The Hospital for the Ruptured and Crippled: Knight to Gibney, 1870–1887

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Abstract In 1870, R&C moved to its second site on the corner of Lexington Avenue and 42nd Street. A newly constructed building designed by a specialist in ecclesiastical architecture became the home of a 200-bed children's hospital planned entirely by Dr. James Knight, founder of the hospital and its first Surgeon-in-Chief. Expansion of the facilities and of the professional staff, although needed and welcomed, brought new challenges, changes, and conflicts. The root of these was to lie in the complex character of James Knight with his dogmatic approach to patient care vs the open nature of his newly appointed assistant, Virgil Gibney, who was to become his successor and eventually the second Surgeon-in-Chief. How these two personalities worked together for 13 years, abruptly parted, and then after Knight's death, the reappearance of Gibney, is a fascinating story of the early development of the first orthopedic hospital in this country. It was a period after the Civil War described as the "Gilded Age," where not only the country, but the city, was going through its own challenges, changes and conflicts. Emerging was a new era for R&C introducing surgery, postgraduate medical education, and eventually, clinical and basic research.

Key words Hospital for the Ruptured and Crippled · Hospital for Special Surgery · James Knight · Virgil Gibney · John Green · Lewis A. Sayre · Charles Fayette Taylor · Buckminster Brown · Henry Frauenthal · Gilded Age · William H. Osborn

Introduction

Soon after the founding of the Hospital for the Ruptured and Crippled in 1863, *renamed the Hospital for Special Surgery in 1940*, its patient population outgrew its facilities, and the need for a larger institution was recognized by the Board of Managers of the New York Society for the Relief of the Ruptured and Crippled. Funds were raised quickly; land was purchased, and a new building was constructed.

Moving to the country

Entering its seventh year of existence, in May 1870, the Hospital for the Ruptured and Crippled moved from its first site on lower Second Avenue to its new home on 42nd Street and Lexington Avenue in New York City, the current site of the Hyatt Hotel. It was considered the *country*, as the heart of the city was south in lower Manhattan. Although there was a continuous exodus of people north from Wall Street, the lower Eastside and Canal Street, much of the city north of the 50s was open country. There were areas near 42nd Street occupied by shanties, and goats could be seen roaming.

The new hospital must have been an imposing structure with its "pointed style" of architecture, alternate *voussoirs* (an architectural term borrowed from the Old French and used in late Middle English to describe a wedge-shaped or tapered stone used in the construction of an arch) of light olive-colored Ohio freestone and Connecticut brown stone in the arches of the windows and doors with hollow brick walls designed to aid heating and ventilation (Fig. 1). Although designed by architect Edward Tuckerman Potter, a specialist in ecclesiastical design, who was Lehigh University's first architect, the interior of the building was entirely planned by Dr. James Knight, founder of the hospital and its first Surgeon-in-Chief [1, 2].

Knight's vision of the necessity for an institution for the *relief of maladies of the laboring population* had finally

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Fig. 1. The Hospital for the Ruptured and Crippled (1870) on the northwest corner of Lexington Avenue and 42nd Street

come to fruition, from its first location in 1863 in his converted residence at 92 Second Avenue to such an impressive 200-bed hospital. Its location on the northwest corner of Lexington Avenue and 42nd Street was not only ideal for access to rail in all directions, but was a very pleasant site, and helpful in rehabilitation of patients. It was situated high on a lot (125×100 feet) with a view to the west (New Jersey) and to the east (the East River) [3].

The three-story building had, in addition to a basement, a garden roof so constructed, as to be open in the summer and enclosed in the winter. Exposure to light and sun was paramount in the requirements laid down by Knight. The structure was designed in the form of a parallelogram with three attached semicircular wings, two facing south on 42nd Street and one at the northeast corner on Lexington Avenue. At the northwest corner, there was a rectangular structure. These corner attachments housed nurses' rooms, bathing rooms, etc. The rounded design allowed ample sun and light to penetrate.

The second and third floors each solely contained inpatient wards housing 200 beds for children with four ample fireplaces in each ward. The top floor was a combination gymnasium, garden, and playroom, airy and cheerful for the children, an advanced feature for hospitals in those times [1]. Adults were treated in the outpatients' dispensary, where 3,000 patients were treated annually. If adult patients required admission to the hospital, they were referred to other hospitals.

The first floor had furnished apartments for 20 private pay patients as well as apartments for a resident physician and his family. The basement had a reception room for patients, kitchen, bakery, laundry, heating units, and a steam engine to run an elevator housed next to a fireproof stair case in a tower attached to the north side of the building.

Missing was an operating room as Knight, dogmatic in his conservative approach, was strongly opposed to surgery *although he allowed tendon and fascia releases for fixed deformities*.

