

Anesthesiology—The John Adriani Story

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ABSTRACT

Several authors have told the John Adriani story, but his proper recognition in developing the specialty of anesthesiology and his place as a pioneer have never been presented as such. The following article outlines his training and experiences in the early days of anesthesiology. The story of the many problems he encountered and how he developed teaching programs that remain in existence today is one to be admired and appreciated. Much of the information is from personal conversations with Dr Adriani. During his tenure as the Director of Anesthesia at Charity Hospital, I was a surgical house officer in the early 1960s and returned as an anesthesiology trainee in the late 1970s. We became close personal friends. He gave me hundreds of his slides, and we had many discussions about the past and current state of the specialty of anesthesiology.

Anesthesiology is an American invention, and New Orleans played a significant role in the development and advancement of the specialty of anesthesiology. The administration of anesthesia was initially considered a menial task that required minimal training, and it was administered by whoever happened to be available at the time of the surgical procedure. However, Rudolph Matas, a highly respected surgeon at Tulane University, did much of the early work on spinal anesthesia, so there was greater interest in anesthesia in New Orleans compared with other areas of the United States. Ansel Caine and Wilmer Baker were New Orleans physicians who primarily dedicated

their medical practice to anesthesiology and gained a degree of credibility for the specialty.

The individual who made a major impact regarding the advancement of anesthesiology was John Adriani, born on December 2, 1907, the eldest of 9 children of Italian immigrants who both immigrated to the United States in their teens and settled in Bridgeport, CT (Figure 1). The seeds that made Dr Adriani one of the pioneers and giants in the specialty were planted during his high school days when he was awarded the Fairchild Prize in chemistry.

After finishing high school in Bridgeport, Dr Adriani earned both an AB and MD at Columbia University, in 1930 and 1934, respectively. He completed a straight surgical internship under A. M. Wright, Professor of Surgery, New York University, and his surgical training at the French Hospital, New York City, 1934-1936, with the last 6 months as house surgeon.

Anesthesia was not taught in medical school. In fact, Dr Adriani said he had only one lecture regarding anesthesia during his medical school years. The main point he recalled from the lecture was that if the patient stopped breathing, the “treatment was to dilate the rectum.” During summer breaks of his medical school days at Columbia, he worked in the laboratory located in the basement of the New York University performing urine analysis and blood counts.

As a medical student between his second and third years, he had not previously been introduced to the operating room. One evening he was called hastily to the operating room and told that he was needed to administer the anesthetic to a 26-year-old woman undergoing abdominal surgery. He was using the open drop ether mask and was instructed to observe the patient’s earlobe. As long as the earlobe was pink, he could continue administration of the ether, but if the earlobe turned blue he was to discontinue it. The patient developed rigidity shortly after induction and died. The coroner signed the death certificate as an anesthetic death. This greatly disturbed Dr Adriani, and he questioned whether he should continue his medical training. Instead, he determined to investigate the relationship of anesthesia to the patient’s death. When he later heard malignant hyperthermia described, he realized that the patient had been a classic example of this inherited defect. This experience prompted him to seek further information

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Figure 1. Photo of Dr Adriani from the mid-1960s. Photo courtesy of the Wood Library–Museum of Anesthesiology, Park Ridge, IL.

regarding anesthesia, and after his house surgeon training, he entered the anesthesiology training program that was in its infancy at Bellevue Hospital. This first anesthesiology training program on the East Coast was under the direction of Emory A. Rovenstine,¹ a physician from Indiana who became interested in anesthesia. Rovenstine spent 5 years training under Ralph Waters at Madison, WI, who had established one of the few training programs in the United States at that time. The only other well-established training program was under the leadership of John Lundy at the Mayo Clinic. Adriani trained under Rovenstine from 1936 to 1937. He then became a Fellow in Surgery (Anesthesia) at New York University, 1937-1938, and a Fellow in Physiology under Homer W. Smith, 1938-1939. He was an instructor on Rovenstine's staff until 1941.

THE CHANGING EVENT

The State of Louisiana had erected a new Charity Hospital in 1939. At that period in the history of medicine, Charity was considered worldwide as the most modern and significant structure of its time, featuring stainless steel, solid walls, and ceramic floors. The main building contained 3,300 beds, and an additional 150 beds were in the adjacent areas. On a bed per square foot basis, it was the largest hospital in the world and the place where thousands of physicians in all specialties, as well as allied health personnel such as operating room nurses and technicians, trained. All medical specialties were instructed under the auspices of Tulane or Louisiana State University (LSU) schools of medicine. There were almost daily requests for tours of Charity by those involved in all aspects of medical training and

administration. The director and associate directors were political appointees by the governor of Louisiana.

