UROLOGY AT INDIANA UNIVERSITY

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History is the sum of the

biographies of the participants

A bit over a century ago, in 1887, the Department of Urology was established at the Indiana Medical College, a predecessor of Indiana University Medical School with the appointment of Dr. William N. Wishard Sr. as chairman of that separate division of surgery. Van Buren and Keyes text "Genito-Urinary and Venereal Disease" was published in 1873. Thereafter, interest in this field of medicine developed gradually throughout the United States. Although Van Buren received a teaching title in urology in 1877, Dr. Eugene Fuller remarked that he knew of no one in New York restricting himself to the subject before 1890, while Watson and Thorndyke cited a similar date in Boston.

THE WISHARD ERA (1887-1936)

Dr. Wishard was a man of extraordinary intellect and character. Born in 1851, he was the son of Dr. William H. and Harriet Newell Wishard. Dr. William H. Wishard was a rural practitioner in Greenwood, Indiana. He, William N. Wishard, attended local schools in Indiana, followed by matriculation at Wabash College. He was accepted at the Indiana Medical College where he received a medical degree in 1874. Apparently feeling his instruction had been inadequate, he continued his studies at the Miami Medical College in Cincinnati, Ohio, where he earned a second M.D. degree in 1876.

Following a short period of practice with his father, Dr Wishard was appointed Superintendent of the Indianapolis City Hospital and Dispensary in 1879, the hospital now memorializing his name. He inherited a disreputable, physically run-down post-

bellum hospital. Together with vastly improved staffing, a rehabilitated physical plant and founding of the second nurse training program west of the Alleghenys, he had a functional medical facility for the indigent within eight years. It was here in 1880 that he observed an autopsy on an old gentleman admitted in acute urinary retention, who died after a weeks catheterization. The autopsy revealed a pedunculated middle lobe prostatic hypertrophy. Dr. Wishard was struck with the possibility that this could have been removed relieving the patient of his predicament. This marked his beginning interest in urology.

In Indiana Dr. John Chambers, a graduate of Belfast University, was interested in genitourinary problems to a certain extent, but as a side issue of his practice in the early 1880's. There was however no one devoting his time exclusively to this field until Dr. Wishard declared his intention to do so in 1887. He was offered a teaching position in surgery at Indiana Medical College, leading to chairmanship in the department in due time. This he declined requesting that he be given the chair in genitourinary surgery. He met scant enthusiasm to his wishes but the position was granted. In 1887 he studied in New York with Carpenter, Sturges, Hanks, McBurney Currier, Sands, Bull, Fuller and the elder Keyes. This was followed by study in England, France and Germany. Back in Indianapolis he opened an office for the practice of genitourinary surgery, which office is believed to be the oldest continuously operated practice of urology in the United States. At the same time he became the professor of this

pioneer department in the Indiana Medical College. He held the chairmanship of this department for 49 years until 1936. This also may be a record of sorts.

In 1889 he became a member of the recently formed American Association of Genitourinary Surgeons (AAGUS), serving as its president in 1905. In 1891 he read a paper on prostatectomy at the AAGUS and in 1892 published a paper on "A New Method of Removing the Lateral Lobes by a Median Perineal Incision" **in Cutaneous and Genitourinary Disease** (Feb. and Dec., 1892). In 1890 he used a rectal speculum through a perineal incision by means of which an actual cautery was applied to the prostate, probably the first visual endoscopic use of the cautery for this purpose. He was the first to call attention to subsequent atrophy of the prostate after cautery. In 1900 he devised a cystoscope with an adjustable cautery blade of the Bottini type. His soft nosed rubber catheter, elbow ureteral catheter and flat prostatic catheter remain in use today.

Dr. Wishard, apart from his professional activities, was influential with the legislature in matters of public health and education. In tandem with Indiana University President William Lowe Bryan, Dr. Wishard helped to establish the present site of the Indiana University Medical School. He was a strong advocate of organized medicine, serving as president of numerous local medical organizations. In 1904 Dr. Homer G. Hamer became associated with Dr. Wishard in practice and was appointed to the Department of Genito- Urinary Surgery. Dr. Hamer served as

president of the American Urological Association (AUA) in 1929 and of the AAGUS in 1942. He was among the founding group of the North Central Section of the AUA. In 1918 Dr. Henry O. Mertz joined Drs. Wishard and Hamer in practice and later became the second chairman of the Department of Urology at Indiana University on Dr. Wishard's retirement in 1936. Dr. William N. Wishard Jr., on completing urologic training at the Massachusetts General Hospital, joined his father's partnership in 1928. Other early urologists were Drs. William Garshwiler and A. Ferd Weyerbacher, both professors on the teaching staff of Indiana University School of Medicine and whose influence was widely felt in the development of the department and specialty. Both of these groups practiced privately at the St. Vincents Hospital early on, with the Wishard group moving their main base of operation to the new Methodist Hospital in 1908. Dr Earnest Rupel, who obtained his urologic training at the Methodist Hospital, joined the voluntary University staff in 1930. He was a skilled, resourceful surgeon and faithful instructor. He was an innovator who was influential in the development of one stage suprapubic prostatectomy. Up to that time the prostate was removed for benign obstruction in two stages, the first being a preliminary suprapubic cystostomy, followed by weeks of hospitalization before the gland was enucleated through the same cystostomy opening. The one stage prostatectomy greatly shortened the hospitalization confronting these patients, and significantly lowered the morbidity and perhaps mortality associated with prostatectomy. He served as president of the North Central

Section of the AUA in 1940.

The Nature of the Practice

Until the 1930's urologic practice was heavily weighted toward venereal and prostatic diseases. No satisfactory treatment in the modern sense existed for gonococcal, gram negative bacillary and treponemal infections. The toll was heavy in urethral stricture, renal wastage and complications of advanced syphilis. Treatment of gonococcal urethritis for example consisted of urethral irrigation with potassium permanganate and urethral dilation for subsequent stricture of the urethra. Out-patient management was predominant in the practice. One must wonder what proportion of the urethral stricture population was the consequence of treatment. Many urologists practiced syphilology as well. Indeed, one of the leading publications, **"Urologic and Cutaneous** Review" published not only urologic papers but also dermatologic and venereologic as well. Management of prostatic obstruction dominated urologic efforts of that period. Benign prostatic obstruction was managed predominantly by suprapubic enucleation. Perineal prostatic enucleation was practiced to a certain extent by Wishard and his group, but not to the degree that the eastern followers of Dr. H.H.Young did and not by the same surgical technique. Malignant obstruction was simply relieved by suprapubic cystostomy, with no means available for cure or palliation of the malignant process. The radical prostatectomy for malignancy, while in its early development in

