SPECIAL ARTICLE

American Pediatric Society John Howland Award 2001 Presentation

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President Boat, Del, Beverly, Howland Award recipients from previous years, members of the Fisher family, APS members, and guests, I am enormously pleased to introduce Delbert Fisher, this year's recipient of the John Howland Award of the American Pediatric Society. His career has had enormous impact on so many aspects of modern pediatrics. Not only has his research been directly translated into screening and timely treatment of newborns with congenital hypothyroidism, but also his mentorship has been responsible for the development of numerous academic careers. His values and leadership were instrumental in the development of a Department of Pediatrics and a Medical Center.

Del was born in Placerville, CA in 1928. At the time his father worked for the California Door Company. In following years Mr. Fisher developed several businesses including a grocery store, a gas station/restaurant, and then a hardware business; and Del had the opportunity of participating in these businesses before he left home for college. Del's wife Beverly also grew up in the northern California town of Pine Grove where her family operated a grocery store. The two met as undergraduates at the University of California, Berkeley in 1950. Del was simultaneously a senior undergraduate at Berkeley and a first year UCSF medical student when the first year of medical school at UCSF was based on the Berkeley campus. When he moved to the San Francisco campus, Del joined a rather notorious and raucous medical fraternity that offered a full social package complete with a series of wonderful parties. He has always been known for his tireless efforts and this may have applied to his living situation as well. To rescue him, Beverly married Del on January 28, 1951, in the middle of his sophomore year in medical school. They remained at UCSF while he pursued residency training in pediatrics.

The demands of marriage and medical school were not nearly enough to keep Del occupied; by current parlance he is a true multitasker. It is no surprise then that his lifelong interest in hypothyroidism began during this period when he embarked on a project with Donald Pickering, head of Pediatric Endo-

Figure 1. Del Fisher (left) and Stuart Hollingsworth (right), a medical student classmate, in the monkey colony in 1952.

crinology at UCSF, to create a monkey model for newborn hypothyroidism (Fig. 1). A series of papers on the effects of ^{131}I thyroid ablation in newborn Macaque monkeys and the use of Na-L-thyroxine for treatment of athyroid monkeys set the stage for synthetic thyroxine treatment of human infants with congenital hypothyroidism. This research and residency training were interrupted in 1955 when he was drafted and chose the Air Force. He was assigned to Laughlin Air Force Base in Texas for two years as an Air Force physician. Beverly and Del became parents in Texas when their first child, David, was born.

The medical staff being limited at the Air Force base, Del was sent for accelerated training in San Antonio so that he could provide joint service as a pediatrician and anesthesiologist. During one obstetric delivery at his home base, he noticed that something was amiss with the patient's color. Never flustered, he quickly determined that a nitrous oxide tank had been mistakenly substituted for an oxygen tank and addressed the situation before any harm was done. Fortunately for all concerned Del abandoned his developing career as an anesthesiologist. After finishing his military service in 1957, he re-joined Donald Pickering who was now at the University of

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Oregon Health Science Center in Portland. He served as chief resident in pediatrics and completed his fellowship training in endocrinology and metabolism. While in Oregon the Fisher's became parents of twins, Mary and Tom.

In 1960 Del was recruited to the University of Arkansas to work with Theodore Panos, the new Chair of the Department of Pediatrics. The environment appeared excellent for the advancement of his studies. The school had a new research building, a Clinical Research Center funded by the National Institutes of Health, good basic science support, and a strong group of potential collaborators including Richard Ebert, the chair of medicine, and Jim Melby, head of endocrinology in the Department of Medicine. He became Associate Director of the National Institutes of Health-supported Clinical Research Center, garnered a National Institutes of Health Research Career Development Award, and began a productive collaboration with Dr. Thomas Oddie, a radiation physicist and head of the Nuclear Medicine Laboratory, site of a whole body isotope counter. Together they used labeled iodine and thyroid hormones to study human iodine and thyroid hormone metabolism. To study newborn thyroid function, they developed a new collimator that allowed precise discrimination of thyroid isotope content in infants. He was appointed an Assistant Professor of Pediatrics and Director of Pediatric Endocrinology and Metabolism and over a seven-year period rose to the rank of full professor.

