The Southern Surgical Association History of Medicine Scholarship Presentation

Dr. Charles Drew, a Surgical Pioneer

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Abstract: When one considers the circumstances of his birth, the barriers that he had to overcome, and his abbreviated life span (<46 years), a strong case can be made that Charles Drew, MD, CM, MDSc, was one of the most accomplished surgeons of the 20th Century; yet many practitioners and instructors of the surgical sciences know little or nothing about him. There are others who have heard of him and still harbor popular misconceptions about the circumstances of his death that have been perpetuated by several media outlets. The Southern Surgical Association promotes a substantially more inclusive brand of surgical fellowship than it did during the lifetime of Dr. Drew. We believe that the membership would greatly appreciate knowing some of the details of Dr. Drew’s life, particularly his major scientific contributions and his commitment to excellence in patient care, and in the training of young surgeons.


Charles Drew was born in 1904 in Washington, DC. He was the first-born of Nora and Richard Drew. He attended Dunbar High School where he lettered in 4 sports and was voted best athlete in both his junior and senior years. He was awarded a partial athletic scholarship to Amherst University in 1922. While he suffered the occasional indignity of racism such as being refused room and board when traveling with his white track teammates, the Amherst experience was largely a positive one. He excelled academically in his final 2 years, as well as winning trophies for being the most valuable player on the football and track teams.¹

It is unclear if a sentinel event attracted Drew to medicine, but President Coolidge’s son was an Amherst schoolmate who died of a virulent staphylococcal infection following a heel blister. Following graduation from Amherst in 1926, Drew needed to earn some money and also had a continuing interest in athletics. He accepted a position at Morgan State College in Baltimore as football coach and instructor in Biology and Chemistry. By 1928, Drew was committed to pursue a career in medicine and resigned from Morgan State to seek admission to a medical school.

The Flexner Report of 1910, “Medical Education in the United States and Canada,” established a model for medical education and prompted both educational reforms and closure of a substantial number of medical schools present in North America in the first part of the 20th Century. As a result, when Drew was ready to apply to medical schools, most black medical students were being trained at 1 of 2 schools: Howard University in Washington, DC, and Meharry Medical College in Nashville, Tennessee. Admission standards were extremely stringent at these 2 medical schools, and despite his overall qualifications, Drew’s 6 credit hours of English at Amherst fell 2 credit hours short of those required for admission at his hometown medical school. Accordingly, his application was rejected at Howard, but he was accepted at McGill in Montreal, Canada.

Training Years

Drew established a stellar record at McGill, both in academics and athletics. Medical students were allowed to compete on the University track teams at McGill, and Drew set track records that would stand for many years. Academically, he finished second in his class of 137 students and was elected Vice President of the Alpha Omega Alpha Medical Honor Society. The top 5 students of each graduating class at McGill were given an annual written examination to compete for the coveted Williams Prize, an award that Drew won in 1933. He graduated with both an MD degree as well as a CM (Masters of Surgery) degree.

Drew’s postgraduate medical training was broad-based and would serve him well as a surgical scientist for years to come. He spent his first 2 years (1933–1935) at the Montreal General Hospital, first as an intern in Pathology and then as a resident in Internal Medicine. Drew’s father died in 1935, and he became the acknowledged head of the family and very interested in further training opportunities at his hometown Howard University and Freedmen’s Hospital. The Department of Surgery at Howard University was established in 1868; and its affiliated Freedmen’s Hospital opened in 1862,
initially for the purpose of treating Negro patients, and later to establish training opportunities for Negro physicians. Dr. Edward Howes (MD, Yale 1928) was appointed by Dean Nuna Adams as Professor and Chairman of Surgery for a 5-year term, beginning in 1936. It was agreed that at the end of this term, the most promising black surgical academician would be pursued as Dr. Howes’s successor.

Charles Drew took a position as Instructor in Pathology at Freedmen’s Hospital in 1935, and Resident in Surgery (and subsequently Instructor in Surgery) from 1936 to 1938. Having established himself as a rising star in surgery, Dr. Drew was strongly supported by Dean Adams and Dr. Howes and successfully obtained a Rockefeller Fellowship to study at Columbia University and Presbyterian Hospital in the Department of Surgery headed by Dr. Allen O. Whipple. At Columbia, Dr. Drew was assigned to the laboratory of Dr. John Scudder, who was establishing a national reputation for his research on body fluids and electrolytes, as well as plasma preservation. Dr. Drew’s outstanding ability was quickly recognized; and when a vacancy opened in the surgical residency at Columbia, he was assigned to fill it.

