Pediatric Cardiology



Gladys J. Fashena, M.D.

The cardiovascular program at Children's Medical Center had a very modest beginning in 1939 when Dr. Gladys Fashena, one of the first clinical faculty members at Southwestern Medical College, requested permission from the director of the Richmond Freeman Memorial Clinic to establish a specialty clinic to which patients with cardiac murmurs could be referred for work-up. Dr. Fashena had seen many patients with rheumatic mitral insufficiency during her training days with Dr. May Wilson, but she had been told that rheumatic fever did not occur in Texas. Since there were a good many patients in the general clinic with murmurs which sounded suspiciously like mitral insufficiency, there was a locus for work-up. Parenthetically this worked out very well indeed and it was established that rheumatic heart disease did indeed occur in the Dallas area although rheumatic polyarthritis was uncommon.

The major importance of the Cardiac Clinic, however, had nothing to do with rheumatic disease, but with the happenstance that in August 1939 Drs. Robert Gross and John Hubbard issued a report of their first successful ligation of patent ductus arteriosus. This first step in surgical correction of a cardiovascular lesion may be considered of major importance in the rapid development of cardiac surgery and pediatric cardiology. At this time the Freeman Clinic was most fortunate to have on its surgical staff a well trained, highly intelligent and dexterous surgeon, Dr.]. Warner Duckett, who had trained in Boston and knew Dr. Gross

quite well. He not only called Dr. Gross to congratulate him on his accomplishment, but arranged to spend several weeks in Boston to learn the new technique.

It just so happened that persistent patent ductus arteriosus was one of the more common congenital cardiovascular defects and, unlike so many other congenital heart lesions, is relatively easy to diagnose because of its typical heart murmur which had been described in the literature several times. When Dr. Duckett returned from Boston a patient with a patent ductus was quickly found at the Cardiac Clinic. This was surgically closed by him without complications and the news of this curative procedure spread rapidly. Soon there were more cardiac patients than the Clinic could handle. Dr. Henry Montgomery joined Dr. Duckett's group in private practice about this time and did a lot of experimental vascular surgery in the laboratory at the newly formed Southwestern Medical School as well as serving as Dr. Duckett's surgical assistant in the operating room most of the time.

In 1945, another very important cardiovascular operation was reported from Johns Hopkins by Drs. Helen Taussig and Alfred Blalock – this time not a curative procedure, but a palliative one which relieved many of the signs and symptoms of "the blue baby sickness" or tetralogy of Fallot as it had been called by pathologists for many years. In the late 1940s several other surgeons devised somewhat different operations which achieved similar results. Surgical correction of still another congenital lesion, coarctation of the aorta, was simultaneously reported by Dr. Gross and Dr. Clarence Crafoord from Sweden. Clearly, the many advances in vascular surgery, anesthesia, and cardiology had transformed what had formerly been museum curiosities into living medical entities capable of surgical treatment and often cure in many different ways.

The diagnostic tests available to the rapidly increasing number of cardiologists and surgeons were primitive indeed compared to what is currently available. In the earliest days they were confined to a very careful medical history and physical examination, with special attention to heart sounds and murmurs, cardiac x-rays and fluoroscopy and simple electrocardiography, which yielded limited information on cardiac rhythm and chamber enlargement. In spite of the paucity of diagnostic tools, by 1953 218 cardiac operations had been performed at Children's with a very acceptable success rate.

Sources of funding for all these activities became an ever increasing problem even though most of the physicians and surgeons donated their services. Almost miraculously, in about 1950, the United States Department of Health, Education and Welfare (HEW) entered the picture by deciding that cardiovascular patients could be included in the State Crippled Children's Program which had financed the treatment of many other types of crippling diseases in children for many years. Accordingly, they sent Dr. Edythe Hershey who was the medical consultant for Region VI (Oklahoma, Texas, New Mexico, Arkansas and Louisiana) to inspect all ongoing cardiac programs in the region and to select the best one to be designated as the HEW regional cardiac program. The program at UT Southwestern/Children's was designated as the HEW supplied funds to the center for a full-time secretary, for needed equipment, and for a salary for a full-time cardiac fellow. Furthermore, a great many new patients and newly trained physicians were added to the division which further increased the capacity for research and development.

