January 1989

Part III: Clinical Departments and Divisions --- Chapter 11: Division of Pulmonary and Critical Care Medicine (pages 298-326)

Let us know how access to this document benefits you

Follow this and additional works at: http://jdc.jefferson.edu/wagner2

Recommended Citation

http://jdc.jefferson.edu/wagner2/11
CHAPTER ELEVEN

Division of Pulmonary and Critical Care Medicine

J. Woodrow Savacool, M.D.

"Behold, I will cause breath to enter into you, and ye shall live." — Ezekiel 37:5

The decade of 1910–1920 was an eventful one. Smoldering world events culminated in World War I, with its consequent changes in governments, social upheavals, and revolutions. A new era was developing in medicine as well. Medical education was challenged by progressive educators and by the Flexner report of 1910, which indicated the need for medical schools to develop meaningful teaching in response to the opening of the scientific and ultimate technological era of medical practice. Jefferson Medical College was well poised for such response; its clinical faculty was widely respected, hospital facilities were improving, and its students came from all parts of the United States as well as many foreign countries. The Department of Medicine had a new and stimulating head, Dr. Thomas McCrae, who arrived from Johns Hopkins in 1912 and brought with him the ferment of new medical educational views and practices, especially the clinical applications of laboratory procedures that were just being introduced.

Impetus for the organization of a Department for Diseases of the Chest stemmed from the perceived need for improved facilities for teaching physical and clinical diagnosis, thereby diminishing reliance on lectures. At the same time the continuing challenge presented by tuberculosis as a major cause of illness and death was recognized, as interest in its management and prevention increased both nationally and locally. The Yearly Report of Jefferson Hospital for 1911 includes the comment that a Dispensary for Tuberculosis was organized “several years ago” but that “a facility for the care of seriously ill patients and for teaching should be acquired.” Then, fortuitously, the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis, founded in 1903 by Dr. Lawrence F. Flick (Figure II-1) (Jefferson, 1879), moved to its new building at Seventh and Lombard Streets, and its previous buildings at 236–238 Pine Street became available. This grouping of events led to action by the Board of Trustees.

The first reference to the new department was dated February 20, 1913, when the Board, through its Hospital Committee, received a request from Professors Coplin and McCrae to “consider the advisability of obtaining the present building of
the Phipps Institute for the purpose of securing a Tuberculosis Department for the Hospital thereby adding to the teaching of that branch of medicine. At the same meeting it followed that the Committee had already acted, since “Mr. Potter reported that a meeting of the Hospital Committee and a Committee of the Free Hospital for Poor Consumptives has been held for the purpose of considering the acquisition by the Jefferson Medical College of the property at 3rd and Pine Sts. formerly occupied by the Phipps Institute, and the sharing of the cost of maintenance by the two institutions.”

The Tuberculosis Control and Treatment Program

An explanatory note is appropriate. The Free Hospital for Poor Consumptives was organized as a fundraising Society in 1895 by the same Dr. Flick, its purpose having been to collect and administer funds for the hospital care of patients with tuberculosis. For the first few years these funds were offered to general hospitals that would accept such patients, but prejudice against tuberculosis patients was such that only a few hospitals would do so. In 1901 the Free Hospital for Poor Consumptives opened the White Haven Sanatorium at White Haven, Pa. The Institution was ultimately officially named “The Free Hospital for Poor Consumptives and the White Haven Sanatorium.” In 1903 Dr. Flick was responsible for enlisting Mr. Henry Phipps in his aggressive concerns and projects for tuberculosis treatment and control. This led to the opening of the Phipps Institute in the two buildings at 236-238 Pine Street.

Between 1901 and 1913 some of the same physicians who visited White Haven were on the staff of the Phipps Institute, and patients were often transferred from one to the other facility as the need for local and/or remote treatment was perceived. Dr. Flick continued to be a driving force in the campaign against tuberculosis both with respect to hospital treatment and in the public health effort. The offer by the Free Hospital for Poor Consumptives to “share” the cost of maintenance was an apparent extension of its established policy of providing for tuberculous patients in available hospitals.

The Department for Diseases of the Chest

The Hospital Committee, having recommended favorable action on the proposal, was authorized to proceed with the acquisition of the property at “a cost not exceeding $20,000 and to operate the same as a branch of the Jefferson Hospital providing that a satisfactory agreement shall be entered into with the Free Hospital for Poor Consumptives to bear one-half the cost of operation not exceeding $10,000 per annum.” The buildings were duly purchased, and the minutes of the next 3 months reflect the actions preparatory to the opening of the buildings for

---

Fig. 11-1. Dr. Lawrence F. Flick (Jefferson, 1879); pioneer Philadelphia crusader against tuberculosis; founder of White Haven Sanatorium (1901) and Henry Phipps Institute (1903); organizer (1892) of first State (Pennsylvania) Society for Prevention of Tuberculosis.
Jefferson's use. In view of the multiple changes in the area of Philadelphia where the hospital was located, a note about its history is of interest. In 1761 John Stamper purchased 300 acres of land from Thomas and Richard Penn, which tract included the block between Second and Third Streets. Mr. Stamper erected a mansion at 224 Pine Street and later built for his son a “castellated mansion” on the corner of Third and Pine Streets, which later became the home of Dr. Philip Syng Physick, whose interests included tuberculosis. The building at 238 Pine Street was erected by Rev. Robert Blackwell for his daughter Maria Harrison Blackwell, a granddaughter of John Stamper, on the occasion of her marriage to George Willing on November 26, 1800. The 236 property was willed to Robert Burton by the Rev. Blackwell at the latter's death in 1831 and was used as a private dwelling but also as a dispensary of the Mount Sinai Hospital for a time. The 238 Pine Street property was used as a lodge meeting hall for some years before its acquisition by the Phipps Institute in 1903.

Dr. Elmer H. Funk (Figure II-2) (Jefferson, 1908) had been Acting Medical Director of the Jefferson Hospital in addition to his clinical duties in the Department of Medicine. Only four years out of medical school when Dr. McCrae arrived at Jefferson in 1912, a close bond quickly developed between these two able physicians, and on April 28, 1913 Dr. Funk presented his resignation as Acting Medical Director in order to accept Dr. McCrae's offer to take medical charge of the Tuberculosis Department under his direction. The arrangement was approved by the Trustees in May, and the next month Dr. Funk was instructed to "open the Department for Diseases of the Chest as soon as it is advisable and send notice to the White Haven Association." Funds authorized for renovation of the buildings ultimately amounted to almost $20,000. A complete report by Dr. Funk and the Hospital Committee to the Board in October 1913 indicated that renovations were almost complete, staffing plans were in place, and the Hospital would soon be ready to open. Legal arrangements were not yet in order between the Hospital and the White Haven Sanatorium Association, and the exact date of that agreement is not recorded; however, the Board at its March 1914 meeting authorized execution of the contract between White Haven Sanatorium and Jefferson, "understanding between the hospital and W.H.S. having been arrived at."

The Chest Department (Figure II-3) was organized as a part of the general hospital, administratively under the hospital medical director, but Dr. Funk was also instructed to "render a monthly report to the Hospital Committee of the Board of Trustees. . . ." Dr. Funk medically served under Professor McCrae. From the beginning, plans for teaching of medical students and nursing students assumed a prominent place. Plans for nursing supervision and for social service personnel were also included, the public and social aspects of tuberculosis control having been given much greater attention than formerly.

It should be noted that although "Diseases of the Chest" still related principally to tuberculosis,
the selection of the title for the new department represented a forward-looking attitude. Tuberculosis had long been the leading cause of death. With the discovery of the tubercle bacillus in 1882 and the beginning of efforts to prevent and control the disease, much activity was generated at the turn of the century. Isolation of active cases became a major factor in prevention of transmission. In addition to the organization of sanatoria like White Haven and the Trudeau Sanitarium at Saranac Lake, state and local governments were gradually becoming involved in the public health process. Some states were establishing their own institutions; other governments were contributing to the care of tuberculous patients in private sanatoria and dispensaries. City and state clinics were being established as a part of the process, mainly to apply newly conceived measures for managing tuberculous patients in view of the lack of availability of hospital beds for all needing care. These measures included the teaching of home isolation, currently perceived dietary measures, and adaptation of the "rest and fresh air treatment" to patients at home. These emerging principles of care lent themselves well to the adventure of the opening of the new Department.

