

Obituary

Judson J. Van Wyk, M.D.: his life and legacy



Judson J. Van Wyk, M.D. died peacefully at his home on June 22, 2004 after a relatively brief illness. By his side were Persis, his wife and soul-mate of 60 years, his children, Judy, Peter, Perky and Jake, and his six grandchildren. During his 83 years he led an extra-ordinarily full life devoted to his passions, his family, his work, and sailing. He was an active academician until weeks before his death.

For those in basic science who knew him through his scientific publications, he will be remembered for his seminal contributions to our understanding of human growth and as a pioneer of growth factor research. Clinicians also knew him for his many contributions to our understanding of endocrine diseases in childhood. Here, at the University of North Carolina (UNC), School of Medicine, he was an institution. Ask generations of medical students and residents whom he recruited for rounds at two in the morning, whom he taught with out-sized, and sometime outlandish, anecdotes intended to drive home a salient clinical point, or whom he encouraged, and indeed cajoled, into careers in academic medicine and then supported throughout their careers. To those he trained in the Division of Pediatric

Endocrinology, both clinicians and basic scientists, he was many things – a motivator, a teacher, a creative thinker and experimentalist, a passionate promoter of science, a storyteller, a driven worker, and a constant source of ideas, inspiration, as well as bemusement and wonder; but perhaps most of all, he was a mentor and life-long advocate. He often said that professionally he was most proud of the training program and his role in the education of generations of academicians. His trainees were his second family and he was unreservedly committed to them.

He arrived at UNC in 1955 as the fourth faculty member in the Department of Pediatrics. In those early days he was an all-purpose physician, functioning as a general Pediatrician and Endocrinologist for both children and adults. He also was an ambitious, and perhaps brash, young man intent on making his mark. He had a clear scientific agenda, that being to purify a hormone. This goal, even at this early stage of his career, was long-standing, and derived from his high school experiences in Holland, Michigan. There and later at Hope College, also in Holland, Jud was exposed to a number of the talented scientists who built careers exclusively as teachers

because ‘the great depression’ precluded them from doing hands-on science. They exposed him to a world of ideas and knowledge that captivated him and set his life goals in motion.

Born into a long-line of Dutch Reformed missionaries, a career in science was not what his parents had in mind. Jud often referred to himself as the “black sheep in the family.” Perhaps the fact that his brother followed the traditional family path modified his parents’ aspirations for him. On the other hand, it is difficult to imagine that this fun-loving, trumpet-playing, hitch-hiking young man with a passion for science could have been persuaded to enter the ministry. It also is clear that his parents put great value on education and intellectual pursuits, and supported his ambitions, albeit with some reservations.

After graduation from Hope College in 1943 Jud enrolled as a graduate student in the laboratory of Dr. Edward A. Doisy at St. Louis University. Later that year Doisy won the Nobel Prize for the discovery of the chemical nature of vitamin K. Doisy also was noted for his contributions to the purification of estrogen. Jud clearly was intent on acquiring the skills necessary to purify a hormone. In a seminar for Doisy’s group in early 1944 he presented a detailed critique of the methods used to purify insulin, as well as their rationale and flaws. He meticulously typed his comments, and kept them close at hand for years. While this seminar foretold what was to come, it is not likely that Jud envisioned insulin-like growth factor as his purification target.

Jud found Doisy’s laboratory too hierarchical and lacking in personal interactions for his liking, and he applied to medical school. At Doisy’s suggestion he enrolled at Johns Hopkins, because Doisy perceived it as the institution most amenable to the joint pursuit of medicine and science. Jud thrived at Hopkins graduating in 1948, as a president of the Alpha Omega Alpha, and stayed on for residency training. He also spent a year in residency at Cincinnati Children’s Hospital before doing a two-year stint at the NIH. In 1953 he returned to Hopkins as a fellow under Dr. Lawson Wilkins.