Excellence of Performance

At this point, a credo that is attributed to Dr. Drew as one that guided both his life and his teachings should be mentioned:

Excellence of Performance Will Transcend Artificial Barriers Created by Man

Drew’s outstanding performance in athletics and academics had him clearing hurdles that were insurmountable to many of his race at that time in American history. Consider the appointment letter by Dr. Whipple for Drew in 1936: “...provide him meal tickets and uniform... He is not to eat in the dining room with other residents.” Having been appointed to surgical residency during that academic year, and performing in a stellar fashion, Dr. Drew merited a reappointment letter from Dr. Whipple 1 year later that took on a different tone: “He has done an outstandingly good job... The residents insist that he eat in the dining room with them.”

Dr. Drew and Dr. Scudder’s work focused on the deficit of fluids, electrolytes, and blood in the pathophysiology of shock, as well as the separation and preservation of proteins necessary for plasma storage. In 1940, Drew prepared a 200-page dissertation for his Medical Doctorate of Science entitled “Banked blood: a study in blood preservation.” Dr. Scudder referred to the dissertation as “a masterpiece one of the most distinguished essays ever written, both in form and in content.” Dr. Scudder was similarly effusive about Drew himself, referring to him as “naturally great a keen intellect, coupled with a retentive memory in a disciplined body, governed by a biologic clock of untold energy. A personality altogether charming, flavored with mirth and wit, stamped him as my most brilliant pupil... (He became) one of the great clinical scientists of the first half of the 20th Century.” This period of study under Scudder and Whipple would prove to be extremely productive, leading to 15 of the 25 publications he coauthored in his abbreviated career. He also met and married his wife, the former Minnie Lenore Robbins in 1939, a union that would produce 4 children.

To Howard...and Back to New York

Upon receiving his MDSc degree from Columbia in June 1940, Dr. Drew returned to Howard University as Assistant Professor of Surgery. Another international development in 1940 would prompt Dr. Drew to be summoned back to New York after just a few months in his first full-time faculty position in Howard’s Department of Surgery. In anticipation of a possible invasion of England, with the associated need for massive transfusion of blood and plasma, the Blood Transfusion Betterment Association of New York, with support from the American Red Cross, began a project to collect blood for shipment to the British Isles. The project began with 8 New York City hospitals collecting blood in what was known as the Plasma for Britain Project. Dr. Drew was granted a leave of absence by Howard to be the medical director of this project. In addition to securing liquid plasma for Britain, Drew worked to secure dry plasma for the U.S. Armed Forces, a project that would become the model for the volunteer blood donor program for the American National Red Cross.

Sixty-five years later, one of Dr. Drew’s trainees could vividly recall the twinkle in his eyes as he related the story of blood collection to his surgical residents. It was heartwarming for Dr. Drew to consider the thousands of lives that would be saved by the repeated humanitarian act of persons donating blood to be used by an unknown, unrelated person on the other side of the globe. At the same time, he was distressed by the policy of the U.S. Armed Forces and the American Red Cross to restrict blacks from donating blood initially, and subsequently to segregate blood based on race, a policy that was scientifically unsupportable. Indeed, Drew was unable to donate his own blood to the very project that he directed. Much can be learned about Drew’s style by the way he expressed his views regarding the racial mythology that prompted the policy of segregating blood. He was not an activist by nature, and he was cautious about publicly criticizing a policy of the Armed Forces during wartime. He would later write, in a 1944 letter, to a director of the Labor Standards Association, who had asked his views:

“I think that the Army made a grievous mistake, a stupid error in first issuing an order to the effect that blood for the Army should not be received from Negroes. It was a bad mistake for 3 reasons: (1) No official department of the Federal Government should willfully humiliate its citizens; (2) There is no scientific basis for the order; (3) They need the blood. I would be heartily in favor of pressure of all types being brought on the Surgeon General of the US Army to force him to rescind the instructions to the American Red Cross which demands the separation of the bloods of the donors. Such an order, I believe, would have a greater salutary effect upon the morale of Negroes than any other act which could be done at this time. I have had occasion to say this before both official and unofficial in Army circles and outside of it, but to date, with no avail.”

The months of late 1940 and early 1941 would be extremely eventful for Drew even without the dizzying pace...
of his Plasma for Britain Project. He would become a father (giving his oldest daughter the name “Bebe”—for Blood Bank) and would take Part I and Part II of the American Board of Surgery (ABS) examination en route to becoming one of the first blacks certified as a Diplomate of the ABS.