In 1968 Del was recruited by Joe St. Geme Jr., the new chair of the pediatric department at the Harbor-UCLA Medical Center to head the Division of Pediatric Endocrinology and Metabolism. He joined a unique group of talented people with interests in endocrinology including William Odell, head of Endocrinology and Metabolism for the Department of Medicine. While at the National Institutes of Health Bill had developed the first immunoassay for TSH. Other participants were Inder Chopra, Albert Parlow, and Jean Dussault. Together these individuals developed a number of immunoassays for thyroid related hormones and applied them to the study of the ontogeny of the mammalian fetal thyroid system. Improved understanding of neonatal thyroid physiology coupled with the new immunoassays for thyroxine and TSH were critical events for the development of screening for congenital hypothyroidism.

While at Harbor-UCLA Del met individually with all research group members on a weekly basis. The approach was one of true mentorship with respect and promotion based on accomplishment. His extraordinary discipline and tireless efforts were matched by his honesty. While Del can be extremely generous with his efforts and resources on behalf of others, he is renowned for his remarkable frugality in the laboratory. He once failed to reconfirm his seating arrangement on a trip home from Japan and, to the amusement of his laboratory group, to fly home he was forced to take a seat in first class. The additional expense so upset him that, for the duration of the trip, he reputedly sustained a higher temperature than the jet engines powering the plane.

By 1974 Del took on the additional responsibility of Vice Chair of the Department of Pediatrics. He and Joe St. Geme worked together to develop a truly unique academic depart-

Figure 2. Dr. Fisher as editor and author, 1985.

ment and medical center in the setting of a public hospital devoted to the underserved. In 1975 Joe appointed Del Research Professor of Developmental and Perinatal Biology to develop the joint Pediatric-Obstetric Perinatal Research Laboratories, which he headed for 10 y from 1975–1985. When Joe left Harbor in 1984 to become Dean at the University of Colorado, Del was named chair of the department.

In 1991 Del took on a new challenge as President of the Reference Laboratories for Nichols Institute. After several corporate mergers, he was named Vice President for Science and Innovation at Quest Diagnostics, the largest laboratory testing organization in the world. True to his academic origins, he has developed the Quest Diagnostics Nichols Institute National Reference Laboratory as the R&D Center for the company and recruited an outstanding group of scientific staff and participating Academic Associates. He is particularly proud to have developed a new model that he refers to as a virtual medical school.

Many successful careers stem from a productive partnership. This is certainly the case with Del and Beverly Fisher. Beverly not only has been a source of personal support but she worked as a collaborator serving as managing editor of the *Journal of Clinical Endocrinology and Metabolism* (1978–1983) and *Pediatric Research* (1984–1989). This year Beverly and Del celebrated their 50th wedding anniversary. Sadly, an otherwise wonderful year has been marred by the untimely death of their older son, David. David, an orthopedic surgeon, died in an accident while pursuing his passion, racing cars.

Del's career has been marked by remarkable productivity. To date he is the author of 159 publications related to thyroid development and metabolism, 102 publications concerning neurohypophyseal hormones and electrolyte control, 53 publications regarding growth factors, and another 50 publications concerned with other endocrine topics such as maternal-fetal catecholamine physiology. His bibliography also includes 73 review articles and editorials, 129 book chapters, and 9 books. He has had an enviable record of funding from the National Institutes of Health that spans 33 y and that includes a Merit Award. This work culminated in his election to membership in the Institute of Medicine of the National Academy of Sciences.

Not only has Del made significant contributions to our knowledge but he has also held numerous influential leadership positions. He has served as President of the Western Society for Pediatric Research (1982–1983), President of the Lawson Wilkins Pediatric Endocrine Society (1982–1983), President of the Endocrine Society (1983–1984), President of the American Thyroid Association (1988–1989), and President of the American Pediatric Society (1992–1993). Other roles include Editor-in-Chief of the *Journal of Clinical Endocrinology & Metabolism* (1978–1993) and Editor-in-Chief of *Pediatric Research*

(1984–1989). In these roles Del was often found editing manuscripts in his home office (Fig. 2). He has been honored with election to the Faculty of Highest Distinction at UCLA, is a recipient of the Research Award of the American Academy of Pediatrics, has been awarded the Distinguished Lectureship of the American Thyroid Association, and received the Robert H. Williams Distinguished Leadership Award of the Endocrine Society.