One of the first projects at this point was to develop a cardiac catheterization program which initially involved measuring pressures and obtaining blood samples from various chambers of the heart under x-ray visualization and demonstration of the course of intracardiac circulation by injecting radiographic dye and then making biplane angiograms of the dye as it traversed the heart and adjoining vessels. This required a special suite of rooms, sophisticated x-ray equipment, and special laboratory and working space for the staff. Most importantly, it required a physician director who was trained in the art and science of this new technique. This crucially important position was filled by Dr. Kathryn Willis, one of the program's own graduates who was trained both in pediatrics and internal medicine and who also had the distinction of serving a year of fellowship under Dr. Rudolph Bing, one of the pioneers in cardiac catheterization. The laboratory was completed and staffed by the mid-1950s and has served thousands of patients since.

The HEW cardiac fellowship also proved to be a useful and popular training program. The first fellow was Dr. Alvis F. Johnson, who served from 1952 through June 1954 and then proceeded to private practice in pediatric cardiology as a member of the medical school staff for 30 years. Dr. Lynn Mahony has been the director of the pediatric cardiology fellowship program since 1996. The three-year program recruits two new fellows each year. All pediatric cardiology and CVICU attendings are actively involved in the fellows' training as they rotate through the different areas of the Heart Center. The department also offers training to those who are looking to do a fourth year of fellowship.

It had been obvious for years that most congenital cardiac defects could not be repaired without intracardiac surgery. A number of different modalities had been tried and found wanting. In the early 1950s, Dr. C. Walton Lillehei and his Minnesota co-workers succeeded in improvising a heart-lung substitute using the patient's father with the same blood type as a "living pump." After several of these procedures proved successful in subsequent patients, research began in many cardiac centers both here and in England to develop a totally safe non-human heart-lung machine. All of the Dallas cardiac centers took part in this effort and, in 1957, Drs. Ben Mitchell and Milton Davis performed the first open heart surgery in Dallas at St. Paul hospital using the jointly developed pump. This was rapidly followed by similar procedures at Baylor, Parkland, and Methodist hospitals, and finally in 1964 at Children's.

During the 20 odd years which elapsed from the first closed heart procedure performed at Children's to the sophisticated open heart techniques, there was enormous growth in other areas including expansion of the Southwestern Medical School pediatric faculty and student body, an increase in patient load at Children's, and growth in the size of the house staff. In 1967, Children's moved to a new, larger building adjacent to the medical school and Parkland Hospital. The new surgical area included a special cardiac operating room and a new cardiac catheterization laboratory. More pediatric cardiologists were also needed and the following physicians spent significant periods of time as full-time members of the cardiology division: Walton Gersony, M.D., William W. Miller, M.D., David E. Fixler, M.D., W. Pennock Laird, M.D., Edgar Newfeld, M.D., Mark D. Parrish, M.D., Lynn Mahony, M.D., Nancy Ayres, M.D., Tim Feltes, M.D., Sarah Blumenschein, M.D., Ellen Weinstein, M.D., Thomas Zellers, M.D., Resai Bengur, M.D., and William Scott, M.D.