Dr. Drew’s performance on the oral examination taken at Johns Hopkins on March 14, 1941, is one of the more enduring legends associated with him. He was asked by one of Hopkins’s outstanding surgeons (thought by one of Drew’s trainees to be Dr. Stuart Rodman) questions on fluid and electrolyte deficit and the use of blood and plasma for the treatment of shock, topics that Drew had studied extensively. As Drew revealed his vast knowledge of the subject, the surprised examiner briefly interrupted him and went out along the corridor knocking on the doors of rooms where others were examining candidates, and urged several examiners to come and hear Drew’s erudite discussion. In October 1941, just months after taking his oral examination, Drew’s outstanding performance earned him an appointment as an Examiner for the ABS. In the same month, he took over as the head of the Department of Surgery at Howard University, and Chief Surgeon at Freedmen’s Hospital, a role that he would fill until his death.

Perspectives of Drew Trainees: The Mission at Howard

In his new leadership role at Howard, Drew immersed himself in his lifework, and made no secret of his ultimate motive (Fig. 1). He wanted to build Howard’s surgical residency program and create a cadre of well-trained black surgeons whose excellence and confidence would be the vehicles through which further opportunities would be created (Fig. 2). Drew could have used his connections for great financial success, but felt he could do his greatest good through his missionary work at Howard. He lived on a modest teaching salary until his death, and he and his wife and 4 children lived in a comfortable rented 3-story house on the Howard campus. His wife Lenore would later say:

“He would work 12 to 16 hours a day and did not take vacation or even go to church. He was a natural man without pomp who brought the same energy and enthusiasm to great tasks and small. He was a born teacher, even when he would sit down with the children, he wanted them in possession of something when he got through with them.”

Drew himself would say, in 1947, “The boys who we are now helping to train, I believe in time will constitute my greatest contribution to medicine.”

The occasion of this History of Medicine scholarship allowed the interview of 3 of Dr. Drew’s trainees, a medical student, a junior resident, and a chief resident, all of whom independently associated Dr. Drew with his identifying motto: Excellence of performance will transcend artificial barriers created by man.2,4,6

Asa Yancey personifies the vision Drew had for his trainees (Fig. 3). Born and raised in Atlanta, where he received his elementary, secondary, and college education (Morehouse, Class of 1937), Dr. Yancey would be one of a very small minority of blacks in his day to graduate from a majority medical school (University of Michigan, Class of 1941). After a year of postgraduate military obligation, Dr. Yancey would train at Freedmen’s Hospital under Dr. Drew for 2.5 years from 1942 to December 1944. A well-developed obstetrics-gynecology program at Howard would keep general surgery residents from doing much pelvic and gynecologic surgery. Drs. Yancey and Drew felt that additional time at Meharry Medical College in Nashville, Tennessee, would
broaden his experience. Following his time at Meharry, and with Dr. Drew’s support, Dr. Yancey became Chief of Surgery at the Veterans Administration Hospital in Tuskegee, Alabama, an institute that also possessed an excellent veterinary school and animal laboratory. In the laboratory, Dr. Yancey worked on a modification of the Swenson technique (proctectomy with coloanal anastomosis) for congenital megacolon (Hirschsprung’s disease). He would later perform this procedure in a patient, stripping only the rectal mucosa and pulling the sigmoid colon through the seromuscular rectal sleeve and fashioning a coloanal anastomosis. Dr. Yancey would publish this technique in 1952 in the *Journal of the National Medical Association* (a journal that was not carried by most majority institutions at the time), some 12 years before Dr. Soave published his surgical series of the modification that bears his name (Fig. 4).7,8

To this day, Dr. Yancey describes Dr. Drew as “the most wholesome person you ever want to meet—just an excellent individual.” Dr. Yancey’s reverence for Dr. Drew, and the positive impact that Dr. Drew made on his life, is so complete that, when the interview turned to the topic of Dr. Drew’s death over 55 years earlier, Dr. Yancey was overcome with emotion.4

It was Dr. Drew’s dream that Dr. Yancey spend about 5 years at Tuskegee while the groundwork was quietly being laid for him to return to Atlanta to integrate Grady Hospital and the Department of Surgery at Emory School of Medicine. Dr. Drew would never live to see Dr. Yancey fulfill his dream as the first black faculty member in the Emory University Department of Surgery, the first black surgeon at Grady Hospital (and ultimately its long-time Medical Director), and the first black member of the Southern Surgical Association.