The medical students reacted with enthusiasm to the opening of the Chest Department. The student publication, The Jeffersonian, carried several articles during the year 1913 about the new facility. In October 1913 it recorded: "The new department as stated on the marble tablet contributed by Mr. Baugh, will be known as the Jefferson Medical College Hospital, Department for Diseases of the Chest." Its direction under Dr. McCrae and Dr. Funk was noted, as well as a plan to relate to White Haven Sanatorium for patient transfer as needed. They also noted that "sociologic features" of tuberculosis would be studied and social service workers would supervise student visits to patients' homes. The college catalogue also carried through the themes of social service and home visiting for a number of years, but how much home visiting by medical students actually took place cannot be estimated.

The first few months of the operation of "Pine Street" are somewhat obscure. Some delay occurred between the time of Dr. Funk's optimistic report that the opening might occur in October 1913 and the actual date of admission of the first patients. The receipt of the first funds ($690) from White Haven Sanatorium for the month of March 1914 was acknowledged by the May meeting of the Board, so obviously patients were being treated early in 1914. Dr. Flick, although acknowledged as an important mover in the development of the department, appears not to have had a role in its operation and at no time did he hold an academic Jefferson appointment. The medical program was administered by Dr. Funk, whose energetic leadership soon led to recognition by the medical students of the excellence of his teaching. Drs. Baldwin Keyes and Reynold S. Griffith, having been medical students during the World War I period, both testified to the esteem in which Dr. Funk was held and to the popularity of his teaching program. Visits of the medical students to Pine Street became important
in the teaching in the Department of Medicine and some students obtained part-time appointments to perform laboratory work.

Policies with respect to patient care are not clearly recorded. The Trustees approved closing of the Department for the summer months for inpatients beginning in 1916, and this arrangement continued for some years. Continued care was available in the dispensary, which remained open for outpatients, but the ward patients were either discharged home or to another facility for the summer months. As time went on relationships with county, state, and private sanatoria in Pennsylvania and New Jersey were developed, which ultimately led to transfer both ways of patients who required more or less aggressive treatment. Important in the early policies was the Social Service Department, from the beginning a vital factor in assisting in the economics and family programs of patients with a devastating disease accompanied by inability to work and the imminent threat of death and/or invalidism.

Nursing care and the teaching of nursing students also became a high priority function of the new Department.

It is of interest in connection with the career of Dr. Funk to note that although he had just graduated from Jefferson Medical College in 1908, as early as June 1911 he was appointed to a committee to administer the Department of Medicine following the resignation of its Chairman, Dr. James C. Wilson. The other members of the committee were Drs. E. J. G. Beardsley, Frederick Kalteyer, and Ross V. Patterson. This committee served until the arrival of Dr. Thomas McCrae in September, 1912. Dr. Funk also was Acting Secretary of the Board of Trustees and Acting Medical Director of the hospital as early as 1913. These appointments gave evidence of unusual abilities that became even more apparent as his career evolved.

Early in the course of operation of the Department, new plans had to be made. In December 1914, the Board of Trustees was notified by letter from Dr. Flick that the White Haven Sanatorium Association, having reached the limit of its borrowing power, would find it necessary to cancel its arrangement for support of beds in the Department for Diseases of the Chest as of March 3, 1915. Thus after one year the total care of patients rested with Jefferson. Such an event must have been anticipated, since the Board of Trustees applied for State aid in October 1914 for the years 1915 and 1916, amounts requested being $200,000 for the general hospital and $22,473.96 for the Chest Department. The latter figure represented the total estimated deficit for the new facility for two years.

There is little recorded concerning the character of the patient population of the Chest Department in its early years. The building housed the outpatient department on the first floor along with offices for reception, nursing, and social services (Figure 11-4). There were three floors for inpatient care, each one having about 12 beds (Figure 11-5). The upper floors of the 236 building accommodated the nurses. It is presumed that patients were referred from the Jefferson outpatient clinics and from public facilities and clinics. Since there were not nearly enough beds for tuberculosis patients in the city or state, it is not difficult to imagine the dissemination of information concerning the new facility and its rapid filling. Without a doubt the concerns and contacts of Dr. Flick, who continued as President of White Haven Sanatorium, played a large role in this process.

**Early Clinical Research**

The treatment of patients with pulmonary tuberculosis underwent little change during the early years of the Department. Diagnosis was gradually achieving more accuracy with increasing availability of culture and animal inoculation techniques for mycobacteria supplementing stained smears. Roentgen diagnosis was not well developed before the 1920s, and clinicians were often resistant to the suggestion that it was more accurate than their physical diagnosis. In spite of many medications, both systemic and topical, prescriptions of rest, exercise, climate, solar therapy, dietary measures, and psychological efforts, there was still nothing specific known to be effective in limiting death and disability. Collapse therapy, beginning with artificial pneumothorax, was gaining acceptance during the
early decades of the century, but before 1920 little impact was discernible in limiting the duration of hospital treatment. The evidence suggests that patients were treated by standard methods until the 1920s when more aggressive treatment efforts were made. Dr. Funk, however, appears to have been very active in clinical investigation, having reported on numerous aspects of chest diseases in a rapidly developing series of papers in medical literature and speeches before medical groups. His personal experience with tuberculosis, requiring a period of residence at White Haven Sanatorium during 1915–1916, appeared barely to interrupt his career activities. He continued as a visiting physician to White Haven until death. Increasing interest in and employment of artificial pneumothorax and other procedures at Pine Street is evident from his publication in 1929 of a paper discussing selection of patients for collapse therapy.12

Shortly after the opening of the Chest Department, a number of physicians joined the staff either as teaching volunteers limited to the facility or as part of a more inclusive Jefferson appointment. The earliest names to appear in the College catalogue included Drs. Halpern, N. Blumberg, M. W. Newcomb, T. S. Burwell, Maude A. Bowyer, and F. M. Dyson.13 In 1920 Drs. S. Singer, A. R. Vaughn, A. Trasoff, and Wm. Haines were added to the list of Assistants in Medicine. Dr. R. M. Lukens was a Clinical Assistant in Medicine in 1915, but in 1917 he was listed as Chief Clinical Assistant in Laryngology, with Dr. H. S. Wider as a Clinical Assistant.14 Lukens continued his association with the Department for many years and pioneered with bronchoscopic techniques both for tuberculosis and suppurative lung disease. In 1924 Dr. Martin J. Sokoloff joined the staff. He was destined to become Director in later years.

![Fig. 11-4. The “Pine Street” clinic and pharmacy (ca. 1915).](image-url)
The Department experienced a significant benefit from the establishment of a Women's Board committee for Diseases of the Chest in 1922. Mrs. J. Dobson Altemus, President of the Board from 1921 to 1942, was increasingly interested in and supportive of the Chest Department. During the 1930s especially, the committee members were very active, supplying items and activities for the comfort of inpatients and looking after recreational and decorative needs.

Miss Hedy Kern provided one of the few remaining links between the present and the early years of the Chest Department. Having been employed there as a secretary for the Social Service Department between 1924 and 1927, she recalled a patient population of mainly young people, many of Polish, Irish, and Italian background, who were very susceptible to tuberculosis. Social Service personnel, led by Mrs. Millicent H. Maull, who could only be described as a great lady, warm, able, and dedicated, arranged hospital and sanatorium admissions for clinic patients, tried to implement medical and nursing orders for outpatients, planned financing for those unable to work, and related to other facilities for family care. Since far advanced disease was generally a requirement for admission, the inpatients were quite ill, and the mortality rate was high. Dr. John B. Montgomery (Jefferson, 1926) remembered this well during his student years and also remarked about the skill of Dr. Sokoloff in teaching physical diagnosis. In spite of the risks inherent in close contact with tuberculous patients, the medical students and nursing students appreciated the assignment to “Pine Street.”

In addition to the busy clinic for ambulatory patients operated by volunteer staff physicians, the Department also accommodated a City Chest Clinic during the middle 1920s, and in company with the Phipps Institute, a special Negro Clinic, with black physicians and nurses, in an effort to reach patients who might not otherwise obtain

Fig. II-5. The “Pine Street” fourth-floor men’s ward (ca. 1920).
care and among whom the prevalence of tuberculosis was quite high. Among the physicians was Dr. Paul J. Taylor (Jefferson, 1906), one of the first two black graduates of Jefferson Medical College. (The other was a classmate, Henry M. Minton, who like Dr. Taylor was involved with treatment of tuberculosis.) Gradually this special clinic merged into the regular outpatient program and the City Clinic was transferred to a district facility.

