Welcome to the thirteenth edition of Wintrobe’s *Clinical Hematology*. This textbook strives to continue the Wintrobe tradition of being comprehensive yet accessible to all who seek to understand the history, science, and clinical practice of hematology. We have brought together clinicians and scientists who have given their time and expertise to produce a state-of-the-art resource which includes an online presence with expanded bibliographies, appendices, and updates.

**THE WINTROBE LEGACY**

Few have appreciated the wealth of information to be gained by the study of blood more than Maxwell Myer Wintrobe (1906 to 1986). He cited poets, including John Donne’s “pure and eloquent blood” and Goethe’s “Blood is a juice of a very special kind”; but he added that “It is for the scientist that the blood has been especially eloquent.” It has been over 70 years since Wintrobe wrote the first edition of *Clinical Hematology* (1942); and at the time, he was uncertain if it would have much readership owing to the priorities of World War II. His objective was “to bring together the accumulated information in the field of hematology in a systematic and orderly form.” He felt the book should be “comprehensive, complete, and authoritative.” He emphasized the importance of “an accurate diagnosis as a prerequisite to efficacious treatment.”

His goals were to link science to the clinical practice of hematology and to provide the best therapy possible for an individual patient. We have recruited an outstanding group of scientists and clinicians who have given their expertise and time to accomplish similar goals for the thirteenth edition of Wintrobe’s *Clinical Hematology*.

Wintrobe’s career included medical school at the University of Manitoba (1921 to 1925) and academic appointments at Tulane University (1927 to 1930), The Johns Hopkins University (1930 to 1943), and the University of Utah (1943 to 1986). His interests were broad and his contributions to medicine and hematology were many. He had access to an abundance of clinical material at Charity Hospital (New Orleans, LA), where he invented the hematocrit glass tube, which came to bear his name and allowed him to collect information about the blood (Figure 1). The Wintrobe hematocrit tube not only allowed determination of the volume of packed red blood cells after centrifugation but also allowed measurement of the erythrocyte sedimentation rate, determination of the volume of packed white cells and platelets, and detection of changes in the appearance of the plasma.

At Johns Hopkins University, Wintrobe made peripheral smear available to the clinic, reorganized the teaching of the third-year student laboratory course, and established himself as an investigator and leader in hematology. He and his colleagues showed that hypochromic anemia responded to iron; gave the first account of cryoglobulin in the blood; and provided the first evidence that thalassemias were inherited. He became chief of the Clinic for Nutritional, Gastrointestinal, and Hematologic Disorders in 1933 and was promoted to the position of Associate in Medicine in 1935. During World War II, he was assigned to study chemical warfare agents and his efforts led to a landmark paper with Louis Goodman et al. on the efficacy of nitrogen mustard as a chemotherapeutic agent.

In 1943, Wintrobe was offered the first Chair of Medicine at the University of Utah. He served as Chair for 24 years and in 1970 was named Distinguished Professor of Internal Medicine. He studied the role of nutritional factors, particularly the B vitamins, in hemopoiesis, and attempted to develop an animal model for pernicious anemia. His work with pig’s nutritional requirements resulted in discovering the effects of pyridoxine deficiency and the role of copper in iron metabolism. He studied the effects of the newly discovered adrenocorticosteroids on hemopoiesis, described the association of chloramphenicol with aplastic anemia, and became an advocate for reporting the adverse reactions to drugs.

Wintrobe’s clinical interests extended beyond hematology, and he received the first research grant ever awarded by the National Institutes of Health. The grant was to study hereditary muscular dystrophy (a disorder that affected a number of Utah families) and was renewed annually for 23 years. Together with George Cartwright, he established a premier hematology training program at Utah. They trained 110 fellows, 85% of whom became associated with medical schools or research institutes.
Preface

Wintrobe was the sole author of the first six editions, and he recruited former fellows to assist him on the seventh and eighth editions: Jack Athens, Tom Bithell, Dane Boggs, John Foerster, and Richard Lee with John Lukens joining them on the eighth edition (1981), the last one to involve Wintrobe. Lee, Bithell, Foerster, Athens, and Lukens were the editors for the ninth edition (1993). John Greer, Frixos Paraskevas, and George Rodgers joined Lee, Foerster, and Lukens for the tenth edition (1999) and Bert Glader was added for the eleventh edition (2004). Robert Means, Jr., and Daniel Arber joined Foerster, Glader, Greer, Paraskevas, and Rodgers for the twelfth edition (2009). We welcome Alan List as a new editor for this edition and honor John Foerster as the editor emeritus.