the east, was not used in the midwest. Transurethral prostatic resection was developed in the 1930's and became the most frequently utilized method for relief of prostatic obstruction, especially in the midwest. Dr. Homer Hamer was the acknowledged master of this technique in Indianapolis. The spectrum of renal disease treated before the '40s was different from that following the Second World War. End stage renal deterioration owing to unrelieved obstruction and infection was not uncommon. No satisfactory anti-bacterials existed prior to the 1930's. Methenamine and mandelic acid were the only drugs used widely in an effort to control urinary infection. With the introduction of sulfonamides in the 30's the picture began to change. First prontisil then neoprontisil, sulfanilimide, sulfathiazole,-diazine, and -acetimide appeared successively to alter the steady inroads of infection. Also of importance in the genesis of infections was the primitive use of the catheter for relief of obstruction. Most prostatic patients were highly obstructed, infected and many in azotemia. It was rather common to encounter chronic urinary retention of several liters due to prostatic obstruction. Catheter drainage for prolonged periods prior to prostatic surgery was common, the objective being to lower the blood non-protein nitrogen to normal or near normal level before undertaking the operative removal of the adenomatous growth. Catheters were re-used after boiling, connected to rubber tubing leading to an open gallon jug on the floor. Contamination was inevitable. Periurethral abscess and "watering pot perineum" were common afflictions. Tuberculosis of the urinary tract was rather

frequently encountered. Reconstruction of obstructed segments of the urinary tract was seldom undertaken. Nephrostomy was commonly employed as was nephrectomy where reconstruction today would prevail.

Urologic progress was at a standstill during the war years, with manpower shortage precluding research. The modern antibiotic explosion began in 1943 with the introduction of penicillin, available only to the armed forces, until 1946, when small quantities appeared on our service for the critically ill. Streptomycin soon was distributed to slowly alter the management of renal tuberculosis. Infections in general were much better controlled and measures to correct obstructing segments became more feasible.

Interest in urologic oncology expanded in the late 40's, highlighted by Nobelist Dr. Charles Huggins' great contribution to the understanding of prostatic dependence upon androgen for growth leading to androgen deprivation in the management of cancer.

THE MERTZ YEARS (1936-1953)

Dr. Henry Oliver Mertz was advanced to the Chair of the Department of Urology by Dean Willis D. Gatch in 1936 succeeding Dr. Wishard Sr. He was born in Roundhead, Ohio in 1884, and received his medical degree at Indiana Medical College in 1908. He practiced general medicine in LaPorte, Indiana, where he

developed an interest in genitourinary diseases. He attended the teaching clinics of the leading urologists in Chicago and made observations of his own in early publications dealing largely with uropediatric disorders. Such signal enterprise in urology attracted the attention of Dr. Wishard Sr. who persuaded Mertz to join Dr. Hamer and himself in their practice in Indianapolis in 1918. He was soon thereafter appointed to the urologic staff at Indiana University into which had been merged Indiana Medical College.. This alliance of three productive clinicians formed a nucleus, together with Drs. Garshwiler and Weyerbacher, for urologic education in the 20's and 30's. Dr. Mertz tenure as chairman was characterized by a harmonious collegiality among his staff and statewide urologists. He barely touched our own era, but in many ways affected our careers. He spanned the shift from the largely descriptive and cognative, to research oriented interventional urology with an enthusiasm that was infectious. He repeatedly taught by citing his own errors, a mark of humility not lost on residents and colleagues. He was respected for his firm fairness and adherence to high ethical standards. His notable contributions were in uro-pediatrics which had attracted him in his early practice. With the opening of the James Whitcomb Riley Hospital for Children in 1924 a pediatric population was provided for his enthusiastic study. He was among the founding group that later became the Society for Pediatric Urology. He maintained an exhaustive data base in longhand of all the children that were seen at the Riley Hospital for genitourinary disorders from which a number of descriptive manuscripts were

drawn. Early in his tenure as chairman he sought establishment of a residency program at the University Medical Center (IUMC). In this he was frustrated by the manpower restrictions imposed by the ensuing World War II. Throughout the history of IUMC, urologic patient care was under the supervision of Drs.Wishard, Mertz and staff. In-house care was the responsibility of the surgical house staff assigned by Dr. W.D. Gatch, Chairman of the Dept. of Surgery. This system had serious shortcomings both at the staff level and in-house liaison. Surgical residents who were the first echelon in the patient admission process were less interested in the genito-urinary patient and therefore arranged few admissions from the outpatient clinics that were not urgent. The Medical Directors Office coordinated all admissions, whether by direct referral from statewide medical doctors or from outpatient clinic physicians. Aside from the supervision of surgical house officers in urologic fundamentals, Dr. Mertz and staff were involved in what by todays standards was an intensive undergraduate student instruction schedule. The current urologic curriculum for medical students calls for sixteen formal lecture hours. In the Mertz era medical students attended more than thirty hours of instruction. The student of that day attended lectures during his Junior and Senior years each afternoon, all afternoon. Clinical clerkships were confined to the morning hours. In addition to Drs. Mertz, Hamer, Weyerbacher and Wishard Jr. were lecturers James F. Balch Sr., Ernest Rupel, Walter P. Morton, John M. Young, William Tinney, R. Don Howell and John D. Hendricks. These lectures together with clinical clerkships

comprised the undergraduates urologic education, and a stimulating one it was. In 1946 at the conclusion of the War, Dr. Mertz was given the authority to establish an Indiana University urologic residency. I was appointed the first resident of this program, coming to the position with eighteen months training in general surgery at the Cincinnati General Hospital, after interneship. I obtained my degree in medicine at Indiana University School of Medicine.

Residency Startup

Residency training in urology throughout the United States had impetus following World War I, but the real multiplication of training centers followed the formation of the American Board of Urology in 1935. Prior to that date many practicing urologists had preceptorial experience only. No general surgical training was necessary although many general surgeons included urologic problems among their regular practice. The growing influence of the Board discouraged both preceptorial training and the practice of urology by general surgeons. Certain notable exceptions to this notwithstanding, this is the modus operandi today.

At the outset the residency called for one appointment each year. The residency period was two years. No preliminary surgical training was required. Patient responsibilities extended to the Long, Riley and Coleman Hospitals. The Cold Springs Veterans Hospital was not included. Urologic patients at the Cold Springs were under the care of contract surgeons, in this case Dr. Rupel

and Dr. John Young. At the IUMC staff coverage was drawn from Dr. Mertz volunteer staff on a scheduled calendar, usually in four month periods. These volunteers met with residents at outpatient clinics where consultations on both inpatients and outpatients were completed, surgeries scheduled and student, resident teaching carried out. Early on, scheduled surgeries were supervised by visiting staff. As the resident became more experienced, staff supervision waned. Dr. Mertz regularly conferred at Friday evening dinners for residents on problems of the week. These conferences drew students and internes as well as residents and were informal, freely entered into and friendly. He encouraged clinical research, especially in uro- pediatrics. Dr. Mertz shared pediatric staffing with Drs. Howell and Hendricks. Adult supervision was shared among Drs. Rupel, Wishard Jr., Morton, Young and Balch. The latter had joined Garshwiler and Weyerbacher after training at Philadelphia. Among the volunteer staff Dr. Ernest Rupel proved to be one of the more influential. He was notably reliable in his attendance on consultations and at surgery. His private practice did not prevent him from spending many instructive hours with his residents. He had a good sense of humor, presaged by a particular twinkle in his eye. Dr. James Balch Sr. also was an accomplished surgeon. We benefitted from his consultations, though we had to compete with his devotion to the game of golf. He was assigned adult clinics and surgery. Dr. Walter P. Morton also shared consultations in the adult group. Walter was a tall husky fellow whose hobby was bow hunting. He practiced solo without

receptionist or nurse in his office. Gadgets werehis forte. He invented a stone extraction device that included a post-extraction stenting catheter which was in use many years. Walter's imagined penury was a source of much amusement. He parked hiscar as much as a mile north of his office in the Hume Mansur Building in order to avoid parking fees.

