Downstate Medical Center: A Unique Training Experience

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What comes to mind when you think about Brooklyn? Maybe it’s a Jay-Z concert or a Nets game, or maybe it’s riding the Cyclone on a summer night in Coney Island. It might be the Brooklyn Bridge, brownstone row houses, traffic lights, cars, horns, or hipster coffee shops. But whatever Brooklyn brings to mind, you are probably not thinking about anesthesiology. Maybe you should be.

Believe it or not, Brooklyn was home to the first anesthesiology professional society in the United States. In 1905, Dr. Adolph Erdmann invited all physicians with an interest in anesthesia to a meeting at Long Island College Hospital (LICH) in Brooklyn’s Cobble Hill neighborhood. The group met in the Polhemus Building at LICH and formed the Long Island Society of Anesthetists. The goal of the society was “To promote the art and science of anesthetics,” and membership dues were set at $1 per year.¹

As word of the new society spread, physician anesthetists from Manhattan and the other boroughs began attending the meetings in Brooklyn. These members soon represented a majority, so, in 1911, the group voted to broaden its name to the “New York Society of Anesthetists” (NYSA). As time went on, the organization began receiving membership requests from across the country and began to consider becoming a national society. In 1936 the name changed again — this time to the “American Society of Anesthetists.” The term “anesthetists” was replaced by “anesthesiologists” in 1945 and the modern-day ASA was born. It all started in Brooklyn.

Brooklyn has also been the training ground for more anesthesiologists than many entire states. If Brooklyn were an independent city — as it was until 1898 — it would be the fourth largest in the U.S., behind only Chicago, Los Angeles, and New York.² The anesthesiology residency programs here are also among the biggest and oldest in the country.
LICH opened in 1858 and admitted its first medical students two years later. Among the founding faculty was Dr. Austin Flint — best remembered for demonstrating the usefulness of the stethoscope in diagnosing heart and lung disease. Dr. Flint delivered the first commencement address in the summer of 1860. From the beginning, the curriculum combined classroom instruction with bedside teaching. While it may seem standard today, this curriculum was revolutionary for its time because bedside instruction had never been tried before in the United States.

LICH continued contributing to science and medicine well into the 20th century. Achievements from this era include the synthesis of the diphtheria anti-toxin, the first microdissection of an individual nephron, and Professor Alexander Skene’s identification of two mucus-secreting glands at the base of the female urethra. Dr. Skene recognized these glands as a source of infection in many of his patients. Today this structure is known as “Skene’s gland,” and there is a bust honoring Dr. Skene in Brooklyn’s Grand Army Plaza.

LICH served the people of Brooklyn during this period and became part of the landscape of the broader United States. Brooklyn experienced a population explosion after the Civil War — starting with approximately 400,000 residents in the 1860s and booming to more than one million in 1900. Doctors at LICH found themselves treating freed slaves as well as immigrants from Ireland and other European countries. When the hospital on Ellis Island burned down in the 1890s, all immigrants arriving in the Port of New York went to LICH for screening and treatment. As polio became an epidemic in 1916, doctors at LICH created one of the nation’s
largest units for treating the disease, and LICH personnel served with distinction overseas during both world wars.

After World War II, times were changing in Brooklyn. The population was booming with soldiers coming home and new waves of immigrants, and it was obvious that Long Island College of Medicine had outgrown its campus in Cobble Hill. In 1950, the college merged with the State University of New York (SUNY) system to become SUNY College of Medicine at New York City, later to be known as SUNY Downstate Medical Center. The University bought some land in central Brooklyn’s Flatbush neighborhood and in 1954 President Dwight Eisenhower laid the cornerstone for the Basic Sciences Building. Construction also began on a second teaching hospital in Flatbush and in 1966 University Hospital of Brooklyn opened its doors.4

The anesthesia landscape in Brooklyn was changing quickly too. In the years immediately after World War II, there were only three residency programs in the borough: Jewish Hospital of Brooklyn, Maimonides Hospital, and St. Catherine’s Hospital. Anesthesia at LICH remained less advanced and did not include a formal anesthesia training program. Cautery and ether were used together, and OR staff wore rubber-soled buckskins to prevent fires. Difficult intubations were the responsibility of the surgical resident, and the anesthesiology instruction of medical students consisted of only two lectures on pulmonary complications of anesthesia and their management.8
In 1952, Dr. Merel H. Harmel became the founding chairman of anesthesia at SUNY Downstate and began recruiting residents and faculty to the department. He instituted case conferences and mortality reviews and attracted visiting professors to create a vibrant academic environment. Dr. Harmel also started a continuing education program for all anesthesiologists in New York City.8

