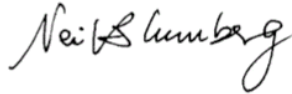


CURRICULUM VITAE



April 25, 2017

Neil Blumberg, M.D.

Professor, Department of Pathology and
Laboratory Medicine
Director, Clinical Laboratories, Transfusion Medicine Unit and
Blood Bank, Strong Memorial Hospital
University of Rochester School of
Medicine and Dentistry
Box 608--601 Elmwood Avenue
Rochester, New York 14642 (USA)
(585) 275-9656; Fax (585) 273-3002
email: Neil_Blumberg@urmc.rochester.edu

Academic Appointments

2013-2016	Vice-Chair, Laboratory Medicine
1995-present	Professor of Pathology and Laboratory Medicine, University of Rochester School of Medicine, Rochester, NY
1984-1995	Associate Professor of Pathology and Laboratory Medicine, University of Rochester School of Medicine, Rochester, NY (Tenure: July, 1990)
1980-84	Assistant Professor of Pathology and Laboratory Medicine, University of Rochester School of Medicine
1978-80	Assistant Professor of Laboratory Medicine, University of Connecticut School of Medicine, Farmington, CT
1977-78	Instructor in Laboratory Medicine, Yale University, New Haven, CT

Clinical Appointments

2004-2016	Director, Clinical Laboratories, Strong Memorial Hospital
1980-Present	Director, Transfusion Medicine Unit, Blood Bank and Stem Cell Processing Lab, Strong Memorial Hosp, Rochester, NY
1988	Acting Director (April-September) Clinical Laboratories, SMH

1978-80 Assistant Director, American Red Cross Blood Services,
Connecticut Region, Farmington, CT

Education

MD, 1975 Yale University School of Medicine, New
Haven, CT (1970-75)

Yale University Graduate School of Arts and
Sciences, Department of Molecular Biophysics
and Biochemistry, New Haven, CT (1971-74)

BS, 1970 Yale College, New Haven, CT (1967-70)

Cornell University College of Arts and Sciences
Ithaca, NY (1966-67)

Residency and Postdoctoral Training

1977-78 Chief Resident, Laboratory Medicine
Yale-New Haven Hospital, New Haven, CT

1976-77 Assistant Resident, Laboratory Medicine,
Yale-New Haven Hospital, New Haven, CT

1975-76 Intern, Laboratory Medicine,
Yale-New Haven Hospital, New Haven, CT

Honors and Awards

1971-74 NIH Medical Scientist Training Grant
Fellowship

1970 BS, Yale, Magna Cum Laude

1969 Phi Beta Kappa

1966-70 National Merit Scholar

Grants and Contracts

2016-2017 Philip Morris Products, S.A., (PI: Sherry L Spinelli, PhD)
Role: Co-investigator, 3% salary / effort.
"Effect of Cigarette Smoke Exposure and Smoking Cessation
on Vascular Cell Biology." \$753,113.00 (18 months)

2013-2018 NIH, NHLBI 1U01HL116383-01 ABC PICU Clinical Trial
(P.I.: Phillip Spinella MD, Washington University). Louis
E. Dougherty MD, Jill Cholette MD (Critical Care) and
Neil Blumberg MD (Transfusion Medicine) Site P.I.s. This
is a multi-center clinical trial to determine whether
transfusing red cells with shorter than standard storage
duration improves clinical outcomes in critically ill
children beyond the neonatal period.

2012-2017	NIH, NHLBI Transformative RO1HL117329, (P.I.: Sergey Shevkoplyas, PhD, Tulane University) Consultant (Year 1; Subcontract for years 2-5)(4% effort). “Eliminating mediators of toxicity from stored blood.” \$250,000 ADC
2014-2015	NIH, Univ. Rochester Clinical Translational Science Institute Pilot Award (PI: Sherry Spinelli PhD) Co-investigator (4% effort; no salary). “The role of microparticle-derived Thy-1 (CD90) in Type 2 Diabetes Mellitus.” \$50,000 ADC.
2013-2014	British American Tobacco (P.I.: Sherry L Spinelli, PhD) Co-Investigator: 4% Salary/Effort. “Tobacco smoke modulation of microparticle composition, vascular inflammation and platelet NF-kB” \$614,668 (including indirect costs)
2013-2014	American Society of Hematology (P.I., Moritz Stolla MD) Neil Blumberg MD as Mentor for ASH Honors Award . “PPAR γ agonists and mitochondrial function during platelet storage for transfusion.” \$7,000.
2009-2014	NIH, NHLBI R01 HL095467, P.I. (Co-PIs: N. Blumberg, R. Phipps) 10% salary/effort. “Identification and Significance of Biologic Mediators in Red Cell Concentrates” \$250,000 ADC. No cost extension to 2014.
2012-2013	NIH, NCATS UL1TR000042 Univ. Rochester Clinical Translational Science Institute Pilot Award. P.I. (10% effort; no salary). “Improving Platelet Storage and Transfusion Outcomes with PPAR γ Ligands.” \$50,000 ADC.
2011-2012	NIH, NIAID, Univ. Rochester Center for Medical Countermeasures against Radiation, Pilot Project. (P.I.: Phipps) Co-investigator (4% effort; no salary). “Mitigation and modeling of platelet and megakaryocyte impairment following radiation injury.” \$75,000 ADC.
2011-2012	NIH, Univ. Rochester Clinical Translational Science Institute Pilot Award (PI: Sherry Spinelli PhD) Co-investigator (4% effort; no salary). “Microparticle miRNAs as transcellular messengers in diabetes and vascular disease.” \$50,000 ADC.
2009-2012	NIH, NHLBI RC1 HL100051 Co-investigator 5% salary/effort (PI: Phipps) “Microparticles as Messengers of Communication Between Blood and Vascular Cells” \$500,000 ADC. No cost extension through 2012.
2009-2011	NIH, NHLBI R21 HL093129. Co-investigator, 4% salary/effort. “Blood transfusions: gender differences in utilization,

- predictors and outcomes.” \$234,000 ADC. MAM Rogers PhD, P.I. University of Michigan.
- 2006-08 NIH, NHLBI 1 R21HL086367. Co-investigator, 5% salary/effort. “Normal and Type-2 Diabetic Platelet Proteomics and Storage for Transfusion.” \$150,000 ADC. RP Phipps PhD, P.I.
- 2004-08 NIH, NHLBI. 1 R01HL078603. Co-Investigator, 5% salary / effort. "Platelet Activation and Inflammatory Mediators" \$200,000 ADC. RP Phipps PhD, P.I.
- 2002-04 James P. Wilmot Cancer Center Discovery Fund Seed Grant, University of Rochester, co-P.I. “The clinical consequences of transfusing platelet CD40 ligand (CD154) in adult acute myeloid leukemia (AML).” \$25,000
- 2001-04 Gambro BCT, Inc., P.I., Lakewood, CO. CD40 Ligand and platelet transfusion immunology. \$10,000 unrestricted grant.
- 1992-97 Pall Biomedical Corp., Glen Cove, NY. P.I., 10% effort. “The Use of Leukocyte-Depleted Blood Components in Adult Lymphoma Patients Receiving Autologous Bone Marrow Transplantation (BMT) or Newly Diagnosed Adults with Acute Leukemia,” \$20,000.
- 1992-95 American Red Cross, Bethesda, MD. Co-investigator, 5% effort. "Immune complexes and the pathogenesis of platelet transfusion refractoriness and autoimmune thrombocytopenia," \$175,520. JM Heal, MRCP, P.I.
- 1992-94 Ortho Biotech, Raritan, NJ. P.I., 5% effort. “Immunologic and clinical effects and cost effectiveness of autologous versus homologous transfusions in hip replacement surgery,” \$17,190.
- 1990-92 American Red Cross, Bethesda, MD. Co-investigator, 5% effort. "Immune complexes and antibodies to plasma proteins in the pathogenesis of platelet transfusion refractoriness," \$153,358. JM Heal, MRCP, P.I.
- 1988-93 NIH, National Institute of Aging. RO 1AG08178. Co-Investigator, 10% salary / effort. "Pathogenetic aspects of erythrocyte autoantibody formation in man." \$97,172 ADC for 88-89. J Leddy, MD, P.I.
- 1989-91 AABB Research Foundation, P.I., 5% effort. "A comparison of the clinical and immunologic effects of autologous or homologous transfusions in patients undergoing spinal fusion surgery." \$26,925.

- 1987-89 American Red Cross, Bethesda, MD,
Co-investigator, 5% effort. "Multicenter Trial of Cross-
matching versus HLA Matching for Patients Refractory to
Platelet Transfusion," \$53,000. JM Heal, MRCP, P.I.
- 1985-87 American Red Cross, Bethesda, MD,
Co-investigator, 5% effort. "Use of Chloroquine as an
Eluting Agent for the Evaluation of Patients Refractory to
Platelet Transfusion", \$134,336. JM Heal, MRCP, P.I.
- 1984-85 New York State AIDS Institute AO107, P. I., 20%
salary/effort. "Antibody to Peripheral Blood Cells in AIDS",
\$85,000 ADC.

PATENTS

Peroxisome Proliferator-Activated Receptor (PPAR) Expression in Human Body Fluids, Platelets and Secretions

Use of Peroxisome Proliferator-Activated Receptor Gamma (ppar) and /or Retinoic Acid Receptor (RXR) Agonists to Inhibit Platelet Functions
PCT/US2004/35065

Use of Peroxisome Proliferator-Activated receptor (PPAR) Gamma Agonists to Inhibit Platelet Release of CD40 Ligand and Treat CD40 Ligand-Mediated Conditions
2004285486

Licensure and Board Certification

Diplomate, National Board of Medical Examiners (USA), July 1976

New York State Medical License, 1980

American Board of Pathology (Clinical Pathology), 1978; Fellow, College of American Pathologists

Laboratory Director Certificate of Qualification, NY State, 1984

Special Training

Hartford Graduate Center, Management Development Program, June 1979

Professional and Peer Review Activities

Ad hoc reviewer for various journals including NEJM, British Journal of Haematology, etc. Abstract reviewer for ASH and AABB annual meetings (co-ordinating Transfusion Medicine reviewer for ASH, 2003 and 2009). Consultant to Haemonetics, Fenwal, Bayer, Pall, Terumo BCT(Caridian/Gambro), Citra Labs (Biomet).