Many surgeons who opened their offices in the Dallas area were trained in thoracic and cardiovascular surgery. Many of these became part of the clinical faculty at the medical school and had surgical privileges at Children's. However, it was not until the early 60s that UT Southwestern obtained a full-time academic head of the Division of Thoracic and Cardiovascular Surgery in the person of Dr. Hugh E. Wilson, III. This exemplary individual contributed greatly



W. Steves Ring, M.D.

to the cardiovascular program at Children's by being an innovative surgeon and a gifted teacher. Subsequently, several other talented cardiovascular surgeons contributed to the program including Drs. Maurice Adam, Winfred Sugg, Roger Ecker, Mel Platt, Larry Mills, Tracy Schreiber, and Steve Leonard. In January 1978, Dr. Hisashi Nikaidoh joined the staff. He was the first experienced cardiac surgeon who limited his practice to pediatric cases and, therefore, was geographically full-

time at Children's. During the 1980s, Dr. Nikaidoh brought to Dallas several innovative procedures including the use of homografts (donor arteries) for pulmonary atresia, the Fontan procedure for single ventricles, and the arterial switch procedure and translocation procedure for transposition. In January 1988, the experienced heart transplant surgeon, Dr. W. Steves Ring, became Chief of thoracic surgery at the medical school. Shortly thereafter he performed the first heart transplant at Children's on a six-month-old infant

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Dr. William Weaver Miller served as the Director of the Division of Cardiology at UT Southwestern

1970 to 1976, followed by Dr. David Fixler from 1976 to 2004.



David Fixler, M.D.

In 1986, as a result of the generous contributions of the David Bruton, Jr., Charitable Trust and the Harry S. Moss Heart Trust, plans were formulated to develop an institute at Children's dedicated to caring for families whose children had heart disease. These plans came to realization in November 1990 when The Frank S. and Mary Jane Ryburn Heart Institute opened in the new east tower at Children's Medical Center.

When Dr. Fixler stepped down as Division Director in 2004, the division had grown to 14 faculty and five post-doctoral fellows. Annual inpatient consultations exceeded 700 and outpatient evaluations totaled more than 5,600.

Dr. William Scott, a member of the pediatric cardiology faculty since 1990, assumed the role of Division Director in 2006. Under his direction, the division continues to expand to meet the increasing pediatric cardiac service needs of the region. By 2009, there were 23 faculty members and nine fellows. Construction of a new Heart Center was under way to bring all cardiac services together on one floor of the hospital, beginning with a new 26-bed CVICU that opened in early 2009. Inpatients with cardiac disease received care in the new CVICU and a 22-bed telemetry/step-down unit. Care was provided for over 2,300 medical patients and 500 surgical patients, including 348 open cases and 10 cardiac transplants. In addition, more than 7,800 patients were evaluated in the outpatient clinics at Children's Dallas and the new Children's Ambulatory Care Pavilion at Legacy.

The division is committed to advancing clinical and basic research, with faculty involved in numerous NIH- and March of Dimes-supported projects, and is a source of education of new physicians and ongoing support of practicing physicians throughout the state.



William A. Scott, M.D., M.S.



UT Southwestern Academic College

One of the first clinical faculty members at the new Southwestern Medical College in the early 1940s, Gladys Fashena blazed trails in pediatrics. She did so even though her parents had thought her wish to become a doctor was a "wild idea." The determined daughter of a New York City cork importer turned her dream into a reality by working her way through school. First she earned a bachelor's degree from Hunter College, then a master's degree from Columbia University, and finally her medical degree at Cornell Medical School in 1934.

She joined Dallas' Baylor Medical College faculty in 1939. When Baylor moved to Houston four years later, Dr. Fashena helped inaugurate UT

Southwestern and remained until her retirement nearly 40 years later. She became a full professor in 1949 and held the title of professor emeritus after her retirement until her death in 2000.

Dr. Fashena was a pioneer in pediatric cardiology. Among the first to understand that newborns who were blue had congenital heart problems, she recruited a surgeon from Chicago to become the first Texas surgeon to operate exclusively on children's hearts. She was the first full-time member of the pediatric faculty, and during her career of practicing and teaching, she established the pediatric cardiology department at Children's Medical Center of Dallas. She was chosen as one of 10 outstanding college teachers in Texas to be designated a Piper Professor in 1974. In 1976, she became the first female president of the Dallas County Medical Society.