The History of Anesthesiology
Washington University School of Medicine & Barnes Hospital
1912 -1992
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The history of anesthesia at Barnes Hospital and Washington University School of Medicine is almost a microcosm of the history of anesthesia in America in the 20th century. There was a constant struggle between anesthesiology and surgery. Few physicians administered anesthesia and surgeons turned to nurses administering anesthesia with mixed results. Washington University and Barnes Hospital were not an exception.

In 1912 Fred T. Murphy, MD., was the first head of surgery at Washington University. He came from the Massachusetts General Hospital and brought with him an “etherizing nurse”, Gladys Farrar, who had one year of experience. The nurse not only recorded the patients’ vital signs but also “takes down dictation of the findings of the operator”. The anesthetics were ether and local anesthetics - novocaine and stovaine.

In a budget proposal for 1916, Dean Shaffer said that physicians “… should have half time for investigations with department support” ($8,000 - $10,000 per year and special grants was to be available to help some departments). The medical school adopted a full time faculty plan with part time physicians designated with the term “clinical” such as “Clinical Professor”.

In 1919 Evarts A. Graham, M.D. became the Professor and Chairman of Surgery. Shortly after arriving he wrote a report to the Barnes Hospital Board of Trustees and said the administration of anesthetics should be under the supervision of a full time physician. He also said that the individual was to be capable of investigations in the field of anesthesia and one who could teach anesthesia.

Graham prohibited Chloroform except for short term labor relief. Spinal and caudal anesthesia was rarely used. In 1930 a visiting physician from France administered a spinal anesthetic and the outcome was total paralysis and death. Thereafter spinal anesthesia was banned until the
early 1940’s. After that only surgical residents were allowed to administer “low” spinal anesthesia for limb amputations and anorectal procedures.

The availability of good quality anesthesia administered by individuals employed by Barnes Hospital continued to be a problem in the 1920’s and 30’s. Private surgeons employed their own anesthetists which deprived the hospital of income.

In 1927 a full time nurse anesthetist, Helen Lamb, arrived and she opened a School of Nurse Anesthesia in 1929. Ms. Lamb exercised complete control of the anesthetics administered at Barnes Hospital. She never allowed any nurse anesthetist or student to do an endotracheal intubation until 1950. Training was 4 to 24 months long. Speculation was the duration of training depended on the number of personnel needed to cover the Barnes OR. Anesthesia was billed as a hospital service.

Despite the Board of Trustees report in 1920, Graham did not seriously look for a physician to be Chief of Anesthesia until 1944. Among those then approached were Francis Foldes and Henry K. Beecher – both at MGH. Beecher turned down an offer. Foldes claimed to be doing investigations of potassium but he did not know of Alex Hartman and his work. Foldes was not offered the position.

At the end of WW II, Dr. Frank Bradley (administrator of Barnes), members of the Executive Faculty of the Medical School and the Board of Barnes Hospital all came to the conclusion that an anesthesiologist must be recruited. Many surgeons returning from military service were convinced that anesthesiologists were needed.

Within the anesthesiologist community nationally, physicians returning from WW II did not want to be employed by a hospital or medical school. Obviously this was in conflict with the faculty policy at the medical school. Another factor was the AHA had adopted a position that physician anesthetists should be employed by a hospital. Frank Bradley was President of AHA. Barnes Hospital needed and wanted the profit margin that would be provided by physician employees.
Graham sought advice from others including Ralph Waters, Chair at the University of Wisconsin who suggested Stevens J. Martin who was still in the armed forces. After a visit in 1946, Martin proposed a department of 2 anesthesiologists and 14 residents. How Martin intended to cover the clinical service without nurse anesthetists was never answered. Obviously Martin did not come to St. Louis.

Later in 1946 there was a centenary celebration in Boston for the discovery of ether. Dr. Graham gave a talk titled “Ether and Humbug”. After complimenting Lister and Crile for their earlier work, Graham acknowledged ether as the third most important advance in surgery. At the end of the talk he dropped a “bombshell”. He acknowledged the superiority of anesthesiologists in the science of anesthesia but described them as unrealistic. Graham criticized anesthesiologists for wanting to eliminate nurse anesthetists and called this “Humbug”. He thought that the best solution to the problem was to train nurse anesthetists in teaching hospitals.

The talk was published in JAMA and started a long-term discussion throughout the United States that continues to this day. Graham tried to get the American College of Surgeons to admit anesthesiologists as members if they would work with nurse anesthetists. The effort was unsuccessful and ceased in 1956.