2016 Subject Matter Expert Consultant, Dept. of Health and Human Services, Office of the Secretary, Assistant Secretary for Preparedness and Response—Transfusion and Zika Virus

2016-present	Editorial Board, Frontiers in Immunology
2014-present	Chair, Data Safety Monitoring Board, IND 15910 Pre-Hospital Use of Plasma for Traumatic Hemorrhage (PUPTH), United States Army Combat Casualty Research Command, Virginia Commonwealth University
2011-2017	Standing Member, NHLBI T32 (Institutional Training Mechanism) Study Section
2011-2017	Co-Chair, Study Monitoring Board, NHLBI REDS III
2008-2012	Member, Editorial Board, BLOOD
2008-present	Member, Editorial Board, Advances in Hematology
1990-present	Member, Editorial Board, TRANSFUSION
2011-2015	Elected Member, Board of Directors, Society for the Advancement of Blood Management
2011	Member, NHLBI K12 Study Section—Training in Benign Hematology and Transfusion Medicine
2011	Member, NHLBI Special Emphasis Panel (RO1, R21) Study Section in Transfusion Medicine
2005-2011	Chair, Study Monitoring Board, NHLBI REDS II
2010-present	Medical Consultant, Medical Laboratory Evaluation Program American College of Physicians
2010	Chair, NHBLI REDS III Special Emphasis Grant Review Panel
2010	NHLBI Erythrocyte and Leukocyte Biology Study Section Ad Hoc Member
2009	NHLBI State of the Science Symposium on Clinical Trials in Transfusion Medicine, Hemostasis & Thrombosis, Invited Participant
2009	NHLBI Ad Hoc Study Section—Phase II Clinical Trials ARRA Grand Opportunities Program
2007	Discussion Leader/Chair--NHLBI Working Group on Clinical Outcomes in Transfusion Medicine
2007	NHLBI Working Group on the Immune Consequences of Allogeneic Exposure, Invited Speaker

2007	NHLBI Ad Hoc Study Section—Transfusion Medicine Hemostasis Clinical Research Network
2006-2011	AABB Biovigilance Working Group
2006-2007	NHLBI Working Group on Blood Safety/Availability Strategic Plan
2005; 2007	NHLBI T32 Training Grant Study Section Ad Hoc Member
2004	NHLBI REDS II Study Section Member
1999-2010	Dean’s Research Advisory Committee-Univ. Rochester
1997-2007	Member, Clinical Council, Strong Memorial Hospital
1995-1999	Chair, Regional Medical Advisory Committee (NY-Penn Red Cross) and Member, Blood Services Board
1992-1997	Member, Utilization Management Committee Strong Memorial Hospital
1986-1995	Member, Executive Council (to 1989) and Editor, Newsletter, Academy of Clinical Laboratory Physicians & Scientists
1982-1990	Member, District Advisory Group, Northeast Region, American Association of Blood Banks
1982-1986	Member, Committee on Component Therapy, American Association of Blood Banks
1981-85	Member, Quality Assurance Committee and its Steering Committee, Strong Memorial Hospital
1980-85	Chairman, Blood Utilization Committee, Strong Memorial Hospital
1978-80	Abstractor, <u>Transfusion</u>
1976-78	Member, Executive Board, Connecticut Area II PSRO
1976-78	Member, Patient Care Studies Committee, Yale-New Haven Hospital
1971-78	Editorial Board and Book Review Editor, <u>Yale Journal of Biology and Medicine</u>
1976-78	Member and Secretary, Housestaff Council Yale-New Haven Hospital

Professional Societies

American Society of Hematology
American Association of Blood Banks
Society for the Advancement of Blood Management
Academy of Clinical Laboratory Physicians and Scientists
American Association for the Advancement of Science
College of American Pathologists
American Society of Clinical Pathologists

Mentoring

My track record of mentoring physicians includes former residents and fellows who now hold full professorships and clinical leadership positions in transfusion medicine/blood banking and laboratory medicine at Columbia University (Steven Spitalnik), University of Pittsburgh (Darrell Triulzi), Northwestern University (Glenn Ramsey) and University of Connecticut (Patricia Pisciotto). Several additional former trainees are involved in academic laboratory hematology/transfusion medicine (Jorge Rios at Harvard/American Red Cross and Paul Murphy at University of Kentucky). In addition, two former residents who I mentored are now department chairs with areas of clinical specialty outside transfusion medicine (Greg Freund at the University of Illinois and Mukesh Agarwal at United Arab Emirates). During their residency and fellowship these outstanding young physicians co-authored a total of several dozen published peer-reviewed manuscripts, comprising a substantial portion of my own publications during my career. Our most recent resident trainee, finishing in June 2015, Dr. Moritz Stolla MD, entered a fellowship in transfusion medicine at Harvard and now is an Assistant Professor at the University of Washington.

I have been extensively involved in resident training in pathology and laboratory medicine and fellowship training in adult and pediatric hematology-oncology. During 1980-1990 I was the only attending physician at the University of Rochester Medical Center with a special interest in transfusion medicine and thus trained residents full-time, and from 1990-2007 was the attending 50% of the time. In 2004, when I became Director of Clinical Laboratories I reduced my attending time to approximately 25-30% effort, and remain active in teaching/mentoring residents in pathology and laboratory medicine and fellows in hematology-oncology.

In addition, I am regularly involved in clinical and research mentoring of junior faculty in our department. In particular, I have been the primary mentor for our two associate medical directors of transfusion medicine/blood, Associate Professor Scott Kirkley MD (1990 to present; 12 joint publications), Associate Professor Majed Refaai MD (2008-present; 19 joint publications) and our research group's Research Associate Professor, Sherry Spinelli PhD (2005-present; 28 joint publications). I also mentor faculty outside our department, including Dr. Jill Cholette MD, Associate Professor of Pediatrics (2008-present; 7 joint publications). My newest colleague is Dr. Amy Schmidt MD PhD, who joined our group in 2015 as Assistant Professor of Pathology and Laboratory Medicine. I will be her primary mentor. She is off to a splendid start with multiple publications (3 joint publications) in her first 18 months and has started the first Transfusion Medicine fellowship in the history of the University of Rochester Medical Center.

Administrative and Leadership Roles

As Director of Blood Bank/Transfusion Medicine since 1980 I supervise an urgent care clinical service that operates 24/7, mostly for critically ill patients, involving approximately 35 technical staff FTEs and a budget of about \$10 million annually. I have consistently been

integrally involved in human resources issues, capital and operating budget decisions, relationships with other clinical services, hospital administration and extramural organizations such as our primary provider of blood components, the American Red Cross Blood Services. My role involves training and mentoring medical technologists and supervisory staff as they develop new skills and take on new responsibilities. Unlike most faculty in pathology and laboratory medicine, my activities have routinely included direct patient care, including primary responsibility for patients while they undergo autologous blood donations or therapeutic plasma exchange or cytapheresis. As a consultant transfusion medicine physician, I routinely employ laboratory services for diagnosis and treatment recommendations, and thus, like primary and specialty clinicians, am a consumer of laboratory services, as well as a provider.

Since 2004 I have also been Director of Clinical Laboratories, in which role I am responsible for the activities of several hundred technical staff in providing the broad array of diagnostic laboratory services, encompassing thousands of different types of tests and a clinical budget of \$72 million per year. Reporting to the academic chair and SMH pathologist in chief, I am the responsible clinical chief of service for pathology and laboratory medicine at UPMC Medical Center for purposes of regulatory agencies (FDA, CLIA, New York State) who provide us with legal permission to operate, and for accrediting organizations that ascertain that we meet required standards of quality and performance (College of American Pathologists, AABB, FACT, Joint Commission).

In my role as director of transfusion services, our blood bank has been an innovator in cost effectiveness analysis and introduction of technologies and policies that improve clinical outcomes, and are life saving and conserving of financial resources. We were the first or one of the first hospitals in the USA to introduce leukoreduction of transfusions in cardiac surgery (1998), universal leukoreduction for all transfusions (2000) and perhaps the only hospital in the world to implement universal use of ABO identical blood components (2005). All of these pioneering efforts were data driven, based upon randomized trials and other published research by our own group and colleagues elsewhere. Our group published some of the first clinical outcomes studies ever in transfusion medicine in the 1980s, and also the first publications on the economic consequences of these innovations in transfusion medicine. In the field of transfusion medicine, our Rochester group has led the transfusion medicine community worldwide in identifying and ameliorating the immunomodulatory effects of blood transfusion, which have been a major driving force for modifying transfusion practices and standards nationally and internationally.

When I arrived in 1980 I was the first full time transfusion service physician in the 50 year history of Strong Memorial Hospital. We now have 4.5 full time attendings who supervise the transfusion service, donor service, stem cell processing laboratory, blood management program, apheresis program, residency program in pathology and laboratory medicine, coagulation/hemostasis/thrombosis laboratory consultation service, direct the clinical laboratories, oversee the blood management program and generate 10-15 scholarly publications per year and substantial extramural funding for clinical and basic research.