IN MEMORY OF JOHN N. LUKENS

We remember our friend, John Nevius Lukens, Jr. (1932 to 2010), who was dedicated to the Wintrobe legacy and committed to the education of the next generation of health care providers. He was a graduate of Princeton University (1954) and Harvard Medical School (1958). After an internship in Medicine and Pediatrics at the University of North Carolina, he completed his residency at The Children’s Hospital in Cincinnati (1959 to 1961). He served 2 years in the U.S. Army Medical Corps at the Letterman General Hospital in San Francisco and became a research fellow at the University of Utah School of Medicine with Eugene Lahey and Wintrobe (1964 to 1967). His research contributed to the understanding of the anemia of chronic disease and iron deficiency. John was a founding member of the Children’s Cancer Group and was among the pioneers of pediatric hematology who contributed to a steady and marked increase in the curability of childhood acute lymphoblastic leukemia and other cancers. He held faculty appointments at the University of Missouri School of Medicine (1967 to 1971), Tufts Medical School (1971 to 1973), and the Charles R. Drew Postgraduate Medical School (1973 to 1975) before becoming Director of Pediatric Hematology/Oncology (1975 to 1997) at Vanderbilt University’s Children’s Hospital. He became an Emeritus in 2001 until his death in 2010. John is remembered as a role model as a physician, a loving husband to his wife Cauley of 51 years, a father devoted to their daughters, Ann, Rachel, and Betsy, and a grandfather to five.

THIRTEENTH EDITION

Our goal in the thirteenth edition is to continue Wintrobe’s commitment to link the past accomplishments in hematology to the present state of the art and to future developments. We are honored to have some of the best hematologists in the world contribute to this edition. They have continued the Wintrobe tradition of providing historical perspective and combining basic science with clinical practice. There are 74 new authors, and all of the chapters are new or have been completely revised. All of the authors are worth singing out, but space limits our ability to thank them individually. One of the new contributors is Michael Deininger, who is the Maxwell M. Wintrobe Professor of Medicine at the University of Utah Huntsman Cancer Institute.

The audience for the book encompasses the entire spectrum of health care providers, including medical students, nurses, residents, clinicians, and scientists, who seek answers about hematology. The textbook reviews the science, the methods of diagnosis, and the evidence for the basis of therapeutic decisions. The work has been extensively redrawn for color and consistency and there are numerous photomicrographs, which illustrate the role of hemopathology in diagnosis.

The book is divided into eight parts: Laboratory Hematology; The Normal Hematologic System; Transfusion Medicine; Disorders of Red Cells, Hemostasis, and Coagulation; Benign Disorders of Leukocytes; The Spleen and/or Immunoglobulins; Hematologic Malignancies; and Transplantation. Throughout the chapters, there is an emphasis on the four components in hematology that contribute to diagnosis: the morphological exam of the peripheral blood smear; bone marrow, lymph nodes, and other tissues; flow cytometry, cytogenetics, and molecular markers.

The expanding role of molecular genetics and flow cytometry is not only improving diagnosis but also providing targets for novel therapies. The role of tyrosine kinase inhibitors in chronic myeloid leukemia serves as a model for molecularly targeted therapy. The detection of minimal residual disease by either flow cytometry or polymerase chain reaction techniques is impacting therapeutic decisions. Chapters on gene therapy and immunotherapy are up-to-date reviews on these unique therapies for a variety of hematologic disorders. The role of stem cell transplantation is addressed in chapters on specific diseases and in an entirely new part, which reviews its application for both benign and malignant disorders, graft–versus-host disease, and the importance of long-term follow-up of transplantation survivors.

For a textbook to meet its audience needs in the 21st century, there must be an online presence and a way to interact with and update its readers. The online text has a complete reference list for each chapter and two appendices, one reviewing the clusters of differentiation molecules by Dan Arber and Frixos Paraskevas and another by veterinarians Nicole Stacy, Kirstin Barnhart, and Michael Fry, who review lab values and photomicrographs of the blood of animals. We plan to issue updates online when there is either unique or sufficient information that influences the practice of hematology.

We are indebted to the efforts of Jonathan Pine, who has kindly supported us as Senior Executive Editor at Lippincott Williams & Wilkins since the 10th edition; Emilie Moyer, Senior Product Manager; and Frannie Murphy, Development Editor.

REFERENCES

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