Dr. R.Don Howell was among the younger and more progressive consultants assigned pediatric duties. Conscientious and thoughtful in his service, he was sorely missed when he succumbed to pulmonary malignancy early in his career.

Dr. William N. Wishard Jr. was a perennial supporter of the department his father founded. Shortly after the residency was established Bill suffered a disabling auto accident which somewhat limited his attendance at surgery, however he regularly attended our clinics, guided us wisely and extended his enormous influence and prestige to our training program. He was a long standing member of the Admissions Committee of the medical school where I had an opportunity to observe and appreciate his devotion to the tasks of this important body. He served the North Central Section as President in 1951, was a member, secretary and then President of the American Board of Urology and was President of the American Association of Genitourinary Surgeons in 1965-1966. The Guiteras Medal, the highest honor bestowed by the American Urological Association, was presented to him in 197_. Bill was a faithful churchman and served his congregation as elder for many years.

The Physical Plant

In 1946 adult patients were bedded in the Long-Clinical Building, an open ward complex essentially unchanged from that at the hospitals opening in 1914. True the Clinical Building was added as a WPA project during the Great Depression, but none of the urologic patients were housed in that section. The 24 private rooms in Long Hospital served the Medical School's volunteer staff primarily. The private facilities were doubled in the '50s by conversion of the interne-resident quarters on the sixth floor Clinical Building to single and double rooms. Few private urological patients were admitted during my residency. The Riley Hospital was also an open ward hospital in keeping with pediatric units nation-wide. The urologic out-patient clinic adjacent to the Radiology Department on the ground floor of the Clinical Building served as departmental headquarters although there was no office, secretary or other amenities. Radiological equipment was of museum vintage. It was both amusing and frightening to observe our anesthesiologists "pouring ether" while an open spark gap rectifier operated during X-ray exposures. That together with the noisome spinning of the rectifier led to an understandable reluctance on the part of anesthesiologists to be our partners in endoscopic surgical procedures done in the clinic. Fortunately we never had an explosion. Ether is heavier than air, while the rectifier was near the ceiling. There were no cystoscopic facilities at the Riley Hospital, necessitating

transport of the children through the tunnel for investigation in the adult clinic. Open catheter drainage into floor bottles was still universal. Air conditioning was still in the future. Stifling heat in the operating room during the summer was relieved by rotating fans. The suprapubic prostatectomy was favored by many of our consultants, in one stage or occasionally in two stages with a period of cystostomy drainage preliminary to the second stage. Transurethral prostatic resection was becoming the preferred method of management of prostatic obstruction but was a difficult undertaking in the facilities available at the residency outset in 1946. Upgrading in this area was of first importance.The prevalent philosophy among the senior clinical faculty was that of a part time, uncompensated voluntary clinical staff whose responsibilities were a manifestation of service to the indigent community as well as to the teaching institution. This was a noble stand and faithfully served by many of the voluntary faculty. It did not, however meet the needs of the indigent patients or the student body. The necessary accompaniment of a heavy lecture instruction together with limited clinical attendance was simply inadequate, leading to delayed management and often minimal contact between staff on the one hand and student, interne and resident on the other. This was especially true if the teaching hospital was not oriented toward servicing a significant proportion of the private patients of the teaching faculty.

The weakness of the voluntary staff system became evident during Dr. Gatch's deanship. His plans to supplement the

voluntary staff with full-time staff appointees were frustrated by a penurious legislature as well as a budgeting system based on the Bloomington campus. While Dr. Gatch was able to acquire full time heads of the Coleman Women's Hospital and the Riley Hospital before the War, it largely remained for Dean John D. VanNuys to develop the full time staff. The voluntary urologic staff had few beds at IUMC available for their private patients, the endoscopic suite was inadequate for their needs hence they chose not to use the Long Hospital as a base of operation. Clinical staffing of indigent patients was sluggish, on a weekly basis unless emergent, fostering long hospital stay. Inpatient hospital charges were on a per diem basis of $15. This figure seems incredibly low in comparison with todays multicharge system, but was a source of great distress to the county trustees state-wide who had to pay this fee for long term indigent hospitalizations that seemed out of keeping with their own local practices. Staff interest and experience in urologic invasive procedures for cancer was timid and deficient. Neoplasia of the prostate and to some extent the bladder was treated inaggressively. To enter the peritoneum at surgery was inadvertent. The flank (retroperitoneal) approach to renal neoplasia was the preference of virtually all the staff. These concepts were recognized as outmoded and with the concurrence of the staff we enlisted the support of Dr. J. Stanley Battersby who generously guided us in the more radical transperitoneal approach to cystectomy and its associated bowel diversionary tactics. Plastic reconstruction of the genitalia in such congenital disorders as hypospadias was not

very successful. Indeed Dr. Gatch, in 1938, suggested that something had to be done to remedy hospital stays of one year in one such case! Improvement in this area was on a self-starter basis in my residency as there was limited experience at the staff level. Radical prostatectomy for cancer was not done by the attending staff. To correct this hiatus I attended surgery at the Henry Ford Hospital in Detroit where Dr. John Ormond generously demonstrated the technique. He was one of the few midwestern urologists skilled in this procedure. A gracious, helpful and encouraging instructor he was.

Full Time Staff

In 1948 a fundamental change occurred. Commitment to enhancement of the full time clinical staff by Dean John D. VanNuys was initiated shortly after his appointment in 1946. At that time I was completing my prescribed residency period and was at the point of choosing between entering a private group practice or accepting the position of Instructor in Urology full-time within the University. I chose the latter as the more challenging course. My original contract was a salaried one with no private fees accruing to the staff. My salary was $8,000. per year. In due course this arrangement was changed to a salary plus limited private fees. The limitation of fees was effectively achieved by the lack of hospital beds.