Abstracts (Since 1991)

1. Cox MT, Roberts M, Lajoie J, Enfonde M, Kress D, **Blumberg N.** A clinically significant primary response at ten days in a previously untransfused child. *Transfusion* 31 (Supplement): 28S (1991). Presented to the AABB, November, 1991, Baltimore MD.
2. Cox MT, Sheils L, Masel D, **Blumberg N.** Fetal hydrops due to anti-B. *Transfusion* 31 (Supplement): 29S (1991). Presented to the AABB, November, 1991, Baltimore MD.

3. Heal JM, Masel D, **Blumberg N.** Circulating immune complexes involving the ABO system in patients refractory to platelet transfusions. *Transfusion* 31 (Supplement): 103S (1991). Presented to the AABB, November, 1991, Baltimore MD.
4. Heal J, Cowles J, Masel D, Rowe J, **Blumberg N.** Evidence for indirect mechanisms of post-transfusion platelet destruction--platelet count decrements after incompatible transfusions. *Blood* 78 (Supplement): 348a (1991). Presented to the Amer. Soc. of Hematology, December, 1991, Denver CO.
5. Heal J, Rowe J, **Blumberg N.** The importance of ABO identical platelet transfusions. *Blood* 78 (Supplement): 348a (1991). Presented to the Amer. Soc. of Hematology, December, 1991, Denver CO.
6. Heal J, Kenmotsu N, Rowe J, **Blumberg N.** A survival advantage in leukemics receiving ABO identical platelets. *Blood* 78 (Supplement): 349a (1991). Presented to the Amer. Soc. of Hematology, December, 1991, Denver CO.
7. Heal J, Cowles J, Masel D, Rowe J, **Blumberg N.** Antibodies to plasma proteins--a possible contributing cause of platelet transfusion refractoriness. *Blood* 78 (Supplement): 349a (1991). Presented to the Amer. Soc. of Hematology, December, 1991, Denver CO.
8. Cox MT, Marciano K, McMican A, **Blumberg N.** A training program for new technologists using a one on one approach. *Transfusion* 32(Supplement): 90S (1992). Presented to the Amer. Assn. of Blood Banks, November, 1992, San Francisco, CA.
9. **Blumberg N,** Heal J, Rapoport A, DiPersio J, Rowe J, Panzer R. Effect of ABO-identical platelets and leukodepletion on blood utilization and costs of autologous bone marrow transplantation. *Transfusion* 33(Supplement): 83S (1993). Presented to the Amer. Assn. of Blood Banks, October, 1993, Miami, FL.
10. **Blumberg N,** Heal J, Kirkley S, Panzer R, Rowe J. Cost effectiveness of leukodepleted transfusions during induction therapy for acute leukemia. *Transfusion* 33(Supplement): 83S (1993). Presented to the Amer. Assn. of Blood Banks, October, 1993, Miami, FL.
11. Heal JM, Masel D, **Blumberg N.** Platelets coated with ABO immune complexes from refractory patients are associated with increased adhesion to monocytes. *Transfusion* 33(Supplement): 16S (1993). Presented to the Amer. Assn. of Blood Banks, October, 1993, Miami, FL.
12. **Blumberg N,** Kirkley S, Panzer R, Heal J. A cost analysis of autologous compared to autologous plus allogeneic blood transfusions in hip replacement surgery. *Brit J Haematol* 87(Supplement): 72 (1994). Presented to the European Hematology Association, Brussels, Belgium, June, 1994.
13. Kirkley S, Cowles J, Pellegrini V, Harris C, Boyd A, **Blumberg N.** T helper 2 (Th2) type cytokine secretion found in surgical patients receiving allogeneic blood. *Transfusion* 35(Supplement): 44S (1995). Presented to the Amer. Assn. of Blood Banks, November, 1995, New Orleans, LA.

14. Heal JM, Masel D, **Blumberg N**. Inhibition of immune complex binding to platelets by monoclonal antibodies to the Fc and C1q receptors. *Transfusion* 35(Supplement): 19S (1995). Presented to the Amer. Assn. of Blood Banks, November, 1995, New Orleans, LA.
15. **Blumberg N**, Kirkley S, Heal J. The potential public health impact of allogeneic transfusion immunomodulation. *Blood* 86(Supplement): 854a (1995).
16. **Blumberg N**, Cowles J. Hypotension and allogeneic transfusion as predictors of morbidity after coronary artery surgery. *Transfusion* 36(Supplement): 35S (1996). Presented to the Amer. Assn. of Blood Banks, October, 1996, Orlando, FL.
17. **Blumberg N**, Heal JM. A new theory of transfusion immunology. *Blood* 88(Supplement 1-Part 2): 89b (1996)
18. **Blumberg N**, Heal JM, Rowe JM, Kirkley SA. Reduced morbidity and mortality in adult acute leukemia associated with leukodepleted blood transfusions. *Blood* 90 [Supp. 1]: 155a (1997). Presented to the Amer. Soc. Hematology, December, 1997, San Diego, CA.
19. Rios J, Korones DN, Heal JM, **Blumberg N**. Reduced morbidity in pediatric acute lymphocytic leukemia with leukodepleted blood transfusions. *Transfusion* 38 [Supplement]: 25S (1998). Presented to the Amer. Assn. of Blood Banks, October, 1998, Philadelphia, PA.
20. Vo, TD, Cowles JW, Heal JM, **Blumberg N**. Efficacy of washed platelets in prevention of transfusion reactions. *Blood* 94[Supp. 1]: 462a (1999). Presented to the Amer. Soc, Hematology, December, 1999, New Orleans, LA.
21. **Blumberg N**, Heal JM, Hicks GL, Jr, Risher WH. Morbidity and mortality in cardiac surgery associated with transfusion of ABO mismatched platelets. *Transfusion* 40[Supplement]: 130S (2000). Presented to the AABB, November 2000, Washington, DC.
22. **Blumberg N**, Heal JM, Cowles JW, Hicks GL, Jr, Risher WH, Samuel PK, Kirkley, SA. Leukoreduced transfusions in cardiac surgery: results of an implementation trial. *Transfusion* 40[Supplement]: 40S (2000). Presented to the AABB, November 2000, Washington, DC.
23. Kaufman J, **Blumberg N**, Phipps RP. A role for platelet derived CD40 ligand (CD154) in acute inflammation. *FASEB J* 15(4) Part I: A337 (2001). Presented to the FASEB, AAI, April, 2001, Orlando, FL.
24. Vanderlinde E, Kaufman J, Phipps R, **Blumberg N**. CD40 ligand accumulation during storage of human platelet concentrates: implications for transfusion complications. *Am. J. Clin Path.* 118: 292-293 (2002). Presented to the ACLPS, May, 2002, NY, NY.
25. **Blumberg N**, Heal JM, Gettings KF. Leukoreduction of red cell transfusions is associated with a decreased incidence of red cell alloimmunization. *Transfusion* 42[Supplement]: 26S (2002). Presented to the AABB, October, 2002, Orlando, FL.

26. **Blumberg N**, Heal JM, Rowe JM. Platelet transfusion and clinical outcome in acute leukemia in adults. *Transfusion* 42[Supplement]: 5S (2002). Presented to the AABB, October, 2002, Orlando, FL.
27. Coppage M, **Blumberg N**, Chen L, Massey T, Heuther J, Zand M., Leong N. Shanahan T. Allosensitization and LVAD: it's in the blood-abrogation of HLA allosensitization by transfusion with leukoreduced, ABO identical blood products. *Human Immunology*. 64(10 Suppl):S44, (2003); *Blood* 102: 562a (2003). Presented to the ASHI, October, 2003 and Amer. Soc. Hematology, December, 2003, San Diego, CA.
28. **Blumberg N**, Zhao H, Messing S, Heal JM, Lyman GH. Misapplication of the intention to treat principle in clinical trials and meta-analyses of leukoreduced blood transfusions in surgical patients. *Blood* 102: 562a (2003). Presented to the Amer. Soc. Hem., December 2003, San Diego, CA.
29. **Blumberg N**, Fine L, Gettings KF, Heal JM. Decreased line related infections coincident with implementation of universal leukoreduction of blood transfusions. *Transfusion* 44[Supplement]: 4A (2004). Presented to the AABB, October 2004, Baltimore, MD.
30. **Blumberg N**, Gettings KF, Turner C, Heal JM, Phipps RP. The role of platelet derived soluble CD40 L(sCD40L; CD154) in adverse reactions to platelet transfusions. *Transfusion* 44[Supplement]: 18A (2004). Presented to the AABB, October 2004, Baltimore, MD.
31. **Blumberg N**, Boshkov L, Silliman CC, Kelher M, Gettings KF, Heal JM, Phipps RP. CD40L as a cofactor in the development of transfusion related acute lung injury (TRALI). *Blood* 104: 237a (2004). Presented to the Amer. Soc. Hem., December 2004, San Diego, CA.
32. **Blumberg N**, Gettings KF, Heal JM. ABO mismatched platelet, plasma and cryoprecipitate transfusions and bleeding in transfused surgical patients. *Blood* 106: 122b (2005).
33. Phipps RP, Ray DM, Akbiyik F, Francis CW, Taubman M, **Blumberg N**. Human platelets and megakaryocytes express the transcription factor PPAR gamma and respond to prostaglandin PPAR gamma ligands: implications for inflammation, diabetes and cardiovascular disease. *Prostaglandins and Other Lipid Mediators* 79: 166 (2006).
34. Fialkow LB, Coppage M, Mbaker ML, Chen L, Gettings K, Meehan D, Massey DT, **Blumberg N**. Abrogation of HLA allosensitization in ventricular assist device recipients transfused with leukoreduced, ABO identical blood products. *Transfusion* 47 [Supplement]: 135A-36A (2007). Presented to the AABB, Anaheim, CA, October, 2007.
35. Fialkow LB, Zucchiatti A, Cheng J, Piotrowski ES, Lentz C, King R, Stassen N, Gestring M, **Blumberg N**, Bankey P. ABO non-identical transfusions and red blood cell usage in blunt trauma patients. *Transfusion* 47 [Supplement]: 192A-93A (2007). Presented to the AABB, Anaheim, CA, October, 2007.
36. **Blumberg N**, Fialkow LB, Gettings K, Zucchiatti A, Heal JM, Bankey PE. Blood group O and ABO non-identical platelet transfusions are associated with increased red cell utilization in non-trauma surgical patients. *Blood* 110: 71B (2007).
37. Kanda J, Ichinohe T, Matsuo K, Benjamin RJ, Klumpp TR, Rozman P, **Blumberg N**, Mehta J, Sohn SK, Uchiyama T. Individual patient data-based meta-analysis of cohort studies comparing clinical outcomes of ABO mismatched or matched stem cell