Dr. Funk's activities were by no means limited to the Chest Department. His academic progress included studies in gastric function, coronary artery disease, diaphragmatic hernia, bronchogenic carcinoma, diabetes, and syphilis. These studies were often from the standpoint of treatment, since he was becoming more committed to the field of clinical therapeutics as a discipline slightly tangential to the central one of clinical diagnosis and medicine. In 1925 Funk was promoted to Assistant Professor of Medicine and Therapeutics. In 1926, Dr. McCrae decided to relieve him as Medical Director of the Chest Department to permit him to pursue his other activities more intensively. At the same time, Dr. Burgess Lee Gordon, a Jefferson graduate of 1919, who had pursued graduate training in Boston after internship, was appointed Assistant Director. Dr. Funk went on to succeed Dr. Hobart A. Hare as Sutherland M. Provost Professor of Therapeutics on September 22, 1931. His untimely death May 13, 1932, terminated a brilliant career in medical teaching, administration, clinical investigation, and patient care. His success in developing and guiding the Chest Department was an outstanding accomplishment. Elmer H. Funk, Jr., (Jefferson, 1947) strikingly inherited the physical and intellectual characteristics of his eminent father, and served as President of the Alumni Association in 1968.

New Directions

Dr. Burgess Gordon (Figure 11-6) (Jefferson, 1919), had served as Assistant Resident and later Resident in Medicine at Peter Bent Brigham Hospital in Boston from 1921 to 1926 under Dr. Henry A. Christian, Hersey Professor of Medicine at Harvard Medical School and Physician-in-Chief at the Brigham. His service there included a Teaching Fellowship in Medicine at Harvard from 1923 to 1926, which led to a major interest in clinical investigation. He was a man of many interests and talents, all of which were brought to bear promptly in his new appointment as Associate Director of the Chest Department in 1926. In addition to his Boston experience he quickly developed skills in administration and in pulmonary diseases through association with Dr. Elmer Funk, whom he succeeded as Medical Director and Physician-in-Charge in 1927. Very soon a number of physicians were added to the staff. Drs. Maurice Jacobs, C. W. Nissler, Charles S. Aitken, H. B. Slotkin, and Samuel Jaffe all became active in teaching and clinical duties. Dr. Aitken and Dr. Gordon became visiting physicians at White Haven Sanatorium in 1932, Dr. Sokoloff...
having done so in 1924.\textsuperscript{18} This solidified a relationship that proved beneficial to both institutions.

Change and expansion were necessary. In 1928 an annex was built in the rear of 238 Pine Street to accommodate new laboratories, an x-ray department, social service and medical examination rooms, a group of four quiet rooms for very ill patients, and a roof garden for patient recreation (Figure 11-7). Later many other changes and improvements were made to patient areas. During the 1930s the roof was redecorated and became a center for patient activities important for patient comfort and morale. Many of these were made with funds from private donors, who responded readily to Dr. Gordon's gentle urging.

During Dr. Gordon's early years at Pine Street, he was very active in clinical investigation and medical writing.\textsuperscript{19} He continued his studies of the cardiopulmonary physiology of long-distance runners begun in Boston, studied metabolic processes related to tuberculosis and obesity, investigated the parathyroid secretion in relation to calcium metabolism with Dr. Abraham Cantarow, and followed through with studies of calcium and gold treatment for tuberculosis. He also studied Vitamin A and D deficiency and its treatment.

During these years there was evidence that the programs for tuberculosis control were showing some effect; patients were not as seriously ill at the time of first diagnosis and admission. As a consequence, more treatment measures could be brought to bear, especially collapse therapy. Dr.

---

**Fig. 11-7.** "Taking the cure"; outdoor treatment on the roof at Pine Street (ca. 1930).
Gordon developed a new apparatus for use in administration of pneumothorax treatments that incorporated a graphic pressure record and permitted direct observation of manometric reading during the inflow of air, thus contributing to the safety of the procedure (Figure 11-8). His inventive talents also led to the design of a device for decompression of pressure pneumothorax and for thoracentesis, an abdominal support for elevation of the diaphragm in people with tuberculosis and emphysema, and the design of a new chest piece for the stethoscope, which became known as the Gordon Stethoscope. In 1932, he published an article entitled “Pulmonary Asbestosis,” which in recent years has been regarded as a landmark observation in relation to the major hazards to the lungs that are now known to result from asbestos exposure. Along with research, he was quickly promoted from Associate in Medicine to Assistant Professor in 1930 and to Associate Professor in 1932. Gordon’s writing also included revision of Hughes’ Practice of Medicine in 1935, and he contributed to McCrake’s revision (twelfth) of Osler’s Principles and Practice of Medicine the same year. Later he joined Christian in editing Oxford Medicine.

Fig 11-8. Artificial pneumothorax treatment at White Haven Sanatorium (ca. 1920) employing the Gordon device (see text). Collapse therapy was ultimately rendered obsolete by antituberculosis drugs.
The Department prospered in spite of the Great Depression of the 1930s. Although the patient census decreased in 1931, there was a great deal of activity in patient treatment, teaching, and research. A proposal to develop an animal house at Pine Street in 1931 was not adopted because facilities were becoming available in the new College building. The teaching at Pine Street for third- and fourth-year medical students continued its popularity, and the increased activities during the 1930s also made the Department attractive to student nurses. Hiring of staff nurses was never a problem.

Two important teaching modalities developed in addition to usual group teaching. Dr. Gordon conducted a clinic in the Thompson Clinical Amphitheatre once weekly where patients were shown and discussed by him and by Dr. John T. Farrell from the Department of Radiology, giving emphasis to the increasingly important role of x-ray diagnosis in lung diseases. Repartee between these two popular teachers added to the attractiveness of the hour for the medical students. The other event was the later institution of semimonthly clinical conferences held in the classroom in the basement of the Pine Street Hospital. In a sense this continued a tradition begun in the early days of the Phipps Institute in the same building. At that time all fatal cases were discussed at a weekly staff meeting but now the conferences were extended to include staff personnel, house staff, radiologists, surgeons, bronchoscopists, and at times other disciplines. Later, guests from other hospitals and sanatoria attended these conferences, which became important teaching and exchange media well before the now widely used clinical conference became popular. Dr. Peter A. Theodos (Jefferson, 1935), who joined the staff in 1938, had also been exposed to the conference system during his residency and had much to do with its effectiveness. As time went on, especially during World War II, this conference was changed to include the medical students, who found it effective and stimulating.

Research and Surgical Developments

Funds contributed for research purposes from 1929 forward played an important role in the activities of the Department. These included grants from Mrs. E. T. Bedford of New York, C. Mahlon Kline, Lessing J. Rosenwald, and Mrs. Mabel Mann Davis of Philadelphia, and one in memory of Anne Woodhill White of Newark, New Jersey. A chemist, Dr. Proskuriakov, was added to the staff, and laboratory facilities were improved. A nutrition clinic, an allergy clinic, and at various times a bronchoscopic clinic were supported as outpatient activities flourished. A pneumothorax clinic was added so that patients discharged from the wards could receive their air “refills” as outpatients. During these years, it was still not possible to treat chest diseases totally in the Pine Street facility, and much transportation of patients to the main hospital was necessary as tuberculosis treatment became more involved. Surgical procedures were done at the main hospital, but difficulty in isolation was a problem. The need for surgical facilities at Pine Street was soon obvious, but in the depression of the 1930s funds were short. Finally in 1938, Mr. Joseph V. Horn provided a grant for a surgical unit with $5,000 that he later supplemented at the time of its completion. This made it possible to carry out pneumolysis, extrapleural pneumothorax, phrenic nerve exeresis, and thoracoplasty in the same building in which the patients were housed. X-ray facilities were also updated, and Dr. Robert Lukens continued his close relationship for bronchoscopic diagnosis and treatment, in which he had pioneered 15 years earlier. Surgeons previously appointed as consultants became much more active and participated in teaching and the clinical conferences as well. These included Drs. George J. Willauer (Jefferson, 1923) and Howard H. Bradshaw (Jefferson, 1927) who were later joined by Drs. Richard J. Chodoff (Jefferson, 1933) and Frederick W. Deardorff (Jefferson, 1932). The availability of surgical facilities also resulted in referrals of patients from regional tuberculosis institutions.

Among medical men who became important in the new endeavor were Dr. Robert Kyun-Hyun Charr (Figure 11-9) (Jefferson, 1931) in 1933 (whose appointment was interrupted by a bout with tuberculosis), Dr. Edward H. Kotin (Jefferson,
1930) in 1934, Dr. Paul Klempner (Jefferson, 1932) in 1935, Dr. J. J. Kirshner (Jefferson, 1933) in 1937, and Dr. Peter A. Theodos (Jefferson, 1935) in 1938.