My duties at the outset were to better organize the departmental infrastructure in patient care and teaching, and to

improve utilization of the clinical material attracted to the Medical Center. I increasingly assumed the management of the clinical affairs of the department, while Dr. Mertz remained in the administrative chair. An ongoing schedule of one resident appointment each year filled our needs at first. With the addition of the Veteran's Hospital in 1952, later the Marion County General Hospital in 1965 and the Methodist Hospital in 1977 to our teaching responsibilities, residency positions increased from one to our present roster of twelve. Where a two year training period was required after interneship, a two year pre-urology surgical period is preliminary to a four year urological term. One year is devoted to research. From the outset of the residency we have been fortunate to attract highly motivated, well oriented scholastically superior candidates. It would be impossible to overestimate the importance of these people in the development of the department and the quality of the program. They, as residents, were and are the first echelon in the patient care and teaching agenda. A number of these men and women have gone on to leadership in their own communities. In the early years our research efforts were limited to clinical reviews and reliance on the voluntary staff for consultative coverage continued diminishingly. Dr. Mertz announced his retirement in 1953 whereupon I was named Professor and Chairman of the Department.

THE GARRETT YEARS (1953-1972)

In the five year period on the full-time staff prior to

appointment to the chair, we had moved slowly toward a more functional service in a number of ways. Teaching at the resident level was strengthened by joint sessions with the radiology department in a weekly diagnostic "Pyelogram Conference". Monthly "Black Book" consisted of a review of the months inpatient experience with emphasis on mortality and complications, attempting to establish cause and eliminate both. A monthly evening conference was devoted to a clinical research project undertaken by the residents. From these research projects came some major investigative efforts. Residency programs at the Marion County General Hospital and at the Methodist Hospital participated in these teaching sessions anticipating their incorporation in the University program. Participating in the consultative service at the Marion County General Hospital convinced me that the General Hospital Urology service should be part of the University program, however a short interim period of alliance with Methodist program was necessary before merging with the University.

This interim period was requested by several of the voluntary staff who felt that a Methodist alliance would mutually strengthen both programs. This did not prove to be the case. The primitive Urology clinical facilities were improved by expansion into the east wing ground floor of the Clinical Building. Cystoscopic equipment was upgraded. We were on the move! A departmental office was made available in Fesler Hall. With remodelling of Emerson Hall after occupation of present VanNuys Hall, our departmental offices were moved to Emerson where it

remained until the University Hospital was opened. One matter persisting throughout my chairmanship was that of a dearth of adult hospital beds. While not a critical problem in the early years of my watch, it became an increasingly irritating one, affecting both service to referring physicians and recruiting efforts. Oft times admissions, both indigent and private were delayed up to a month. With the very active hospital building programs throughout the city and state we at the Indiana University Medical Center were left out. The one exception to this was the expansion program at the Riley Hospital largely budgeted by the Riley Memorial Foundation. Even the Riley expansion program had its frustrations.The operating suite was delayed in its opening for more than a year while eight successive floors were laid in the suite before electrical conductivity was achieved to avoid explosion of anesthesia gases. It was not until the Krannert Family made a generous grant to the University that the University Hospital, in planning stages since 1953, finally opened its first phase in 1972. In 1952 the Veteran's Hospital on West Tenth Street was opened under the guidance of the Dean's Committee. In anticipation of this added patient load and teaching capacity two residency applicants were appointed in 1952 and thereafter. As stated before, our good fortune in strong residents enabled us to utilize the Veterans, Riley and Long patients to the best advantage in our teaching assignments, as well as furnishing good clinical care. Dr. Charles Van Tassel and Dr. J.H.O.Mertz were among these excellent people. About that time these men and I felt the need

for a regular coming together of Indiana urologists, and initiated the Indiana Urological Association, which has met on a semiannual basis since that time. Both Drs. Van Tassell and Mertz Jr. have joined offices in Indianapolis following their residencies and have had teaching positions in our department. Another outstanding trainee was Dr. Walter Roscoe Vaughn. Roscoe was a tireless worker, conscientious instructor of students and an enthusiastic supporter of the retropubic prostatectomy just then coming into use. He carried his skills to Vincennes, Indiana.

With the expansion of the residency an extraordinary group of residents served in succession. Dr. Edwin N. Kennedy, Dr. Robert K Rhamy, Dr. Don Yurdin and Dr. Paul C. Peters each adding a strength of his own to invigorate the program. Rhamy went on to join me on the staff at the University from which he was recruited to Vanderbilt where he was made Chief of the Division of Urology in 1964. Dr. Paul Peters has had a distinguished career as Chairman of the Department of Urology at the Southwestern Medical School of Texas. He is a past president of the American Urological Association and has been a leader internationally in our specialty. In his early years in the department at Southwestern he took a very bold stand in renal transplant, pioneering that procedure and contributed significantly to its acceptance. While a resident Peters demonstrated an inquisitiveness that led me to regret that we had no research lab available to us. In 1990 he was awarded the Distinguished Alumnus Award by the Indiana University Medical

School Alumni Association. Dr. Rhamy also was interested in renal transplant. He worked with Drs. Soper and Lukemeyer in hemodialysis while on our staff and conveyed his expertise to Vanderbilt where he organized the Renal Transplant Service. Dr. James Carr, who came to us from the University of Cincinnati, was another resident who made strong contributions to our program. He was interested in pediatric urology and collaborated in the initiation of our ureteral reimplant efforts. His droll sense of humor was especially welcomed.

Dr. Dan Newman was one of many Evansville natives who, after medical school graduation, entered our residency program. He too was intrigued with uropediatrics, but has achieved nation-wide respect for his work with electro-hydraulic lithotripsy. Dan and his contemporary, Dr Earl Johnson, usually provided a running dialogue which kept us well entertained.

It may be well to mention my own somewhat anomalous position from the outset of my chairmanship. I was barely out of residency when much of the responsibility of leadership fell on my shoulders. Yet I was but a wee step ahead, if that, of some of my residents. A fellowship between us grew up that certainly defied the "Herr Professor" atmosphere. Indeed, when a Visiting Professor from New York was asked to comment on the residency program his remarks were to the effect that perhaps my relationship was a bit too low key. I am not certain that I ever corrected that aspect nor am I certain that I ever wanted to.

In 1954 the residency term was increased from two to three

years, and in 1959 we started to accept three applicants into the program.

Investigation

During the decade 1955-1965 our investigations were directed in several channels. Dr. Rhamy, who joined the faculty in 1957, studied renal failure, first with the medical nephrologists, hemodialysis being in its infancy, then the surgical problem of renal transplant. Until tissue typing and immunosuppression with cortisone and azothioprine transplant rejection was inevitable. Therefore Rhamy did not transplant at IUMC, but later assumed the leading role at Vanderbilt in this field. In 1959 we were assigned a laboratory in the Cancer Wing of Riley Hospital. Rhamy and I initiated studies on bladder cancer genesis in rats. In my own area of interest much progress was made. Bladderpathophysiology was given a boost by new radiologic methods ofstudy.Working with Dr. J.A. Campbell a new cine'radiographic techniquewas used to evaluate voiding abnormalities in children. The phenomenaof vesico-ureteral reflux and bladder outlet obstruction wereevaluated. A radiographic method of motion picture recording radiopaquemedia being voided from the bladder gave dynamic expressions of various clinical problems, some uninvestigated prior tothisstudy. Manuscripts based on these studies were well received. Duringthese studies we collaborated with the Liebel-Flarsheim people indeveloping the C-arm radiographic cystoscopic table, useful in fluoroscopic

manipulations at cystoscopy. As a part of these studies weinitiated urodynamic recordings further elucidating bladder pathophysiology. Another area of investigation that pointed to the futurewasthat of grey scale ultra sound in evaluating renal mass lesions.Dr. David Schlueter, senior resident, collaborated with the ultrasoundphysicists at the University of Illinois Champaign to recordsome of the first images of this nature in 1971. These physicistslater came to IUMC and have participated in the formation oftheICFAR organization.