Anesthesia at Charity was under the control of the nursing service, and approximately 40 to 50 nurses administered anesthesia; some trained the other students. The surgical services in 1941 were under the direction of Charles B. Odom, an associate director at Charity. Charity had 40 operating rooms, 2 operating amphitheatres, and 10 anesthetizing areas in the obstetric unit, 1 in the radiology department where radium implants were performed, and 1 in the accident room. These widely scattered and diversified locations were a complex problem for Odom. He convinced the Charity Board of Directors to create the position of Director of Anesthesia.

As stated earlier, physician anesthesia was recognized in New Orleans through the work of Ansel Caine and Wilmer Baker. Rudolph Matas at Tulane had done research in the use of spinal anesthesia.² Odom offered the director position to Caine and Baker, but they were not interested. Douglas Batten, a second-year resident at Bellevue Hospital on vacation in New Orleans, visited Charity. When Odom discovered that Batten was an anesthesiologist, he offered him the position. Batten was not interested but told Odom John Adriani might be interested. At that time, Adriani was still an instructor on Rovenstine's staff. Odom immediately contacted Adriani by letter, describing the position, the problems regarding anesthesia, and with whom he would be working. Rovenstine felt Adriani should visit Charity to gain some insight into the problems Odom described. Dr Wright, Adriani's instructor, felt that the Charity appointment was a unique opportunity to establish a training program in one of the most modern hospitals of the day. Adriani told Odom that he would come to New Orleans for an interview. Odom quickly responded that no interview was necessary based on Batten's recommendation along with letters of recommendation. During the first week of February 1941, Odom wired Adriani with the news that the Board of Directors of Charity Hospital had approved "his appointment as Director of Anesthesia, effective March 1st at a salary of \$5,000 annually."³ Adriani wired acceptance immediately. He was delighted to have a job and such a salary considering the depression of the US economy at that time. The offer was an excellent financial improvement compared with his current position.

ARRIVAL IN NEW ORLEANS AND CHARITY HOSPITAL

When this young well-trained physician arrived at Charity, a nurse gave him a tour and informed him that Charity had more than 50 anesthetizing areas assisted