- transplantation in patients with haematological malignancies. Bone Marrow Transplantation 41(Supplement): S22 (2008).
38. Refaai M, Masel E, Gettings K, Phipps R, Spinelli S, Corsetti J, Fialkow L, Francis C **Blumberg N**. The effects of anti-A and anti-B on platelet function: an in vitro model of ABO non-identical transfusion. Transfusion 48[Supplement]: 210A (2008). Presented to the AABB, Montreal, Canada, October, 2008.
 39. Gettings K, Howk N, Masel D, Refaai M, Kirkley S, Heal J, **Blumberg N**. Providing ABO identical platelets to all patients-methods and clinical outcomes. Transfusion 48[Supplement]: 82A (2008). Presented to the AABB, Montreal, Canada, October, 2008.
 40. Refaai M, Khorana A, Francis C, **Blumberg N**, Culakova E, Lyman G. Blood transfusions, thrombosis and mortality in hospitalized cancer patients. Transfusion 48[Supplement]: 202A (2008). Presented to the AABB, Montreal, Canada, October, 2008.
 41. **Blumberg N**, Heal J, Masel D, Gettings K, Refaai M, Kirkley S, Fialkow L. Decreased TACO, TRALI and febrile but not allergic reactions after implementation of universal leukoreduction. Transfusion 48[Supplement]: 202A-203A (2008). Presented to the AABB, Montreal, Canada, October, 2008.
 42. Refaai M, Chuang C, Menegus M, **Blumberg N**, Francis C. Outcomes after platelet transfusion in patients with heparin-induced thrombocytopenia. Transfusion 48[Supplement]: 35A (2008). Presented to the AABB, Montreal, Canada, October, 2008.
 43. Sahler J, Bernard J, Spinelli S, Casey A, **Blumberg N**, Phipps R. Parthenolide, an anti-inflammatory NFkB inhibitor, stimulates platelet production and blunts platelet activation. J. Immunol. 184: 87:17 (2010). Presented to the Amer. Assn Immunologists Baltimore, MD, May 2010.
 44. Rogers MAM, **Blumberg N**, Heal JM, Langa KM. Venous thromboembolism in women after transfusion. 3rd North American Congress of Epidemiology, Jun 21-24, 2011. Montreal, Canada. American Journal of Epidemiology. 2011 Jun; 173(Suppl 11):S1-S331.
 45. Cholette JM, Alfieris GM, Phipps RP, Spinelli SL, Gensini FJ, **Blumberg N**. Washed red cells reduce the inflammatory response to transfusion in pediatric cardiac surgery: results of a randomized clinical trial. Transfusion 51 [Supplement]: 18A (2011). Presented to the AABB, San Diego, CA. October, 2011.
 46. Refaai MA, Carter J, Henrichs KF, Spinelli SL, Phipps RP, Francis CW, **Blumberg N**. The effect of anti-A antibodies on platelet function and clot formation; an in-vitro model of ABO non-identical transfusion. Thrombosis and Hemostasis Summit of North America. Chicago, IL. May, 2012. Amer. J Hematology.
 47. Lannan K, Spinelli S, Casey A, **Blumberg N**, Phipps R. Resveratrol blunts unwanted platelet activation that occurs during platelet storage and as a consequence of red blood cell transfusion (P3171). J. Immunol. 2013; 190:43.47. Presented to the American Assoc. of Immunologists, Honolulu, HI, May 2013.
 48. Rogers MAM, Micic D, **Blumberg N**, Young VB, Aronoff DM. Storage Duration of red blood cell transfusion and Clostridium difficile infection: a within-person comparison. European Society of Clinical Microbiology and Infectious Diseases. Barcelona, Spain. May 2014.

49. Rohde JM, Dimcheff DE, **Blumberg N**, Saint S, Langa KM, Kuhn L, Hickner A, Rogers MAM. Healthcare-associated infection after red blood cell transfusion: a systematic review and meta-analysis of randomized trials. Society of Hospital Medicine, Las Vegas Nevada, March 2014. Also accepted at the European Society of Clinical Microbiology and Infectious Diseases, Barcelona, Spain, May 2014.
50. Refaai MA, Conley G, **Blumberg N**. The in vitro effect of anti-A antibody on von Willebrand factor antigen levels and activity. Thrombosis and Hemostasis Summit of North America 2014. Chicago, IL, April 2014.
51. **Blumberg N**, Rogers M. Leukoreduction and restrictive red blood cell (RBC) transfusion minimize healthcare-associated infections after orthopedic surgery. Transfusion 54 [Supplement]: 187A (2014). Presented to the AABB, Philadelphia, PA, October 2014.
52. Greener D, Henrichs KF, Liesveld JJ, Heal J, Szydlowski J, Kirkley SA, Refaai M, Phillips GL, Milner LA, **Blumberg N**. Saline washed RBCs and platelet transfusions are associated with strikingly improved short and long term survival in younger patients with acute leukemia. Transfusion 54 [Supplement]: 185A-186A (2014). Presented to the AABB, Philadelphia, PA, October 2014.
53. Stolla M, Kenrichs K, Cholette JM, Pietropaoli A, Phipps RP, Spinelli S, **Blumberg N**. Increased free heme levels and RBC transfusions are associated with thrombosis in neonates and infants undergoing cardiac surgery for congenital heart disease. Presented to the American Society of Hematology, San Francisco CA, December 2014. <https://ash.confex.com/ash/2014/webprogram/Paper74445.html>
54. Aquina CT, Probst C, Becerra AZ, Hensley BJ, Iannuzzi JC, González JG, Blumberg N, Noyes K, Monson JR, Fleming F. The Need for Perioperative Transfusion Guidelines: Significant Surgeon and Hospital Variation in Blood Transfusion Utilization Following Upper Gastrointestinal Cancer Resection Gastroenterology 04/2015; 148(4):S-1162. DOI:10.1016/S0016-5085(15)33967-6
55. Conley G W, Henrichs K, McRae H, Schmidt A, **Blumberg N**, Refaai M. In vitro Evaluation of Platelet Function of Platelet Concentrates Washed with Plasma-Lyte A versus Normal Saline (0.9% NaCl). Transfusion 56 [Supplement S4]: 167A (2016). Presented to the AABB, Orlando, FL., October 2016
56. Cahill C , Patel P, **Blumberg N** , Schmidt A, Refaai M. Effect of Red Blood Cell Transfusion on the Partial Pressure of Oxygen in Arterial Blood and Peripheral Capillary Oxygen Saturation. Transfusion 56 [Supplement S4]: 113A (2016). Presented to the AABB, Orlando, FL., October 2016
57. Cahill C, **Blumberg N**, Schmidt A, Knight P, Melvin A , Massey H, Delehanty J , Zebrak S, Refaai K A , Refaai M . Implementation of a Standardized Laboratory Testing, Clinical Evaluation and Transfusion Protocol for Cardiac Patients Receiving Extracorporeal Membrane Oxygenation (ECMO) is Associated with Decreased Blood Transfusion and Improved Survival. Transfusion 56 [Supplement S4]: 32A (2016). Presented to the AABB, Orlando, FL., October 2016
58. Schmidt A , Gore E, Cholette JM, Henrichs K, Conley GW , Dorsey C, Bjugstad KB, Refaai M, **Blumberg N**. Oxidation Reduction Potential (ORP) is Predictive of Complications following Cardiac Surgery in Pediatric Patients. Transfusion 56 [Supplement S4]: 20A-21A (2016). Presented to the AABB, Orlando, FL., October 2016

59. Refaai M, Henrichs K, Cahill C, Kirkley SA, Schmidt A, Masel D, Bankey P, Gestring M, Lippa A, **Blumberg N**. Transfusion of ABO Non-identical Red Cells and Mortality in Patients Undergoing Massive Transfusion. Transfusion 56 [Supplement S4] (2016) Presented to the AABB, Orlando, FL., October 2016 Transfusion 56 [Supplement S4]: 15A (2016). Presented to the AABB, Orlando, FL., October 2016
60. Schmidt A, Henrichs K, **Blumberg N**, Prophylactic Pre-procedure Platelet Transfusion is Associated with a High Risk of Thrombosis and Mortality. Transfusion 56 [Supplement S4]: 12A-13A (2016) Presented to the AABB, Orlando, FL., October 2016

Reviews, Editorials, Chapters and Texts

1. **Blumberg N**. Tumor angiogenesis factor--speculations on an approach to cancer chemotherapy. Yale J. Biol. Med. 47: 71-81 (1974).
2. **Blumberg N**. Actinomycin D--a review of its biology and chemotherapeutic properties with a reevaluation of its use as an antineoplastic agent. Yale University School of Medicine, 1975. Thesis for the M.D. degree.
3. Snyder E, **Blumberg N**, Silbert J. Blood transfusion reactions and complications. Med-Ed Series in Clinical Teachings, MEDCOM, Garden Grove, CA (1979). Audiovisual program of 52 slides and audiocassette.
4. Snyder E, **Blumberg N**, Heal JM. Blood Component Therapy. Med-Ed Series in Clinical Teachings, MEDCOM, Garden Grove, CA (1980). Audiovisual program of 66 slides and audiocassette.
5. **Blumberg N**, Katz AJ. Partial plasma exchange: diseases in which it is of reported efficacy, in Therapeutic Hemapheresis-A Technical Workshop, ed. by EM Berkman and J Umlas, pp. 79-95. American Association of Blood Banks, Washington, DC, 1980.
6. **Blumberg N**, Katz AJ. Therapeutic plasmapheresis and cytappheresis--a review. Connecticut Med. 45: 85-90 (1981).
7. Snyder E, Kennedy M, **Blumberg N** et al. Blood Transfusion Therapy--A Physician's Handbook. American Assn of Blood Banks, Arlington, VA, 1983, 83 pp (2nd Edition, 1987).
8. Snyder E, Kennedy M, **Blumberg N** et al. Blood Transfusion Therapy--An Audiovisual Program. American Association of Blood Banks, Arlington, VA, 1985, 71 slides and cassette.
9. Snyder E, Kennedy M, **Blumberg N** et al. Blood Transfusion Therapy--A Self-Assessment Program. American Association of Blood Banks, Arlington, VA, 1984, 23 pp.
10. Snyder E, Kennedy M, **Blumberg N** et al. Blood Transfusion Therapy--Patient Management Problems. American Association of Blood Banks, Arlington, VA, 1984, 119 pp.