The Residency

The program up to 1953 consisted of two years urologic training, preceded by one year interneship and one year in general surgery. At this time the period in urology was extended one more year. Urologic residencies at the Indianapolis City Hospital and at the Methodist Hospital had been established for many years. From 1950 the City Hospital program became increasingly allied with the University though not formally affiliated. Teaching conferences at the University were regularly attended by City Hospital urologic residents and joint staffing by myself and later Dr. Rhamy led to a close relationship. After a short affiliation with the Methodist program, it was agreed that the merging of the City **(then Marion County General)** program with the University was a more logical alliance. This was forthwith accomplished. The Methodist program remained independent until 1976 when it too became part of the

University training program. The combined program of urologic training as it exists today thus includes the University and Riley Hospitals, the Wishard Memorial Hospital, the Roudebush VA Hospital and the Methodist Hospital of Indiana.

In the early 1950's a visiting professorship endowed by the Ball family of Muncie, Indiana was initiated within the Department of Surgery. Our own department was invited to share in this enrichment. It would be difficult to overvalue this development in the maturation of our program. We were a very insular program, vastly broadened by the visits of such authorities as Drs. Wyland Leadbetter, Willard Goodwin, John Lattimer and David Innes-Williams, each of whom brought us new techniques, insights, contacts and lasting friendships. These professorships have now become commonplace, but were at the time a rare contribution to our teaching schedule. Also the department became more sophisticated with both staff and resident travel to regional and national urologic meetings.

John P. Donohue

In 1964 Dr. Rhamy, who had been with us for seven years, was offered the chair in urology at Vanderbilt, which he accepted. After a careful canvass of outstanding young men nationally we were fortunate to persuade Dr. John Donohue, a graduate of Cornell Medical School, to join us in 1965, following his residency with Dr. Leadbetter at Massachusetts General Hospital. With his arrival the department began another period of impressive progress. Donohue was interested in renal

hypertension. He embraced and developed renal vascular reconstructive techniques which were dominant at that time in this peculiar hypertensive population. His first publication at Indiana was a report of his laboratory work in reno-prival hypertension. Renal transplantation soon occupied much of his time and effort from 1967 until 1972. Early in his tenure I assigned him the responsibility for adrenal surgery in line with his interest in hypertension. In this capacity he worked closely with Dr. Weinberger in the Medical Department and the endocrinologists as well to establish a significant clinical body of surgical patients under our care. I was freed to pursue uro-pediatric clinical problems, which, in addition to vesico-ureteral reflux, included renal neoplasia. Blending of radiotherapy, chemotherapy and surgery was still in a fluctuating state in the management of Wilms tumor. Survivorship of these patients would soon double in one of the more dramatic developments of this period with the exploitation of chemotherapy.

Both inpatient and outpatient loads steadily increased at all institutions. Dr. A. David Beck was recruited to share this load. David was a transplanted New Zealander who had completed his training requirements in Auckland, but came to the United States for further experience and to escape socialism. He first served a fellowship with Dr. Victor Marshall at New York Hospital and then joined Dr. Bill Milner at Albany. He came to us in 1970 and proved to be a superb teacher and surgeon. The Veteran's Hospital was Beck's primary base, but he saw increasing service

at the University and Marion County General Hospital. David had done some very good and original work with microsurgery on sheep embryo kidneys, which I hoped he would be able to continue with us, but his clinical obligations soon precluded such activity. As with Donohue, Beck's outside experiences were invaluable, and modified our approach to stone and prostatic surgery. Unfortunately for us his capabilities were widely known, and he was soon recruited to the Southern Illinois Medical School at Springfield as Chief of Urology.

At this time two facts became clearly evident to me. First, my hearing was fast approaching unserviceability, making the duties of chairmanship extremely difficult. Second, Dr. Donohue's reputation as an outstanding young urologist was becoming such that I feared we would lose him to one of several medical schools that were offering him their urologic chair. With these thoughts in mind, I approached the Dean, Dr. Glen Irwin, with the proposal that I step down from Chairmanship, and that Dr. Donohue be strongly considered as my successor. Donohue's succession to the Chairmanship of the Department of Urology took place in September, 1972, on my resignation, much to my own relief and gratification.

THE DONOHUE YEARS (1972-)

Donohue's ascension to chairmanship was preceded by his appointment to professorship. The transition was a very smooth one. Often the presence of a former chief (myself) leads to

intolerable friction. This did not happen under Donohue. His early touch led to a smooth transition.

The case load at the University, Riley, VA and Marion County General exceeded the ability of a staff of three to properly oversee management. An increase in staff was an early Donohue priority. By utilizing third party payment sources our faculty recruitment proceeded successfully with the addition of Drs. Arnold Melman and Michael Thomas in 1974. Melman came to us from UCLA where he had completed residency. Arnold's interests lay in the area of surgery of sexuality which had received little attention here except for correction of congenital abnormalities. He was also given the VA hospital as a primary responsibility and maintained a presence at the University. Mike Thomas, having just completed his residency here, had proven to be a superior clinician. He shared in the adult and pediatric case load. Mike was not deeply interested in research and teaching so in 1977 found his role in private practice in Elkhart Indiana where he is today. Melman, after four years with us, moved on to Mt. Sinai, N.Y. Dr. Laurence Gott, on completing his residency with us stayed on the staff from 1976 until 1978. He was another excellent clinician contributing importantly with his teaching enthusiasm. Larry left us in 1978 for practice in Barrington, Illinois.

During the period 1972-1978 Donohue led the transition from solo geographic full-time practice in the University setting to corporate practice which greatly unified effort, availed us of

greater recruiting attractiveness and made possible the expansion of our staff from three to its present level of nine surgeons. This in turn made it possible to closely supervise resident patient management in all our institutions and enter more extensively our laboratory investigations. The importance of this transition, in my opinion, cannot be overestimated.

Donohue, whose major commitment from 1965 to 1972 had been renal transplant, realized on assuming the chair in urology that the time demands of the transplant service did not allow a broad commitment to other areas of clinical urology. Together with the Nephrology Division of the Department of Medicine he supported the formation of a separate renal transplant service with urologic participation in donor kidney harvesting. This has proven to be a satisfactory approach and has allowed development of other clinical areas.

