Preface

This text is a lineal descendant of two previous AABB publications that addressed issues of large-scale blood component therapy or "massive transfusion." *Massive Transfusion* (1994) contained six free-standing reviews of the "current concepts" of their era and are at once interesting for, and dated by, that approach. *Guidelines for Massive Transfusion* (2005), at barely an eighth the length of the previous text, was and remains a much more technically focused outline supporting the development of massive transfusion protocols.

Our intention with this 2019 publication is to find a middle ground that provides:

1. An arc of narrative that incorporates the historical background to current concepts of massive transfusion.
2. Reviews of current epidemiology and understanding of the critical pathophysiology in which large-scale component therapy plays a part.
3. Discussions of the characteristic clinical situations that involve catastrophic bleeding and of the key administrative and technical issues surrounding timely blood support for these situations.
4. Sketches of the changing face of massive transfusion and as-yet-unanswered questions as they appear to us at the present time.

On any given day, most of the blood components issued by most blood banks are released in small and predictable quantities in support of current strategies of surgery and cancer care. Blood is transfused 1-2 units at a time and often on pre-determined schedules, to known patients, and after complex and time-consuming testing and product-modification procedures. Blood systems professionals are accustomed to this evidence-based, quality-driven, and hand-crafted approach. Thus, the urgent "what-do-you-do-when-the-blood-fills-your-shoes, we-need-the-plasma-10-minutes-ago" demands of surgeons and trauma anesthesiologists can appear to

border on the hysterical. However, modern approaches to large-scale blood use are beginning to show population-wide benefits and decreasing, not increasing, demands on the blood supply.

So we appreciate the willingness of readers to engage with the complexities of these issues. We thank the AABB Press for its support of content development and prepublication reviews. Thanks also are due to Harborview Medical Center for permission to share patient cases and illustrative material. We hope that this book will be useful to anyone in the transfusion medicine and critical care community who has faced (or may soon face) these clinical situations across the spectrum of care.

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About the Authors

Lynn G. Stansbury, MD, MPH, MFA, FACP, is associate faculty at the University of Washington Harborview Injury Prevention and Research Center in Seattle, and a contract research associate with the University of Maryland R Adams Cowley Shock Trauma Center in Baltimore. She earned her MPH and MD degrees from the University of Hawai'i, and her MFA from the University of Washington. Her medical career has included general and urgent care practice, general public health, and occupational medicine practice and research among diverse civilian and military populations and large and small, public and private institutions all over the US, in Latin American, and the Pacific. More recently, her research, teaching, and writing have concentrated on big-data explorations of the epidemiology of trauma, with a specific interest in the evidence surrounding blood use in trauma. She is also a reviewer for *TRANSFUSION,* a novelist, and a fiction editor for the literary journal *The Baltimore Review*.

John R. Hess, MD, MPH, FACP, FAAAS, is the medical director of the transfusion service at Harborview Medical Center. He is also chief of transfusion medicine and professor of laboratory medicine and hematology at the University of Washington in Seattle. He earned his MD from the University of Washington and his MPH from the University of Hawai'i. He served 30 years in the US Army and US Public Health Service, a year as director of health for the Territory of American Samoa, and 12 years with a dual appointment as professor of pathology and medicine at the University of Maryland Medical Center and a consultant to the Maryland Shock Trauma Center in Baltimore.

Hess holds board certifications in internal medicine, hematology, medical oncology, blood banking and transfusion medicine, and general preventive medicine and public health. He has chaired the National Heart, Lung, and Blood Institute's transfusion study section and served on the World Health Organization blood transfusion medicine expert panel. A

member of AABB, he has served on the abstracts and clinical transfusion medicine committees, he is an associate editor of *TRANSFUSION,* and is a frequent presenter at conferences. He conducts research on the development and use of blood components and is the holder of seven US patents.