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CHAPTER TWELVE

Division of Gastroenterology and Hepatology

CHARLES W. WIRTS, JR., M.D.

"Unquiet meals make ill digestions."
—SHAKESPEARE (1564–1616) THE COMEDY OF ERRORS.

Robert Dunglison (Figure 12-1) was one of the first physicians in this country to take a scientific interest in the gastrointestinal system. Dunglison was brought from England to America by Thomas Jefferson in 1825. After teaching at the University of Virginia and then at the University of Maryland, he was appointed Professor of the Institutes of Medicine at the Jefferson Medical College in 1836. Here Dr. Samuel D. Gross, Professor of Surgery, considered him the most erudite member of the faculty. He gained international recognition after the publication of his book, Human Physiology. As a result of this publication and the esteem in which Dunglison was held generally in the medical profession, Dr. William Beaumont sought his help in carrying out an analysis of the gastric juice obtained from his patient, Alexis St. Martin, who had a chronic gastric fistula as the result of an accidental gunshot wound. The excitement engendered by the finding of free hydrochloric acid led to further plans for collaborative experiments on digestion by Dunglison and Beaumont using St. Martin. The results were published by Beaumont in his book, Experiments and Observations on the Gastric Juice and the Physiology of Digestion, and in later editions of Dunglison's Human Physiology. After a very productive career, Dunglison retired from Jefferson in 1868, having served for over 30 years, 14 of them as Dean.

Early Gastroenterology at Jefferson

It was not until the final decades of the nineteenth century that gastroenterology first emerged as a specialty, and the American Gastroenterology Association was founded in 1899. Dr. William Ward Van Valzah (Figure 12-2), an early specialist in this field, was graduated from Princeton University in 1873 and from Jefferson Medical College in 1876. For three years following his
graduation, Dr. Van Valzah was connected with the German Hospital and the Blockley Hospital of Philadelphia as intern and served as a physician on the staff of Jefferson Medical College Hospital from 1879 to 1883. In 1884, after several years of traveling in Europe and America, he located in New York and began giving his attention exclusively to the treatment of diseases of the digestive tract. From 1892 until 1902 Van Valzah served as Professor of Diseases of the Digestive Organs in the New York Polyclinic College. He wrote many papers on his speciality and collaborated with Nisbet in Diseases of the Stomach, published in 1889.

During the era just before World War I, the first activity in research and teaching in the field of gastroenterology developed at Jefferson, notably as the result of the efforts of two men, Drs. B.B. Vincent Lyon and Martin E. Rehfuss. Dr. Lyon (Figure 12-3) was a graduate of the Lawrenceville Preparatory School (1889), Williams College (A.B., 1903, Sc. D., 1931), and received his medical degree at the Johns Hopkins Medical School (1907). He served his internship at the old German (Lankenau) Hospital and later formed a Gastrointestinal Clinic there in 1910. In 1912 Lyon joined the Jefferson Medical College, where he founded the first outpatient Gastrointestinal Clinic, initially in the hospital building at Tenth and Sansom Streets. During 1914 he undertook postgraduate study in England, France, and Germany, and ultimately became well known for his pioneer work on the function of the biliary tract. He described the color sequence and characteristics of the different bile fractions after stimulation through an indwelling duodenal tube.
This method proved to be a tremendous advance in the field of gastroenterology, which previously had largely depended upon surgical exploration. His Atlas on Biliary Drainage Microscopy emphasized the cytologic differences encountered in various forms of biliary disease. Other contributions dealt with the bacteriology of the bile and the phenomena associated with catarrhal cholangitis, jaundice, and duodenal parasitosis. Lyon also became interested in nonsurgical duodenal drainage as a therapeutic procedure not only in the biliary tract but in liver disease. His volume on Nonsurgical Drainage of the Biliary Tract is a classic. In addition, he published 51 articles in various medical journals and textbooks, including the chapter on diseases of the digestive system in John C. DaCosta Jr.'s, Handbook of Medical Treatment, in Tice's Practice of Medicine, in Osler's Modern Medicine, and in Sajous' Cyclopaedia of Medicine.

