

# Platelet Transfusion: A Clinical Practice Guideline From the AABB

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**Background:** The AABB (formerly, the American Association of Blood Banks) developed this guideline on appropriate use of platelet transfusion in adult patients.

**Methods:** These guidelines are based on a systematic review of randomized, clinical trials and observational studies (1900 to September 2014) that reported clinical outcomes on patients receiving prophylactic or therapeutic platelet transfusions. An expert panel reviewed the data and developed recommendations using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) framework.

**Recommendation 1:** The AABB recommends that platelets should be transfused prophylactically to reduce the risk for spontaneous bleeding in hospitalized adult patients with therapy-induced hypoproliferative thrombocytopenia. The AABB recommends transfusing hospitalized adult patients with a platelet count of  $10 \times 10^9$  cells/L or less to reduce the risk for spontaneous bleeding. The AABB recommends transfusing up to a single apheresis unit or equivalent. Greater doses are not more effective, and lower doses equal to one half of a standard apheresis unit are equally effective. (Grade: strong recommendation; moderate-quality evidence)

**Recommendation 2:** The AABB suggests prophylactic platelet transfusion for patients having elective central venous catheter placement with a platelet count less than  $20 \times 10^9$  cells/L. (Grade: weak recommendation; low-quality evidence)

**Recommendation 3:** The AABB suggests prophylactic platelet transfusion for patients having elective diagnostic lumbar puncture with a platelet count less than  $50 \times 10^9$  cells/L. (Grade: weak recommendation; very-low-quality evidence)

**Recommendation 4:** The AABB suggests prophylactic platelet transfusion for patients having major elective nonneurological surgery with a platelet count less than  $50 \times 10^9$  cells/L. (Grade: weak recommendation; very-low-quality evidence)

**Recommendation 5:** The AABB recommends against routine prophylactic platelet transfusion for patients who are nonthrombocytopenic and have cardiac surgery with cardiopulmonary bypass. The AABB suggests platelet transfusion for patients having bypass who exhibit perioperative bleeding with thrombocytopenia and/or evidence of platelet dysfunction. (Grade: weak recommendation; very-low-quality evidence)

**Recommendation 6:** The AABB cannot recommend for or against platelet transfusion for patients receiving antiplatelet therapy who have intracranial hemorrhage (traumatic or spontaneous). (Grade: uncertain recommendation; very-low-quality evidence)

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Approximately 2.2 million platelet doses are transfused annually in the United States (1). A high proportion of these platelet units are transfused prophylactically to reduce the risk for spontaneous bleeding in patients who are thrombocytopenic after chemotherapy or hematopoietic progenitor cell transplantation (HPCT) (1-3). Unlike other blood components, platelets must be stored at room temperature, limiting the shelf life of platelet units to only 5 days because of the risk for bacterial growth during storage. Therefore, maintaining hospital platelet inventories is logistically difficult and highly resource-intensive (4, 5). Platelet transfusion is associated with several risks to the recipient (Table 1), including allergic reactions and febrile non-hemolytic reactions. Sepsis from a bacterially contaminated platelet unit represents the most frequent infectious complication from any blood product today (8). In any situation where platelet transfusion is being considered, these risks must be balanced against the potential clinical benefits.

## GUIDELINE FOCUS

These guidelines were designed to provide pragmatic recommendations, based on the best available

published evidence, about when platelet transfusion may be appropriate in adult patients. For several common clinical situations, we attempted to identify a platelet count threshold below which platelet transfusion may improve hemostasis and above which platelet transfusion is unlikely to benefit the patient. We did not attempt to address all clinical situations in which platelets may be transfused, and these guidelines are not intended to serve as standards. Clinical judgment, and not a specific platelet count threshold, is paramount in deciding whether to transfuse platelets.

## TARGET POPULATION

These guidelines provide advice for adult patients who are candidates for platelet transfusion.