Dr. Hobart A. Reimann succeeded as Attending Physician in 1936 following the death of Dr. McCrave in 1935.24 Expanding activities required increased efforts on the part of the nursing, social service, and other personnel whose dedication was exemplary. At the same time many factors contributed to the building of patient morale. Attitudes toward tuberculosis gradually changed when the patients perceived that aggressive treatment programs resulted in higher percentage of recoveries and shortening of hospital stay. More attention was also paid to their comfort in the hospital. Wards were redecorated with pleasing colors, and pictures were hung. In 1934 the Department became a subscriber to the circulating picture library of the Philadelphia Art Alliance. The following year, Mr. Abbott of the Art Alliance gave lessons in painting and modeling. The patients responded with enthusiasm to these and other applications of arts and crafts appropriate to patients' limited potential for physical activity. Similar effort ultimately led to the acquisition of a group of landscape oil paintings by Mr. W. Emerson Baum, which were displayed in the Chest Department until 1961 and now adorn the walls of the Pulmonary Division of the Department of Medicine.

During these years the patients were encouraged to organize activities of their own. One result was a publication known as The Bug, and another in 1939 entitled Quest went through several editions. Also in 1939, a "Graduates' Club" was organized to dramatize the potential for recovery. Awards were given to a number of recently recovered patients to encourage current ones. All of these efforts plus the enthusiasm of the nursing staff and ancillary personnel made for an unusual "esprit de corps," readily perceptible to visitors, house staff, and students. The addition of younger staff members also contributed to a spirit of vigor and optimism.

In 1938, Dr. Charr returned from White Haven Sanatorium, where he had been a physician in residence after his recovery, and his staff appointment was reactivated as Associate in Medicine, part-time fellowship funds having been provided by Mrs. Davis and Mr. Horn. Dr. J. Woodrow Savacool (Jefferson, 1938) was awarded a similar fellowship for teaching and research in 1939 under the same auspices, and a number of projects were undertaken. These led to publications relative to the pathology of the pulmonary vascular system in tuberculosis and anthracosilicosis, the clinical aspects of pleural effusions in tuberculosis, the causes and pathology of pulmonary hemorrhage, and application of the newly discovered plasma prothrombin determination to patients with tuberculosis.25

In 1940 a staff dinner was held to celebrate the accomplishments of the previous decade and develop enthusiasm for continuing progress. Dr. Gordon addressed the group26 and emphasized the role of the new surgical unit in improving the

Fig 11:9 Dr Robert K. Charr (Jefferson, 1941) at "Pine Street" entrance (ca. 1941) Dr Charr became highly respected as a clinician and teacher.
outlook for the patients. Not only did he show the excellence of results of the surgical procedures but indicated the overall improvement in the results of treatment generally. It is apparent in retrospect that the improved outlook resulted more specifically from the fact that patients on admission were less seriously ill than formerly and the potential for recovery was, therefore, greater. The dinner was attended by Trustees and major faculty, and the report was received with enthusiasm. The Department seemed poised for a period of stability, growth, and service.

Contributing greatly to the atmosphere of the Division was the excellence of the nursing care. The staff nurses were dedicated and skilled, and the student nurses rotating through the wards readily captured the spirit. When wartime strictures became the rule, it was common for both staff and student nurses to put in extra time to keep the work under control. Miss Thelma Showers, previously an outpatient department supervisor in Pediatrics, succeeded Miss Mary Cushen as Nursing Supervisor in 1940. She set the tone for the nursing service and made thereby a major contribution to the care of the patients and to the recruitment of excellent staff nurses, who came through the program as students (Figures 11-10 and 11-11). Among these were Miss Joanna Laise, Miss Jean Fluck, Miss Jean Lebkicker, Miss Anne Haines, and Miss Jean Fishel. Miss Mary Albright did yeoman service as night supervisor.

Mrs. Millicent Maull continued as the principal Social Service person, aided for some years by Louise H. Goodman and Anna B. Lutz. Frances McBlain joined in 1929, but during the 1930s Mrs. Maull carried on alone except for a secretary.27

Fig. 11-10. Informal "Pine Street" staff group (ca. 1940). From left: student Thomas S. Min (Jefferson, 1942); student nurse; medical student laboratory assistant Chang Ha Kim (Jefferson, 1941), Nursing Supervisor, Miss Thelma Showers; Dr. Randolph V. Seligman (Jefferson, 1940), Staff Nurse, Mrs. Cake; student nurse.
Wartime

World War II brought about major changes in personnel and required adaptations of all sorts on the part of physicians and nurses. Drs. Gordon, Theodos, Kirshner, and Chodoff were members of the Jefferson 38th Hospital Unit that was activated in 1941, Dr. Gordon having transferred from the Harvard Unit to which he had been attached since his Boston experience. Dr. Martin Sokoloff became Acting Medical Director and Physician-in-Charge in 1942. Major teaching duties were assumed also by Drs. Charr, Nissler, Savacool, Vaughn, Cadden, and Jaffe. Dr. George J. Willauer (Figure 11-12) (Jefferson, 1923) was virtually the only surgeon to carry on the increasing workload, and at times he had to operate without assistance except from the nurses, even student nurses. During the war years research was virtually at a standstill all the while surgical procedures were increasingly utilized. These in turn were made safer by advances in anesthesia and the gradual availability of antimicrobial agents.

Fig. 11-11. Laryngoscopy was an important part of tuberculous diagnosis and treatment. A staff nurse participates in the process with the laryngologist.

Fig. 11-12. Dr. George J. Willauer (Jefferson, 1923) at “Pine Street” (1941), pioneer thoracic surgeon, later described by a colleague from another medical school as having done the best and perhaps the most surgery for pulmonary tuberculosis in Philadelphia.
at first for control of nontuberculous infections and later for tuberculosis. Until the end of the war, however, no effective antituberculous agents played a role in treatment. The order of the day was to find early cases, begin rest treatment and, if not rapidly effective or if cavitation was present, to begin collapse with pneumothorax. When treatment was successful, patients could be discharged after a relatively few weeks to continue pneumothorax refills as outpatients. Thus patient turnover increased.

Dr. Martin J. Sokoloff (Figure 11-13) (Jefferson, 1920), having garnered experience in public health as Director of the Division of Tuberculosis Control for the City of Philadelphia just before the war, continued in that role while assuming the Acting Directorship of “Pine Street.” With the momentum that had been developed in the prewar years, he proved especially effective in managing the affairs of the Department. He gave many teaching hours, continued the student-staff conferences, and with the help of the teaching staff maintained the morale of the facility.

Dr. Gaetano Brindisi (Jefferson, 1940) joined the clinical staff in 1943, and Dr. James S. D. Eisenhower (Jefferson, 1943) in 1945. It is a tribute to the abilities of the local people that tuberculosis control continued to improve even during wartime. Methods devised for similar control among military personnel also proved useful in civilian life.

Return of Drs. Gordon, Theodos, and Kirshner from military service in 1945–1946 led to much new activity. Planning for progress could be resumed and long-awaited consideration for expansion of services assumed importance. Dr. Gordon was soon informed by the Trustees that a bequest from the Pendleton–Barton Family had produced funds that could be applied to create a larger facility. Negotiations were ultimately concluded for the purchase of a building at Broad and Fitzwater Streets, formerly the site of the Broad Street Hospital. The building was purchased at Sheriff's Sale for $124,000, settlement date June 10, 1946. Renovations were then undertaken to adapt the building to its new uses. The news was greeted with enthusiasm by the staff and administration with anticipation of improved facilities for patient care, nursing care, medical teaching, and research. A very orderly transition was made in January, 1947 to the new facility, which was designated the Barton Memorial Division of Jefferson Medical College Hospital (Figure 11-14).