Dr. Lyon was a brilliant speaker and an indefatigable worker. He was the recipient of many honors, among which were election as President of the American Gastroenterological Association in 1934 and receipt of the Julius Friedenwald Medal in 1950. Lyon was steadily advanced in rank from Demonstrator in Medicine, becoming Clinical Professor of Medicine on his retirement in 1946. He died suddenly in Washington, D.C., on May 20, 1954, at the age of 73.

In 1931 the Clinic was moved to the new Curtis Building at Tenth and Walnut Streets, and the staff included Doctors Henry Bartle, Samuel Immerman, Ray Halpern, Robert Steiner, David Anderson, Paul Stroup, John DeCarlo, Clifford Arnold, and William Swalm. Dr. Charles W. Wirts joined the staff in 1939 and was appointed Chief Clinical Assistant in 1942. Dr. Joseph Medoff (Figure 12-4) (Jefferson, 1939) was a member of the Clinic staff from 1946 to 1960 and was advanced steadily until he became Emeritus Professor of Clinical Medicine in 1978. He was extremely active as Faculty Advisor to the Hare Society of Internal Medicine from 1960 to 1976, and in recognition of this his portrait was presented to the University in 1976.

Dr. Martin E. Rehfuss (Figure 12-5) attended the Central High School of Philadelphia and the University of Pennsylvania. He received his M.D. degree from its School in Medicine in 1909 and served his internship there in 1910. He was a resident physician at the American Hospital in Paris in 1911-1912 and from 1912-1913 studied in Berlin, Munich, and Vienna. It was during this time that he developed the Rehfuss tube, a modified gastric tube with which he devised the procedure known as fractional gastric analysis. In 1914 Rehfuss became associated with the Jefferson Medical College and Hospital. Over the next decade he carried out original studies on the digestion of food in the normal and abnormal stomach in association with Dr. Phillip B. Hawk. Subsequent investigations of diseases of the biliary tract were published in textbooks: Diagnosis and Treatment of Diseases of the Stomach, Medical Treatment of Gallbladder Disease, with Guy M.
Nelson, and Practical Therapeutics. In addition, he contributed more than 200 articles to the medical literature.

Dr. Rehfuss was appointed an Instructor in Medicine in 1914, rose to Clinical Professor of Medicine in 1933, and was named Sutherland Prevost Lecturer in Therapeutics in 1941. He was a physically handsome man, with a John Barrymore profile, and his impeccable attire always included a white vest with a sparking gold chain. His hobby as an artist served him well in the lecture room, where his sketches of various portions of the gastrointestinal tract were vividly realistic. His private practice encompassed many socially prominent patients from suburban Philadelphia, but he was generous and kind to those in less fortunate financial circumstances. He became Professor Emeritus in 1952. A Rehfuss Lectureship was established by the Foerderer Foundation in 1963, and his bust on a pedestal is always on the stage during the presentation. Mrs. Foerderer insisted on a short organ recital before each lecture, a custom that spread into other lectureships and portrait presentations. Dr. Rehfuss died at home in 1964 after a long illness.

Dr. John T. Eads (Figure 12-6) (Jefferson, 1926) and Dr. Guy M. Nelson (Figure 12-7) (Jefferson, 1928) both served in the capacity of assistants to Dr. Rehfuss and collaborated in contributing to the literature in the field of gastrointestinal diseases.

Among other notable Jeffersonians who made major contributions to gastroenterology were Dr. Henry L. Bockus (Figure 12-8) (Jefferson, 1917, D.Sc., 1958) and Dr. J. Edward Berk (Figure 12-9).
Dr. Bockus showed interest in this field when it was first being separated as a subdivision of internal medicine. He ultimately became "one of the giants of American and World medicine and gastroenterology." He was internationally recognized for his teaching and medical publications, especially for his textbook *Gastroenterology*, in three volumes, published in 1943 and rewritten in 1963. Dr. Berk, who took much of his training under Dr. Bockus, served as Chairman of the Department of Medicine and Head of the Division of Gastroenterology at the University of California, Irvine, and as Editor-in-Chief of the fourth edition of Bockus' *Gastroenterology*.11