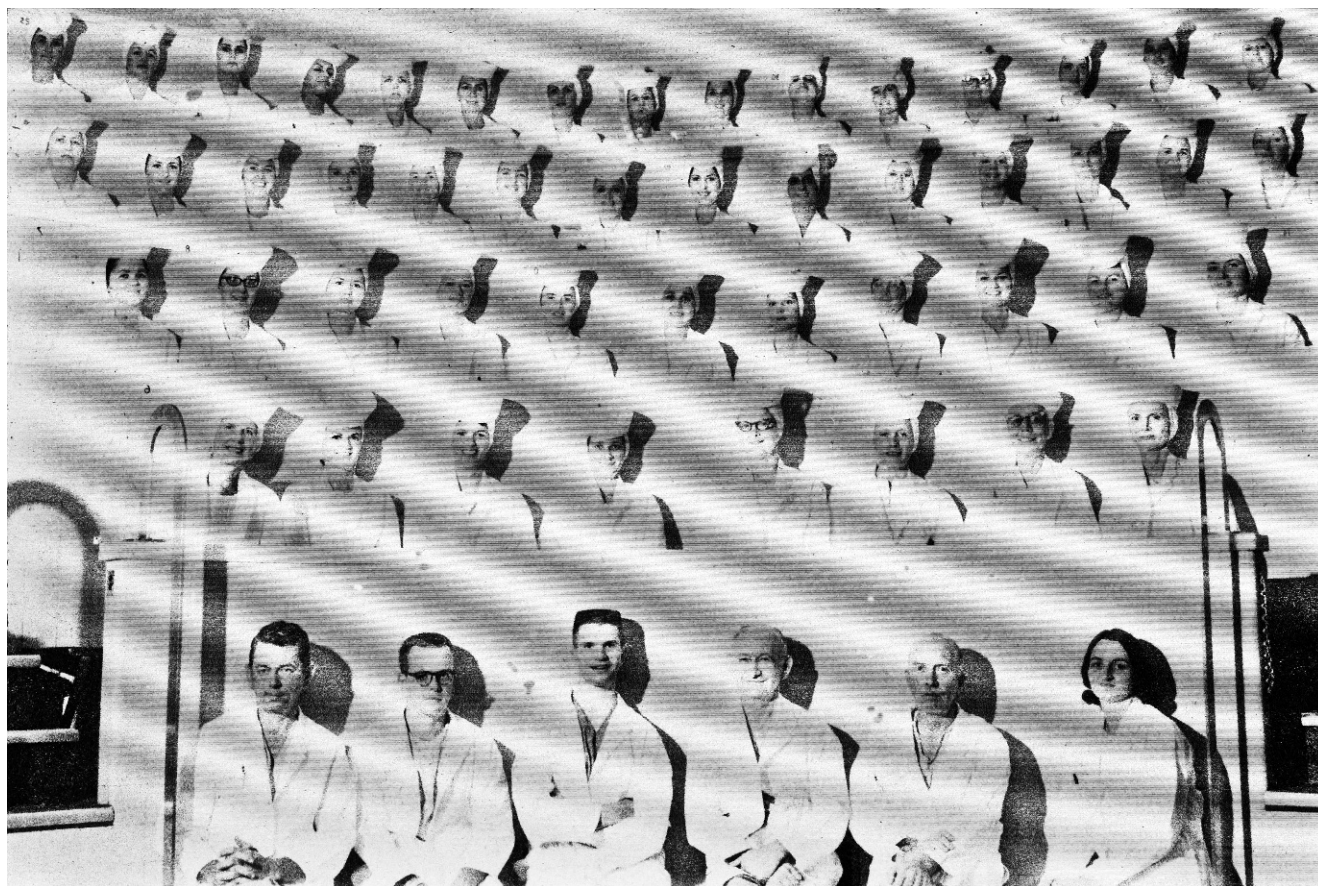


Figure 2. Dr Adriani flanked by his residents, nurse anesthetists, and student nurse anesthetists in the Charity Delgado amphitheater, his favorite area, where he lectured to all in training.

by 40 nurses. In contrast, Bellevue had 8 operating rooms and usually staffed 7. The Charity department was totally disorganized. Anesthesia equipment was new and diversified, consisting of new McKesson Nargraffs, Heidbrink Kinetometers, and upright Forregers with to and fro canisters, as well as some older generation equipment.⁴ Each morning, the anesthetists rushed to find masks, tubing, and reservoir bags that might fit the machines. Only 2 laryngoscopes were available in the entire department. No suction apparatus was to be found; some unusual stainless steel endotracheal tubes were available. Most of those administering anesthesia did not have training in intubation. Spinal anesthesia was administered by the surgical residents, with an estimated mortality of about 1 in 300 because this was the technique administered to poor-risk patients. Cautery was used freely in the presence of ether. Residents gave thiopental on the floors without any airway equipment. Estimated mortality was 1 in 150 cases.

CHANGES ADRIANI INITIATED

Adriani quickly took steps to remedy these situations. He soon realized how little knowledge the

nurses possessed regarding anesthesia. He began lectures for the nurses on fundamentals. With the support of hospital administrator O. P. Daly, MD, Adriani arranged for 6 interns to begin to rotate through anesthesia. They administered anesthesia in the mornings and in the afternoons attended lectures about airway management, pharmacology, and physiology (Figure 2). Adriani immediately began to recruit physicians to initiate an anesthesiology training program. His first group of residents included Cornelius St. Romain, Nellie Reilly, Ruth Winston, Desiderio Roman, Curtis Caine, and John Parmley.⁵

His next battle continued for several years: training nurse anesthetists. Adriani felt that he was responsible and should have control of their anesthesia instruction. Although hospital director O. P. Daly supported Adriani, it took 10 years for him to gain full control of the department. Through these efforts, Adriani established an accredited physician training program as well as a school of nurse anesthesia at Charity.³

Dr Adriani had the support of Dr Alton Ochsner at Tulane and Dr Urban Maes at LSU; both schools offered him appointments as assistant professor in

their surgery departments. Additionally, Maes³ gave Adriani a laboratory at LSU for research. He was also appointed Professor of Pharmacology at the Loyola School of Dentistry. Probably no one in the history of medicine had active academic appointments at 3 institutions simultaneously as held by Adriani.

THE ADRIANI RULE

Many anesthesiologists in the United States felt that nurses did not belong in anesthesia. In 1947, The Board of Directors of the American Society of Anesthesiologists (ASA) adopted a statement in the society's bylaws that it was unethical for an anesthesiologist to participate in the training of nurses. The American Board of Anesthesiology (ABA) stated that anesthesiologists could not give lectures at nurse anesthesia meetings. Paul Wood, secretary of the ABA Board, visited Adriani in New Orleans to tell him that the board was seriously considering revoking the certification of anesthesiologists who participated in the training of nurse anesthetists.

Lundy had a school of nurse anesthesia at the Mayo Clinic that was in existence before Adriani went to New Orleans, but nothing was said to Lundy because he did not sign the nurses' certificates. Adriani and the hospital director signed the Charity-trained nurses' certificates. However, both Lundy and Adriani lectured to nurses, in violation of the ABA's prohibition.