Coping with expansion

Enlargement of the building was also accompanied by expansion of the medical staff and all departments and manufacturing. Relocation from a well-known site was cited as the reason for the reduction in patient load the year of the move. The new hospital took months to have its interior completed for functional use. A large number of patients did not have the financial resources to be treated. Building of the hospital and furnishing it, as was planned, had to proceed without debt.

Even though the progress of the undertaking had not been delayed due to lack of funds, particularly because so many individuals contributed generously, maintaining an operating budget could not rely entirely on contributions. It appeared from the annual report of John C. Green, President of the Board of Managers, that that this was very disturbing to the Board. The inpatient beds were only 50% filled. The annual outlay far exceeded its income; however, it was realized that the cost per capita of inpatients would decrease with an increase in the number of patients.

John C. Green, a China Trader, railroad entrepreneur, banker, and philanthropist, contributed heavily to Princeton University, R&C, other hospitals, and educational institutions including libraries [2]. It is obvious from reading his annual reports that he made a serious commitment to the Society and had a deep devotion to the goals of the Institution. His conviction to help needy children may have been influenced by the fact that his own three children died

young. He served as the first President of the Board from 1864 until his death in 1874.

Green wrote: “Have the friends of humanity duly appreciated the claims of these unfortunates? Should they not be cared for because they are *unfortunates*? The blind, the deaf, the dumb, and even the morally corrupt, are provided for by legislative enactments. While all this is right, how few, comparatively, think of the poor cripples? Yet, who can witness their sufferings and helplessness without having his sympathy drawn out in their behalf? The children in question are often the offspring of parents too poor to pay for professional treatment, so that, however curable their ailments, their case is hopeless unless charity interposes for their rescue.”

“In many instances the apparatus applied costs \$50, and this has to be worn and kept in repair perhaps for several years. For these obvious reasons, many mechanics and laboring people, having children with deformities which may be relieved if not wholly cured because of the expense can not have them treated at their homes. This, however, is but a very partial view of the facts. The same is substantially true of thousands of adults of both sexes afflicted with hernia, varicose veins and analogous complaints, requiring costly appliances and dispensary treatment. Four-fifths of them being in indigent circumstances, they are unable to pay for the trusses, bandages, spring-supports and other surgico-mechanical apparatus their cases require. Hence, without such gratuitous relief as this Institution provides, they are doomed to lifelong wretchedness, and often to premature death.”

The Board devised a plan of annual subscriptions, whereby the subscriber has a right to place a child under hospital treatment 1 year for every hundred dollars he pays, with the right to terminate his subscription at the end of each year [3].

Professional staff

Until its move into the new hospital, the professional staff consisted of James Knight and four consultants [4]. Knight’s official appointment was listed as *Resident Physician and Surgeon*. This title remained in place until 1878, when Knight first appeared in the annual reports as Surgeon-in-Chief. A larger staff would be necessary for the new hospital. Consequently, in 1871, a Resident Junior Assistant, Richard W. Allen, M.D.; an Apothecary, Andrew J. Dowe; and an Instructor in Gymnastics, Herman Fleugal, were appointed to the staff. Later in the same year, a new Assistant Physician and Surgeon, Virgil P. Gibney, M.D., age 24, was appointed to the staff. This was a strange appointment as Gibney was a disciple of Lewis H. Sayre, M.D., who represented everything that Knight was not.

Complexities of James Knight

In 1871, Knight was 61 years old and had the personality of a surgeon but ironically was vehemently antisurgery.

His attributes as a caring physician, devoted to rehabilitate the poor and disabled, and as an organizer and leader as well as philanthropist, were in direct contrast to his dogmatic approach to his profession. Open discussion of methods of treatment was not allowed, and he insisted on complete loyalty from all his staff [5]. Although he read widely, he rejected new approaches in medicine, such as plaster of Paris, bed rest, traction, and surgery. He published very little—three textbooks, two on nutrition and one on orthopedics, and one article on scoliosis that was only a brief statistical analysis.

With his wife and daughter caring for the patients (there were no trained nurses employed), Knight resided in the hospital, thus devoting his entire professional and personal life to the hospital and to the poor crippled children whom he loved and treated. This allowed him to follow his patients very closely and evaluate his methods of treatment. He rarely kept detailed records, leaving such facts to his memory. Statistical analyses were sketchy.

The hospital environment lent itself to religious and educational facilities. There was a public school system run by the City of New York (probably the first in a New York City hospital). Singing was encouraged, and patients were taught trades. Exercises were important to Knight, who had designed the fourth floor gymnasium as part of his total treatment program. Rehabilitation was thus promoted through these educational, religious, moral, physical, and occupational avenues.