His two years with Wilkins cemented his career path. Wilkins’ intellect and clinical insight captured Jud’s imagination and whetted his creative juices. It was an exciting time. Wilkins, his colleagues and fellows, were creating the discipline of Pediatric Endocrinology. With what today would be considered primitive scientific tools they made remarkable inroads into our current understanding of many endocrine disorders of childhood, including congenital adrenal hyperplasia, sexual ambiguity, hypogonadism, and thyroid disease. Melvin M. Grumbach, M.D. also was a fellow in the Wilkins program at this time, or as Jud liked to relate, “Mel and I were littermates.” In fact, they were much more

– collaborators, friendly competitors, and most importantly, best friends for the next 50 years. Together in their early careers and independently later, as their scientific and clinical interests focused and then diverged, they each made enormous contributions. Historians will judge both as giants of their discipline.

Attempts to summarize Jud’s research accomplishments are certain to be inadequate both in their brevity and their capacity to sufficiently describe the impact of his work. From the time of his fellowship (1954) to a year prior to his death (2003), he published 239 peer-reviewed reports of primary research, book chapters and scholarly reviews (six other reports of primary research predated his fellowship). The references annotated here were chosen (admittedly in a somewhat arbitrary manner and largely from chapters and reviews) to illustrate the scope of his work and to highlight his earlier, ground-breaking contributions. Jud was wont to describe his research career as having three periods. The first he termed “the thyroid period.” While his lab focused on thyroid function (e.g. [1]), he also made many contributions to clinical endocrinology during this time (e.g. [2–4]). His second period began when he set about to isolate ‘sulfation factor’ [5], the circulating substance that Salmon and Daughaday [6] suggested mediated the growth promoting actions of growth hormone. When after years of labor he succeeded in purifying somatomedin-C (now usually called, insulin-like growth factor-I; IGF-I) from tons of outdated human plasma, his long-time goal was achieved [7]. Despite the magnitude of this accomplishment, his contributions to our understanding of IGF-I actions, and consequently to the mechanisms of mammalian growth, as well as the impact of these findings, were more important (e.g. [8–13]). After his official retirement in 1991 he entered his third period, and addressed the use of adrenalectomy in the treatment of salt losing congenital adrenal hyperplasia [14]. He also devoted his time to establishing new approaches to medical teaching and implementing them in our Pediatric Residency Program, and to assembling a biography of Lawson Wilkins. Well into his eighties he continued to approach projects as he always had - with extra-ordinary zeal and passion.

As one might expect, Jud’s research was continuously NIH funded from 1956 to 1991. At age 70 years he turned his grant over to colleague Dr. P. Kay Lund, but continued as a co-investigator for another several years. His work was well recognized and he received a number of significant honors. Those most important to him were: Research Career Award (1962–1986) from the NIH; Kenan Professorship, University of North Carolina; Honorary Sc.D. from Hope College (1976); the O. Max Gardner Award from the UNC Board of Governors (1980; for his contribution to UNC); the Fred Conrad Koch Award and Medal of the Endocrine Society (1989; the highest honor of the Endocrine

Society), and Doctor of Medicine and Surgery, *laurea ad honorem causa*, from the University of Genoa (1992; at the commemoration of Columbus's voyage from Genoa to the new world).

Recently, UNC honored Jud by naming a new state-of-the-art auditorium for him. This tribute was especially apropos as Jud had long seen a need for a first class venue to adequately represent the medical school he loved. He tirelessly petitioned the UNC administration in this regard, and was delighted when it came to fruition. He was ecstatic, when he learned days before his death, that the auditorium would be named for him. He opined that "this was almost worth dying for." For a man who loved life without reservation, his comment was typical of his oft-quoted tongue-in-cheek one-liners. Nonetheless, it reveals the passion with which he pursued his dreams. The Judson J. Van Wyk Auditorium was dedicated at the same time that a memorial was held at UNC (Nov. 12, 2004). Over 40 graduates of the Pediatric Endocrinology training program, numerous friends and colleagues, and his family attended. The plaque at the entrance to the Van Wyk Auditorium reads:

Judson J. Van Wyk, MD, June 10, 1921 – June 22, 2004.
Kenan Professor of Pediatrics and Biology
Physician-scientist, teacher and mentor.