## GUIDELINE DEVELOPMENT PROCESS

The AABB commissioned and funded the development of these guidelines.

### Panel Composition

A panel of 21 experts was convened. Fifteen participants were members of the Clinical Transfusion Medicine Committee of the AABB, all of whom were

# Aabb Manual 16th Edition

**Ruth M. Warwick, Deirdre Fehily, Scott  
A. Brubaker, Ted Eastlund**

## **Aabb Manual 16th Edition:**

**Transfusion Medicine and Hemostasis** Beth H. Shaz, Christopher D. Hillyer, James C. Zimring, Thomas C. Abshire, 2009-06-09 Transfusion Medicine and Hemostasis is a manual style book that links transfusion medicine and hemostasis to laboratory methods and diagnostic tests engaged in routine and specialized coagulation laboratories The book is divided into two main parts with chapters that are brief and readable The first main part of the book is subdivided into blood banking and transfusion medicine Under blood banking the chapters cover blood collection donation process component manufacturing donor testing and storage transfusion medicine chapters examine the components for transfusion pre transfusion immunohematology testing blood groups blood products and their modifications approaches to transfusion therapy in specific clinical settings and transfusion reactions and complications In addition chapters that talk about apheresis cellular therapy and tissue banking in the hospital setting are included Hemostasis the second main part of the book is subdivided into three sections The first section clinical coagulation includes chapters about neonatal thrombocytopenia inherited platelet function disorders immune thrombocytopenia immune mediated coagulopathies congenital bleeding disorders and acquired bleeding disorders The second section relates to laboratory testing of coagulation with chapters about laboratory assessments of platelet disorders von Willebrand disease coagulation factor disorders fibrinogen and fibrinolysis tests for hypercoagulable state and for activation of the coagulation system and laboratory support for anticoagulation The third section discusses coagulation factor products This book will be valuable for the education of trainees practitioners and future leaders in these fields      **Transfusion Guide for Clinicians** Kanchan Bhardwaj, 2012

**Immunohematology: Principles and Practice** Eva D Quinley, 2020-06-15 Immunohematology Principles and Practice Third Edition an ideal text for anyone who wants to master the theory and practices of today s blood banking      *Rossi's Principles of Transfusion Medicine* Toby L. Simon, Edward L. Snyder, Christopher P. Stowell, Ronald G. Strauss, Bjarte G. Solheim, Marian Petrides, 2011-09-23 Rossi s Principles of Transfusion Medicine is the most comprehensive and practical reference on transfusion science and medicine available It features brand new chapters on the measurement of cell kinetics obstetric transfusion practice cord blood transfusion alternatives and regenerative medicine Produced jointly with AABB the world s leading association in the fields of blood banking and transfusion medicine it now has two companion CD ROMs one containing interactive case studies and one containing PDFs of all 66 chapters      *Tissue and Cell Clinical Use* Ruth M. Warwick, Scott A. Brubaker, 2012-07-18 This new book explores clinical information in the tissue transplantation field and acts as a comprehensive learning tool to comply with regulatory requirements Broad in scope coverage includes all the traditionally transplanted tissues and moves into more complex areas of tissue grafting and the assisted reproduction fields This useful text focuses on the potential for disease transmission ways to improve safety and the role of the clinician in these safety aspects The book starts off by describing non surgical risks of using allografts and moves onto chapters devoted

completely to tissue or cell specific issues relating to transplantation of the individual types of tissues or cells

**Tissue and Cell Clinical Use An Essential Guide** is the final book in a series which covers all aspects of tissue banking donation processing and transplantation Each book in the series includes lists of learning points and case studies which consist of sample processing protocols descriptions of where processing went wrong sample risk assessments or validation studies This three book series covers all you need to know about tissue banking