The “Humbug” paper, the faculty salary policy and the position of Barnes Hospital made it difficult (if not impossible) to recruit a Chief of Anesthesiology. Graham tried to recruit the Chair at Bellevue in New York (Rovenstine), an assistant resident in surgery (Larry O’Neal), a chief resident in medicine (Robert Glaser), and a private practice anesthesiologist (Seymour Brown). No one accepted.

Graham again contacted Beecher at the MGH. Beecher suggested Carl Moyer – a surgeon who had worked in Beecher’s lab but was now at Southwestern in Dallas. Somewhat prematurely, Graham sent a letter to Moyer in 1947 asking him about a title. Graham wanted “Anesthesiology” in the title.
Part of the reasoning may have been the proposed endowed chair from the Mallinckrodt family. Since Moyer had no anesthesia training, Graham suggested that he have an assistant do the anesthesia part of the job description. The offer included a fourth floor office near the OR so it would “appear” that he was involved in the day to day OR management.

In correspondence to Moyer, Graham cautioned him to be cognizant of the need for the hospital to be prudent in its anesthesia expenses. He stated that “Nurse Anesthetists of the technician class are, of course, less expensive to the hospital than an equal number of professional physician anesthetists. It has always seemed to me that much of the administration of anesthesia can be done by technicians under the proper supervision of those who are superior in knowledge, training, and experience”. Moyer did not take the job. He asked for a salary of $15,000 and Graham was only willing to pay $10,000.

I mentioned the Henry Elliott Mallinckrodt Chair in anesthesiology – a gift of his parents finalized in 1948. The gift of $100,000 was to the University – not to a Division or Department of Anesthesiology. The Chancellor, Dean, and Head of Surgery would decide how the income would be spent for research and not necessarily in anesthesiology. **A national search ensued for an “individual that would teach surgical anesthesia and supervise the administration of anesthetic drugs, the use of oxygen and other gases, as well as train resident physicians and ‘nurse technicians’ in anesthesiology”**.

About this time turmoil was brewing in St. Louis and both full time and private practice surgeons were expressing dissatisfaction with Helen Lamb and Graham for not recruiting a physician as chief of anesthesia. Thomas Burfurd and 12 other surgeons expressed their unhappiness in a meeting and later sent a letter to Graham. They proposed a male physician anesthesiologist as administrator and an increase in the number of supervisors for student nurse anesthetists.

Burford took things in his own hand and contacted Nathan Womack, a former Washington University surgeon then Chief of Surgery at U. Iowa. Womack recommended Douglas Eastwood. Eastwood met with Graham who indicated he would support a residency program but there should be a continuation of the nurse program. He did not indicate that there would be a
Department of Anesthesiology. Eastwood said he did not want to be the Director of the Nurse Anesthesia School but would provide lectures and daily supervision of nurse anesthetists.

Eastwood arrived in October, 1950 as an Assistant Professor of Anesthesiology in the Department of Surgery and the Director of Anesthesia at Barnes Hospital. This threat to Lamb resulted in her “retirement” in 1951.

Eastwood was paid a salary by the hospital. Bradley continued to control the expenditures including supplies, equipment and personnel in anesthesia. Eastwood had to justify every purchase or hiring. He tried unsuccessfully to hire Ken Sugioka, M.D. – a former Washington U student who designed the first tread mill for Graham. Bradley told him he needed the money to pay for laundry and pay for the “airline food service”.

Eastwood’s first recruit was Jack Elder from the Univ. PA. but his health hindered his work. He was able to recruit James Elam from Iowa and did get a residency started in 1952 with 2 residents. Eastwood and Graham had a good working relationship but Graham stepped down as Head of Surgery in 1951.

After a national search Carl Moyer was chosen as Graham’s successor in 1951. The working relationship between Eastwood and Moyer was strained. For example, Moyer disliked Elan’s work and made life difficult for him. This was a major impediment for Eastwood to establish an academic division. Elan left for Buffalo, N.Y. with two residents and all his lab equipment.

Meanwhile Moyer and Bradley could not be convinced to create a formal division - much less a department – for anesthesiology. Eastwood kept a promise to himself. If he did not create a separate department within three years he would leave which he did in October, 1953. Eastwood went on to become a very successful chair at two other institutions. The sickly Dr. Elder then became the acting chief of anesthesia for 18 months.
Turmoil once again raised its head. This time the Barnes Board of Trustees and the Executive Faculty of the Medical School began an effort to establish a division of Anesthesiology. Multiple changes were advocated including:

1) The chief of the division would be responsible for all clinical services of anesthesiology at Barnes, Children’s and Allied Hospitals
2) All clinical fees for physician, resident, intern, and student services would also go to the hospital.
3) The hospital would give the medical school $25,000 annually to support the division.

