

Historical Vignette

Development of neurosurgery in Southern California and the Los Angeles County/University of Southern California Medical Center

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✓ The Los Angeles County General Hospital has played an integral role in the development of medicine and neurosurgery in Southern California. From its fledgling beginnings, the University of Southern California School of Medicine has been closely affiliated with the hospital, providing the predominant source of clinicians to care for and to utilize as a teaching resource the immense and varied patient population it serves.

KEY WORDS • historical vignette • Los Angeles County General Hospital • University of Southern California School of Medicine • neurosurgical history

IN the mid 19th century, the Los Angeles basin was a wide open area within which was situated a small pueblo township settled primarily by individuals of Mexican extraction. The region was lawless and the hygiene poor. Shortly after the Mexican-American War ended (1847) and California gained admission to the union (1850), four physicians established the Los Angeles medical faculty and proposed opening a small four-room hospital to care for the sick and wounded while also addressing the problems of sanitation, clean water sources, and endemic diseases such as smallpox. The population in 1850 was 1610 in the city and 3530 within the county of Los Angeles.

The Los Angeles County/University of Southern California Medical Center

In the early 1850's, California state legislators decided to open a series of hospitals throughout the state to care for the indigent. The Los Angeles County (LAC) Hospital began in a converted mansion formerly owned by the Alcalde of Los Angeles during Mexican rule. This first county hospital was run by the sisters of The Daughters of Charity of St. Vincent de Paul, opening in May, 1858, and superseding previous smaller facili-

ties.³ Dr. John Griffin, a wealthy landowner and physician, was appointed the first physician in charge of the county hospital. In 1860, he moved the facilities to a larger building on his own property, which now comprises much of East Los Angeles. The average hospital census in 1860 was 25 patients per day, primarily cases of chronic diseases.

By the 1870's, Los Angeles had transformed from a Mexican frontier town to an American commonwealth, establishing vast citrus crops to replace rangeland. This was facilitated by the introduction of the telegraph in 1865 and the formal completion of the Southern Pacific Railway linking Southern California to the metropolitan east in 1876. The population exploded during the gold rush, and reports of the hospitable warm climate attracted many chronically ill individuals to the region.

The official charter of the LAC Medical Association began in 1871 when seven physicians were placed on staff at a salary of \$1,000 per year to care for the county's indigent sick. The first skilled surgeon, Dr. Francis Hayes, began practice in 1887. Private patients during these times received care at home, where sanitation and attentive personnel were usually superior.

By 1878, a new county hospital was established adjacent to what is now the current site of the LAC/University of Southern California (USC) Medical Cen-

ter. Care of the indigent in those early years was shared between a small consortium of physicians at the hospital. As the patient population grew, the number of staff positions increased at a slower rate; thus, the doctor:patient ratio dwindled. If it were not for the developing nursing program through the Daughters of Charity, the physicians would have been overwhelmed. Medical supplies were often outdated and in limited supply. As the railroad brought settlers from the east, the demands on the LAC Hospital strained the budgetary allocation from the state. Private endowments helped the situation somewhat, but the existing accommodations were quickly overloaded and the physicians were strained by the patient population: "... the sick and destitute knock at our doors, despite the lack of bed space to care for their needs."² Within a few years, the wards were filled to capacity with the ill and confined. Tuberculosis was rampant. It was not until the Barlow Hospital and Rancho Los Amigos facilities were constructed in neighboring areas that the LAC Hospital was relieved of some of the burden. With the opening of these chronic care facilities, the County Hospital could focus on acute medical care, providing services for the increased population requiring shorter hospitalization. As the demand for medical staff grew, many medical and surgical specialists in the community donated time weekly to the facility without compensation.

The main campus of USC was established in 1884 and, within 4 years, thoughts of a medical training facility were entertained. No medical school existed in Southern California at that time, and J. P. Widney, founder of the LAC Medical Association, was empowered with the task. By 1885, a 13-member faculty opened the USC College of Medicine in a 12-room brick building in what is now downtown Los Angeles. Clinical faculty were primarily physicians working at the LAC Hospital who volunteered their efforts. Thus, from its origins, the USC School of Medicine was closely associated with the LAC Hospital in a symbiotic relationship. Residency and medical school training programs enabled the faculty to supervise the care of the indigent population. Although supplies were often limited, the quality of care was praised as young physicians and their mentors strived to achieve the clinical skill and teaching levels of eastern institutions. As the student body grew to some 50 students by 1895, the school facility had changed location a number of times. The medical school was in fact only loosely associated with the doctrines and bylaws of the university and proved to be an overwhelming financial burden to the fledgling private institution.

The medical school dissociated from the university in 1909 due to economic hardship and transferred to the then newly established University of California training system, of which the University of California at Los Angeles represents the Los Angeles constituent. Thereafter, realizing the importance of a medical training program in the curriculum, USC developed a relationship with Dr. Charles Bryson, who had recently established a second medical college in Los Angeles. In late 1909, all properties and financial responsibilities, as well as control of the dean and faculty, were assumed



FIG. 1. The Los Angeles County/University of Southern California Medical Center.

by USC. This 4-year medical school program maintained its primary clinical exposure at the LAC Hospital and, by 1915, over 1200 patients per month were evaluated and treated by the faculty and students of the USC School of Medicine. During the early 1920's, the medical school established basic science and research facilities adjacent to the hospital, easing the access for both faculty and students between the classroom and clinic. The medical school campus closed briefly in the mid-1920's to restructure the training program under the guidelines established for a Class A medical training facility.

Although academia suffered through the Great Depression, the medical school persevered and a strong relationship developed between the dean of the medical school and the LAC Board of Supervisors. The small government and private grants donated to the medical school attracted full-time basic scientists and clinicians to the faculty.

