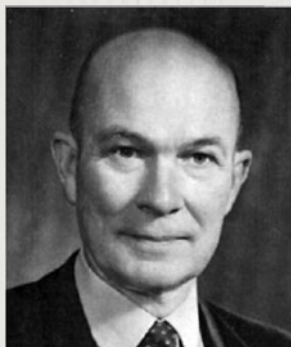


## PRACTICE MAKES PERFECT

*The Jorge N. Buxton, MD, Microsurgical Education Center*

Any surgeon will confirm that mastering the tactile feel and three-dimensional anatomy of any kind of surgery requires hours and hours of focused practice long before operating on a real patient. What could be better than to acquire the necessary hands-on experience through simulations in a laboratory designed expressly for that purpose? Go no further than the New York Eye and Ear Infirmary's Jorge N. Buxton, MD, Microsurgical Education Center—a premier facility that bridges the gap between academic medicine and the operating room.<sup>i,ii,iii,iv</sup>

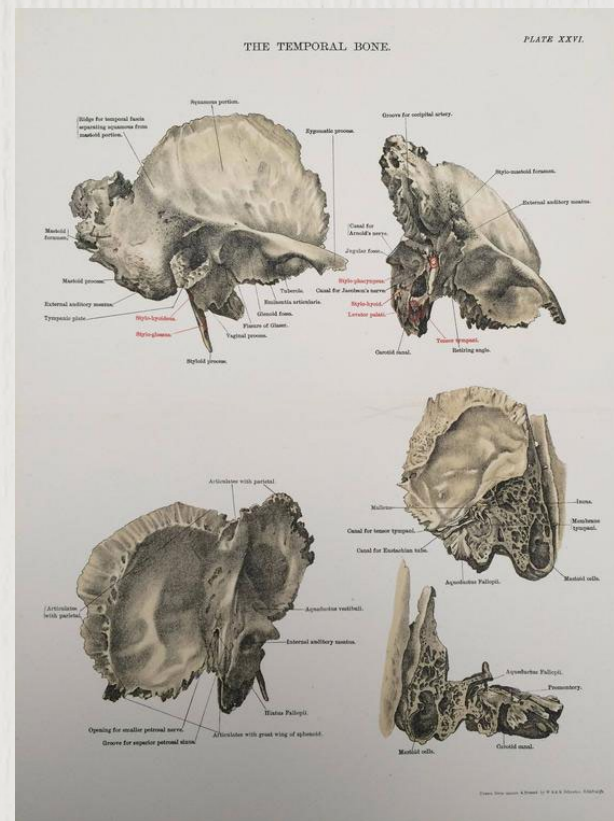


The center is built on NYEE's tradition of intensive microsurgical training. In the early 20th century, Dr. Edgar Burchell took that tradition a step further when he single-handedly assembled a world-famous collection of more than 500 meticulously dissected temporal bones and accessory sinuses that came to be the basis of study for generations of surgeons to come. His groundbreaking investigations of the seventh facial nerve and its relationship to potential disfigurement inform surgeons to this day. Burchell's foundational efforts led to the 1958 creation of the New York Eye and Ear Infirmary's first official Temporal Bone Laboratory, located on the 7th floor of the South Building, which consisted of one teaching station equipped with hammers and chisels and plaster molds to anchor the temporal bone.<sup>v</sup> Several years later, a second station was installed to accommodate a microscope and a drill system.

The laboratory's next expansion took place in 1972, after Dr. Young Bin Choo, the illustrious otolaryngologist and NYEE alumnus, successfully secured an \$85,000 Daniel and Florence Guggenheim Foundation grant to construct a new, state-of-the-art,

11-station Temporal Bone Laboratory designed by Jack Urban on the South Building's 5th floor.<sup>vi</sup> At the time, Urban had designed only one other laboratory of its kind in the world: the House Otolaryngology Group in Los Angeles. NYEE's Temporal Bone Laboratory flourished under the direction of Dr. Emmett E. Campbell, otologist and NYEE alumnus, whose courses attracted more than 1,800 residents and attending physicians, and drew students from as far away as Australia, Egypt, Great Britain, Japan, India, Iran, Ireland, and the Philippines. In 1995, the lab's directorship passed to Dr. Christopher J. Linstrom. He, along with Arthur Tortorelli, the technical director of the facility since 1977, carried on the practice of offering highly sought-after temporal bone dissection courses. From 2003-2008, Dr. Joseph Arigo led the facility. He initiated extensive hands-on dissection programs in temporal bone surgery, alongside Dr. Stimson Schantz, who coordinated head and neck anatomy courses; Dr. Steven Schaefer, who oversaw training in sinus surgery; and Dr. George Alexiades and Linstrom, who shared their skull-base surgery expertise.