Early on the problem of testis neoplasm intrigued Donohue, especially the surgical aspects of retroperitoneal lymph node dissection(RPLND). Somewhat later Dr. Laurence Einhorn was pioneering the chemotherapeutic use of cis-platinum in metastatic testis neoplasia. The Einhorn-Donohue team soon were to become international leaders in this area of oncology, being chiefly responsible for the dramatic improvement in survivorship with testis tumor. In evaluation of the best approach to retroperitoneal node dissection, evidence for tumor crossover led to Donohue's development of bilateral RPLND by the expedient of ligation of the inferior mesenteric vein enabling mobilization of

the pancreas and exposure of the entire retroperitoneal compartment up to the crus of the diaphragm. In the world's largest experience with this problem here at Indiana University the role for RPLND has been established. This interest in RPLND has led to the development of a number of modifications which have helped standardize the procedure and lower morbidity. Of particular significance was the development of the nerve-sparing RPLND which preserves the ejaculatory mechanism.

Faculty Recruitment

The year 1978 was one of significant progress within the department. Three superb newcomers joined us. Dr. John Mulcahy via the Mayo Clinic and the University of Kentucky where he was a faculty member, assumed the position of Chief of Urology at the Wishard Memorial Hospital, formerly the Marion County General Hospital. John has developed a first rate clinical service at the General while pursuing his interest in surgery of impotency and the use of prostheses. Dr. Randall G. Rowland received his M.D. and PhD. at Northwestern Medical School as well as his urologic training. His interest is in oncology especially bladder carcinoma. He together with Dr. Mitchell developed the "Indiana Pouch", a urinary bladder replacement following cystectomy for carcinoma, which has gained considerable following in the specialty. Randall has also strengthened the department with his expertise in the business management. He helped to establish a computerized patient data base.

Dr. Mike Mitchell also came to us in 1978. He was a graduate

of Harvard Medical School, had his residency at the Massachusetts General Hospital and a fellowship in Pediatric Urology under Dr. Hardy Hendren at Boston Childrens Hospital. Mike was assigned with me the uro-pediatric division at the Riley Hospital, where he became chief in 1980. Mike proved to be a remarkably innovative and skillful reconstructive surgeon. His leadership led to some elegant laboratory research in the genesis of exstrophy of the bladder, together with Dr. Richard Rink. Rink, after completing residency with us in 1984, went to the Boston Childrens Hospital for a year of fellowship after which he returned to the Riley where he is now Chief of the Pediatric Urology Division. Mitchell, in 1989, departed to assume the position of Chief of Pediatric Urology at the University of Washington at Seattle. During Mitchell's stay with us the Riley urology service more than doubled. He rapidly became a nationally acknowledged authority in reconstructive surgery of the genito-urinary organs. His work involving bladder augmentation with gastric segments was original and of distinct value in various neurogenic disorders. This work, too, was in partnership with Dr. Rink, for which both received honors.

Dr. James Lingeman, who had obtained his M.D.degree at Indiana, returned to our department in 1980, after residency in Grand Rapids, Michigan. Lingeman assumed the position of Chief of the Urology Service at the VA Hospital which had been vacant since Melman's departure in 1978. His interests soon centered on urolithiasis, and percutaneous nephrolithotomy. When, under the impetus of Dr. Dan Newman, a lithotriptor became available at

the Methodist, Jim left us at the University in 1984 to join Newman at the Methodist and the firm of "Wishard, Hamer and Mertz" where the first such electrohydraulic lithotripsy in the United States was performed. Together with Newman, Lingeman has become one of the acknowledged authorities on the use of this modality in stone management.

Dr. Rick Bihrle came to us in 1985 from the Lahey Clinic where he served his urologic residency. Rick is located at the Wishard Hospital with Dr. Mulcahy, but is active both at the VA and University Hospitals. He is doing the urolithiasis work derived from all University institutions, as well as participating in the oncologic surgery of our institutions. Dr. Bihrle is working with Dr. Foster in the application of focused ultrasound on the prostate.

Dr. Richard Foster, after completing residency with us in 1986, has stayed on the faculty and is now the Chief at VA. He also is active at the University Hospital. Rich is engaged in a promising investigation of the reducing effect of ultrasonic energy on the benignly enlarged prostate. Unfortunately with the current climate in the Food and Drug Agency human experimentation is extremely difficult to obtain sanction so this line of endeavor is on "hold". He also is coordinator for the student teaching in urology, and is a regular contributor to the urologic literature. The staff at Riley has expanded to include Dr. Michael Keating who trained at the Massachusetts General Hospital and Boston Children's Hospital as well as Dr. Mark Adams who,

after residency with us, spent a year in fellowship at the Boston Children's Hospital. Over the last several years the pediatric patient load has continued to grow especially in the outpatient surgical sphere. Where formerly all genital reconstruction was done in an inpatient setting, now is almost entirely an outpatient procedure. What a change from the previously cited hospital stay of over a year! Dr. Jeff Jones, a graduate of Baylor Medical School, Assistant Professor from 1990 to 1992, was the first of our staff to spend part of his time in a joint research effort in the Lilly Research Division. Another of our resident trainees, Dr. Greg Wahle has joined us for a year in the Lilly Lab and will spend his next year at UCLA in Gyneco-urologic training expecting to return in 1994. Dr. Sam Little, currently Chief Resident will join us in July 1993 in the Lilly Lab.

SUMMARY

Urologic education and graduate training at Indiana University Medical Center and Medical School has made notable contributions to the discipline for over a century. Nine of our people are or have been heads of their departments or divisions at leading medical institutions. A large number have been chosen to head national and international urologic organizations. A residency program that was inaugurated in 1946 on very modest terms, has become one of the nations leading and most sought after training programs. Clinical research has led to dramatic reduction in mortality in at least one area of neoplasia, namely testis tumor. The pediatric division has long been on the

forefront of reconstructive surgery. Our trainees are scattered about the country giving us a nation-wide spectrum. With the expansion of the physical plant from the Long, City, and Riley Hospitals of the early decades of the century, to the present extensive facilities of those three surviving structures augmented by the Veterans Hospital and the allied Methodist Hospital the department has more than kept up with the nation-wide explosion of medical facilities. From a volunteer staff of charitable, generous urologists unable to cope with the demands of modern medical education, to the present full time staff a quiet and harmonious revolution has taken place. All important contact with national leaders in the specialty continues on a very regular basis through visiting professorships and lectureships. Our own staff is in regular demand for those duties at other institutions. Two of our department have received Guiteras recognition. Dr. Wishard Jr. was awarded the Guiteras Medal, the highest honor bestowed by the profession. Dr. Donohue was selected to deliver the Guiteras lecture at the AUA. He has further been honored by Indiana University with the title Distinguished Professor.

The role of the voluntary staff continues to be an important one. In the setting of the Methodist Hospital, and in the past the St. Vincents Hospital, these staff members are the instructors for students and residents in rotation through those facilities. These people also are lecturers to our junior students. Most of them were trained in this program.