The Gastroenterology Division

Following the retirement of Dr. Lyon in 1946, Dr. Charles W. Wirts, Jr. became Head of the Gastrointestinal Clinic and developed the first Division of Gastroenterology in the Department of Medicine. Dr. Wirts attended the Mercersburg Academy (1926), Lafayette College (B.S., 1930) and Jefferson Medical College (M.D., 1934). He took a rotating internship at St. John's General Hospital and a residency in pathology at St. Francis Hospital, both in Pittsburgh, and a residency in medicine at the American Hospital in Paris. At this time he also worked in the endoscopic clinics of the Hôpital Necker and the Hôpital Vaugiraud in Paris. Upon returning to Jefferson Wirts was appointed the first Ross V. Patterson Fellow in Gastroenterology (1940–1942) and became a Diplomate of the American Board of Internal Medicine and the subspecialty Board of Gastroenterology. After taking a course with Dr. Rudolf Schindler in Chicago and working with Professor François Moutier in Paris, Dr. Wirts...
introduced the use of the Schindler flexible gastroscope (not to be confused with the later fiberoptic flexible gastroscope) at Jefferson. He also collaborated with Dr. William J. Snape (Jefferson, 1940) and Dr. Abraham Cantarow (Jefferson, 1924), Professor of Biochemistry and Chairman of the Department, in carrying out a number of liver function studies in dogs in whom they had constructed a “Thomas chronic-bile-fistula.” This work was carried out under the auspices of Dr. J. Earl Thomas, Professor of Physiology and Chairman of the Department (1927–1955), without whose generous help and guidance it could not have been accomplished. Dr. Thomas was a noted experimentalist and designer of research equipment primarily concerning the physiology of the digestive system. He was internationally recognized for his investigation of the regulation of gastric emptying, the filling and evacuation of the gall-bladder, the autoregulation of gastric and pancreatic secretion, and the entero–enteric reflexes.12

Dr. Wirts became an attending physician at the Pennsylvania Hospital and a consultant in gastroenterology at the Philadelphia General Hospital, the Veterans Administration Hospital of Philadelphia, the Walson General Hospital (U.S. Army, Fort Dix, New Jersey), and the Chester County Hospital (West Chester, Pennsylvania). He belonged to a number of medical societies, including the American Gastroenterological Association (Figure 12-10), the American College of Gastroenterology (President, 1957; Chairman of the Board, 1958), the American Gastroscopic Society (President, 1959), the American College of Physicians, and the Alpha Omega Alpha and Sigma Xi Honor Medical 

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**Fig. 12-8.** Henry L. Bockus, M.D. (Jefferson, 1917).

**Fig. 12-9.** J. Edward Berk, M.D. (Jefferson, 1936).
Societies. He was advanced in rank from Instructor to Emeritus Professor of Medicine in 1981. He retired from the Directorship of the Division of Gastroenterology in 1966 and from active practice in 1985.

Dr. Franz Goldstein (Figure 12-11) who received his premedical education at the University of Würzburg, Germany, was graduated from Jefferson Medical College in 1953. After completing his training in internal medicine and gastroenterology at the Graduate Hospital of the University of Pennsylvania under the chairmanship of Dr. Henry L. Bockus, he was appointed the first full-time member of the Division of Gastroenterology headed by Dr. Charles W. Wirts. A period of productive collaboration evolved, and the results of their numerous research projects were published in national medical journals, among them a series of studies dealing with the “blind-loop” syndrome, carried out in cooperation with Dr. Russell W. Schaedler (Jefferson, 1953), Professor of Microbiology and Chairman of the Department, and Dr. Robert Mandle, Professor of Microbiology. Dr. John Y. Templeton (Jefferson, 1941) Professor of Surgery, and Dr. Charles Fineberg, Professor of Surgery, also assisted in this project by performing the jejunal-interposition operations to correct the blind-loop that occurred in some patients following a gastrojejunostomy.