11. Snyder E et al, eds. Adverse Transfusion Reactions, Professional self-assessment program, immunohematology series. American Assn. of Blood Banks and American Soc. of Clinical Pathologists, Chicago, IL, 1986.
12. **Blumberg N**, Heal JM. Perioperative blood transfusion and solid tumor recurrence—a review. *Cancer Investigation* 5: 615-625 (1987). A later version of this review is in *Blood Reviews* 1: 219-229 (1987).
13. **Blumberg N**. The fate of cells of the immune system during blood storage and after transfusion. *Plasma Therapy and Transfusion Technology* 9: 303-308 (1988)
14. **Blumberg N**, Heal JM. Transfusion and host defenses against cancer recurrence and infection—a review. *Transfusion* 29: 236-245 (1989).
15. **Blumberg N**, Heal JM. Transfusion and recipient immune function. *Arch Path Lab Med* 113: 246-253 (1989).
16. Heal JM, **Blumberg N**. The rationale for limiting recipient exposure to homologous transfusions—an overview. In *Limiting Homologous Exposure: Alternative Strategies*, KB Carlson and AH Golub, Eds. Amer. Assn. of Blood Banks, Arlington, VA, 1989, pp. 1-7.
17. Triulzi D, **Blumberg N**, Heal JM. The association between transfusion and perioperative bacterial infection. *CRC Critical Reviews in Laboratory Medicine* 28: 95-107 (1990).
18. **Blumberg N**, Heal JM. Transfusion as a predisposing factor for cancer recurrence and perioperative bacterial infection. *Yale J Biology Med* 63: 429-434 (1990).
19. Triulzi DJ, Heal JM, **Blumberg N**. Transfusion induced immunomodulation and its clinical consequences. In *Transfusion Medicine in the 1990's*, SJ Nance, Ed., Amer. Assn. of Blood Banks, Arlington, VA, 1990, pp. 1-33 .
20. **Blumberg N**, Triulzi DJ, Heal JM. Transfusion induced immunomodulation and its clinical consequences. *Transfus Med Rev* 4 (Suppl 1): 24-35 (1990).
21. **Blumberg N**. Beyond ABO and D matching: how far and for whom? *Transfusion* 30: 482-484 (1990) (editorial).
22. **Blumberg N**, Heal JM. Immunologic consequences of transfusion. In *Australian Anesthesia 1992*. D. Kerr and J. Thirlwell, Eds. Australian and New Zealand College of Anaesthetists, Melbourne, 1992, pp. 159-163.
23. **Blumberg N**, Heal JM. Immunology of blood transfusion. *Current Opinion in Hematology* 1: 330-336 (1993).
24. **Blumberg N**, Heal JM. Transfusion associated immunomodulation. In *The Scientific Basis of Transfusion Medicine*, K Anderson and P Ness, Eds. WB Saunders, 1994, pp. 580-597.
25. **Blumberg N**, Heal JM. Effects of transfusion on immune function—cancer recurrence and infection. *Arch Path Lab Med* 118: 371-379 (1994).

26. Kirkley SA, **Blumberg N**. Use of single donor platelets. *Blood Reviews* 8: 142-147 (1994).
27. Triulzi D, **Blumberg N**. Leukocyte depletion and transfusion induced immunomodulation. In *Clinical Benefits of Leukodepleted Blood Products*, J Sweeney and A Heaton, Eds., RG Landes, Austin, TX, 1995, pp. 113-127.
28. Dzik S, Blajchman MA, **Blumberg N**, Kirkley SA, Heal JM, Wood K. Current research on the immunomodulatory effects of allogeneic blood transfusion. *Vox Sang* 70: 187-194 (1996).
29. **Blumberg N**, Heal JM. Immunomodulation by blood transfusion--a continuing scientific and clinical challenge. *Amer J Med* 101: 299-308 (1996).
30. **Blumberg N**, Heal JM. The transfusion immunomodulation theory--the Th1/Th2 paradigm and an analogy with pregnancy as a unifying mechanism. *Sem Hematology* 33: 329-340 (1996).
31. **Blumberg N**. Allogeneic transfusion and infection: economic and clinical implications. *Sem Hematology* 34 [Supplement 2]: 34-40 (1997).
32. Kirkley SA, **Blumberg N**. Increased postoperative infections after allogeneic transfusions. In *Autotransfusion: Therapeutic Principles and Trends*, RL Tawes, Ed., Appleton, Detroit, MI, 1997, pp. 368-373.
33. **Blumberg N**, Heal JM. Blood transfusion immunomodulation--the silent "epidemic." *Arch Path Lab Med* 122: 117-119 (1998) (editorial).
34. Griggs JJ, **Blumberg N**. Recombinant erythropoietin and blood transfusions in cancer chemotherapy-induced anemia. *Anti-Cancer Drugs* 9: 925-932 (1998).
35. **Blumberg N**, Kirkley SA. Blood Transfusion. In: *Orthopaedic Knowledge Update Edition 6*. JH Beaty, Editor. American Academy of Orthopaedic Surgeons, Rosemont, IL, 1999, pp. 55-62.
36. **Blumberg N**, Heal JM. History of the Transfusion Immunomodulation Theory. In: *Immunomodulatory Effects of Blood Transfusion*, E C Vamvakas and MA Blajchman, Eds., AABB Press, Bethesda MD, 1999, Chapter 1, pp. 1-12.
37. Heal JM, **Blumberg N**. The second century of ABO: and now for something completely different. *Transfusion* 39: 1155-1159 (1999) (editorial).
38. **Blumberg N**, Heal JM. Transfusion immunomodulation. In: *The Scientific Basis of Transfusion Medicine*, 2nd Edition, K Anderson and P Ness, Eds., WB Saunders, 2000, Chapter 30, pp. 427-443.
39. **Blumberg N**, Heal JM, Triulzi DJ. Immunomodulation and allogeneic transfusion. In: *Transfusion Medicine & Alternatives to Blood Transfusion*, NATA, R&J Editions Médicales, Paris, 2000, pp 67-82.
40. **Blumberg N**, Heal JM. Cost effectiveness of allogeneic versus autologous blood use. In: *Transfusion Medicine & Alternatives to Blood Transfusion*, NATA, R&J Editions Médicales, Paris, 2000, pp. 495-499.

41. **Blumberg N**, Heal JM. Transfusion immunomodulation and leukoreduction. *Problems in General Surgery* 17: 7-17 (2000).
42. Heal JM, **Blumberg N**. Blood Transfusion--a booklet for patients. Leukemia and Lymphoma Society, New York, NY, 2000, revised 2006, revised 2011.
43. **Blumberg, N**. Transfusion-induced immunomodulation: an overview. *Transfusion Medicine Reviews* 15: 110-112 (2001).
44. Vanderlinde E, Heal JM, **Blumberg N**. Autologous transfusion. *British Medical Journal (BMJ)* 324: 772-775 (2002).
45. **Blumberg N**. Cost issues in transfusion medicine. *Transfusion Alternatives in Transfusion Medicine* 4: 151-152 (2002) (Editorial).
46. Vanderlinde E, **Blumberg N**. The cost consequences of universal leukoreduction. *Transfusion Alternatives in Transfusion Medicine* 4: 178-184 (2002).
47. Heal JM, **Blumberg N**. Optimizing Platelet Transfusions. *Blood Reviews* 18: 149-165 (2004).
48. **Blumberg N**, Heal JM. Immunomodulation by Transfusion. In *Perioperative Transfusion Medicine*, ed. 2, Spiess, B. et al. (2005)
49. Heal JM, **Blumberg N**. International Forum, Transfusion of apheresis platelets and ABO blood groups. *Vox Sanguinis* 88: 220-221 (2005)
50. Heal JM, Liesveld, J, Phillips, G, **Blumberg N**. What would Karl Landsteiner do? The ABO blood group and stem cell transplantation. *Bone Marrow Transplantation* 36: 747-755 (2005) advance online publication, July 25, 2005; doi:10.1038/sj.bmt.1705101
51. **Blumberg N**. Deleterious clinical effects of transfusion immunomodulation—proven beyond a reasonable doubt. *Transfusion* 45[Supplement]: 33S-40S (2005).
52. **Blumberg N**, Francis CW, Heal JM, Editors. *Clinical Use of Plasma and Plasma Fractions. Best Practice and Research in Clinical Haematology* (March, 2006). Elsevier, UK.
53. **Blumberg N**, Heal JM. Transfusion immunomodulation. In Hillyer, et al. (eds) *Blood Banking and Transfusion Medicine: Basic Principles and Practice, 2nd Edition*. (2006).
54. **Blumberg N**. International Forum: Haemovigilance. *Vox Sanguinis* 90: 237-39 (2006).
55. Ray DM, Spinelli SL, O'Brien JJ, **Blumberg N**, Phipps RP. Platelets as a novel target for PPAR γ ligands: implications for inflammation, diabetes and cardiovascular disease. *Biodrugs* 20 (4): 231-241 (2006).
56. O'Brien JJ, Ray DM, Spinelli SL, **Blumberg N**, Taubman MB, Francis CW, Wittlin S and Phipps RP. The platelet as a therapeutic target for treating vascular diseases and the role of eicosanoid and synthetic PPAR ligands. *Prostaglandins & other Lipid Mediators* 82: 68-76 (2007).