Indiana University Medical Center

Urology Residents

by

Chronology

1. Robert A. Garrett	1946-1948	
2. R. Case Hammond	1947-1949	
3. Joseph McKinley	1948-1950	
4. Charles J. VanTassel Jr.	1949-1951	
5. John H.O.Mertz	1950-1952	
6. John Brincko	1951-1953	
7. Gerald F. Ward	1952-1954	
8. Walter Roscoe Vaughn	1952-1955	
9. Donald H. Yurdin	1953-1956	
10. Edwin D. Kennedy	1953-1956	
11. Paul C. Peters	1954-1957	
12. Robert K. Rhamy	1954-1957	
13. Fred R. Dallas	1955-1958	(one yr. ICH)
14. Marc Pearcy	1957-1960	
15. James D'Luzansky	1957-1960	
16. Alan Podis	1957-1958	(called to service)
17. James Carr	1959-1961	(one yr. Cinn.)
18. Russell Judd	1959-1962	
19. Emmanuel Klein	1959-1962	
20. Earl Johnson	1960-1963	

21.	Daniel M. Newman	1960-1963
22.	James F. Balch Jr.	1961-1964
23.	Don Wasserman	1961-1964
24.	Ray Fortner	1962-1965
25.	Richard Switzer	1962-1965
25.	Stafford Pile	1963-1966
27.	Donald Rhamy	1963-1966
28.	Thomas Arnold	1964-1967
29.	Robert Carter	1964-1967
30.	John Tharp	1965-1968
31.	Phillip Mosbaugh	1965-1968
32.	Howard Ackerman	1965-1968
33.	William Chapman	1966-1969
34.	Ed Cohn	1966-1969
35.	Mitchell Moos	1966-1969
36.	William Bohnert	1967-1970
37.	Ned Rule	1967-1970
38.	Herbert Riemenschneider	1967-1970
39.	David Brandes	1968-1971
40.	Murphy Green	1968-1971
41.	Timothy Habbe	1968-1971
42.	Neal Moosey	1969-1972
43.	David Schlueter	1969-1972
44.	Anton Bueschen	1969-1972
45.	Ronald Brown	1970-1973
46.	Larry Hitchcock	1970-1973
47.	Jefferson Kyle	1970-1973

48. Michael Thomas	1971-1974	
49. Kirby Tarry	1971-1974	
50. Neil Phillips	1972-1974	
51. Michael Hostetter	1972-1975	
52. George Austin	1972-1975	
53. Jerry Ludwig	1972-1975	
54. Laurence Gott	1973-1976	
55. Frederick Goulding	1973-1976	
56. Willis Peelle	1974-1977	
57. Bruce Romick	1974-1977	
58. Ronald Sagalowsky	1974-1977	
59. William Cutshall	1975-1978	
60. Michael Perez	1975-1978	
61. Arthur Sagalowsky	1975-1978	
62. Craig Hamilton	1977-1979	(1 year Methodist)
63. Charles Parsons	1976-1979	
64. Thomas Koerner	1976-1979	
65. N. Stacy Lankford	1976-1979	
66. Glen Brunk	1977-1980	
67. Gaines Hammond	1977-1980	
68. Walter Mendenhall	1977-1980	
69. Andrew Moore	1978-1981	
70. Barney Maynard	1979-1981	
71. Trey Holland	1979-1981	
72. Larry Bans	1980-1983	
73. David Backes	1980-1983	
74. Brent Snow	1980-1983	

75. Richard Rink	1980-1984
76. Dana Pfaff	1980-1984
77. Marshall Kamer	1980-1984
78. Rhys Rudolph	1981-1985
79. Mark Seal	1981-1985
80. J. Vincent Thomalla	1981-1985
81. Richard Foster	1982-1986
82. Richard Kahnoski	1982-1986
83. Thomas Coury	1982-1986
84. Joel Piser	1983-1987
85. Thomas Kulb	1983-1987
86. William Shirrell	1983-1987
87. George Geier	1984-1988
88. Hugh Kennedy	1984-1988
89. John Scott	1984-1988
90. Christopher Steidle	1985-1989
91. Phillip Woodbury	1985-1989
92. Mark Adams	1985-1989
93. David Scheidler	1986-1990
94. Nancy Hockley	1986-1990
95. Richard Saint	1986-1990
96. C. Gilberto Brito	1987-1991
97. Jeff Jones	1987-1991
98. Larry Klee	1987-1991
99. Philip Gleason	1988-1992
100. John Regan	1988-1992
101. Greg Wahle	1988-1992

Full Time Faculty

Roster

Robert A. Garrett — Emeritus Professor IU 1948-88

Chairman 1953-1972

A.B. Miami University (O)

M.D. Indiana University 1943

Residency: Surgery-Cincinnati General

Urology-I.U.M.C.

Organizations: AAGUS(hon), AUA(hon), NCSAUA,

ACS, SPU(pres)

SUU, AAP

Honors: Phi Beta Kappa, Alpha Omega Alpha

Dist Serv. Award NCSAUA

I.U.Med.Alumn. Award 1985

Irwin Dist. Faculty Award 1988

Professorships and Lectures:

Univ. California (SF)) 1967

Southwestern Texas Med. School

University Of Cincinnati

Cincinnati Academy of Medicine

New York Academy of Med. (Urol)

Robert K. Rhamy — Associate Professor IU 1959-1964

A.B. Indiana University

M.D. Indiana University 1951

Residency: Surg. and Urol. IUMC 1954-9

Organization: AAGUS,AUA,Soc. GU Surg.

John P. Donohue Distinguished Professor and Chairman IU 1965-

A.B. Greek Honors, cum laude Holy Cross 1954

M.D. Cornell Medical College 1958

Residency: Surgery: New York Hosp. 1958-60

Urology: Mass.Gen.Hosp. 1962-65

Honors:

Alpha Omega Alpha

Uro-Oncology Award Japanese Urol. Soc. 81

Urology Award Australasia Soc. of Surg. 82

Outstanding Teacher in Surg. '83,'84,'85

Urology Medal, Columbia Univ. 1985

Buffalo Urol. Soc. Contrib. to Oncology 86

Outstanding Prof. in Clin. Sciences IUMC 1987-1988

Barringer Medal AAGUS, 1988

Boland Medal, Univ. of Scranton 1988

Guiteras Award, AUA 1988

Distinguished Professor, Indiana Univ. 89

Organizations: AAGUS, Am. Assoc. Univ. Prof. ACS, Am. Soc. Nephrol.,AUA,

NCSAUA(pres), Assoc. Acad. Surg.
Clin. Soc. G.U. Surg.
Pan-Pac. Surg. Assoc., SUU
Billings Hist. Med. Soc.
Soc. Internat. d'Urol.
Soc. Pelvic Surgeons,
Transplant. Soc., Halstead Soc.,
Urologic Investigators Forum