After 10 years of planning and toil, the grand 20-story LAC General Hospital (Fig. 1) opened its doors on December 12, 1933, and has not closed them in nearly 60 years.² Its inscription reads "... Erected by the citizens of the County of Los Angeles to provide hospital care for the acutely ill and suffering to whom the doctors of the attending staff give their services without charge in order that no citizen of the county shall be deprived of health care for lack of such care and services." Sculpted in the magnificent archway entrance are the Angel of Mercy with a woman and newborn on one side and an aged man on the other, signifying the range of service from birth to old age. Figures of Pasteur, Vesalius, Harvey, Hippocrates, Galen, and Hunter adorn the walls, while murals of Aesculapius, Aristotle, and Machaon (son of Aesculapius and first surgeon of antiquity) greet each new patient. At the hospital dedication, 52 countries and 60 nationalities were represented in the patient population; by

1934, the 3154-bed facility had served over 50,000 patients. The occupancy was later expanded to 3784 beds during World War II, with specific space being allocated to injured military personnel.

The advent of World War II encouraged more support for research at the medical school, including pharmaceutical monies in penicillin research, vitamin D milk production, and rabies and smallpox microbiology. The post-war years led to an expansion of the medical school student population, faculty, and basic science and clinical research programs. New medical school facilities were erected in 1952 adjacent to the LAC General Hospital. The curriculum underwent yearly revisions, striving to produce highly skilled physicians while serving the community needs for the sick and conducting research on health and disease. Although the LAC Hospital maintained its own residency training program separate from that of USC, the clinical professors and supervisors were employed by the university.

Originally, part of the Loma Linda School of Medicine clinical training was also located at the LAC Hospital; however, this training was transferred east to San Bernardino County in 1966 and their services were assumed by the USC School of Medicine. Thus, the official LAC/USC Medical Center was established in 1968, with all departmental chairmen at the center being full-time heads of the corresponding medical school departments.

Development of Neurosurgery at the LAC/USC Medical Center

When the LAC Hospital was first built, neurosurgery as a free-standing specialty was as yet unborn. For the first 40 years of its service, few records of the neurological surgery performed at the hospital exist, and traumatic lesions were diagnosed and managed by general surgeons. What little elective surgery that was performed on the brain was "done by the general surgeon with the neurologist looking over his shoulder and pointing to the spot beneath which he presumed the trouble lay."¹ A notable team at the facility during this time included Dr. Elliot Alden, a courageous general surgeon, and Dr. Brainard, a pioneer in neurology and psychiatry.

In 1919, Dr. Carl Rand, a 1912 graduate of Johns Hopkins University Medical School, established the first neurosurgical service at LAC Hospital. He received his training from Dr. Harvey Cushing in Boston at the Cushing Clinic during the period from 1913 to 1914. Following some additional general surgical training under Dr. John B. Murphy in Chicago, Dr. Cushing's influence placed Dr. Rand in a mobile operating unit in the European theater during World War I, where he witnessed much active service. Upon returning to Los Angeles in 1919, he made the decision to devote his efforts from that time on exclusively to neurosurgery. Dr. Rand, a meticulous and thoughtful surgeon, dedicated his efforts to the department chairmanship at the LAC Hospital for 35 years. During this period, he engendered universal respect from the local physicians

and was a staff consultant in every reputable hospital in the community. Simultaneously, he patiently supervised the gradual development of the neurosurgical service at the County Hospital.⁴ The hospital annals note his relentless dedication to his patients and his passion in training neophyte surgeons, who held their chief in high regard. The first residency training program, established in 1927, saw Drs. Cyril Courville and Leo Adelstein among the first neurosurgeons trained at the LAC Hospital. Their journals capture the essence of Dr. Rand's personality:

"Perhaps we may be forgiven for saying a few words about his own side interests. He seems to be by nature poetic, and it may be presumed that this first spark of interest in Dr. Cushing's Dr. Garth, the 'Kit-Kat Poet' stems from this quality. This may account for the fact that he has composed over seventy songs, which his family have urged that he publish. These songs are 'picked out' on the violin that he taught himself to play. This brings out the additional fact that he has trained himself in music, both in its technical aspects and in its history. He thoroughly enjoys the great masterpieces of music and he has an excellent collection of records. And to bind this all together, he has taken an interest in the biographies of physicians who were poets or who had made an avocation of music. One can understand Doctor Rand, with his inherent dislike for confusion, for argument, for trouble 'with the front office,' only when these qualities are fully appreciated."¹

During Dr. Rand's era, the neurosurgical staff grew to 11 members. Dr. Rand was replaced as departmental chairman by Dr. Frank Anderson in 1954. Dr. Anderson was a graduate of the USC School of Medicine in 1937 and served his internship and residency under Dr. Rand's tutelage. Dr. Anderson remained chairman until 1963.

As technology embraced the 1960's, Dr. Theodore Kurze became the head physician and chief of the neurosurgical service. He ushered in a new era of modern microneurosurgical techniques as one of the pioneers introducing the microscope to the neurosurgical operating theater. During his period as chairman, he developed techniques for teaching microscopic neurosurgery. He was quite demanding that his staff, residents, and nursing team be versed in the most modern equipment and technology to better diagnose and treat the neurosurgical patient. Dr. Kurze specialized in acoustic tumor surgery and pioneered early work on the various surgical approaches to the cerebellopontine angle. He resigned as chairman in 1978, at which time the present chairman, Dr. Martin Weiss, was appointed as his successor.

The LAC/USC Medical Center as presently constituted is licensed for 2100 beds and operates as the major referral center for the County of Los Angeles. Serving the community for over 100 years, the hospital admits almost 100,000 patients annually, taking pride in never having turned away a patient because of financial considerations.

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