Dr. Wirts and Dr. Goldstein succeeded in obtaining the first National Institutes of Health gastrointestinal research and training grant at Jefferson. This permitted the establishment of offices, research laboratories, and stipends for the trainees. Most of the Fellows trained in the

Fig. 12-10. Fiftieth Annual Banquet of the American Gastroenterological Association, The Claridge, Atlantic City, N.J. on June 3, 1949. Left to right: Dr. Wirts, Dr. Lyon, and Dr. Rehfuss. Others unidentified.

Fig. 12-11. Franz Goldstein, M.D. (Jefferson, 1953).
Division have retained a primary interest in gastroenterology. Those who practiced at hospitals affiliated with Jefferson include Dr. Francis X. Keeley, Chairman of the Department of Medicine and Chief of the Division of Gastroenterology at Our Lady of Lourdes Hospital in Camden, N.J.; Dr. David Ginsberg, Chief of the Division of Gastroenterology at the Methodist Hospital; and Dr. Divo O. Messouri, in charge of Gastroenterology at the Chestnut Hill Hospital.

Dr. Gerald Salen (Jefferson, 1961), a Fellow in 1965–1966, was appointed Professor of Medicine at the College of Medicine and Dentistry—New Jersey Medical School, Chief of Gastroenterology at the East Orange Veterans Hospital, and Director of Gastroenterology at the Cabrini Health Center in New York. He became a member of the American Society for Clinical Investigation, published extensively on bile salt metabolism and many of its ramifications, and was recognized as one of the outstanding experts in that area of research.

Dr. Goldstein progressed in rank from Instructor to Professor of Medicine (1970), at which time he transferred his activities to Lankenau Hospital where he became Chief of the newly created Department of Gastroenterology and a newly established gastroenterology training program. He has continued his research activities, particularly in the area of inflammatory bowel disease and its treatment. Goldstein is a member of many medical and gastrointestinal societies, including the American Gastroenterological Association, the American College of Gastroenterology (President, 1981–1982), the American Society for Gastrointestinal Endoscopy, and the Bockus International Society for Gastroenterology (President, 1986).

Dr. O. Dhodanand Kowlessar (Figure 12-12) received his Doctor of Medicine with honors from the University of Rochester School of Medicine, Rochester, New York, in 1955. He was elected to Alpha Omega Alpha during his Junior year and was the recipient of the Borden Undergraduate Award for Outstanding Research. He served his internship and residency in Internal Medicine at the New York Hospital—Cornell Medical Center, New York City. Here he became a Fellow in Gastroenterology under the directorships of Dr. Thomas Almay and Dr. Marvin Sleisenger, and in 1960 was made Assistant Professor of Medicine. In 1963 Kowlessar was appointed Associate Professor of Medicine and the Director of the Division of Gastroenterology at the New Jersey College of Medicine in Jersey City. From 1966 to 1984 he served as Professor of Medicine and the first full-time Director of the Division of Gastroenterology and the Director of the Clinical Research Center at Jefferson Medical College.

During his tenure he trained 20 Fellows, who subsequently practiced gastroenterology in many states and Canada. Dr. Susan Gordon (Jefferson, 1966) (Figure 12-13) was prominent among these and became active in the Gastroenterology Division of Jefferson. Her grandfather, Dr. Benjamin Lee Gordon (Jefferson, 1896), was a prolific writer of articles on ophthalmology and medical history. Another Fellow, Dr. Steven R. Petkin (Figure 12-14) (Jefferson, 1974), subsequently served as Acting Director of the Division following Dr. Kowlessar. Dr. James

Thornton became a member of the Department of Gastroenterology at Lankenau Hospital; Dr. William R. Long affiliated with the University of Pennsylvania School of Medicine; and Dr. William Snape, Jr., became Professor of Medicine and Director of the Division of Gastroenterology at the University of California in Los Angeles.