He had complete faith in the use of bracing and felt that all physicians should be able to fit a brace. His weakness for static electricity was exemplified in a paper read before the New York Academy of Medicine in 1882. Knight was faced with many patients having rickets and other nutritional diseases and was a proponent of good food and nutrition [6].

The array of outpatients suffered from hernias, varicose veins, hemorrhoids, and prolapsed uteri, and were treated with braces, supports, and bandages. A majority of the inpatients were suffering from tuberculosis and their length of stay was protracted. No child who could function out of bed was excused during the day from Knight’s overall rehabilitation program. When necessary, wheel chairs were utilized.

Eventually, Knight’s model hospital became self-supporting through contributions, financial reimbursement from the city, and proceeds from private patients, which Knight funneled back to the hospital because he was on a substantial salary from the hospital. This was naturally very comforting for the trustees who were relieved of much of the financial burden.

Knight was in full control of the hospital, his patients, and his family, and consequently, the Board had complete confidence in him and his management style. They were well aware that James Knight was able to carry out the intentions of the *incorporation* and so supported him fully [7]. The Hospital for the Ruptured and Crippled soon became known as Dr. Knight’s Hospital.

Virgil P. Gibney, M.D.

In late 1871, Virgil Pendleton Gibney, M.D. (Fig. 2), 24, was appointed by Dr. Knight to the professional staff as Assistant Physician and Surgeon, an appointment never fully explained in the annals of this hospital's history.

Gibney had just received his medical degree that year from Bellevue Medical College after a year of medical education there and a previous year spent at the University of Louisville. While at Bellevue he became very impressed with Lewis A. Sayre, M.D., the first Professor of Orthopedic Surgery in the United States and a founder of Bellevue Medical College in 1859. Sayre performed the first resection of a hip joint for tuberculosis, and used Plaster of Paris jackets for scoliosis and tuberculosis. He was considered an "adventurous" surgeon. Knight, however, was of the "conservative" group and considered Sayre's treatment of no use to the crippled population. Knight was not only adamant about his methods of treatment, but became militant toward anyone whose opinion differed from his own [8].

Lewis Sayre, a pioneer in orthopedic surgery and called *Father of American Orthopaedic Surgery*, was open-minded and progressive, and welcomed new ideas and methods of treatment (Sayre was not the first American surgeon to devote his entire practice to orthopedics,

Fig. 2. Virgil P. Gibney, M.D., 1871, age 24, appointed Assistant Physician and Surgeon to the Hospital for the Ruptured and Crippled

however; that distinction belongs to Buckminster Brown of Boston). Sayre almost always attended meetings at the New York Academy of Medicine, where he often vehemently argued with Dr. Charles Fayette Taylor, another pioneer in orthopedics and master of mechanical bracing. (Taylor subsequently became the first director of the New York Orthopedic Hospital and Dispensary, the second founded orthopedic hospital in the United States after Knight's hospital. The honor of beginning the third orthopedic hospital in the country goes to Henry Frauenthal, who founded the Hospital for Deformities and Joint Diseases [9].) Knight, on the other hand, rarely appeared at these meetings. The one exception was the only time he read his paper on static electricity in 1882. Knight had met Dr. William J. Morton, who had just returned from Paris, very enthused about static electricity. Morton stimulated him to prepare and present the paper. That was a memorable night as the paper was received with applause [10].

Sayre had little respect for Knight. Gibney admired both his mentors and had great loyalty for Knight, never confronting him over the next 13 years as his assistant. "I grew to manhood under Dr. James Knight, living under the same roof for thirteen years, and while my early instructor, Doctor Sayre, disapproved, our friendship continued to the time of his death," wrote Gibney in 1912 [10].

Gibney was a conservative surgeon who was ambitious, honest, well respected by his peers and his patients, and always concerned about his assistants. He was a stimulating teacher and keen observer, studying large numbers of cases of hip disease. He kept copious notes and often discussed with his surgical friends and at meetings of the Academy his beliefs on the best methods of treatment.

For tuberculosis of the hip he advocated bed rest and traction, and surgery for the more advanced cases. Finally, he decided to publish a book, *The Hip and its Diseases*. Although Knight was aware that Gibney was interested in this subject, he was startled to learn of this book. Immediately, he asked Gibney for his resignation. The relationship ended in 1884.

The gilded age

Mark Twain called the decades after the Civil War "the Gilded Age" [11] (a satirical term referring to a gold covering but with a harsh reality, with corruption, dishonest politicians, robber barons, and land speculators). It was a time of accumulation of tremendous wealth by a few, including John D. Rockefeller, Andrew Carnegie, and J. Pierpoint Morgan. In 1867, Cornelius Vanderbilt consolidated the New York Central Railroad and the first elevated line was constructed. In 1870, Morgan and Company developed syndicated banking and John D. Rockefeller opened the New York office of Standard Oil Company.