In 2002, recognizing the need to incorporate accelerating technological advances in microsurgery, a team of otolaryngologists, ophthalmologists, engineers, and architects, led by ENT and eye residency program directors Linstrom and Dr. Richard Rosen, worked for more than a year to develop the lab's next redesign. When it was time to name the center, sentiment was strong to honor Buxton, NYEE's first chief of Cornea Service in 1963 and a champion of modern microsurgery. His son, Dr. Douglas F. Buxton, FACS, surgeon director at New York Eye and Ear Infirmary of Mount Sinai and clinical professor of Ophthalmology at the Icahn School of Medicine at Mount Sinai, recalls, "Early on, my father recognized the future of technology-driven medicine and he actively adopted and introduced major microsurgical advances, such as the first ophthalmic microscope and 10-0 nylon suturing into his NYEE ophthalmology practice."<sup>vii</sup> "He was passionate about excelling in proce-



WIKIMEDIA COMMONS



Top left: Dr. Jorge N. Buxton. Top: Illustrations of the temporal bone. Above: Dr. Douglas F. Buxton.

*"He was passionate about excelling in procedures performed under magnification, with delicate microscopic instruments and materials. And he also lived for passing on this new world of techniques and concepts to other doctors."*

*—Douglas F. Buxton, MD, speaking of his father, Jorge N. Buxton, MD*

dures performed under magnification, with delicate microscopic instruments and materials. And he also lived for passing on this new world of techniques and concepts to other doctors.” Thanks to the fundraising efforts of Buxton along with the whole infirmary family, \$1.2 million in donations was raised from the Alcon Laboratories, Inc., the Charles and Mildred Schumacher Foundation,

As the hub for “hands-on” training, the center routinely offers a range of courses for ophthalmologists that include corneal transplantation, nonlaser glaucoma surgery, strabismus surgery, retina surgery, and suturing and incision techniques. Otolaryngology residents also use the center to practice essential microsurgical techniques for surgeries routinely conducted in extremely re-

Determined to perpetuate the legacy of his father’s passion for surgical innovation and teaching, Buxton created the Jorge N. Buxton, MD, Microsurgical Education foundation in 2010. Under his executive directorship, the foundation continues to support the Jorge N. Buxton, MD, Microsurgical Education Center by helping maintain and continually upgrade its surgical training facilities. Aligned with NYEE’s mission to provide the best clinical training for physicians as a means of promoting the best care for its patients, the foundation is dedicated to fostering ophthalmic and otolaryngeal microsurgical teaching in an environment that promotes experimentation, innovation, and excellence. Through sponsorship of educational programs and visiting faculty, as well as international observers and researchers, the foundation occupies a vital role in support of the New York Eye and Ear Infirmary’s mission as the institution enters its third century of medical training and service.

## *Experimentation, innovation, and excellence*

the Ambrose Monell Foundation, and many supportive physicians and friends.

In 2004, the completely renovated, state-of-the-art Jorge N. Buxton, MD, Microsurgical Education Center opened and quickly became the centerpiece for the infirmary’s laboratory surgical education. Currently, the center comprises 16 stations complete with microscopes and integrated assistant/teaching scopes designed to flexibly accommodate temporal bone surgery, ophthalmic surgery, head and neck dissection, sinus surgery, and plastic surgery. A demonstrator’s station equipped with a high-resolution camera displayed on multiple large flat-screen monitors throughout the lab allows instructors leading wet lab sessions to perform live demonstrations while residents work at their own station. The lab was also designed so that manufacturers are able to install the newest surgical systems for state-of-the-art training in phacoemulsification for cataract surgery and vitrectomy for retinal surgery. In 2006, a virtual reality EyeSi Surgical Simulator was added to help residents experience simulated surgery for hand-eye-foot coordination development before transitioning to the operating room. On the immediate horizon is the highly anticipated acquisition of the Preceyes Surgical System, an advanced robotic device that facilitates submicroscopic retinal and glaucoma surgeries on the delicate microanatomy of the eye.

stricted operative areas located deep within the temporal bone of the head, involving sensitive bones and delicate tissues responsible for hearing and balance, and the nasal sinuses. Additionally, reconstructive and aesthetic surgeons access the center’s resources to practice the newest laser skin resurfacing methods and to train in an array of endoscopic techniques that have been introduced over the last decade.

*The Jorge N. Buxton, MD, Microsurgical Education Center today.*

