and we can make operations safer that aren’t as safe in other hands.”

“What makes this possible is the unique character of the people at Rainbow. It’s unusual to be in a group of very talented surgeons who are not fed by their egos. We’re able to accomplish more because there’s not one prima donna here. Everyone’s part of the team.” This teamwork also allows more efficient use of funds to purchase the incredibly costly equipment needed to provide top-notch services. “As the instruments we use get smaller, the support equipment gets bigger,” he explains.

NEUROSURGERY

As Chief of the Pediatric Neurosurgery division, Cohen and his partner Shenandoah Robinson are leaders in developing the field of minimally-invasive brain surgery. While Cohen’s practice focuses mainly on brain tumors and endoscopic surgery for disorders of the brain, nervous system and spinal cord, Robinson has built a thriving program focusing on the surgical treatment of epilepsy. She works on this with Rainbow’s pediatric neurologists, and on her other specialty, the surgical treatment of spasticity, with the neurologists and pediatric orthopaedic specialists.

Teaching minimally-invasive surgical techniques is a major focus, and Cohen’s team teaches the course for the American Association of Neurological Surgeons. “We have them come here and operate on plants and vegetables. Retrieving pumpkin seeds is a favorite activity around Halloween,” he says. Cohen is especially proud of the hospital’s new Minimally-Invasive Neurosurgery Lab, the only such facility in existence. He sees it as a center for developing new methods and tools, and a place to teach the latest techniques. “Someday, we plan to use virtual endoscopy, like virtual reality, in training students and surgeons. To replace the pumpkins, of course.”

ANESTHESIOLOGY

For a parent, the first question is “Who is operating on my child?” and the second is “Who is putting my child to sleep?” Division Chief Paul Tripi and a first-rate team of pediatric anesthesiologists are trained to handle the special needs of children, starting with minimally-invasive inductions, continuing with expert management of the special hemodynamic, fluid and electrolyte requirements of children, and on to early extubation. In keeping with the Rainbow mission of

family-centered care, the family goes into the OR with the patient, and rejoins their child early in the recovery process, reducing the emotional trauma and supporting better outcomes. The team also focuses on post-operative pain management, which is often neglected and vastly different for children, who often require higher doses than adults.

CARDIOTHORACIC SURGERY

The cardio team, including Division Chief Hani Hennein and Jeff Myers, can literally fix a broken heart, or when necessary build a new one using the patient's own tissue. Using minimally invasive microsurgery techniques, and bloodless surgery, the division has an unprecedented 100% survival rate, even when their smallest patients may weigh less than a pound (see sidebar.)

GENERAL PEDIATRIC SURGERY

The general surgery team is led by Dave Magnuson, Chief of Pediatric Surgery, and includes Walt Chwals, former Cleveland Clinic chief surgeon, and Bob Parry. The team uses laparoscopic surgery in hernia and appendix repair, and can remove parts of the colon laparoscopically. These minimally-invasive techniques have spurred a major shift to outpatient surgery, with safer procedures and faster recoveries. The team's venue is certified by the American College of Surgeons as a Level I Pediatric Trauma Center.

OPHTHALMOLOGY

Jim Ellis and Amy Jeffery are co-directors of the ophthalmology division, primarily an outpatient practice conducted at the various ambulatory surgery centers throughout the University Hospitals system. They do innovative procedures such as cataract surgery using intraocular lens implantation, and adjustable suture surgery for eye muscle correction.

ORTHOPAEDIC SURGERY

A large division, orthopaedic surgery is led by Chief of Pediatric Surgery George Thompson, who is nationally recognized for his research and teaching and has recently finished a term as President of the Pediatric Orthopaedic Society of North America. The team includes Dan Cooperman, Allison Gilmore, and Lawrence Haber. Mandy Weiss and Doug Armstrong will be joining the practice later in the year. The team has spoken to national audiences about its innovative scoliosis practice for repair of spinal curvatures, which includes video-assisted thoracoscopic surgery to work on the spine through the chest, as well as a growing rod program and the bloodless surgery that is so much a part of Rainbow's operations. The team is also internationally recognized for its work on hip and foot deformities and bone disorders. It participates in the hospital's multi-disciplinary spina bifida clinic.