New York was going through profound changes in its financial world, social upheaval, extreme poverty, and critical public health challenges. The city grew at a staggering rate as immigrants continued to flock in from

other countries and settle in distinct enclaves. There was a significant rise in real estate values driving the wealthy from the center of the city up Broadway to sites separated from where communities of immigrants and other blue-collar workers settled. In 1880, “Model Tenement” became the accepted standard for the crowded apartments.

The city in change

Even with such political corruption, poverty, public health problems, and financial upheaval, the city grew at a staggering rate and with it came many physical, cultural, and technical changes having a beneficial effect on society (Table 1).

The period of the inter-regnum

In the Twenty-First Annual Report of the Board of Managers of the New York Society for the Relief of the Ruptured and Crippled (1884–1885), there was no mention by Knight that Virgil Gibney was no longer on the staff [12]. Yet, the Board had great faith in Gibney and often

relied on him for medical and administrative advice during these years when he was no longer on staff. Gibney called these years the “Period of the Inter-regnum.”

In December 1883, Gibney married and rented a home at 23 Park Avenue, directly across the street from William H. Osborn, a member and subsequent President of the Board of Managers [8]. As there were no telephones, Mr. Osborn arranged with Gibney that when the Board wished his advice, Osborn would hang a white towel in his window signaling to meet for a hospital conference at the Osborn home.

On July 10, 1884, the Board, realizing the importance of Dr. Gibney and disappointed to see him leave, passed a resolution expressing a statement of esteem of Gibney and acknowledging his recognition.

At about that time, Henry S. Terbell, the oldest member of the Board, wrote to Dr. Frank H. Hamilton questioning the effectiveness of Knight’s “Expectant Treatment” regime. Hamilton replied that he had great confidence in Knight and his program.

Over the next couple of years, Knight’s health declined, and he died on October 24, 1887, at age 77. The Board, in a resolution, stated in part: “Dr. Knight was in the highest sense the friend of the needy and the afflicted. We recall with gratitude his presence among, and his affection for, the little children confined to his care and skill and his exertions for their moral as well as their physical welfare” [4].

Gibney appointed second Surgeon-in-Chief

A new era emerged. Virgil P. Gibney was recalled by the Board and appointed Surgeon-in-Chief. The Hospital for the Ruptured and Crippled would grow under Gibney (1887–1924), expanding into the surgical world. He chose to reside out of the hospital and would establish, in 1887, the first orthopedic residency program (open to medical school graduates) in this country [13].

William H. Osborn, President of the Board, wrote in his 1887 report that although the usual systematic patient records of those treated, relieved, and discharged could be retrieved, the thoughtful views, hopes, and explanations that Knight had been accustomed to express were missing. “His aim in the work of this institution has been to treat the poor and afflicted in such a manner as to accomplish the greatest good with the least possible pain.... We recall with gratitude his presence among, and his affection for, the little children confined to his care and skill and his exertions for their moral as well as their physical welfare” [4].

In spite of his many shortcomings, Dr. James Knight’s accomplishments became etched in the history of orthopedics in this country.

Table 1 Post-civil war growth in New York

1867	First elevated rail line is constructed
1869	The American Museum of Natural History is incorporated
1870	The Metropolitan Museum of Art is established. The New York City Health Department is created
1874	The 92nd Street Y is founded as Young Men’s Hebrew Association by German Jewish professionals in the home of Dr. Simeon Newton Leo
1877	Alexander Graham Bell introduces the telephone to New York
1882	The New York Philharmonic, founded in 1842, takes its first domestic tour
1883	The Brooklyn Bridge is completed by George Washington Roebling. Gounod’s <i>Faust</i> is performed at the opening of the Metropolitan Opera House
1884	Statue of Liberty, a gift by France to the United States, is installed on Bedloe’s Island
1887	<i>Evening World</i> newspaper is established by Joseph Pulitzer
1888	A commission is created by Mayor Abraham Hewitt to select a site and ask for bids for the eventual Manhattan Municipal Building, to become the largest office building in the world
1891	Carnegie Hall opens with Tchaikovsky conducting <i>Marche Solennelle</i>
1892	The New York City Bureau of Laboratories opens. The New York City Buildings Department is founded. Ellis Island Immigration station admits its first immigrant to be processed, Annie Moore, a 15-year-old Irish girl
1895	William Randolph Hearst establishes the <i>New York Journal</i>
1896	The first movies in the U.S. are shown at Koster and Beal’s Music Hall. Williamsburg Bridge construction commences and is finished in 1903
1898	New York City becomes five boroughs in a new charter. The New York City Art Commission is established
1900	The first New York City subway construction begins

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