During the early period of Dr. Kowlessar's directorship he was aided by Dr. Charles W. Wirts, Dr. Franz Goldstein, and Dr. Philip Bralow, who assisted in the training of the Fellows. Significant contributions were made by Dr. Joseph Medoff (Jefferson, 1939) and Dr. Francis X. Keeley. Keeley spent many hours instructing the Fellows both at Thomas Jefferson University Hospital and Philadelphia General Hospital in endoscopic techniques. In 1976 Dr. Gordon Benson, who had trained as a Fellow in Hepatology with Dr. Gerald Klatskin at Yale University School of Medicine, joined the Division as Head of the Section of Liver Disease. In 1978 he was appointed Professor of Medicine and Director of the Division of Gastroenterology at Rutgers Medical School, New Brunswick, New Jersey.

Dr. Kowlessar was the cofounder with Dr. Frank Brooks, of the University of Pennsylvania School of Medicine, of the Philadelphia G.I. Training Group. He served as Secretary-Treasurer and President of this organization and later as Presidents of the Philadelphia G.I. Research Forum and the Sigma Xi Chapter of the Jefferson Medical College. He was a member of the National Institutes of Health Training Grant Committee, the Advisory Committee on Enzymes for the Food and Drug Administration, and the Scientific Review Committee for the Veterans...

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Administration. He was the author and coauthor of over 80 publications including chapters in Cecil-McDermott's *Textbook of Medicine*, Sleisinger-Fordtran's *Pathophysiology of Gastrointestinal Diseases*, and Zakin and Boyer's *Hepatology*. Dr. Kowlessar was a member of the Editorial Boards of *Digestive Diseases, Science*, and the *American Journal of Gastroenterology*, and Editor of *Gastroenterology Abstracts and Citations*.

Dr. Kowlessar's research interests included the isolation and characterization of enzymatically derived gliadin peptides and their effects on patients with celiac disease. He made significant contributions in the area of pancreatic and hepatic enzymes and studied amino acids and peptides in the serum of patients with hepatic encephalopathy with Dr. Willis C. Maddrey. In October 1984 Dr. Kowlessar retired as head of the Division of Gastroenterology-Hepatology and was appointed Associate Chairman of Educational Programs.

Dr. Willis C. Maddrey (Figure 12-15), the Magee Professor of Medicine and Chairman of the Department, came to Jefferson in May 1982, from Johns Hopkins University School of Medicine, where he was Professor of Medicine and Associate Director of the Department. His father, Dr. Milner Crocker Maddrey, was a Jefferson graduate in the Class of 1931. The new Chairman had a major research interest in liver diseases in which he authored approximately 100 articles and book chapters dealing with this topic. Dr. Maddrey was President of the American Association for the Study of Liver Diseases and Chairman of the Council of Subspecialty Societies of the American College of Physicians, of which he was a member of the Board of Regents. In addition to his numerous other activities, Dr. Maddrey maintained an active interest in the Division of Gastroenterology-Hepatology. In 1984 he made two new appointments; Dr. Steven R. Peikin (see Figure 12-14) as Acting Head of the Division and Dr. Lawrence Friedman as Assistant Professor of Medicine.

After pursuing a Research Fellowship in Medicine at Harvard Medical School, Dr. Peikin returned to Jefferson and organized a team to investigate the broad field of obesity. In July 1982 he was promoted to Associate Professor of Medicine. Dr. Friedman, who had had extensive training at both Johns Hopkins and Harvard in addition to working in the field of hepatic disorders, began a clinic for the study of inflammatory bowel diseases.

A program in liver transplantation under the joint leadership of Drs. Willis Maddrey, the Magee Professor of Medicine and Chairman of the Department, Francis E. Rosato, the Samuel D. Gross Professor of Surgery and Chairman of the Department, and Bruce Jarrell, Associate Professor of Surgery, was initiated in 1984. On Thursday, May 31, of the same year, an emergency liver transplant operation, the first in the Delaware Valley, was successfully performed on a 30-year-old man. It marked the beginning of an expanding program.

The pioneer contributions and ongoing research in gastroenterology and hepatology at Jefferson may well be a source of pride. The Division is poised with an excellence of faculty members and the latest technological aids to meet the challenge of new and changing spectrums of diseases in this field.

**Fig. 12-15. Willis C. Maddrey, M.D., Magee Professor of Medicine and Chairman of the Department (1982).**
References