**Tissue and Cell Donation** Ruth M. Warwick, Deirdre Fehily, Scott A. Brubaker, Ted Eastlund, 2009-02-25 This is the guide to tissue and cell donation that you have been waiting for Policies and practices reviewed using specific donor case histories as examples Multidisciplinary multi national team of editors and contributors with expertise in ethics consent transplantation microbiology and tissue and cell banking Provides a guide to easier and safer practice in referrals tissue procurement cord blood collection and decision making in general This unique book explores a range of issues related to the human impact of tissue and cell donation programmes around the world It addresses the areas that are of key concern and have profound implications for the donors recipients and healthcare professionals involved Focusing on tissue assisted reproduction and hematopoietic stem cells this book is essential reading for all those working in the field of human transplant donation and those who regulate this field

Technical Manual American Association of Blood Banks, 2002 Manual includes many changes since the previous edition including a description of the 10 Quality System Essentials QSEs that make up Section A in the newest series of standards published by the American Association of Blood Banks Includes a new chapter on platelet and granulocyte antigens and antibodies

**CURRENT Diagnosis and Treatment Surgery, 16th Edition** Gerard M. Doherty, 2024-12-20 The evidence based point of care information you need to master the full scope of diseases and disorders most often treated by surgeons Organized by organ system Current Diagnosis and Treatment Surgery begins with the relationship between surgeons and their patients training and professionalism preoperative care postoperative care and surgical complications Subsequent chapters cover wound healing inflammation infection antibiotics fluid and electrolyte management and surgical metabolism and nutrition In addition to sections covering everything from head and neck tumors to hand surgery this comprehensive resource offers expert coverage of pediatric surgery oncology weight management organ transplantation and more Featuring 600 photographs and illustrations hundreds of chapter ending multiple choice review questions and the latest the latest research and discoveries Current Diagnosis and Treatment Surgery is designed to help you find all the answers you need quickly and easily

*Transfusion Therapy Manual* , 1996

*Contagious Diseases Sourcebook* Joyce Brennfleck Shannon, 2010 Provides basic consumer health information about the transmission and treatment of diseases spread from person to person along with facts about prevention self care and drug resistance Includes index glossary of related terms and other resources

Technical Manual of the American Association of Blood Banks American Association of Blood Banks, 1981

**Principles of Transfusion Medicine** Ennio Claudio Rossi, 1996 This is a practical guide for safe and effective use of blood as a drug It

has a practical focus with a format that blends transfusion science with clinical concerns and includes contributions from the areas of pathology internal medicine surgery anaesthesiology and paediatrics This new edition includes 15 new chapters and the Organization of Blood Services section has been restructured to guide the reader through the intensified regulatory environment and the use of computers a control devices The text also discusses how blood banks can meet the FDA s tight new guidelines using audit and error management as the key to process control **CURRENT Diagnosis and Treatment**

**Pediatrics, Twenty-First Edition** William W. Hay, Myron J. Levin, Robin R Deterding, Mark J. Abzug, 2012-06-22 Evidence based information on the care of children from birth through adolescence in an easy to use find it now presentation CURRENT Diagnosis Treatment Pediatrics 21e delivers concise up to date and clinically relevant coverage of how to assess and treat common disorders in children Known as the on the go guide to pediatrics the book features the easy to follow LANGE CURRENT outline presentation which consists of Problem Essentials of Diagnosis and Treatment Clinical Features Treatment Prognosis Written by experienced pediatricians to ensure that every chapter reflects the needs and realities of day to day practice this is an essential resource for pediatricians family practitioners physician assistants nurses and nurse practitioners and the critical care unit Emphasizes the clinical aspects of pediatric care while also covering important underlying principles Provides a quick authoritative guide to the diagnosis understanding and treatment of a wide range of pediatric medical conditions Includes detailed description of diseases as well as the diagnostic and therapeutic procedures Organized by general topics as well as by organ systems Presented in time saving LANGE CURENT outline format Problem Essentials of Diagnosis Typical Features Clinical Findings Differential Diagnosis Treatment Prognosis Delivers concise overviews of important pediatric health concerns including childhood nutrition and eating disorders substance abuse psychiatric disorders child abuse oral medicine and dentistry immunization and emergencies and injuries CURRENT Diagnosis and Treatment Pediatrics, Twenty-First Edition Myron Levin, Robin Deterding, Mark Abzug, 2012-06-21 Evidence based information on the care of children from birth through adolescence in an easy to use find it now presentation CURRENT Diagnosis Treatment Pediatrics 21e delivers concise up to date and clinically relevant coverage of how to assess and treat common disorders in children Known as the on the go guide to pediatrics the book features the easy to follow LANGE CURRENT outline presentation which consists of Problem Essentials of Diagnosis and Treatment Clinical Features Treatment Prognosis Written by experienced pediatricians to ensure that every chapter reflects the needs and realities of day to day practice this is an essential resource for pediatricians family practitioners physician assistants nurses and nurse practitioners and the critical care unit Emphasizes the clinical aspects of pediatric care while also covering important underlying principles Provides a quick authoritative guide to the diagnosis understanding and treatment of a wide range of pediatric medical conditions Includes detailed description of diseases as well as the diagnostic and therapeutic procedures Organized by general topics as well as by organ systems Presented in time saving LANGE CURENT outline format Problem