The Barton Division for Diseases of the Chest

The Barton bequest resulted from the will of Emily Barton Pendleton, who died February 24, 1940. It left her residuary estate to Jefferson to be divided between the Edward Gray Pendleton Memorial Fund for work in cancer and the Emily C. Barton Memorial Fund for work in
tuberculosis. Mrs. Pendleton's great-uncle was Dr. Wm. P. C. Barton (1786–1856), who was Dean of Jefferson from 1828 to 1830. Mrs. Pendleton's mother, Emily Chase Barton, had died of tuberculosis, and her husband, Edward Gray Pendleton, had predeceased her in 1920. The original bequest was valued at $310,000 in 1940, but careful use of the funds and investments resulted in appreciation to $1,864,128.54 in December, 1983. The first funds were distributed February 28, 1941; the major distribution occurred in August 1941 and the final one in October 1944. The Barton funds thus have resulted in major contributions to medical progress, research, and patient care over virtually one-half century while still providing for the future. A court decision of October 21, 1983, has interpreted the intent of the testator in such a way that the funds could be used "to further research regarding diagnosis and treatment of respiratory and pulmonary problems. Such problems may include but are not limited to problems resulting from cancer affecting these areas and systems."29

The White Haven Sanatorium

A related occurrence dovetailed very well with postwar developments for the Chest Department, namely the acquisition of the White Haven Sanatorium, negotiation for which had been under way for some time. The Sanatorium was

Fig. 11-14. The Barton Memorial Division of Jefferson Medical College Hospital. Located at Broad and Fitzwater Streets, the building housed the Department for Diseases of the Chest from 1946 until 1961.
founded in 1901 and had served its constituency with skill and effectiveness. During the prewar period, however, it became apparent that changes would be necessary to permit it to fulfill its mission. In company with similar institutions both private and public, especially those remote from population centers, the need for more aggressive treatment of tuberculosis became apparent. White Haven, therefore, added facilities for surgical treatment and upgraded its ancillary services in the late 1930s, a process that proved useful only for interim purposes. Thus as the war was ending and planning could be resumed, several proposals were considered for change and improvement. Ultimately the Trustees decided that the free-standing status of the Sanatorium was no longer in the best interest of modern treatment. Since association with a teaching institution was desirable, a merger with Jefferson would place White Haven in the strongest position for the pursuit of its long-term goals. Appropriate legal steps were taken, and on March 18, 1946, the Sanatorium became the White Haven Division of Jefferson Medical College Hospital (Figure 11-15). Dr. Gordon was made Director of White Haven and Barton Divisions, and the staffs were expanded to man both. Jefferson was now in a position to treat and study all aspects of pulmonary diseases, with acute and surgical treatment available at Barton and prolonged care at White Haven.

Many adaptations were needed. Housekeeping, maintenance, and nursing services required expansion for the new Barton, which provided 91 beds for care of patients with all types of lung diseases. Surgical facilities were much improved over those at Pine Street. Laboratory and x-ray facilities were likewise expanded. Dr. Sokoloff,
having kept the Division functioning well during
the War, continued as Assistant Medical Director.
Dr. Willauer was designated as Visiting Surgeon,
Dr. Bradshaw having become Professor and
Chairman of the Department of Surgery at the
new Bowman-Gray School of Medicine. Dr.
Francis E. Allbritten became Assistant Surgeon.
Miss Thelma Showers organized the nursing
services with increased responsibilities for those
staff nurses who had served so effectively at Pine
Street. Mrs. Margaret Flisher Arthur provided
experience and sensitive skill in an expanded
Social Service Department. Teaching was more
satisfactory, the small section program for medical
students being more intimate and diverse. In
addition, small student sections rotated through
White Haven, usually with one of the Barton
staff members accompanying them for part of a
weekend. An effort to expand the staff at
White Haven with visiting physicians from the
region was only partly successful. Ultimately,
responsibility for the care of the patients devolved
upon the resident staff and the visiting staff from
Barton.

The Laboratory for Pulmonary
Physiology

An important development that could be realized
with the availability of larger quarters at Barton
was the establishment of a laboratory for
pulmonary physiology. Interest in this activity had
progressed during the war, especially in aviation
medicine, and there was a need for basic and
applied research. Studies of lung function and
cardiopulmonary circulation held great promise for
improvement in patient care and selection of
patients for surgical and special procedures. The
association with White Haven opened the
possibility of improving the care of the large
numbers of anthracite miners treated there for
many years. Large numbers of miners were
afflicted with anthracosiliosis, tuberculosis,
emphysema, and combinations of processes known
in the coal regions as “miner’s asthma.” These
people were generally seriously ill, and the
mortality rate was high. Symptoms of cough and
dyspnea were distressing, and in the past little
could be done. Tuberculosis often complicated the
scarring resulting from the inhalation of
silica-laden mine dust, and collapse therapy could
not be used. Early in 1947, Dr. Gordon suggested
to a local miner’s union counsel that a major
research program into the lung problems of
anthracite miners could be undertaken. A visit to
Mr. John L. Lewis, President of the United Mine
Worker’s Union, was arranged, and he proved
enthusiastic about the idea. The Anthracite Health
and Welfare Fund was immediately developed to
initiate the program. The laboratory was
established on the ground floor of the Barton
Division. To direct it, Dr. Hurley L. Motley
(Harvard, 1936) was recruited. Dr. Motley,
previously Associate Professor of Physiology at the
University of Missouri School of Medicine, had
experience during World War II as an aviation
physiologist and Flight Surgeon. At Wright Field,
Dayton, Ohio, he pioneered in research on
pressure breathing. Most recently Motley had
served as a Research Fellow at Bellevue Hospital,
New York, under Drs. Dickinson Richards and
Andre Cournand. His qualifications were thus
usually appropriate. He arrived at Barton in
September 1947 and quickly assembled the
equipment needed to begin the studies. Dr.
Leonard Lang (Jefferson, 1939), who was
appointed to the teaching staff in 1946, became
associated with Dr. Motley, and Dr. Peter A.
Theodos (Jefferson, 1935) joined the group as
Clinical Associate under Dr. Gordon.

The new organization proved effective,
especially in the area of teaching and patient care.
Medical students had opportunities not previously
available, notably the ability to observe the
diagnosis and management of chest diseases in a
comprehensive manner, including x-ray and
bronchoscopic diagnosis, which were readily at
hand. Students could also appreciate the increasing
role of surgery in treatment of tuberculosis and
the burgeoning cases of lung carcinoma. Surgical
residents rotating through the Barton Division
found the experience rewarding. At this time, in
1947, adequate supplies of streptomycin, the first
antimicrobial agent to prove practical in
tuberculosis treatment, became available. The
impact of this new modality, however, was not a
major one until adjunctive agents were developed,
notably para-aminosalicylic acid (PAS) in 1949 and
the more definitive isonicotinic acid hydrazide
(isontazid) in 1952. Intrathoracic surgical
procedures could be carried out with greater safety, increasing the frequency of lobectomy and pneumonectomy for both tuberculosis and cancer. The duration of hospital stay decreased and convalescence could be followed at White Haven. The physiology laboratory made an immediate difference in patient care and attracted patients and personnel from the main hospital for studies and observation. During the 1950s, fellows in pulmonary physiology became affiliated with the Department for training. At one time there was a proposal to convert the Barton Division into a major center for cardiac studies and surgery, but ultimately the decision was made not to take this course.

The availability of comprehensive facilities attracted patients from the Veterans Administration, since postwar needs were not met by existing veterans hospitals. This program under contract with the federal government provided material for teaching, physiological studies, and medical and surgical treatment at a reasonable daily rate and for about 6 years was a very useful arrangement. Ultimately the Veterans Administration had its own facilities, and soon the impact of antituberculous medication diminished drastically the need for beds for war veterans. Also, Barton contracted with the City of Philadelphia to care for patients originating in the city chest clinics for whom state sanatorium beds were not available. This program began in 1950 and continued in numbers diminishing after 1954 until 1960. For these patients all services were included in the per diem rate.

Miners' Diseases

Perhaps the most widely publicized events in the history of the Department surrounded the early studies in the cardiorespiratory laboratory. The mine workers' program, being the most visible, quickly attracted attention with the new "machines" for their study and with efforts at treatment generated by the findings. Thus the obstructive aspects of the impaired lung function were treated by the newly developed valves for positive pressure breathing applied by Drs. Motley, Gordon, Lang, and Theodos to the miners studied at Barton (Figure 11-16).30,31 Mine workers on a regular basis were admitted to Barton and evaluated for 10–14 days (Figure 11-17). Those judged to be adaptable to mechanical treatment began it at Barton and, if necessary, continued it at White Haven. Several depots were available in the mining regions for those able to be discharged. The miners responded to these efforts with enthusiasm and cooperation, since for the first time something was being done for "miners' asthma." Publicity about the program was generated in the local newspapers32 and national news magazines.33 A number of scientific publications quickly followed in the medical literature.34 It was a period of real productivity and accomplishment.

Although the pathology of anthracite miners' diseases had previously been relatively well developed, the Barton studies enlarged upon the

![Fig. 11-16. An anthracite miner with anthracosilicosis receiving treatment with intermittent positive pressure breathing. Miss Emma Gallo (right), Barton Supervising Nurse, teaches the technique.](image-url)
relationships among the lesions of silicosis, anthracosis, tuberculosis, and emphysema. Cavitating silicotic masses were described exclusive of the effects of tuberculosis by Dr. Theodos (Figure 11-18), who became nationally known for these observations that led to other concerns in environmental and industrial medicine. The studies made a significant contribution to preventive measures in all industries with dust inhalation problems. In 1949 arrangements were made for admission of bituminous miners to White Haven and Barton to permit comparison of their disease problems with those of anthracite miners. About 200 soft coal miners ultimately participated in these studies.