In 1968, Dr. Harmel moved to the Midwest to help start the Department of Anesthesia at the University of Chicago, and Dr. Benton King became SUNY Downstate’s second chairman. Dr. King guided the department through the 1970s and was a pioneer in the development of the modern ventilator and disconnect alarm.7 In 1979, Dr. James Cottrell, a noted neuroanesthesiologist at NYU, came to Brooklyn as Downstate’s third chairman, a position he holds to this day. In 1988, Dr. Cottrell founded the Journal of Neurosurgical Anesthesiology and he was elected president of the ASA in 2003. He also received the ASA’s Distinguished Service Award in 2007, and presented the Rovenstine Lecture at the ASA’s annual meeting in the fall of that year.

Leadership of the residency program at Downstate has also been exceptionally stable. Dr. Audrée Bendo, who completed her residency and neuroanesthesia fellowship at Downstate, became program director in 1988; until she stepped down from her position in January 2014, her 25 years of service were the longest of any residency program director in the country. Dr. Bendo was chair of the ASA annual meeting in San Francisco in 2013 and is very active in the NYSSA. She currently serves as the department’s executive vice chair.

The new program director at Downstate is Dr. David Wlody. Dr. Wlody is a Brooklyn native and has been director of OB anesthesia since 1988. He was president of the Society of Obstetric Anesthesia and Perinatology in
2006 and helped develop the current ASA practice guidelines for OB anesthesia. Dr. Wlody currently serves as general chair of the PGA.

Dr. Wlody works closely with Dr. Constance Hill, the director of medical student education at Downstate. A two-week anesthesiology clerkship is required for every student to graduate. Med students get hands-on experience with each phase of an operation and present a case at the end of the term for their final grades. The clerkship is popular, and many students request a fourth year elective to gain additional experience. In 2015, 11 percent of Downstate’s graduating class chose a career in anesthesia.

Along with education, Downstate is deeply committed to research, and there are many basic science and clinical research faculty in the department. Until this spring, the vice chair for research was Dr. Rebecca Twersky. While Dr. Twersky recently became the chief of anesthesia at Josie Robertson Surgery Center at Memorial Sloan Kettering Cancer Center, her contributions to Downstate deserve recognition. She has been involved in anesthesia professional societies for

![Rebecca Twersky, M.D.](image)

![Lenox Road entrance to University Hospital](image)
more than 15 years and has served both as ASA meeting chair in 2006 and PGA general program chair in 2007-2009. She is also the past president of the Society for Ambulatory Anesthesia (SAMBA) and the recipient of its Distinguished Service Award. This award came, in part, from her development of a standardized ambulatory anesthesia curriculum that is now SAMBA’s standard for all residencies in the United States. Dr. Twersky also served as director of SUNY Downstate’s Institutional Review Board.

Downstate’s Department of Anesthesiology serves the people of Brooklyn in four unique clinical settings: University Hospital of Brooklyn, Kings County Hospital Center, Lutheran Hospital, and the Ambulatory Surgery Center at Downstate Bay Ridge. The University Hospital of Brooklyn (UHB) is located in the Flatbush neighborhood in the central part of the borough and it is the hub of the department’s research, conferences, and guest lectures. Many patients are recent immigrants from economically underprivileged parts of the world, so they have had limited access to healthcare and present with significant comorbidities. The majority of patients at Downstate are ASA physical status III and IV.

Diabetes is endemic to this patient population, but it often has an atypical presentation. In the mid-1990s, doctors at Downstate noticed that middle-aged patients would come to the emergency room with

King’s County Hospital seen from Clarkson Avenue
diabetic ketoacidosis (DKA), so they assumed it was a delayed onset of type 1 diabetes. But as more data came in, it became clear that this “Flatbush diabetes” did not fit neatly into either the “type 1” or “type 2” category. These patients were type 2 diabetics with DKA. Downstate treats hundreds of cases of this variant form of diabetes each year.9

UHB is the only academic hospital serving Brooklyn’s 2.5 million residents, so the operating room is a busy place. There are between 40 and 50 cases scheduled each day, and cardiac, pediatric, and transplant surgeries are all routine. Downstate has one of the largest and most active renal transplant programs in New York, with three to four kidney transplants per month. Patients recuperate in a new unit on the building’s 8th floor that is entirely dedicated to transplants.