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*Infusionstherapie und Transfusionsmedizin*, 1995      **Cancer Nursing** Connie Henke Yarbro, Debra Wujcik, Barbara Holmes Gobel, 2016-09-19 Cancer Nursing Principles and Practice Eighth Edition continues as the gold standard in oncology nursing With contributions from the foremost experts in the field it has remained the definitive reference on the rapidly changing science and practice of oncology nursing for more than 25 years Completely updated and revised to reflect the latest research and developments in the care of patients with cancer the Eighth Edition includes new chapters on the biology of cancer sleep disorders and palliative care across the cancer continuum The Eighth Edition also includes significant updates to the basic science chapters to reflect recent increases in scientific knowledge especially relating to genes and cancer Also heavily revised are the sections devoted to the dynamics of cancer prevention detection and diagnosis as well as treatment oncologic emergencies end of life care and professional and legal issues for oncology nurses

*Neonatal-Perinatal Medicine* Richard J. Martin, Avroy A. Fanaroff, Michele C. Walsh, 2011 Tackle your toughest challenges and improve the quality of life and long term outcomes of your patients with authoritative guidance from Fanaroff and Martin's Neonatal Perinatal Medicine Drs Richard J Martin Avroy A Fanaroff and Michele C Walsh and a contributing team of leading experts in the field deliver a multi disciplinary approach to the management and evidence based treatment of problems in the mother fetus and neonate New chapters expanded and updated coverage increased worldwide perspectives and many new contributors keep you current on the late preterm infant the fetal origins of adult disease neonatal anemia genetic disorders and more Be certain with expert dependable accurate answers for every stage of your career from the most comprehensive multi disciplinary text in the field See nuance and detail in full color illustrations that depict disorders in the clinical setting and explain complex information Obtain more global perspectives and best practices with contributions from international leaders in the field of neonatal perinatal medicine Get comprehensive guidance on treating patients through a dual focus on neonatology and perinatology Spot genetic problems early and advise parents of concerns with a completely new section on this topic Make informed clinical choices for each patient from diagnosis and treatment selection through post treatment strategies and management of complications with new evidence based criteria throughout Stay at the forefront of your field thanks to new and completely revised chapters covering topics such as Principles and Practice I Immune and Non immune Hydrops Fetalis I Amniotic Fluid Volume I Enhancing Safe Prescribing in the Neonatal Intensive Care Unit I Role of Imaging in Neurodevelopmental Outcomes of High Risk Neonates I Patent Ductus Arteriosus I Gastroesophageal Reflux and Gastroesophageal Reflux Diseases in the Neonate Find and grasp the information you need easily and rapidly with indexing in both volumes that provides quick access to specific guidance Advance clinically with

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