Progress was not achieved in total peace and quiet. Some of the plans for the expanded Department were not realized, and there were also interpersonal and institutional problems. The full staffing of the White Haven Division proved difficult. Physicians no longer were willing to limit their activities and training to remote sanatoriums, and the regional internists appointed to the staff were willing to attend occasional meetings but not to admit patients and participate in day-to-day treatment. Thus, the medical staff in residence was limited mainly to physicians themselves convalescing from tuberculosis. Dr. Edward A. Favis, one of the last Chief Resident Physicians, was one of a long list of such physicians who achieved success in internal medicine following recovery. As antituberculous treatment became available, the need for collapse therapy and surgery gradually diminished, a process that simplified the

Fig. 11-17. Coal miners at Barton during study and treatment for anthracosilicosis under United Mine Workers Research Project.
care of tuberculous patients. Postwar economic expansion of industry did not include anthracite coal; alternate fuels were exploited that appeared less difficult and hazardous to bring to market. The fate of the White Haven Division, therefore, was to have stable occupancy until the middle 1950s, when fewer beds were needed, and the maintenance of a full staff could no longer be justified.

A controversy developed in the late 1940s, when the departmental acquisitions had been fulfilled, between Dr. Reimann, as Attending Physician, and Dr. Gordon. Some members of the staff found that the new relationships were not producing the intended results, and dissatisfactions came to Dr. Reimann’s attention. Specifically, the use of the White Haven facility for student and resident teaching left much to be desired, especially due to its remoteness and lack of experienced staff teachers. Numerous meetings, letters, and exchanges occurred, sometimes with heat and accusatory implications. At one time, Dr. Gordon’s resignation was suggested as a solution. Although some similar criticism was applied to the Barton Division, especially for training of medical residents, the effectiveness of the cardiorespiratory laboratory program and the traditional good will among members of the staff surmounted the difficulties. The Department entered the 1950s on a positive note. The surgical program was going well and a number of surgical and medical residents rotating through Barton made significant contributions in relating progress to their colleagues at the main hospital. Patients from the main hospital were increasingly brought to Barton for pulmonary function studies prior to surgery.

Associated with the pulmonary physiology program from the start in 1947, Dr. Leonard Lang had participated with devotion and skill in the studies and publications that followed. Upon his resignation to establish a practice in pulmonary diseases in Wilmington, Delaware, his successor, Dr. Joseph Tomashefski, a Fellow from 1949–1951, went on to a distinguished career in pulmonary medicine.

During the early 1950s many changes took place. Dr. Gordon had been advised by Dr. Christian, his mentor at Harvard, not to remain at one place too long. Several opportunities for change had opened for Gordon, but in early 1951 serious negotiations for his services had begun with Womans’ Medical College and Hospital. These led to his appointment as of September 1, 1951, as President of Womans’ Medical College and Wm. Mullen Professor of Medicine.

Dr. Martin J. Sokoloff, who had done excellent service as Acting Director of the Chest Department during the war, was appointed as Acting Director immediately upon Dr. Gordon’s resignation. He served until his appointment as Medical Director and Physician-in-Charge was affirmed as of January 1, 1953. At the same time changes were taking place in the Department of Medicine. Dr. Reimann resigned in October, 1951, and was succeeded by Dr. John E. Deitrick, whose commitment to medical teaching fitted well with the ongoing activities of the Barton Division.

Fig. 11-18. Dr. Peter A. Theodos (Jefferson, 1935), whose studies of silicosis contributed to efforts at environmental and industrial controls of inhaled particles.
While there were continuing tensions in the Department of Medicine, the early 1950s proved to be relatively stable at Barton. Research into miners’ disease and several of the newly described interstitial lung diseases, and the problem of increasing incidence of obstructive lung diseases, received appropriate attention.

## Changes Relating to Effective Tuberculosis Treatment

During the middle 1950s a major change in emphasis occurred with respect to lung diseases. Isoniazid, which became available in 1952, more than fulfilled its promise. After a few years it became clear that with the use of effective antituberculosis therapy, long periods of rest treatment were no longer necessary. Surgical and collapse therapy were also gradually replaced by medical measures for the routine treatment of tuberculosis. About 1954 the chronic bed shortage for city and state agencies disappeared, and soon sanatoriums could be abandoned. By the end of the decade, major emphasis could again be directed toward prevention, with total control of this previously devastating disease. The diminishing demand for chronic beds led the Trustees to seek alternative uses for the White Haven Division, and on January 26, 1956, an agreement to sell the sanatorium to the Commonwealth of Pennsylvania was concluded.

The Barton program for research in the diseases of miners, however, was continued, the mine agencies and local physicians in the mining regions serving as referral sources.

At the same time the Division was more clearly defined administratively as a division of the Department of Medicine, overriding the earlier arrangement specified by the Board of Trustees requiring the Medical Director to report directly to the Trustees as well as to the Attending Physician, at that time Dr. McCrae. The designation “Department for Diseases of the Chest” gave way to that of the “Barton Memorial Division” of the Department of Medicine.

Other changes occurring during the 1950s included major increases in carcinoma of the lung and obstructive lung diseases. Both of these events are now known to have related in great measure to the increase in cigarette smoking, some of which could be ascribed to the stresses of World War II. In any event, the studies and treatment inclined more toward changes in pulmonary function as factors in acceptability for lung resection and in conservation of breathing capacity. Gradually the research aspects of pulmonary function were incorporated into established clinical procedures.

In 1953 Dr. Motley resigned to accept an appointment as Professor of Medicine and Physiology at the University of Southern California Medical School. In reviewing the experiences of the Barton staff during the 5-year period of his direction of the laboratory, many accomplishments were recorded. Fellows were trained, research was productive. Teaching of medical students was enhanced through Dr. Motley’s efforts, and the miners’ program achieved many of its goals. The group was in great demand for medical meetings, and much effort was devoted to making the new pulmonary physiology understandable to the physician in practice. As expected, Dr. Motley went on to major accomplishments in pulmonary medicine with national recognition, but much of the groundwork was done at Jefferson.

Dr. Motley was succeeded by Dr. Richard T. Cathcart (Figure 11-19) (A.B., Yale, M.D., Columbia), who was trained in cardiology and pulmonary physiology at Bellevue and Presbyterian Hospitals in New York. He had for 3 years been director of the Cardiorespiratory Laboratory at St. Luke’s Hospital, New York, and his new duties enabled him to build upon his experience there. In addition to continuing the research program, Dr. Cathcart quickly established himself as a teacher who could reduce complicated physiological problems to an understandable level for medical students and house staff. He was appointed Assistant Professor of Medicine.

During this period, Dr. Sokoloff continued as Director of Tuberculosis Control for the City of Philadelphia and was able to coordinate his public health duties with those pertaining to Jefferson. Among the Barton staff members associated with him as consultants to the Philadelphia Department of Health were Drs. Theodos, Kirshner, Savacool, and Cohen, all of whom continued their activities throughout the 1960s. The morale of the nursing
and ancillary staff remained high under his leadership. Mrs. Thelma Showers Morris resigned in 1948 and was succeeded as Director of Nursing by Miss Helen Whitney, later to be followed by Miss Grace Ronco and still later by Miss Emma Gallo. The surgical program was under the joint direction of Drs. Thomas A. Shallow, John H. Gibbon, Jr., and Frank F. Allbritten until Allbritten's resignation in 1954 to become Chairman and Professor of Surgery at the Medical School of the University of Kansas. He was succeeded at Barton by several young and able surgeons who had rotated through Barton during their training: Drs. John Y. Templeton III (Jefferson, 1941), George J. Haupt (Jefferson, 1948), Thomas F. Nealon, Jr. (Jefferson, 1944), and John J. McKeown, Jr. (Jefferson, 1947), all of whom went on to major appointments in thoracic surgery and in teaching of general surgery. Dr. Charles Fineberg, later Professor of Surgery at Jefferson, rotated through the program and contributed to its strength, also serving with Dr. George Willauer at Eagleville Sanatorium. In medicine, Dr. Robert Charr shared his activities with teaching duties at the main hospital. He was responsible for the course in physical diagnosis, where his teaching abilities came to full flower. Charr was also an Attending Physician at the Pennsylvania Hospital in the tradition of Dr. McCræ; his death in 1956 was a serious loss to Jefferson. During these years the medical teaching and clinical program was strengthened by the participation of Dr. Jacob J. Kirshner (Jefferson, 1933), whose experience and skills were highly regarded. In bronchoscopy after the war Dr. Robert M. Lukens (Jefferson, 1912), was joined by Dr. John J. O'Keefe (Jefferson, 1937), and later by Dr. William H. Baltzell (Jefferson, 1946). The high quality of work in this Department was thus maintained.