57. **Blumberg N**, Heal JM. "Universal leukoreduction of blood transfusions." *Clinical Infectious Diseases* 45:1014-5 (2007) (Editorial).
58. Spinelli S, O'Brien JJ, Bancos S, Lehmann GM, **Blumberg N**, Francis CW, Taubman MB Phipps RP. The PPAR-platelet connection: modulators of inflammation and potential cardiovascular effects. *PPAR Research* doi: 10.1155/2008/328172 (2008).
59. **Blumberg N**, Spinelli SL, Francis CW, Taubman MB, Phipps RP. The platelet as an immune cell-CD40 ligand and transfusion immunomodulation. *Immunologic Research* 45: 251-260 (2009). 10.1007/s12026-009-8106-9
60. Heal JM, Phipps RP, **Blumberg N**. One big unhappy family: transfusion alloimmunization, thrombosis, and immune modulation/inflammation (TATI). *Transfusion* 49: 1032-36 (2009) (editorial).
61. Phipps RP, **Blumberg N**. Statin islands and PPAR ligands in platelets. *Arteriosclerosis, Thrombosis and Vascular Biology* 29: 620-21 (2009) (editorial).
62. Lerner N, Refaai M, **Blumberg N**. Red cell transfusion. Chapter 140. Williams Hematology, 8th Edition, M. Lichtman, et al. Eds. (2010).
63. Coppage M, McFarland J, Stroncek D, **Blumberg N**. White cell and platelet antigens. Chapter 138, Williams Hematology, 8th Edition, M. Lichtman, et al. Eds. (2010)
64. **Blumberg N**, Heal JM, Phillips GL. Platelet transfusion—triggers, dose, benefits and risks. *Faculty of 1000 Medicine Reports* 2: 5 (2010).
65. **Blumberg N**, Sime PJ, Phipps RP. Leukocyte reduction of blood transfusions—there is such a thing as a free lunch. *Critical Care Medicine* 38: 720-21(2010) (editorial).
66. Dahanayake T, Sime PJ, Phipps RP, **Blumberg N**. Transfusion in Critical Care. in Mintz, P, Ed. *Transfusion Medicine*, 3rd Edition, AABB Press, Bethesda, MD, (2010).
67. Spinelli SL, Maggirwar S, **Blumberg N**, Phipps RP. Nuclear emancipation: a platelet tour de force. *Science Signaling* 19 October 2010 Vol. 3, Issue 144, p. pe37 [DOI: 10.1126/scisignal.3144pe37]
68. Refaai MA, Phipps RP, Spinelli SL, **Blumberg N**. Platelet transfusions: impact on hemostasis, thrombosis, inflammation and clinical outcomes. *Thrombosis Research* 127: 287-91 (2011).
69. Grimshaw K, Sahler J, Spinelli SL, Phipps RP, **Blumberg N**. New frontiers in transfusion biology: Identification and significance of mediators of morbidity and mortality in stored red cell concentrates. *Transfusion* 51: 874-880 (2011).
70. Sahler J, Grimshaw K, Spinelli SL, Phipps RP, **Blumberg N**. Platelet storage and transfusions: new concerns regarding morbidity associated with an old therapy. *Drug Discovery Today: Mechanisms*. (2011) Summer; 8(1-2):e9-e14. Epub 2011 Jul 20
71. Spinella PC, Doctor A, **Blumberg N**, Holcomb JB. Does the storage duration of blood products affect outcomes in critically ill patients? *Transfusion* 61: 1644-1650 (2011).
72. **Blumberg N**. Blood work: a tale of medicine and murder in the scientific revolution.

J Clin Invest 121: 2063 (2011) (book review).

73. **Blumberg N**, Sime PJ, Phipps RP. The mystery of transfusion-related acute lung injury (TRALI). *Transfusion* 51: 2054-2057 (2011) (editorial).
74. Silliman CC, Chafin DJ, **Blumberg N**, Tomasulo P, Land KJ. International Forum: [Measures to prevent transfusion-related acute lung injury \(TRALI\)](#). *Vox Sanguinis* Apr 20. doi: 10.1111/j.1423-0410.2012.01596.x. [Epub ahead of print] (2012).
75. Sahler J, Spinelli SL, Phipps RP, **Blumberg N**. CD40 ligand (CD154) involvement in platelet transfusion reactions. *Transfusion Clinique et Biologique* 19: 98-103 (2012).
76. **Blumberg N**, Heal JM, Phillips GL, Phipps RP. Platelets—to transfuse or not to transfuse. (Editorial) *The Lancet* 380: 1287-1289 (2012).
77. Lannan K, Sahler J, Spinelli SL, Phipps RP, **Blumberg N**. Transfusion immunomodulation—the case for leukoreduced and (perhaps) washed transfusions. *Blood Cells, Molecules and Disease* 50: 61-68 (2013). NIHMS407890
78. Refaai MA, **Blumberg N**. The Transfusion Dilemma - Weighing the Known and Newly Proposed Risks of Blood Transfusions Against the Uncertain Benefits. *Best Practice & Research: Clinical Anaesthesiology* 27: 17-35 (2013).
79. Wagner SJ, Glynn SA, Welniak LA; NHLBI Working Group on Strategies to Optimize Red Cell Products. Research opportunities in optimizing storage of red blood cell products. *Transfusion* 2013 May 15. doi: 10.1111/trf.12244. [Epub ahead of print]
80. Refaai MA, **Blumberg N**. Transfusion immunomodulation from a clinical perspective: an update. *Expert Review of Hematology* 6: 653-663(2013).
81. Stolla M, Heal J, **Blumberg N**. Blood Compatibility, Transfusion and Transplantation. In: *Discoveries in Modern Science: Exploration, Invention, Technology*. pp. 92-97 Ed. James Trefil. Farmington Hills, MI. Macmillan, 2015.
82. **Blumberg N**, Refaai M, Heal J. ABO matching of platelet transfusions—“start making sense.” *Blood Transfusion* 2015 Feb. 2: 1-4 (Epub ahead of print). doi: 10.2450/2015.0001-15
83. Lannan KL, Sahler J, Kim N, Spinelli SL, Maggirwar SB, Garraud O, Cognasse F, **Blumberg N**, Phipps RP. Breaking the mold: transcription factors in the anucleate platelet and platelet-derived microparticles. *Front Immunol*. 2015 Feb 13;6:48. doi: 10.3389/fimmu.2015.00048.
84. Stolla M, Refaai MA, Heal JM, Spinelli SL, Garraud O, Phipps RP, **Blumberg N**. Platelet transfusion - the new immunology of an old therapy. *Front Immunol*. 2015 Feb 2;6:28. doi: 10.3389/fimmu.2015.00028.
85. **Blumberg N**. The rise, fall and future of red blood cell transfusions. *MLO Med Lab Obs* 47: 24 (2015).
86. Spitalnik SL, Triulzi D, Devine DV, et al. 2015 Proceedings of the NHLBI's State of the Science in Transfusion Medicine Symposium. *Transfusion* 55: 2282-2290 (2015).
87. Muszynski JA, Spinella PC, Cholette JM, Acker JP, Hall MW, Juffermans NP, Kelly DP, **Blumberg N**, Nicol K, Liedel J, Doctor A, Remy KE, Tucci M, Lacroix J, Norris PJ.

Transfusion-related immunomodulation: review of the literature and implications for pediatric critical illness. Pediatric Critical Care Blood Research Network (Blood Net). Transfusion. 2016 Oct 2. doi: 10.1111/trf.13855.

88. Schmidt AE, Refaai MA, **Blumberg N**. Past, present and forecast of transfusion medicine: what has changed and what is expected to change? *Presse Med* 2016 July 26 (on-line) doi: 10.1016/j.lpm.2016.06.017
89. Schmidt AE, Refaai MA, **Blumberg N**. Platelet transfusion and thrombosis: more questions than answers. *Semin Thromb Haemost* 42: 118-124 (2016).
90. Garraud O, Cognasse F, Tissot JD, Chavarin P, Laperche S, Morel P, Lefrère JJ, Pozzetto B, Lozano M, **Blumberg N**, Osselaer JC. Improving platelet transfusion safety: biomedical and technical considerations. *Blood Transfus* 24: 109-122 (2016).