Dr. John Ford was a resident at Tuskegee under Dr. Yancey (and a coauthor on his cited article) and serves as another important living legacy. He is the last surviving occupant who was in the car in the early morning crash of April 1, 1950, that would claim Dr. Drew’s life (Fig. 5).6 Born and raised in Hinsdale, Illinois, Dr. Ford was the only black member of the graduating medical class at Loma Linda in 1947. After an internship at Los Angeles County Hospital, Dr. Ford came to Freedmen’s Hospital to train in July of 1948. Dr. Drew would come to arrange further training opportunities for Dr. Ford at Tuskegee in 1950 through his connection with Dr. Yancey. For this reason, Dr. Ford and another junior resident, Walter Johnson, MD, would accompany Dr. Drew and another faculty member, Samuel Bullock, MD, on their drive from Washington, DC, to Tuskegee to attend the annual scientific session of the well-known John A. Andrew Clinical Society. A detailed chronology of the last day of Dr. Drew’s life will reflect how his endless energy and dedication probably contributed to his death (Table 1).2

Early morning rounds and a mastectomy proceeded Dr. Drew’s 10 AM lecture to the sophomore class on Shock, Plasma, and Water Balance. A significant nuance in 20th Century American surgical history is that a precocious 19-year-old sophomore medical student was in his usual seat in the front row scribbling his notes.2 That student, LaSalle D. Leffall, Jr., would ultimately graduate first in his class in 1952, and 40 years later would become the first Charles R. Drew Professor of Surgery at Howard University (Fig. 6). A busy day would end with Dr. Drew making late night rounds in the hospital from 10 to 11 PM. The 4 doctors would leave Washington in Dr. Bullock’s 1949 Buick Roadmaster (un-equipped with seatbelt) around 1 AM.

A Modification of the Swenson Technique for Congenital Megacolon*

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HIRSCHSPRUNG’S DISEASE:
A NEW SURGICAL TECHNIQUE*

BY

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FIGURE 4. a, 1952 publication by Dr. Asa Yancey. b, 1964 publication by Dr. Soave.
After a brief stop around 5 AM, Dr. Drew would take the wheel. Sometime around 7:30 AM, outside of Burlington, North Carolina, Dr. Drew would fall asleep at the wheel. Dr. Ford retained a sharp recollection of the details of the crash some 55 years later:

"Dr. Drew fell asleep and veered off the highway onto the right shoulder of the road. Dr. Bullock, seated in the front passenger seat, yelled out, ‘Hey Charlie!’" Dr. Drew sharply turned the steering wheel to the left in a corrective action that would cause the car to roll over several times away from the driver side. The front and rear doors on the driver side flew open, and both young Drs. Ford and Johnson were catapulted from their positions in the backseat. Dr. Ford sustained a fractured humerus, and Dr. Johnson was relatively uninjured. Dr. Bullock would also be found uninjured, wedged under the dashboard of the front seat. Dr. Drew’s foot had been caught on the brake pedal so that he was only half-way thrown out of the car. His head and body sustained a major impact from the car as it rolled over a second time.

Dr. Drew was transported to Alamance General Hospital, where he was met by 2 surgeons who were on-call in the emergency department (Dr. Harold Kernodle, an orthopedic surgeon, and his brother Dr. Kernodle, a general surgeon) as well as Lucile Crabtree, RN, a nurse anesthetist. He was grossly hypotensive, with fixed, dilated pupils, and an obvious closed head injury. He also sustained a crush injury to the chest and avulsion wounds of his quadriceps muscles. He was declared dead at 10:10 AM.

Devastating News

In those days, students at Howard University College of Medicine had lectures on Saturday mornings, so Dr. Leffall would never forget a historic utterance he heard in Dr. Walter Booker’s Pharmacology lecture on the morning of April 1, 1950. Dr. Leffall recounts:

“I can remember very well . . . I used to always sit on the front row because I didn’t want to miss anything. Dr.
Booker was lecturing, when a laboratory technician we called ‘Long Tall Miller’ came in and whispered something to Dr. Booker. Although I couldn’t ‘hear what he said, I could notice that Dr. Booker’s face turned ashen, and I would never forget his response, ‘You shouldn’t joke like that on April Fool’s Day.’

After being assured Miller was serious, Dr. Booker gave the devastating news that Dr. Drew had been killed and dismissed the class.

Dr. Drew’s funeral in Washington on April 5, 1950, was said to be the biggest the city had seen since President Roosevelt’s 5 years earlier. It was attended by dignitaries from all the professions and institutions that he had touched during his abbreviated life. Mrs. Whipple, Scudder, and Howes all attended from New York. Former First Lady, Mrs. Eleanor Roosevelt, was among the many dignitaries who wrote letters of sympathy. A young congressman from Minnesota, Hubert Humphrey, read one of Dr. Drew’s obituaries into the Congressional Records.