In addition to his work with the miners' program, Dr. Theodos was mainly responsible for the outpatient clinic, which underwent considerable change from the experience at Old Pine Street. The reduction in incidence of tuberculosis and the availability of other agencies for its care resulted in diminishing need for outpatient services, especially since many referrals of nontuberculous lung disease patients were likely to be made to the hospital for direct admission. The Social Service program underwent a change in emphasis for similar reasons, but Mrs. Margaret Arthur continued to function with compassion and effectiveness.

Gradually in the late 1950s the diminishing census especially for tuberculosis resulted in consideration of plans for change. Dr. Deitrick had resigned as Magee Professor and thus as Attending Physician on July 31, 1957, to become Dean of the Medical College of Cornell University. He was promptly succeeded by Dr. William A. Sodeman, who in turn served only until April 2, 1958, when he was appointed Dean of Jefferson Medical College and Vice-President for Medical Affairs. His succession by Dr. Robert Irby Wise assured continuation of policies and procedures that were in the process of development and that promised progress for the Pulmonary Division.
Barton Moves to Main Hospital

In April 1959, Jefferson's President, James L. Kaufman, appointed a committee to study "the possibility of integrating the facilities now at Barton with Jefferson's main hospitals." This committee was given only one month to make its recommendations, but in spite of this stricture a report was submitted that soon gave rise to action. Some considerations were legal in character because the use of funds from the Barton bequests as well as residual endowment funds of the White Haven Sanatorium were involved. The latter proved readily adaptable to the plans that evolved, and the ultimate legal opinion regarding the Barton funds has been quoted. The conclusion of negotiations and planning resulted in a move of the Barton Division to the second floor of the main hospital building (Old Main 1907).

Renovations of the second floor proceeded apace. The unit consisted of two rooms of four beds each for tuberculous patients, plus several beds planned for surgical tuberculosis, but the latter were soon converted to other uses. There were 19 semiprivate beds for nontuberculous patients, which included those needed for the miners' program. There was a centrally located nurses' station and utility area with a comfortable lounge for visitors, all of which proved effective and attractive. The tuberculosis beds were employed for the few patients still requiring admission for advanced disease as well as for transfer of patients in the general hospital requiring isolation. The pulmonary laboratory was located on the second floor of the Thompson Building adjacent to the clinical area with administrative offices and treatment rooms on the main corridor. A classroom and small conference room completed the arrangement. On June 5, 1961, the move to the new locale was accomplished with minimal disruption of patient care, especially since little change in personnel was involved.

Just before the move, a complete report (1960) of accomplishments of the mine workers' program was developed by the staff of the Barton Memorial Division to Mr. Thomas Kennedy, President of the United Mine Workers Union. This report summarized and described the purposes, procedures, and accomplishments of the program that had then spanned 13 years, and it projected its continuation in the new setting with enhanced facilities. In 13 years, a total of 2,092 miners had been studied, most of them going on to continued treatment in four regional hospital centers. The report stressed the training of physicians who went on to establish laboratories at other hospitals and medical schools as well as publication of physiological and clinical findings in medical literature. During the five years from 1955 to 1960 alone, Drs. Cathcart and Theodos presented 37 speeches and papers before medical groups including the American College of Physicians, American Trudeau Society, American College of Chest Physicians, and the American Surgical Association. Scientific exhibits were shown at ten different conventions including the American Medical Association convention in Atlantic City in 1959 (where it won Honorable Mention). The entire concept of the pathophysiology of anthracosilicosis was developed and defined in detail during this period, with Jefferson acknowledged as a major center of its study and teaching.

In 1959 Dr. Harold L. Israel (Jefferson, 1934) (Figure 11-20) joined the Jefferson staff as Clinical Professor of Medicine in charge of the teaching program at Philadelphia General Hospital. The sarcoidosis clinic pioneered by him was relocated to the Curtis Clinic, and he ultimately became associated with the Barton Division. As the Philadelphia General program was phased out, he became more active in teaching and research, especially relative to training residents and fellows. His studies in sarcoidosis and Wegener's granulomatosis were basic and were internationally recognized during the next two decades. Numerous publications and presentations at national and international meetings enhanced his prestige and were important to Jefferson. His portrait was presented to the College in 1984. During this period the medical staff was also enlarged to include Dr. I. Sacks Cohen (Jefferson, 1939) and Dr. Anthony L. Forte (Jefferson, 1954).

For most members of the medical, nursing, and technical staffs the new location of the Barton Division proved a culmination of many hopes and plans. Although the facility was now much smaller, the aspects of isolation formerly perceived...
by personnel and reflected by main hospital people were eliminated, and the integration process was gracefully accomplished under Dr. Sokoloff's leadership. Nevertheless, the operation of the Barton unit with some administrative independence contributed to its strength. The nurses' program was carried on with more efficiency, the tuberculosis section constituted one of the very few areas in the city where private patients could be treated on a short-term basis, and the teaching facilities were improved. Admission of increasing numbers of patients with emphysema and carcinoma provided excellent materials for teaching and research. The teaching conference program was continued, and more of Jefferson's staff of attending physicians and house staff were regularly in attendance. The rotation of medical residents through the Barton program was more rewarding in view of the diversity and intensity of experience in managing lung problems.

In 1962, Dr. Sokoloff's sixty-fifth birthday signaled his retirement. In 1963 he was succeeded by Dr. Cathcart as Director of the Barton Memorial Division of Diseases of the Chest. Dr. Sokoloff continued his association with Jefferson in patient care and teaching, having been promoted to the rank of Clinical Professor of Medicine. He was thus able to round out his career in clinical medicine, teaching, and administration, with significant influence on the careers of many Jefferson graduates and contributions to the control of tuberculosis at a critical period.

Dr. William Fraimow, having served his residency in internal medicine at Veterans Hospital, Philadelphia, came to Barton as a Fellow in cardiopulmonary diseases in 1957 and then joined the medical staff as Assistant in Medicine in 1950. He continued his association with Dr. Cathcart, and both were appointed consultants to the Henry R. Landis State Hospital, at Girard and Corinthian Avenues in Philadelphia, where they served until the hospital was closed in 1973. This was the last surviving tuberculosis hospital in the area, where Dr. John Y. Templeton, III and Dr. John J. McKeown, Jr., from the Department of Surgery also served under circumstances in which diminishing demand for surgery was associated with a need for superior skills.

**New Programs**

The Barton group continued its studies into diffuse lung diseases. Dr. Theodos and others collected a group of patients for whom the recently introduced procedure of open lung biopsy made a crucial diagnostic difference in planning treatment and prognosis. Dr. Cathcart, among other activities, became a member of the Governor's Committee on Pneumoconiosis and a member of the Committees on Pneumoconiosis and Tuberculosis for the Pennsylvania Department of Health. As the federal government became more involved in the lung diseases of coal miners, the extensive experience of the Barton group led to Dr. Cathcart's appointment to the Coal Mine Advisory Council of the Department of Health, Education and Welfare and as a medical advisor on Title IV, Federal Coal Mine Health and Safety Act of 1969 for the same Department. Dr. Theodos also was a member of the Governor's...
Committee to the Miners' Respiratory Disease and Rehabilitation Program and a medical advisor to the Bureau of Hearings and Appeals, Social Security Administration, Department of Health and Human Services. He also served the American College of Chest Physicians in various capacities, including Chairman of the Council on European Affairs, Vice-Chairman of the Board of Regents, and Chairman of the Committee on Occupational Diseases of the Chest. Later (1982) he was President of the Philadelphia County Medical Society. In 1966 Drs. Cathcart and Theodos played leading roles in Governor Scranton's Conference on Pneumoconiosis.