Across the street from UHB is Kings County Hospital Center (KCHC), which is known for being Brooklyn’s largest hospital as well as being the first Level 1 Trauma Center in the United States. The Trauma Service at KCHC remains robust, with more than 250 injured patients each month, and offers Brooklyn’s only pediatric trauma team.10 The president of the medical board at KCHC and medical director of perioperative services is Dr. Michael Mendezson, a proud alumnus of SUNY Downstate’s anesthesiology residency program.
When on call at KCHC, it is not uncommon to see victims of gunshot wounds, stabbings, blunt trauma, and burns. Many of these patients have blood or vomit in their airway and have to be rushed to the OR immediately after an endotracheal tube has been secured. Downstate residents work in this rough-and-tumble environment early in their PGY-1 year while rotating through the trauma bay and then again during their clinical anesthesia training. The clinical experience at KCHC was noticed by the U.S. military during the Iraq War, and today it is one of the training sites for battlefield medics before they are deployed. This might be why police officer Herman Yan was quoted in The New York Times saying, “If I get shot, don’t bring me anywhere else. Bring me to Kings County.”

Lutheran Hospital is across town in Brooklyn’s Sunset Park neighborhood, and it is another clinical site for Downstate’s residents and attendings. This spring, Lutheran entered a partnership with New York University Langone Medical Center and is now known as “NYU Lutheran.” The area is changing too; the old industrial buildings on 2nd and 3rd avenues have been converted into art studios and family apartments, and Sunset Park is becoming an increasingly popular place to live.

Recent immigration has made Sunset Park extremely diverse with the development of New York City’s largest Chinatown, Brooklyn’s “Little Latin America,” and a significant Russian population. Lutheran has adapted to its new multicultural setting by creating Brooklyn’s only 100 percent Chinese-speaking unit and by hiring many bilingual staff. Anesthesiology residents and attendings who speak foreign languages are very helpful in this high-volume setting.

Like KCHC, Lutheran has received notice for its interesting cases. The ABC documentary “NY Med” began filming in Manhattan at Weill Cornell Medical Center but ultimately came to Lutheran for interesting content to fill the eight-part series.

Lutheran is also where Downstate residents get much of their regional anesthesia training. Dr. David Seligsohn became director of regional anesthesia at Lutheran in 2013, and he advocates for regional techniques whenever clinically indicated. His efforts have paid off, as the number of regional blocks performed by residents has increased significantly. Today it is not uncommon for residents to perform blocks in the holding area and in the PACU throughout the day. The clinical director at Lutheran is Dr. Lance Wagner, known to the NYSSA as director of District 1.
Downstate also provides ambulatory anesthesia at an outpatient facility in Bay Ridge in south Brooklyn. The Ambulatory Surgery Center at Downstate Bay Ridge (ASC) has six ORs as well as on-site lab services, and can accommodate orthopedic, ophthalmic, gastroenterological, pediatric, ob/gyn, urologic, plastic, and general surgery cases. As with any ambulatory center, the goal at the ASC is to maintain patient safety while offering a convenient alternative to a hospital setting. Downstate staff members evaluate patients on-site to see if they are good candidates for ambulatory surgery.

The ASC has grown into a busy place, with 20 to 30 cases scheduled each weekday; in addition to patient care, the staff focuses on fast room turnover times and short postoperative stays. Downstate residents enter this fast-paced environment with the need to learn techniques that will provide good anesthesia but not cause a delayed emergence or prevent discharge from the recovery room. Many graduates of Downstate’s residency program have said that this experience sharpened their skills, helped them score highly on the boards, and made them ready for life in private practice.

Brooklyn is a dynamic, diverse, and exciting place, and the life of an anesthesiologist here is no exception. Between the trauma calls at Kings County, the multicultural population at Lutheran, and the extremely complex patients cared for at University Hospital, the anesthesia program at SUNY Downstate has tapped into Brooklyn’s energy and diversity to create a truly unique training experience. It’s not always easy to practice here, but many Downstate graduates say that after four years in Brooklyn, they feel prepared to practice anywhere in the world. If you can make it here, you can make it anywhere.

I think there’s a song about that.

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REFERENCES


8. Downstate Department of Anesthesiology website, available at www.downstate.edu/anesthesiology/history.html.