"Education is not the filling of a pail, but the lighting of a fire"

William Butler Yeats

This inscription aptly describes Jud's philosophy of teaching and his strength as a teacher and mentor. His aim was to inspire and motivate, and he did so in large part by the sheer force of his personality. These words, however, barely penetrate the depth and worth of this remarkable man.

References

- [1] J.J. Van Wyk, Hypothyroidism in childhood, *Pediatrics* 17 (1956) 427–437.
- [2] J.J. Van Wyk, M.M. Grumbach, Syndrome of precocious menstruation and galactorrhea in juvenile hypothyroidism: an example of hormonal overlap in pituitary feedback, *J. Pediatr.* 57 (1960) 416–435.
- [3] J.J. Van Wyk, Disorders of sex differentiation, in: R.H. Williams (Ed.), *Textbook of Endocrinology*, third ed., W.B.Saunders Co., Philadelphia, 1962, p. 515.
- [4] G.J. Antony, L.E. Underwood, J.J. Van Wyk, Studies in hypoglycemia of infancy and childhood: diagnosis and treatment, *Am. J. Dis. Child.* 114 (1967) 345–369.
- [5] J.L. VandenBrande, J.J. Van Wyk, R.P. Weaver, H.E. Mayberry, Partial characterization of sulphation and thymidine factors in acromegalic plasma, *Acta Endocrinol.* 66 (1971) 65–81.
- [6] W.D. Salmon Jr., W.H. Daughaday, A hormonally controlled serum factor which stimulates sulfate incorporation into cartilage in vitro, *J. Lab. Clin. Med.* 116 (1957) 408–419.
- [7] D.G. Klapper, M.E. Svoboda, J.J. Van Wyk, Sequence analysis of somatomedin-C: confirmation with identity with insulinlike growth factor I, *Endocrinology* 112 (1983) 2215–2217.
- [8] J.J. VanWyk, L.E. Underwood, R.L. Hintz, S.J. Voina, R.P. Weaver, Chemical properties and some biological effects of human somatomedin, in: S. Raiti (Ed.), *Symposium on Human Growth Hormone*, US Government Printing Office, Washington, DC, 1974, p. 25.
- [9] R.F. Furlanetto, L.E. Underwood, J.J. VanWyk, A.J. D'Ercole, Estimation of somatomedin-C levels in normals and patients with pituitary disease by radioimmunoassay, *J. Clin. Invest.* 60 (1977) 648–657.
- [10] J.J. Van Wyk, L.E. Underwood, The somatomedins and their actions, in: G. Litwack (Ed.), *Biochemical Actions of Hormones*, fifth ed., Academic Press, New York, 1978, p. 101.
- [11] D.R. Clemmons, J.J. Van Wyk, Somatomedin: physiological control and effects in cell proliferation, in: R. Baserga (Ed.), *Handbook of Experimental Pharmacology*, SpringerVerlag, New York, 1981, p. 161.
- [12] D.R. Clemmons, J.J. Van Wyk, Evidence for a functional role of endogenously produced somatomedinlike peptides in the stimulation of human fibroblast and porcine smooth muscle cell DNA synthesis, *J. Clin. Invest.* 75 (1985) 1914–1918.
- [13] L.E. Underwood, J.J. Van Wyk, Normal and aberrant growth, in: J.D. Wilson, D.W. Foster (Eds.), *Williams Textbook of Endocrinology*, Seventh ed., W.B Saunders Co., Philadelphia, 1985, p. 155.
- [14] J.J. Van Wyk, E.M. Ritzen, The role of bilateral adrenalectomy in the treatment of congenital adrenal hyperplasia, *J. Clin. Endocrinol. Metab.* 88 (2003) 2993–2998.

A. Joseph D'Ercole M.D.

Harry S. Andrews

Professor of Pediatrics

Chief, Division of Pediatric Endocrinology

Director of Training Program in Pediatric Endocrinology