Adriani told Wood that his responsibility was to patient care and not to any philosophy that the ASA or ABA might proclaim. Nurses should be taught as much as possible to render patient care. He told Wood that if his certificate were revoked he would contest the matter in federal court because it was a denial of civil rights. Nothing more came of this issue, and the ASA revoked the statement in 1965. This action became known as the Adriani rule.⁶

ASSOCIATE DIRECTOR AND COMMITTEES

Adriani held many positions at Charity Hospital. He established the blood bank with the intention that pathology would assume responsibility after 3 months. He remained in that position for more than 25 years. He also assumed direction of inhalation therapy and established a bone bank. He eventually became an associate director at Charity and hence wielded a great deal of power. He gave daily lectures on anesthesia chemistry and pharmacology.

In my opinion, as an anesthesiologist he had no equal in his knowledge of the chemistry and pharmacology of anesthetic drugs. When shown the chemical structure of a new drug, he could predict the effect in animal experimentation in the laboratory and he was rarely wrong.

RESEARCH AND IMPACT ON ANESTHESIOLOGY TRAINEES

Adriani authored at least 13 books. Three of his books were for many years in the late 1940s and throughout most of the 1960s absolute requirements for passing the board certification: *The Pharmacology of Anesthetic Drugs, Techniques and Procedures of Anesthesia*, and *The Chemistry and Physics of Anesthesia*.

Broussard and Rossiter⁴ have written an excellent review of Adriani's influence on the ABA's oral examination. He served as ABA director from 1960-1972 and was chairman of the Examinations Committee in 1964 and 1965. His important contributions to the examination process are still relevant and used by board examiners today.

ACADEMIC ACHIEVEMENTS

In addition to 13 books, Dr Adriani published at least 650 articles and served as an editor of *Anesthesiology* for 9 years. He felt it was important to promote the specialty of anesthesiology and participated in many medical and nonmedical events to improve the medical community and public's perception of anesthesiology. His research was mainly clinical, and he always had 4 or 5 research projects that he personally conceived but that his staff or trainees conducted.

He trained more than 300 anesthesiologists and 1,600 nurse anesthetists. Many became involved in the academic arena. Some of the more well known are Sam Welborn, James Arens, and Ed Hyde. One of the many individuals whose career Adriani guided was Alon P. Winnie. During a conversation I had with Winnie when he visited New Orleans as a guest speaker at a meeting of the New Orleans Society of Anesthesia, he related the following story. Winnie developed an apparent infectious problem during his internship at Cook County in Chicago that left him paraplegic. He had been accepted at an anesthesia training program in Los Angeles, but when he informed the program director of his paraplegic condition, the director told him he could not perform anesthesia and terminated his residency position. Adriani happened to be in Chicago as the guest speaker at a meeting of the Midwest Anesthesia Society. When Winnie approached Adriani and requested a position at Charity, Adriani responded that if he had a position he would certainly accept him regardless of his paraplegia. In the meantime, Adriani knew of a new program at Cook County in Chicago and spoke to the program chair about Winnie. Winnie trained in anesthesia at Cook County and became a nationally recognized authority on regional anesthesia; he eventually became chairman of the Cook County Anesthesia Department.

AWARDS AND HONORS

Adriani received many honors during his career. These awards included the Distinguished Service Award from the ASA in 1949 and the International Anesthesia Research Society Award for the advancement of anesthesiology. Additionally, he received the prestigious Gaston Labat Award from the American Society of Regional Anesthesia, the Ralph M. Waters Medal, and the Award in Anesthesiology (international, third recipient, first American) in 1968. He received hundreds of national and international awards as a physician and others acknowledging him as an outstanding citizen.

A NATIONAL CONTROVERSY

Adriani was dedicated to patient care and created significant disturbance with his recommendation that generic drugs could be substituted for the name brand drugs that were more costly to the patient and made more money for the pharmaceutical companies. He was an advisor to the federal government in several areas; one of the most significant was his work with the Food and Drug Administration (FDA). He was considered during the Nixon administration for the position of director of the FDA's Bureau of Medicine. The pharmaceutical companies aggressively opposed his appointment, however, and his name was withdrawn.

Adriani testified before a Senate committee and stated he was "pro patient." US Senator Russell Long rose to the Senate floor to say that every physician in America should read the Adriani statement.⁷

Dr John Adriani was dedicated to his profession and to patient care. He retired in 1974 but was a daily fixture as he continued to cruise the halls of Charity. One of his trainees, Mohammed Naraghi, was

appointed to the position of director once Adriani retired. It will be a long time until medicine has another individual who did so much with so little. He died after a brief illness on June 14, 1988. He will always be remembered for his constant vigilance in the area of patient care and his bow ties. He was truly a pioneer in the specialty of anesthesiology.

I had the opportunity to know Dr Adriani personally during my time at Charity as a surgical house officer in the early 1960s and as an anesthesiologist from 1977 until his death in 1988. We spent many hours in educational and entertaining conversation. In addition to material gathered through a literature search, much of this article is based on personal contact.

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