A. David Beck

Assistant Professor IU 1970-1973
Chief of Urology SUI Sch Med. 1975-1979
A.B. Univ. New Zealand
M.D. Univ. NZ
Residency: Surgery Auckland Gen. Hosp.
Urology Leeds, Eng.
NY Hospital 1964-5
Albany 1966-67

Arnold Melman

Assistant Professor IU 1974-1979
A.B. Univ. Rochester
M.D. Univ. Rochester
Residency: Surgery Rochester
Urology UCLA

Michael Thomas	Assistant Professor IU 1974-1976
	Clinical Ass't Prof.1976-
	A.B. DePauw University
	M.D. Indiana University
	Residency: Surgery IUMC
	Urology IUMC
	Organizations: AUA, NCSAUA
Laurence Gott	Assistant Professor IU 1976-1978
	A.B. University of Illinois
	M.D. Univ. Ill.
	Residency: Surg. and Urol. IUMC
	Chief Urology; Wishard Hosp. 1976-78
John J. Mulcahy	Professor IU 1978-
	A.B. Cum Laude Holy Cross College 1962
	M.D. Georgetown Medical School 1966
	Residency: Mayo Clinic 1967-9 '72-74
	Ph.D.Univ. Michigan 1969-72
	Assist. Prof. Surg. (Urol) U. of Ky
	1974-78
	Organizations:AUA,NCSAUA,ACS,SUU,Am Fert.
	Soc. Internat. de Urol.
Randall G. Rowland	Professor IU 1978-
	B.S. Northwestern (Honors) 1969
	Ph.D. Northwestern 1971
	M.D. Northwestern 1972
	Residency: Surgery-Urology Northwestern U

1973-78

Honors: 1977 Trav. Fellow NCSAUA

Hon. Mem. Peruvian Urol Assoc.

Organizations: AUA, NCSAUA, ACS, SUU,

Soc. Internat.d'Urol. etc.

Professorships and Lectures:

Louisiana St. U. 1987

Univ. of Colorado 1987

Med. Coll. Of Wisconsin 1987

Katholicke U.Nijmegen 1987

St Lukes, Milwaukee 1988

Urol Oncol. Sympos. Halifax 90

Erasmus Univ. Rotterdam, 1990

Urological Soc. Australasia '90

Lectureships

Northwestern U. 1983, 86, 88, 90

Chicago Urol. Soc. 1986

Michigan Urol. Assn. 1986

Wisconsin State Urol. Assn.. 1987

Miami Urol. Soc. 1987

Peruvian Urol. Assn. 1988

Iowa State Urol. 1988

Cleveland Clinic 1988

Arizona Urological 1989

Eur.. Assn. Urol. 1990

Michael Mitchell Professor Chief Ped. Urol. 1978-1988 IU

Professor Chief Ped. Urol. 1988- Univ. Washington

A.B. Summa Cum Laude Princeton Univ. 1965

M.D. Magna Cum Laude Harvard Univ. 1969

Residency: Ped. Surg. Mass. Gen. Hosp. '70-71

Gen. Surg. Brigham Hosp. '73-'74

Urology: Mass. Gen Hosp. '74-'77

Organizations: AAP, AUA, AAGUS, SPU, ACS

James E. Lingeman Associate Clinical Professor IU 1984-

Director of Research: Inst. For Kidney Stone Methodist Hosp. (current)

A.B. Cornell University 1970

M.D. Indiana Niversity School of Medicine 1974

Residency:

Nephrology: St Mary's Grand Rapids, MI.

Surgery: Butterworth Grand Rapids, MI

Urology: Butterworth 1980

Honors: AOA

Organizations: AUA, ACS, Internat. ESWL Soc. SUU, NCSAUA

Professorship: Ohio State U. Riverside Hosp. 1984

Hepburn-Spillane, Univ. Conn.
1989

Richard Bihrle Associate Professor IU 1984-
B.S. Georgetown Univ. 1974
M.D. Georgetown Univ. 1979
Residency: Surgery: Tufts N.Eng. Med Cent.
'79-81
Urology: Asst. Res. Lahey Clinic
'81-82
Assoc. R. Children's H.
'82-83
Ch. Res. Lahey Clinic '83-
'84
Organizations: AUA, ACS, NCSAUA

Richard C. Rink Assoc. Professor, Chief Ped. Urol. IU 1989-
A.B. Cum Laude West. Kentucky Univ. 1974
M.D. Indiana University 1978
Residency: Surgery Emory 1979-80
Urology IUMC 1980-84
Fellow in Urol. (Research)1983
Fellow Ped. Urol. Boston Childrens
Hosp. 1984-5
Honors: Traveling Fellowship, AUA
Organizations: AUA, SPU, AAP, AAPU, ACS
SUU, Europ. Soc. Ped. Urol

Professorship:

Brasil. De Urol. Ped. 1989

Wayne State 1991

Michael A. Keating Assist. Professor IU 1989-

Assist.Prof. Urol. Univ. Penn. 1988-89

B.S. University of Notre Dame 1975

M.D. Medical College of Ohio Toledo 1980

Residency: Surgery Hartford Hosp. 80-82

Urology Mass. Gen. Hosp.82-86

Fellow Ped. Urol. 1986-7

Honors: Alpha Omega Alpha

Organizations: AUA, AAP, AUANCS, AMA

Professorships: Medical Coll. Ohio 1990

Long Island Jewish Med. Center 1991

Richard S. Foster Assoc. Professor IU 1986-

A.B. Cum Laude Miami University (O) 1976

M.D. Indiana University Med. School 1980

Residency: Surgery IUMC 1980-82

Urology IUMC 1982-86

Honors: Phi Beta Kappa

Organizations: AUA, SUU, NCSAUA, ACS

J. Vincent Thomalla Asst. Professor Surgery-Urology 1987-1990

M.D. Univ. Southern Illinois 1979

Residency: Surgery IUMC 79-81

Urology IUMC 81-85

Fellow: Transplant IUMC 85-86

Mark C. Adams Assist. Professor IU 1990-

A.B. Summa Cum Laude Vanderbilt U. 1979

M.D. Vanderbilt 1983

Residency: Surgery IUMC 1983-84

Urology IUMC 1985-89

Fellow Ped. Urol. Boston

Children's Hosp. 1989-90

Honors: Phi Beta Kappa, Alpha Omega Alpha

Organizations: Midwest Soc. Ped. Urology

Jeffery A. Jones Assistant Professor IU 1990-1992

Assistant Professor, Texas Tech Health Sciences

Center, Lubbock, Tx 1992-

B.A. Trinity University San Antonio, Tx 1981

M.D. Baylor College of Medicine 1984

Residency: Surgery IU 1984-1986

Urology IU 1986-1990

Gregory R. Wahle Assistant Professor IU 1992-

B.A. Northwestern U. 1981

M.D. Indiana University 1986

Residency: Surgery I.U. 1986-1988

Urology I.U. 1988-1992