The teaching program proved eminently satisfactory. In addition to the third-year clinical clerkships, second-year students found the patient population well suited to their first exposure to physical diagnosis. The nursing student program continued its popularity among those rotated through the Barton Division, again providing experience not available elsewhere in a comprehensive manner. The maintenance of a few beds for tuberculosis into the 1970s proved to be a useful process that bridged the gap between the treatment of tuberculosis as the major concern in chest diseases and the relegation of tuberculosis to a minor problem infrequently requiring isolation and inpatient treatment. The release of the new drug Rifampin in 1966 further extended the effectiveness of antituberculous therapy and in time permitted reduction in the total duration of the multiple medication program. For most patients, tuberculosis could now be treated with a few generally well-tolerated pills and capsules once daily instead of parenteral and oral medication with numerous and occasionally serious ill effects. Use of isoniazid as a prophylactic medication for persons at high risk became commonplace, requiring only that circumspect judgment govern its use and that cooperation of patients be maintained.

During this period, the role of mycobacteria other than Mycobacterium tuberculosis was subjected to much study because the occurrence of atypical mycobacteriosis did not show a significant decrease in prevalence as did tuberculosis. The fact that these diseases proved not to be communicable from human to human was the probable reason, but it was necessary to determine in each instance whether the mycobacteria isolated were causative, contributory, or merely saprophytic. A review of the problem was presented to the Association of Clinical Scientists in 1973.

It is interesting to note that during the decades of 1960 and 1980 excisional surgery for bronchiectasis declined to virtually none because control of the causes of bronchiectasis caused its incidence to diminish a great deal. Prevention of pertussis, antibiotic treatment of pneumonia, and the vaccine for measles were largely responsible for this change. At the same time emphysema and the obstructive lung diseases emerged as major concerns, resulting in the need for a change in the management of patients and in planning for the future. More patients with physiological impairment came to require intensive respiratory care, and these were transferred to the general intensive care unit when ventilatory or postoperative care was needed. With the increased use of ventilator-assisted breathing and the increased skills needed in the mechanics of treatment, it became evident that a respiratory intensive care unit should be part of the chest program. It was not possible to implement this change until funds were available.

In 1976 Dr. Robert I. Wise was succeeded as Magee Professor of Medicine by Dr. Frank A. Gray, whose background in pulmonary medicine promised to strengthen the Division. Many problems, however, prevented the uninterrupted progress that appeared certain at the time. Dr. Michael Casey joined the Division in 1978, but after one year he resigned to become Chief of the Division of Pulmonary Medicine at Pennsylvania Hospital.

In 1974 Dr. Cathcart resigned to accept a less demanding position with the Veterans Hospital, Coatesville, Pennsylvania. He was succeeded by Dr. G. William Atkinson (Figure 11-21), who had joined the Division following military service and his residency and fellowship at Jefferson. His qualifications were excellent: Chief Resident in Medicine at Jefferson (1969–1970), Pulmonary Academic Award of National Institutes of Health (1972–1977), and major research completed or in progress in fungal diseases of the lungs, especially aspergillosis; in interstitial pulmonary diseases; and in the mechanics of ventilation. He had served as director of the Pulmonary Laboratory since 1970.
Numerous publications resulted from these activities, and during the next few years exhibits and presentations at national and regional conventions followed. The division regained a surge of enthusiasm, and once more medical student teaching was stimulated. The Pulmonary Fellowship under Dr. Atkinson's direction became a popular and sought-after appointment. His rank was Assistant Professor of Medicine at the time of his appointment; he was promoted to Associate Professor in 1980 and to Clinical Professor in 1982.

- Respiratory Intensive Care Unit
Continuing progress required the development of a respiratory intensive care unit as an immediate goal. Planning included the final abandonment of beds specifically for tuberculosis and the placement of the new unit where they had been located. The miners' program terminated in 1974, so the activities of the pulmonary laboratory changed to those of a hospital service laboratory for lung consultations and continuing research. A new laboratory-office arrangement was developed on the tenth floor of the Curtis Building, and a spacious conference room adjoined. In 1977 the new intensive care unit was opened and promptly became a focus for the care of patients.

The New Hospital and Comprehensive Pulmonary Medicine
In June, 1978, the New Hospital Building was opened. There was no longer a separate area for the Barton Memorial Division. The fifth floor was designated for pulmonary and cardiac patients. The respiratory intensive care center was in close proximity to the nursing areas of the fifth floor, and the laboratory-offices were nearby. The physical arrangements for excellent patient care were now well organized.

The practice of pulmonary medicine continued its evolution. Fellows in training, in addition to learning the intricacies of pulmonary physiology and its application to the treatment of acute respiratory failure and chronic lung diseases, were trained in bronchoscopy especially as it related to the newly developed flexible fiberoptic bronchoscope. Skills in the latter technique permitted its prompt application to diagnosis and treatment in the intensive care unit. Dr. Atkinson, having been part of the development of this program, was ideally suited for its teaching. Fellows trained in the Respiratory Division became heads of pulmonary sections in other hospital and medical school Departments of Medicine. Before long, procedures previously limited to tertiary-care hospitals became available in community hospitals. Research and progress depended upon availability of funds, and for a time the program was very productive, with numerous publications and much activity. Subjects included sarcoidosis, respiratory distress syndrome, and pulmonary angiitis and granulomatosis, among others. These were developed under the aegis of Drs. Israel, Atkinson, and associates. In time, however, the limitation of

![Fig. 11. Dr. G. William Atkinson, Medical Director of Barton Division (1974–1983).]
funding and the need to devote more time to teaching and patient care caused a strain on the Pulmonary Division Staff. This was partly responsible for Dr. Atkinson’s resignation in 1982 to become Chief of the Pulmonary Section at Presbyterian—University of Pennsylvania Medical Center and Clinical Professor of Medicine at the Medical School of University of Pennsylvania. Dr. Willis C. Maddrey, who succeeded Dr. Frank Gray as Magee Professor of Medicine in 1982, was faced with the urgent need to rehabilitate the Pulmonary Division. Dr. James Wilson was recruited from Tulane University in 1983, but his sudden death in the same year continued the instability. Dr. Denise Moylan and Dr. Edward S. Schulman (Jefferson, 1977) shared responsibilities as codirectors in the interval until the arrival of Dr. James E. Fish (Figure 11-22) to head the Division July 1, 1985. Dr. Krishna Mohan, also recently trained in the pulmonary fellowship program, shared clinical responsibilities during this period. Dr. Fish recruited new associates, including Drs. Stephen Peters, Herbert Patrick, and Jonathan Gotthelb. Expanding responsibilities occasioned a change of name from the Division of Pulmonary Diseases to the Division of Pulmonary and Critical Care Medicine.

The history of the treatment of diseases of the chest at Jefferson for the past 75 years is a story of people responding effectively to the needs of individuals and society. For the first part of that period, the response related to an age-old challenge, that of the control and treatment of tuberculosis and the conservation of the lives of the usually young people so severely and frequently threatened. The perception of a need to initiate a program for that purpose early in the twentieth century set in motion plans that in retrospect were forward-looking and appropriate. Generations of Jefferson graduates benefited greatly from their experiences in the Chest Department and thereby enhanced the reputation of Jefferson as a training ground for physicians with superior clinical skills. Many professional people of great ability and high motivation, often themselves victims of tuberculosis, played a major role in these efforts, their successes at times limited and in other instances apparently enhanced by their illnesses. The total effect of the brilliant achievements in tuberculosis treatment unfortunately did not translate into the elimination of lung diseases. As the century progressed, the incidence of man-made problems, especially diseases caused by inhalation of foreign substances, was sufficiently serious to develop a new group of diseases that as yet are not controlled. Principal among these man-made problems is tobacco smoking, which now results in high morbidity from obstructive diseases and cancer; the latter is still increasing among women and overtaking cancer of the breast as the leading fatal malignant disease. The changed emphasis in management of these problems is obvious, and the role of a Division for chest diseases requires reassessment, calling for leadership in addressing these issues as well as those posed by the entire field of environmental medicine. Sophisticated technological measures for prolonging the lives of people with preventable diseases have little meaning unless coordinated with basic measures to prevent those illnesses. Jefferson has the experience and the potential to build solidly in approaching these problems for the future.

References

1 Flexner, Abraham, Medical Education in the United States and Canada New York, Bulletin No. 4, Carnegie Foundation for the Advancement of Teaching, 1910
2. *Yearly Report, Jefferson Hospital, June 1, 1911*, p. 23.
4. Minutes. Board of Trustees of Jefferson Hospital, March 1944.
11. Funk, E.H., Collected papers.
15. *Hospital Annual Reports, 1922.*
33. *Time. 1948.*
36. Report by the Barton Memorial Division of the Jefferson Medical College Hospital to Mr. Thomas Kennedy, President of the United Mine Workers. 1960.
41. Atkinson, G.W., Collected papers.