“Dr. Charles R. Drew, whose life was snuffed out in its early maturity by an automobile accident on Saturday, was among the most gifted of American surgeons. He chose to devote his gifts to the advancement of medicine rather than to the advancement of a personal career or to winning the monetary rewards that were easily within his reach. In particular, he devoted his gifts to the training of young Negro surgeons desperately needed for the medical care of their race. He will be missed, however, not alone by his own race but by his whole profession and by men everywhere who value scientific devotion and integrity.”

**Myth That Wouldn’t Die**

Mrs. Drew would write a letter to the doctors and nurses at Alamance General Hospital, thanking them for their efforts in trying to save her husband, based on the account by the 3 doctors who had accompanied him. Sadly, a myth has persisted throughout the next half century that suggested Dr. Drew died because he was turned away from an all-white hospital, or was denied life-saving blood transfusion, a technique that he himself helped to develop. Though Alamance General Hospital was segregated at the time, with designated beds for black patients (including the bed where Dr. Ford was admitted), all patients were received and treated in the same Emergency Department. Dr. Drew never survived to be admitted to the hospital, but the Kernodle brothers were well aware of the prominence of their patient. Among the unanimous testimony of doctors, nurses, administrators, Dr. Drew’s colleagues, and a black orderly at the hospital, Dr. Leffall remains most moved by the direct description of that fateful morning given to him by nurse-anesthetist Crabtree in a conversation they had in 1983:

> “I placed the endotracheal tube. I gave him the IV fluids. I was with him from the time he arrived, as were others. We were a small hospital and had no blood at that time, but we did give him plasma. We conferred with Duke about transferring him, but his condition wouldn’t allow it.”

The following decades would witness several erroneous accounts in mainstream public discourse that would serve to keep the myth of Dr. Drew’s death alive. Speeches by public figures referring to Dr. Drew’s denial of care be picked up and repeated in newspaper columns. *Time* magazine wrote in March 1968:

> Dr. Charles Drew pioneered in new techniques to store blood plasma. Drew, ironically, bled to death after he was injured in a car crash and was turned away by an all-white hospital.

An episode of the popular television show “MASH” also referred to Drew being denied care; and in 1981, upon the creation of a stamp commemorating Dr. Drew, the *New York Times* cited the lack of blood plasma at a segregated hospital as a possible cause of his death.

The authoritative work by historian Spencie Love entitled, *One Blood: The Death and Resurrection of Charles Drew*, described how the myth has been cultivated because of the time and place of Dr. Drew’s death and serves as an unfortunate filler between living memory and written history. True enough, a 23-year-old black World War II veteran by the name Maltheus Avery was critically injured in an auto crash on December 1, 1950, exactly 8 months after Dr. Drew’s death. He was a student at North Carolina A&T, a husband, and a father of a small child. Like Dr. Drew, he was treated initially at Alamance General Hospital. He was transferred to Duke University Hospital and subsequently turned away because they had exhausted their supply of beds for black patients. Mr. Avery would die shortly after arrival at Lincoln Hospital, Durham, North Carolina’s black facility. Spencie Love’s book discusses how the story of the lesser-known Maltheus Avery confronted the circumstances of the death of the more prominent Dr. Drew, and thus a myth was born.

It is a powerful tribute to Dr. Drew’s character that his family, friends, colleagues, trainees, and those most affected by his life experience have labored so persistently to set the record straight regarding the details of his death, even when the myth would provide a much more convenient Hollywood script. Three chief editors of the *Journal of the National Medical Association* have provided accurate accounts in their columns. Named lectures delivered by Dr. Claude Organ, former Editor of *Archives of Surgery* and founding member of the Society of Black Academic Surgeons, have also attempted to set the record straight. Dr. Leffall has shared the accurate history with thousands of Howard medical students over more than 40 years.

**CONCLUSION**

The measure of Dr. Drew’s impact and contributions go far beyond the enormous accomplishments of his abbreviated life. His impact can be traced through the continuing contri-
butions of a generation of surgical scientists inspired not only by Dr. Drew’s insistence on excellence of performance, but also his dogged belief that the practice and ethics of surgery should be guided by the principles of compassion and integrity, even when inconvenient and not supported by popular myth.

REFERENCES
2. Interview with LaSalle D. Leffall, Jr., MD. Howard University Television, Washington, DC, June 7, 2005.
4. Interview with Asa Yancey, MD, September 23, 2005.