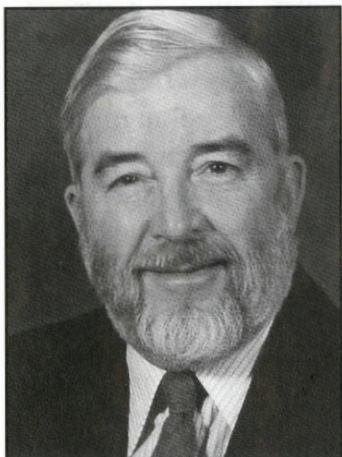


Dr. Emerson Moffitt: A Pioneer in Cardiac Anesthesiology

Peter Southorn, M.D.

Mayo's role in establishing the foundation of modern open-heart surgery is one of the institution's finest accomplishments. In the early 1950s, an extraordinary group of individuals headed up by the cardiac surgeon Dr. John Kirklin and including the cardiologist Dr. Jeremy Swan, physiologists Drs. Earl Wood and David Donald, and anesthesiologist Dr. Robert Patrick perfected the Mayo Gibbon vertical screen oxygenator heart-lung machine and began using it with success repairing congenital cardiac defects.



Dr. Emerson Moffitt

Various other individuals soon joined this superb team to help define its scientific underpinnings. Dr. Emerson Moffitt was one of these. A young Canadian general practitioner from Nova Scotia, he enrolled in the anesthesiology department's residency program in 1956. He soon gravitated into cardiac anesthesia and chose as his Master of Science thesis in anesthesiology, a requirement in those days, to study the physiological changes of patients undergoing cardiopulmonary bypass. By this

time Kirklin and his colleagues had performed some 40 open-heart operations on adults and children with congenital heart disease. Under the tutelage and guidance of Jeremy Swan, Emerson set out to document the physiological changes accompanying bypass in the next patients operated on by Dr. Kirklin, comparing the data he obtained with that derived from the patients during their preoperative catheter studies. Figure 1, taken from his thesis, which is in the department's library, shows the equipment he used. This had been designed by Earl Wood and accommodated in a room adjacent to the operating room to provide immediate information to the surgeon and anesthesiologist. The data gathered by Emerson included the patient's cardiac filling pressures, arterial blood pressure, venous and

arterial oxy-hemoglobin saturation, temperature, and their EEG and EKG. Based on the results he obtained, he was able to unequivocally demonstrate in both infants and adults that the Mayo Gibbon vertical screen oxygenator heart-lung machine did provide adequate oxygenation to the body tissues. Papers emanating from this thesis and others describing the anesthetic management of patients undergoing open-heart surgery written by Emerson and Dr. Patrick and Dr. Richard Theye, another young anesthesiologist now involved in this endeavor, soon followed.

In 1957, Emerson Moffitt and the renowned cardiac surgeon, Dr. Dwight McGoon, both joined the staff of the Mayo Clinic. They were to remain close working colleagues for the next 15 years. During this period, Emerson became head of anesthesia services at Saint Marys Hospital and headed up a highly productive NIH-funded research lab. With the departures of Drs. Patrick to the Methodist Hospital and Theye to pursue full-time research, Emerson's anesthesiology colleagues in this endeavor became Drs. Robert Devloo, Alan Sessler, and later, Richard Lundborg. Led by Emerson, they and their collaborators published some 75 publications, which helped lay the foundation for modern cardiac anesthesia. In addition to dealing with technical interventions, they defined the optimum perfusates to use during bypass and the management of the patient's electrolytes, acid base status, metabolites, oxygenation, coagulation status, and many other perimeters. Jeremy Swan, head of the cardiac catheterization laboratory, worked with Emerson and his colleagues to also define the most appropriate management of patients undergoing procedures in this laboratory. Truly the significance of this work cannot be over emphasized. Indeed Emerson and his associates first identified many of the problems which currently continue to confront the interest of cardiac anesthesiologists. Both John