Brief Communications, Case Reports and Letters

1. **Blumberg N**. Post-transfusion hepatitis and serum ALT in blood donors. *NEJM* 305: 403 (1981).
2. **Blumberg N**, Masel D, Mayer T, Horan P, Heal J. Acquisition by human platelets of new HLA-A,B phenotypes from plasma. *Blood* 60: 275 (1982).
3. **Blumberg N**, Hicks G, Woll J, Nusbacher J, Cox MT, Wilbur D, Schwedfeger D, McMican A. Successful cardiac bypass surgery in the presence of a potent cold agglutinin without plasma exchange. *Transfusion* 23: 363 (1983).
4. Cox MT, McMican A, **Blumberg N**. Case report of an anti-Jk(b) persisting for sixteen years. *Transfusion* 23: 362 (1983).
5. **Blumberg N**, McMican A, Heal J. Rh sensitization. *Obstet. Gynec.* 62: 135-136 (1983).
6. Ramsey G, Stoler M, **Blumberg N**. Red cell alloantibody response in AIDS. *Lancet* ii: 575 (1983).
7. Cox MT, McMican A, **Blumberg N**. A case report of a neonate with an unexpected second antibody, anti-Jk(b). *J. Med. Technology* 1: 225-226 (1984).
8. Cass RM, **Blumberg N**. Single-unit blood transfusion—doubtful dogma defeated. *JAMA* 257: 628-629 (1987).
9. **Blumberg N**. Transfusion-associated AIDS infection. *Medical Aspects of Human Sexuality* 21: 28A (1987).
10. **Blumberg N**, Heal JM. Renal allograft survival in transfused and non-transfused patients. *Lancet* i: 946 (1988).
11. **Blumberg N**, Heal JM. White cell reduction, uv irradiation and platelet refractoriness in acute myeloid leukemia. *Transfusion* 32: 688 (1992)
12. Cox MT, Roberts M, LaJoie J, Enfonde M, Kress D, **Blumberg N**. Case report-- A primary immune response involving anti-Jk and anti-P. detected at ten

- days post-transfusion. *Transfusion* 32: 874 (1992).
13. **Blumberg N**, Albert M, Krabill K. Pathologists are doctors. *Ann Int Med* 118: 575 (1993).
 14. Heal JM, **Blumberg N**. Platelet transfusion refractoriness associated with plasma proteins. *Br. J. Haematol.* 83: 681 (1993).
 15. **Blumberg N**, Heal JM. Blood transfusion and colorectal cancer recurrence. *NEJM* 329: 1355 (1993).
 16. **Blumberg N**, Heal JM. Perioperative blood transfusion and colorectal cancer recurrence. *Transfusion* 34: 450-451 (1994).
 17. Kirkley SA, Cowles J, Pellegrini, VD, Jr, Harris CM, Boyd AD, **Blumberg N**. Cytokine secretion after allogeneic or autologous blood transfusions. *The Lancet* 345: 527 (1995).
 18. **Blumberg N**, Heal JM. Blood transfusion and colorectal cancer recurrence. *Ann Surg* 222: 757-758 (1995).
 19. **Blumberg N**, Heal JM. Immunological tolerance. *Science* 272: 1408 (1996).
 20. **Blumberg N**. Anesthesiology. *NEJM* 338: 686 (1998).
 21. **Blumberg N**. Meta-analysis. *Br J Surg* 85: 1163 (1998).
 22. **Blumberg N**, Heal JM. Why albumin may work but still be bad for you. *eBMJ*, September 28, 1998.
 23. **Blumberg N**, Heal JM. Leukoreduction. *CAP Today*, October 2000, pp. 12-13.
 24. Goldfinger D, Klapper E, Pepkowitz SH, Millar SI, Heal JM, **Blumberg N**, Wuest D, Reich L, Mayer K. Universal WBC reduction and patient advocacy. *Transfusion* 40: 1545-1546 (2000).
 25. **Blumberg N**. Stem cell laboratories. *Laboratory Medicine* 32: 287 (2001)
 26. **Blumberg N**, Heal JM. Mortality risks, costs and decision making in transfusion medicine. *Amer J Clin Path* 115: 935-36 (2001).
 27. **Blumberg N**. Leukoreduction. *Laboratory Medicine* 32: 351 (2001).
 28. **Blumberg N**. Autologous transfusion debate. *Laboratory Medicine* 33: 751 (2002).
 29. **Blumberg N**, Heal JM. ABO-mismatched platelet transfusions and clinical outcomes after cardiac surgery. *Transfusion.* 42:1527-28 (2002).
 30. **Blumberg N**, Phipps RP, Kaufman J, Heal JM. The causes and treatment of reactions to platelet transfusions. *Transfusion.* 43: 291(2003).

31. **Blumberg N**, Heal JM. Regarding “Meta-analysis of randomized trials comparing the risk of postoperative infection between recipients of allogeneic and autologous blood transfusion.” *Vox Sanguinis*: 84: 331-332 (2003).
32. **Blumberg N**, Heal JM. Erythropoietin to treat anaemia in patients with head and neck cancer. *The Lancet* 363: 80 (2004).
33. **Blumberg N**, Heal JM. Leukoreduction of transfusions and blood stream infections. *Chest On-Line*: June 14, 2005. Comment on: *Chest* 127: 1722-1728 (2005)
34. **Blumberg N**. Deleterious clinical effects of transfusion immunomodulation—proven beyond a reasonable doubt. *Transfusion* 46: 494-95 (2006).
35. **Blumberg N**, Heal JM. *Practical Blood Transfusion*, 2nd Edition. *Transfusion* 46: 868 (2006) (Book Review).
36. Rogers MAM, **Blumberg N**. Allogeneic blood transfusions and infections after cardiac surgery. *Am Heart J* 153: e23 (2007).
37. **Blumberg N**, Heal JM. The intention to treat principle in clinical trials and meta-analyses of leukoreduced blood transfusions in surgical patients. *Transfusion* 47: 1947-8 (2007).
38. **Blumberg N**. ABO mismatched platelet transfusions in trauma patients. *CMAJ* July 19, 2013. *CMAJ* 186: 63 (January 7, 2014)
http://www.cmaj.ca/content/early/2013/07/15/cmaj.121986.abstract/reply#cmaj_el_716329
39. **Blumberg N**. Washed transfusions to improve clinical outcomes. *BLOOD*, e-letter (Jan 31, 2014) <http://bloodjournal.hematologylibrary.org/content/early/2013/12/23/blood-2013-11-539353/reply#content-block>
40. Garraud O, Cognasse F, Hamzeh-Cognasse H, Spinelli S, Phipps RP, **Blumberg N**. Removal of biological response modifiers associated with platelet transfusion reactions: strategies worth considering? *Transfusion* 54:2583 (2014) (letter).

Full Length Original Research Papers/Research Letters

1. **Blumberg N**, Genco PV, Katz AJ, Bove JR. Collection of granulocytes for transfusion--effect of collection methods on cell enzyme release. *Vox Sanguinis* 35: 207-214 (1978).
2. **Blumberg N**, Bove JR. Uncrossmatched blood for emergency transfusion. *JAMA* 240: 2057-2059 (1978).
3. Buchholz DH, **Blumberg N**, Bove JR. Long-term granulocyte transfusion in patients with malignancy. *Arch. Intern. Med.* 139: 317-320 (1979).
4. Katz AJ, **Blumberg N**, King C. Meeting therapeutic pheresis needs in the region. *Proceedings of the First Annual Apheresis Symposium: Current Concepts and Future Trends*, October 1979, Chicago, IL, pp. 176-191.

5. Katz AJ, Genco PV, **Blumberg N**, Snyder E, Camp B, Morse EE. The Fenwal Cell Separator: platelet collection and transfusion. *Transfusion* 21: 560-563 (1981).
6. **Blumberg N**, Shah I, Hoagland J, Shirer L, Katz AJ. Evaluation of individuals deferred from blood donation for medical reasons. *Vox Sanguinis* 42: 1-7 (1982).
7. **Blumberg N**, Shah I, Katz AJ, Morse EE. Granulocyte yields using the Haemonetics 30--effects of variations in corticosteroid regimen and donor selection. *Vox Sanguinis* 42: 225-232 (1982).
8. Spitalnik S, Cox MT, Guenther R, Spennachio J, **Blumberg N**. The serology of Sd(a): effects of transfusion and pregnancy. *Vox Sanguinis* 42: 308-312 (1982).
9. Morse EE, Snyder E, **Blumberg N**, Katz AJ. An analysis of two types of granulocyte transfusions in patients with acute leukemia and septicemia. *Ann. Clin. Lab. Science* 12: 106-110 (1982).
10. Kurtz SR, Valeri DA, Gray A, Lindberg JR, McMican A, **Blumberg N**, Valeri CR. A new approach to washing red blood cells frozen with a high concentration of glycerol in a special freezing container. *Vox Sanguinis* 43: 132-137 (1982).
11. Pisciotto P, Sataro P, **Blumberg N**. Incidence of adverse reactions amongst blood donors on antihypertensive medication. *Transfusion* 22: 530-531 (1982).
12. Holt J, Spitalnik S, McMican A, Wilson G, **Blumberg N**. A Tc-99m red cell survival technique for in vivo compatibility testing. *Transfusion* 23: 148-151 (1983).
13. Ramsey G, Arvan DA, Stewart S, **Blumberg N**. Do preoperative laboratory tests predict blood transfusion needs in cardiac surgery? *J. Thoracic Cardiovas. Surg.* 85: 564-569 (1983).
14. **Blumberg N**, Peck K, Ross K, Avila E. The immune response to chronic red cell transfusion. *Vox Sanguinis* 44: 212-217 (1983).
15. Ramsey G, Desley C, Ross K, Peck K, Spennachio J, **Blumberg N**. The type and screen--are patient charges a valid measure of cost reduction? *Ann. Clin. Lab. Science* 13: 55-58 (1983).
16. Spitalnik S, Cowles J, Cox MT, **Blumberg N**. Neutralization of Lewis blood group antibodies by synthetic immunoabsorbents. *Amer. J. Clin. Path.* 80: 63-65 (1983).
17. Pisciotto P, Rosen D, Silver H, Genco P, **Blumberg N**, Katz AJ, Morse EE. Treatment of thrombotic thrombocytopenic purpura. Evaluation of plasma exchange and review of the literature. *Vox Sanguinis* 45: 185-196 (1983).
18. Spitalnik S, Cox MT, Cowles J, Holt J, Baker D, **Blumberg N**. A new technique in quantitative immunohematology: solid-phase kinetic ELISA. *Vox Sanguinis* 45: 440-448 (1983).

