Leon Joel Thal, MD (1944-2007)

Leon Joel Thal, MD, distinguished professor and chair of neurosciences at the University of California, San Diego (UCSD) School of Medicine died on the night of February 3, 2007, when the single-engine plane he was piloting to his vacation home in Borrego Springs, California, crashed into a mountain. He was the only occupant of the plane. He was 62 years old.

Dr Thal was the acknowledged leader in the development of drug therapies for Alzheimer disease. Leon’s medical school research had been on the enzyme that synthesizes the major brain neurotransmitter, acetylcholine. In 1976, the loss of this enzyme in the Alzheimer brain was discovered by others. Leon then began his search to find a way to provide relief to Alzheimer patients. His pioneer studies with oral physostigmine, a drug that blocks the breakdown of acetylcholine, and the collaborative investigation of the efficacy of tacrine that he led spurred the major drug companies to develop other cholinomimetic compounds that have become the standard symptomatic treatment in Alzheimer disease. Leon’s keen interest in finding new classes of drugs to delay disease onset and improve the quality of life for his patients led to the formation of the Alzheimer Disease Cooperative Study. At the time of his death, 80 institutions were participating in this cooperative study.

Dr Thal received his undergraduate degree (magna cum laude) from Tufts University in Boston, Massachusetts, in 1965 and his medical degree (summa cum laude) from Downstate Medical Center, State University of New York, Brooklyn, in 1969. He interned at Kings County-State University Hospital in Brooklyn.

Following his internship, Dr Thal served in the Public Health Service at the Colorado River Indian Reservation in Arizona from 1970 to 1972. Leon had learned to fly a plane while in college, but it was during this period that his wife Donna Thal, PhD, acquired her skill as a pilot. Years later, the two of them piloted their single-engine plane from New York to Scotland.

Dr Thal was a trainee and faculty member at the Albert Einstein College of Medicine from 1972 to 1985. He was a resident in neurology from 1972 to 1975, a postresidency fellow from 1975 to 1977, an assistant professor in 1977, and an associate professor in 1982. In 1985 he moved to UCSD as associate professor of neurosciences and chief of the Neurology Service at the San Diego Veterans Affairs Medical Center. He became professor of neurosciences in 1989, and then chair of the Department of Neurosciences in 1993; in 1994 he assumed the Florence Riford Chair in Alzheimer Disease and held that rank and chair until his untimely death.

His leadership role in neuropharmacology led to his appointment as chairman of the Food and Drug Administration’s Peripheral and Central Nervous System Drugs Advisory Committee (1989-1992). His research accomplishments and leadership were acknowledged by his appointment to the National Advisory Council on Aging of the National Institutes of Health (2002-2005). He was appointed to the National Advisory Board of the Alzheimer Association in 2006. He played a major role in the formation of the California Stem Cell Initiative and the first series of grants have now been designated as the “Leon Thal SEED grants.”

Dr Thal’s research awards included the Potamkin Prize from the American Academy of Neurology in 2004, the Arthur Cherkin Memorial Award in 2003, the Distinguished Scientist Award, International College of Geriatric Psychopharmacology in 2005, the Zaven Khatchaturian Award of the Alzheimer Association in 2006, and the Ronald Regan Legacy Award in 2007.

In addition to his seminal research on the cholinergic system and Alzheimer disease, Dr Thal studied the septohippocampal cholinergic system in the rat and its relationship to spatial memory. His midsized basic science laboratory was grant supported throughout his career. Most recently, his laboratory focus was on the survival of new neurons in the adult rat hippocampus, paralleling his interest in human stem cell research.

Dr Thal was the epitome of the clinician-teacher-investigator. He maintained an active clinical practice and his patients were a major source of volunteers for the longitudinal study carried out at the UCSD Shiley-Marcos Alzheimer Disease Research Center, which he had headed since 1994. He repeatedly received resident teaching awards at UCSD (1987-1988, 1989-1990, and 1993-1994). He trained or currently had in training 25 postdoctoral fellows, many of whom are now on the faculty of the UCSD Department of Neurosciences. His clinical and basic research was held in such high esteem that at the time of his death, he was the principal investigator or coprincipal investigator of grants totaling $101 000 000.

Leon and Donna loved to backpack in the Sierra Nevada Mountains of California and in the mountains surrounding the Anza Borrego Desert State Park. Thus to-
gether with their piloting and skiing, they were very active when not working.

How could anyone be so effective and efficient in his activities? Does his intelligence, focus, organization, and energy explain it? He never seemed rushed. His colleagues knew him for his friendliness. At his recent memorial services, many who worked for him noted his kindness.

Leon often had lunch with Dr Robert Terry and myself. We ate sandwiches at our local coffee shop, and not for a 10-minute break, but always for an hour, even though he was so incredibly busy. I was Leon’s mentor and chair. And, in time, Leon became my mentor and chair. Most prized was our friendship, which I valued highly.

Dr Thal is survived by his wife, Donna, a developmental psycholinguist, professor emeritus at the San Diego State University and Research Associate at UCSD, and his 2 sisters, Terri Thal and Joyce Hollman.

Robert Katzman, MD

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