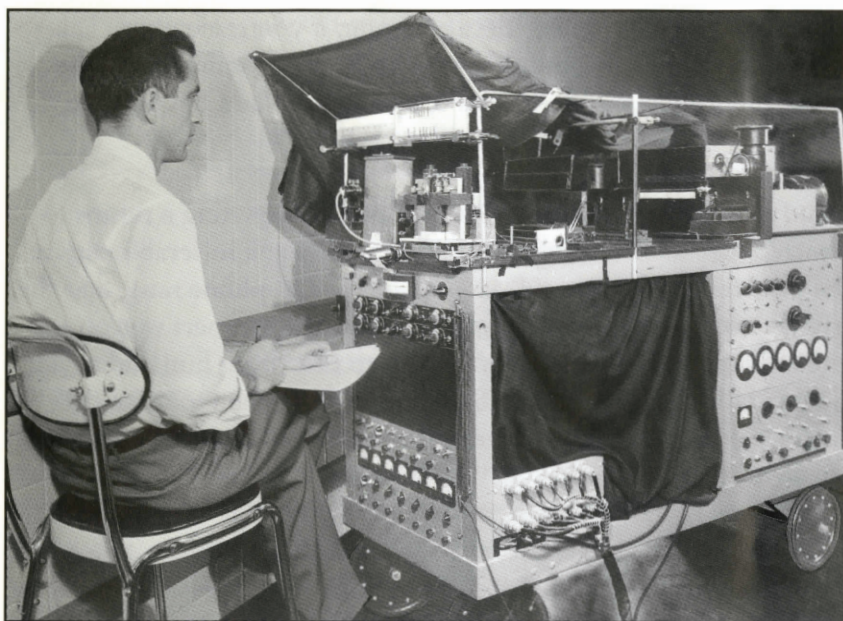


Figure 1. Monitoring equipment used by Dr. Moffitt for his thesis.

Kirklin and Dwight McGoon, in their private correspondence, regarded Emerson, in particular, as an integral, vital colleague in this pioneering field.

In 1972, Emerson was widowed and decided for the sake of his two daughters that he should go back to Canada for them to be near their relatives. He became head of the anesthesiology department at his alma mater,

Dalhousie Medical School in Halifax, Nova Scotia. Subsequently, he was to be made Dean of Clinical Affairs at that institution for many years. All the while he continued his commitment to clinical practice, education, and research in patients undergoing cardiac surgery. This research was fostered by a sabbatical with his old friend Jeremy Swan, who by this time had moved from Mayo to the Cedars-Sinai Hospital in Los Angeles. During this sabbatical, he learned how to insert coronary sinus catheters, which permitted him to make measurements of myocardial metabolism during coronary vein bypass surgery. This field was to become his main focus of research.

He retired in 1991 having given cardiac anesthetics for 34 years. During this period, he had produced a total of 224 papers of fundamental importance to the field, surely, a monumental achievement. Now in his 80th year, Emerson remains the same happy, jovial, positive person with a wonderful sense humor he has always been. Both he and we, his colleagues, are rightly proud of his accomplishments in laying the groundwork for cardiac anesthesiology and putting it on the firm footing it has today.

Paradise Lost and Found: Mayo Clinic to Napa Valley

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"Honey, I have good news! Your daughter and I are going to California, and you're welcome to come along!" Well it wasn't exactly that way, but the message was clear over dinner one cold December night in 1988 that my wife was anxious to go back home to Northern California.

December 1988 was more than cold at our house on 35th Street in Rochester, Minnesota. My wife, Dr. Mary Rocca, enjoyed a prosperous dental practice in Rochester (beside Henry Wellingtons- great hamburgers!), and Joel Larson and I had recently finished our

training in anesthesiology. The two of us made up the entire graduating class of 1988. I was fortunate to have been invited to join the staff at Rochester Methodist Hospital with Duane Rorie, Charlie Restall, Brad Narr, Scott Atchison, and many others.

I initially envisioned a long career in academic medicine, but I had an unfulfilled interest in medical business and management. I thought I should at least experience private practice to round out my "medical business education." After some searching, my wife and I settled on Napa, California, as our destination. Napa is