# Table of Contents

**Preface** ........................................................................................................... xi

**About the Author** .......................................................................................... xiii

1. Can Policy Decisions in Transfusion Medicine Be Evidence Based? ........ 1
   - A Case in Point: WBC Reduction ................................................................. 1
   - Evidence-Based Medicine ........................................................................... 5
   - Best Research Evidence .............................................................................. 5
   - Application of the Precautionary Principle in Transfusion Medicine ........ 11
   - The Debate over TRIM and Universal WBC Reduction ......................... 12
   - Competing Risks and Decision Making in Transfusion Medicine .......... 24
   - References .................................................................................................. 25

2. Causes of Mortality Related to Allogeneic Blood Transfusion .................. 31
   - Passive Surveillance Studies of ABT-Related Mortality ......................... 34
   - Transfusion-Associated Sepsis ................................................................... 39
   - TRALI ......................................................................................................... 45
   - HTRs .......................................................................................................... 57
   - Poorly Understood Causes of Death Attributed to ABT by RCTs ............ 61
   - The Impact of the Next Fatal TTI .............................................................. 64
   - Conclusions .............................................................................................. 74
   - References .................................................................................................. 77

3. Assessment of the Risk of Emerging Transfusion-Transmitted Infections .... 87
   - Emerging TTIs .......................................................................................... 88
   - Prevalence of Subclinical vCJD in the United Kingdom ......................... 90
   - Transfusion-Transmitted Cases of Clinical vCJD ..................................... 95
   - Prion-Reduction Filters ............................................................................ 100
   - Has Ordinary WBC Reduction Prevented Transfusion Transmission of vCJD? 103
   - Are Further Measures Needed to Prevent Transfusion Transmission of vCJD? 104
   - Summary .................................................................................................. 107
   - References .................................................................................................. 107

4. Strategies to Further Reduce Allogeneic-Blood-Transfusion-Related Mortality 113
   - Reduction in the Risk of TTIs Through PR of Platelet and Plasma Components 116
Electronic Supplement

The CD-ROM included with this textbook contains three chapters from Evidence-Based Practice of Transfusion Medicine by Eleftherios C. Vamvakas, MD, PhD (AABB Press, 2001).

1. Basic Concepts
   - Introduction to Statistical Terms
   - Measures of Disease Frequency
   - Measures of Association
   - References
   - Additional Reading

2. Statistical Associations and Cause-and-Effect Relationships
   - Association between Treatment (or Exposure) and Outcome
   - Valid Statistical Associations vs Causal Relationships
   - Refuting the Role of Chance
   - Refuting the Role of Bias
   - Refuting the Role of Confounding Factors
   - Conclusions
   - References
   - Additional Reading

3. Diagnostic Accuracy and Clinical Value of Laboratory Tests Used to Screen the Allogeneic Blood Supply for Infectious Disease Markers
   - Sensitivity
   - Specificity
   - Diagnostic Accuracy vs Clinical Value of a Laboratory Test
   - Predictive Value
   - Laboratory Tests Reported on a Continuous Scale
   - Parallel Testing
   - Serial Testing
   - Meta-Analyses of Studies of the Diagnostic Accuracy of Laboratory Tests
   - Summary
   - References
   - Suggested Reading