OTOLARYNGOLOGY

Rob Sprecher is Chief of the ENT division, working with Jim Arnold, who is chairman of both adult and pediatric departments at University Hospital. They and team members Jim Coticchia and Cliff Megerian are noted for their work in image-guided endoscopic sinus surgery. Megerian, medical director of the cochlear implant program, uses microsurgery to restore hearing in patients who have never heard, and those with significant hearing loss.

PLASTIC AND RECONSTRUCTIVE SURGERY

This division, led by Jeff Goldstein, hosts the largest craniofacial center in Ohio. Working with the neurosurgery and ENT divisions, the team has helped to develop techniques using absorbable plates and screws for reconstructive surgery. This new technology avoids the problems traditionally found with metallic plates when working with the thin skin of the face, eyes and orbits. The team is also noted for its work in presurgical orthodontics for the repair of cleft palate and other congenital malformations, as well as bone distraction techniques for disorders of the midface and mandible.

UROLOGY

Jack Elder, Chief of the division and an endowed professor of urology, and partner Jeff Palmer have developed a center of excellence in minimally invasive urologic surgery and is noted for treating congenital anomalies of the urinary tract, and for their ambulatory surgery, which has advanced to the point where endoscopic nephrectomy allows for kidney removal to be done on an outpatient basis. In keeping with the Rainbow quest to be the biggest and the best, they are proud of having removed the most urologic stones in the state.

INTO THE FUTURE

In addition to traditional classroom and lab teaching of surgical skills, there is emphasis on helping physicians improve their communication skills and bedside manner, as well as community outreach on prevention – especially injury and child abuse prevention. Cohen has developed an e-newsletter titled The Cutting Edge, which will soon be available on the hospital's web site or by email. It incorporates information and training, and will offer CME credits to physicians.

From the most personal touch of a surgeon and support staff focused on the benefits of close family interactions to the remote manipulation of a microsurgery tool, the Rainbow Surgical Specialists embrace both ends of a wide spectrum of surgical techniques and approaches. At one end is the emotional support of family-centered healing, and at the other end is what Al Cohen describes as “what used to be considered science fiction.”

SIDEBAR ON HANI HENNEIN

Hani Hennein, Chief of Pediatric Cardiothoracic Surgery at Rainbow Babies and Children's Hospital, uses three R's to describe the main goals of his team. First and foremost is "results," and the team's record of 100% patient survival to date is clear evidence of excellence in the OR.

Second on the list is "relationships," including the importance of doctor/patient/family bonds, relationships among his own CTS team of nurses and specialists, and especially the camaraderie among the surgeons comprising the Rainbow Surgical Specialists. "Contrary to popular myth," he explains, "we're not all lone rangers with enormous egos. There's nothing as rewarding as being able to share with other professionals who are going through the same experiences, the same challenges."

The third focus is "research," and Hennein has a short wish list that he hopes his work and that of others will eventually provide. "I'd like to have a good artificial heart especially designed for children. I'd like to see more work on pulmonary hypertension in kids, maybe advances in gene transfer that would change an at-risk child's destiny. And I'd love to be able to put a child on bypass without opening the sternum." This last wish speaks to the growing field of minimally-invasive and bloodless surgery so important to the Rainbow vision.

Hennein marvels at the advances in his field over his ten years at Rainbow and fifteen as a cardiothoracic surgeon. "With a 4mm camera and scope, we've brought incisions down from a 3-inch gash to a tiny half-inch entry, and we're able to put it where it can't be seen. And advances in blood management mean kids over 20 pounds rarely get blood products anymore."

Size and age do matter in Hennein's world. While most adult surgery is done on a fully-grown heart's surface, the congenital defects he attacks deal with abnormal internal and external structures – a missing valve or entire ventricle, a misplaced aorta – in a growing organ. Using a brightly colored model, he shows parents how he will literally rebuild their baby's heart.