Bradley was adamant that working for the hospital had to be part of the agreement. He feared the medical school would deprive the hospital of money. The Mallinckrodt family also tried to help by saying that they would increase the endowment for the chair annually until the principle sufficient to pay the salary of a Full Professor.

Once an agreement was made, Robert Dodd, M.D., was recruited from the Univ. of Maryland. He arrived in 1956 as the Head of a Division of Anesthesiology in the Department of Surgery, Anesthesiologist-in-Chief at Barnes Hospital and the first Mallinckrodt Professor. A department was not promised because it would upset the balance between the clinical and basic science departments. But Dodd was assured that this decision by the Executive Faculty was not unalterable.

Recruitment was very difficult. He would be limited to 3 anesthesiologists in 1957 as the hospital could not afford more. Over 8 years he was able to add one more position. He was able to revive the student clerkship in 1964 that included OR and OB anesthesia plus care of comatose patients in intensive care.

About that time an Ad-Hoc committee of the Executive Faculty had recommended that a formal Department of Anesthesiology be established. The Executive Faculty did not act on this awaiting Walter Ballinger as the Head of Surgery.
1968 was a wonderful year for Anesthesiology at Washington University. The National Halothane Study revealed that Barnes Hospital had one of the lowest rates of postoperative mortality among 34 teaching hospitals and this was thought to be due to the increased physician supervision of anesthesia. The senior student elective was over subscribed. An anesthesia laboratory was established and faculties were recipients of a Career Development Award, a Career Investigator Award, and a Public Health Fellowship.

As things were looking up, the bottom fell out. Ballinger found “no enthusiasm” among the Executive Faculty for department status. Dodd took this as a personal affront and promptly resigned as division chief July 1, 1968. Dr. Harvey Butcher then became the acting head of the division. Ballinger also asked Dodd to resign the Mallinckrodt Professorship which he did. He resigned his faculty position in 1969 only to become Department Chair at the University of Southern Illinois.

Ballinger then complained that anesthesiology had become a financial drain on the Dept. of Surgery. The Medical School took on the administrative and financial responsibilities of the division. The Department of Surgery with the assent of the school then used the income from the endowment to support other activities.

Even more turbulent times followed. The St. Louis Medical Society got involved. In their Dec. 1969 Bulletin it was stated that a “crisis in anesthesia existed in the area”. It pointed out that there were only 24 anesthesiologists for 35 hospitals and only one residency program that was about to lose accreditation due to “present institutional political disagreements”. It was also stated: “…no other discipline in medicine in St. Louis is without ready access to stimulation from residents in training, research, and clinical conferences.”

The St. Louis Society of Anesthesiologists also got involved by sending two letters to Vice Chancellor William Danforth expressing concern about the state of anesthesia services at the Medical School and Barnes Hospital and the long history of inept attempts to establish an anesthesia service.
Despite the editorial and letters, it was not until 1971 that Barnes and Washington University tried to recruit another Chief of Anesthesiology. An agreement addressed monetary issues but did not address the separation of anesthesia from surgery.

The position was offered to Dr. C. Ronald Stephen but he would not take the position until department status was granted to Anesthesiology. Dr. Stephen was an internationally recognized anesthesiologist that had graduated from McGill University Medical School and trained in anesthesiology in the Canadian Army and McGill University. Duke University had recruited him from Montreal in 1950. Departmental status was promised at Duke but it did not happen. He then became Chief of Anesthesiology at Children’s Hospital in Dallas with a Professorship at Southwestern’s Department of Anesthesiology. By 1971 he had published 3 books and over 140 peer reviewed papers.

Dr. Stephen had introduced the Stephen-Slater valve for pediatric anesthesia, was the first to administer halothane to humans in the United States, and was one of the individuals credited with introducing ketamine as an anesthetic agent and he had also helped develop a calibrated vaporizer for halothane and the “Duke” inhaler for obstetric analgesia.

He was promised, in writing, that he would have complete control of the Barnes Hospital nurse anesthesia program. This promise was not kept and the same excuse was used – Barnes needed the money from the nurses.