It is my distinct pleasure to introduce a man who has had such significant impact on clinical practice and academic medicine, Del Fisher.

Acceptance

DELBERT A. FISHER, M.D.

Dr. Boat, Dr. Jonas, members of the Pediatric Academic Societies, and guests. I am both elated and humbled by the award you have bestowed on me today. To have been selected by my peers to join such an illustrious list of predecessors is a signal honor. I have known many of the previous Howland Medal recipients and have been witness to their impressive contributions and impact. As an endocrinologist, I feel a special kinship with Lawson Wilkins who was the 12th recipient and the first pediatric endocrinologist to receive the Howland Award in 1963. Dr. Wilkins was a pediatric resident at Johns Hopkins under the tutelage of John Howland, and he had a long and productive career as a pediatrician here in Baltimore and later as the first director of the endocrine clinic at Johns Hopkins hospital. One of his interests was thyroid disease. He described epiphyseal dysgenesis and the effect of thyroid hormone on cholesterol and creatinine metabolism in hypothyroid children, and he showed the critical effect of thyroid hormone on brain development in infants with congenital hypothyroidism. Additionally, by the way of kinship, Dr. Wilkins son died in a motor vehicle accident at age 17; our son, David, was 44 at the time of his fatal accident in January.

On the occasion of such an award, one reflects about events and people contributing importantly over the years. Like most of us in the academic world, I had an early interest in science and technology. My interest in medicine evolved during my high school years, and in medical school I was drawn to pediatrics and obstetrics and the wonders of newborn adaptation to the extrauterine environment. My work with Dr. Donald Pickering, studying hypothyroidism in infant monkeys, really focused my curiosity.

The opportunity of working with Dr. Thomas Oddie at the University of Arkansas provided the new tools of nuclear medicine; and we worked collaboratively for 20 years in Arkansas and then at the Harbor-UCLA Medical Center.

At Harbor-UCLA Bill Odell became a good friend, and our collaborative efforts spanned more than 30 years at UCLA and the Nichols Institute. Our endocrine team at Harbor-UCLA during the 1970s and 1980s developed a large number of the hormone immunoassay methods in common use today. This technology over the past three decades has revolutionized the practice of endocrinology and laboratory medicine. As an example, the first human TSH and thyroxine assays at Harbor-UCLA were low volume, first generation home brew products. After several generations of improvements, including automation, Quest Diagnostics now performs more than 25 million TSH and 6 million thyroxine assays yearly, and these numbers represent a small fraction of tests conducted worldwide.

I have worked with my colleague Jean Dussault for more than 30 years since his fellowship days in the late 1960s. He returned to Quebec City with our newly developed thyroxine assay adapting it to filter paper blood spot screening for congenital hypothyroidism.

As Dr. Jonas pointed out, Joe St. Geme was an academic colleague and friend for 18 years until his move to the University of Colorado as Dean of the School of Medicine in 1984 and his untimely death in 1986. He was a charismatic leader who led by example and set high standards for academic achievement, teaching, and patient care. The pediatric wards and clinics at Harbor-UCLA became exciting venues for diagnostic and therapeutic discourse and the melding of medical science and bedside medicine.

I was intrigued and challenged in the intensive care nurseries at Harbor-UCLA evolving in the early 1970s. Background information regarding the pathophysiology of the morbidities encountered was limited, and management strategies were developed day by day. Joe, the faculty and administration at UCLA and Harbor-UCLA, my fellows and collaborators, and the National Institutes of Health provided the environment and critical mass for three exciting decades of fetal and neonatal research. We were able to develop the Perinatal Research Laboratories and the chronically catheterized fetal sheep model to explore fetal endocrine systems ontogenesis and perinatal adaptation. This effort was joined by several long-term collabor-

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