When Stephen arrived, there were 6 physicians on the faculty but only four (including Stephen) for the OR’s. Despite this, he started offering a student preceptorship program and a residency program in 1971. One of his first recruits was Leonard Fabian who had been at Duke and later was chair at Mississippi. Six additional faculties were added in 1971 – 72. Faculties were beginning to be recognized and named to hospital and medical school committees. Dr. Stephen, however, was never named to a committee of the Executive Faculty.

Dr. Stephen was a superb lecturer – they were almost an emotional event. He came across as an evangelistic minister. Showcasing the Department was a major commitment and it hosted a
Midwest anesthesia resident conference and started a geriatric anesthesia 3 day symposium that lasted for 20 years. Research took a back seat to clinical service and education.

Stephen resigned in 1980 because he could not get complete control of the anesthesia services at Barnes Hospital. By this time he had built a faculty of 23 and was providing service to adult and pediatric operating rooms, respiratory care, and critical care medicine. **In 1981 he was recognized by his peers with the American Society of Anesthesiologists’ Distinguished Service Award.**

A national search for a new Head of Anesthesiology chaired by William Fair, the acting chief of surgery. Dr. Fabian was named the interim chair in 1980. He stepped down in 1982 because of declining health. I then became the interim chair and later the chair. By then Barnes Hospital and the Medical School agreed that the School of Nurse Anesthesia would become part of the Washington University Department of Anesthesiology. This was accomplished in October 1983. The anesthesia group at Jewish Hospital was to be integrated into the University Department when “the time was right”. The administration of Jewish Hospital changed and the right time became 1993.

The Department embarked on new directions. The Medical School wanted the Department to become much more academic and to do so made available considerable dollars and research space. Joe Henry Steinbach was recruited to initiate a new Anesthesia Research Unit. He came from the Salk Institute with the help of Gerald Fischbach. Dr. Steinbach went on to develop one of the most productive anesthesia research units in the U.S. Scientific papers from these NIH funded labs were published in such journals at Nature, Science, Anesthesiology, and Anesthesia and Analgesia. A program project grant application was also funded.

A post-doctoral program was developed with the help of David Kipnis and Philip Needleman. Promising young investigators were placed in the labs of then Pharmacology and Physiology for post-doctoral training while still working part time in the clinical area. The first individual to go through this program was Alex Evers who later became Chair of the Department.
Other early recruits were Paul White for Clinical Research, Demetrios Lappas for Cardio-thoracic, Carl Nielsen for regional anesthesia, Rene Templehoff for neuro-anesthesia, and Robert Swarm for Pain Medicine.

Anesthesiologists throughout the 1980’s primarily directed the Surgical Intensive Care Unit of Barnes Hospital. For a considerable time a surgical co-director was not officially named.

A Director of Clinical Anesthesia for Children’s Hospital was much more problematic and remained so through my tenure as Chair. Children’s Hospital administration would not provide sufficient office space or administrative roles for anesthesiologists in the operating rooms or intensive care units. Every prospective chief was denied the support needed to be an effective chief of pediatric anesthesia.

The Department was growing in local stature with faculty members being recognized as investigators, teachers, and contributors to the medical school’s goals. Several obtained joint appointments with preclinical departments. Many took leadership roles in local, state, and national societies.

The Department began to achieve national recognition that helped in recruiting faculty and residents. Some became members of NIH study sections, visiting professors, and lecturers at national meetings.

The Nurse Anesthesia Program eventually was moved to Southern Illinois University but we remained as the primary clinical location.

Dr. Samuel Wells was appointed head of Surgery in 1981. At first, Dr. Wells and I had a reasonable working relationship but over time we began to have serious disagreements over important matters related to patient care and OR management.

At the time of the merger of the nurse anesthesia program into Washington University, Barnes Hospital said they would only pay for 11 residents. This became a problem later when Medicare
changed reimbursement rules for supervising residents and nurse anesthetist. The Department could no longer afford to pay for its 57 residents, fellows and the nurse anesthesia program without financial help from the institutions. This was not forthcoming. The Barnes Administration simply said: You took our profit from nurse anesthesia; we are not giving the department any money despite the fact that Medicare would no longer be a money maker for them, either.

Due to the conflicts with Dr. Wells and with the Barnes Administration I resigned as Head of Anesthesiology and Mallinckrodt Professor in June 1992 but remained on the faculty. Dr. Alex Evers then became the interim Head of Anesthesia. At the time of my resignation we had 54 anesthesiologists, 57 residents and fellows, and 39 nurse anesthetists – quite a change from the numbers in 1971.