19. **Blumberg N**, Masel D, Horan P, Mayer T, Heal J. Removal of HLA-A,B antigens from human platelets. *Blood* 63: 448-450 (1984).
20. Spitalnik S, Pfaff W, Cowles J, Ireland J, Scornick J, **Blumberg N**. Humoral immunity to Lewis blood group antigens correlates with renal transplant rejection. *Transplantation* 37: 265-268 (1984).
21. **Blumberg N**, Ross K, Avila E, Peck K. Should chronic transfusions be matched for antigens other than ABO and Rh(D)? *Vox Sanguinis* 47: 205-208 (1984).
22. Spitalnik S, Cowles J, Cox MT, **Blumberg N**. Detection of IgG anti-Lewis (a) antibodies in cord sera by kinetic ELISA. *Vox Sanguinis* 48: 235-238 (1985).
23. **Blumberg N**, Agarwal M, Chuang C. Relation between recurrence of cancer of the colon and blood transfusion. *British Medical J.* 290: 1037-1039 (1985).
24. Cowles J, Spitalnik S, **Blumberg N**. Detection of anti-Le(a) in Le(a-b+) individuals by kinetic ELISA. *Vox Sanguinis* 50: 164-168 (1986).
25. **Blumberg N**, Laczin J, McMican A, Heal J, Arvan D. A critical survey of fresh frozen plasma use. *Transfusion* 26: 511-513 (1986).
26. **Blumberg N**, Masel D, Stoler M. Disparities in estimates of IgG bound to normal platelets. *Blood* 67: 200-202 (1986).
27. **Blumberg N**, Heal J, Murphy P, Agarwal M, Chuang C. Association between transfusion of whole blood and cancer recurrence. *British Medical J.* 293: 530-533 (1986).
28. Cowles J, **Blumberg N**. Neutralization of P blood group antibodies by synthetic solid-phase antigens. *Transfusion* 27: 272-275 (1987).
29. Cowles J, Cox MT, McMican A, **Blumberg N**. A comparison of murine monoclonal and polyclonal anti-Lewis antibodies for red cell phenotyping. *Vox Sanguinis* 52: 83-84 (1987).
30. Heal J, **Blumberg N**, Masel D. An evaluation of crossmatching, HLA-A,B and ABO matching for platelet transfusions to refractory recipients. *Blood* 70: 23-30 (1987).
31. Corsetti JP, Cox D, Leary JF, Cox MT, **Blumberg N**, Doherty RA. Comparison of quantitative acid-elution technique and flow cytometry for detecting fetomaternal hemorrhage. *Annals of Clinical and Laboratory Science* 17: 197-206 (1987).
32. Masel D, **Blumberg N**, Heal JM. A chloroquine elution technique for platelet-serology. *Transfusion* 28: 132-136 (1988).
33. Heal JM, Chuang C, **Blumberg N**. Perioperative blood transfusions and prostate cancer recurrence and survival. *American Journal of Surgery* 156: 374-379 (1988).

34. Corsetti JP, Cowles JW, Cox MT, **Blumberg N**. A rapid and accurate single-drop modification of the acid-elution technique for detecting fetomaternal hemorrhage. *Vox Sanguinis* 54: 39-42 (1988).
35. Szal M, **Blumberg N**. Clinical correlates in patients with elevated platelet-associated immunoglobulins. *Annals of Clinical and Laboratory Science* 18: 24-33 (1988).
36. **Blumberg N**, Heal JM, Chuang C, Murphy P, Agarwal M. Further evidence supporting a cause and effect relationship between blood transfusion and cancer recurrence. *Annals of Surgery* 207: 410-415 (1988).
37. **Blumberg N**, Agarwal MM, Chuang C. An association between survival time and transfusion in patients with cervical cancer. *Yale J Biol Med.* 61: 493-500 (1988).
38. **Blumberg N**, Heal JM. Evidence for plasma-mediated immunomodulation--transfusions of red cells are associated with a lower risk of AIDS than transfusions of plasma-rich blood components. *Transplant Proc* 20: 1138-1142 (1988).
39. Corsetti JP, Sotirchos SV, Cox C, Cowles JW, Leary JF, **Blumberg N**. The correction of cellular autofluorescence in flow cytometry by mathematical modeling of cellular fluorescence. *Cytometry* 9: 539-547 (1988).
40. Cowles J, Spitalnik S, **Blumberg N**. Evidence for affinity maturation of the immune response to Lewis blood group antigens. *Immunochemical fine specificity studies.* *Vox Sanguinis* 56: 107-111 (1989).
41. Heal JM, Mullin A, **Blumberg N**. The importance of ABH antigens in platelet crossmatching. *Transfusion* 29: 514-520 (1989).
42. Triulzi D, **Blumberg N**. Variability in response to cryoprecipitate therapy in uremia. *Yale J Biology Med* 63: 1-7 (1990).
43. **Blumberg N**, Chuang-Stein C, Heal JM. The relationship between perioperative blood transfusion, tumour staging and cancer recurrence. *Transfusion* 30: 291-294 (1990).
44. Murphy P, Heal JM, **Blumberg N**. Infection or suspected infection after hip replacement surgery with autologous or homologous blood transfusions. *Transfusion* 31: 212-217 (1991).
45. Sherer DM, Abramowicz JS, Ryan RM, Sheils LA, **Blumberg N**, Woods JR, Jr. Severe fetal hydrops due to ABO incompatibility. *Obstetrics & Gynecology* 78 (Part 2): 897-899 (1991).
46. Basile M, Moskowitz B, Harris J, **Blumberg N**, Bennett JM. Malignant melanoma: presentation in bone marrow and lymph node. *Medical and Pediatric Oncology* 20: 75-77 (1992).
47. Heal JM, Cowles J, Masel D, Rowe JM, **Blumberg N**. Antibodies to plasma proteins--an association with platelet transfusion refractoriness *Br. J. Haemat.* 80: 83-90 (1992).

48. Murphy P, Connery C, Hicks GL, **Blumberg N**. Homologous blood transfusion as a risk factor for postoperative infection after coronary artery bypass graft surgery. *J. Thoracic Cardiovasc. Surg.* 104: 1092-1099 (1992).
49. Triulzi DJ, Vanek K, Ryan DH, **Blumberg N**. A clinical and immunologic study of blood transfusion and postoperative bacterial infection in spinal surgery. *Transfusion* 32: 517-524 (1992).
50. Heal JM, Rowe JM, McMican A, Masel D, Finke C, **Blumberg N**. The role of ABO matching in platelet transfusion. *Eur. J. Haemat.* 50: 110-117 (1993).
51. Heal JM, Rowe JM, **Blumberg N**. ABO and platelet transfusion revisited. *Ann Hematol* 66: 309-314 (1993).
52. Heal JM, Masel D, Rowe JM, **Blumberg N**. Circulating immune complexes involving the ABO system in patients refractory to platelet transfusion. *Brit J Haematol* 85: 566-572 (1993).
53. Heal JM, Kenmotsu N, Rowe JM, **Blumberg N**. A possible survival advantage in adult leukemics receiving ABO identical platelet transfusions. *Amer J Hematol* 45: 189-190 (1994).
54. Heal JM, **Blumberg N**, Kirkley S, DiPersio JF, Rapoport, AP, Rowe JM. Leukocyte-reduced transfusions of ABO identical platelets and clinical outcome in autologous bone marrow transplantation for lymphoma. *Bone Marrow Transplantation* 14: 943-948 (1994).
55. **Blumberg N**, Heal JM, Kirkley SA, DiPersio JF, Rapoport, AP, Rowe JM. Filtered-ABO-identical blood components in the treatment of haematologic malignancies—a cost analysis. *Amer J Hematol* 48: 108-115 (1995).
56. **Blumberg N**, Heal JM. Transfusion and the immune system--a paradigm shift in progress? *Transfusion* 35: 879-883 (1995).
57. **Blumberg N**, Kirkley SA, Heal JM. A cost analysis of autologous and allogeneic transfusions in hip replacement surgery. *Amer J Surg* 171: 324-330 (1996).
58. Heal JM, Masel D, **Blumberg N**. Interaction of platelet Fc and complement receptors with circulating immune complexes involving the ABO system *Vox Sanguinis* 71: 205-211 (1996).
59. Kirkley SA, Cowles J, Pellegrini, VD, Jr, Harris CM, Boyd AD, **Blumberg N**. Blood transfusion and total joint replacement surgery: T helper 2 cytokine secretion and clinical outcome. *Transfusion Medicine* 8: 195-204 (1998).
60. **Blumberg N**. The costs of management fads and politically driven regulatory oversight. *Arch Pathol Lab Med* 123: 580-584 (1999).
61. **Blumberg N**, Heal JM. Mortality risks, costs and decision making in transfusion medicine. *Amer J Clin Pathol* 114: 934-937 (2000).

62. Anolik JH, **Blumberg N**, Snider J, Francis CW. Post-transfusion purpura secondary to an alloantibody reactive with human platelet antigen-5a (Brb). *Transfusion* 41: 633-636 (2001).
63. Rios J, Korones DN, Heal JM, **Blumberg N**. WBC-reduced blood transfusions and clinical outcome in children with acute lymphoid leukemia. *Transfusion* 41: 873-877 (2001).
64. Vo TD, Cowles J, Heal JM, **Blumberg N**. Platelet washing to prevent reactions to leucocyte-reduced transfusions. *Transfusion Medicine* 11: 45-47 (2001).
65. **Blumberg N**, Heal JM, Hicks, GL, Jr, Risher WH. Association of ABO mismatched platelet transfusions with morbidity and mortality in cardiac surgery. *Transfusion* 41: 790-793 (2001).
66. Phipps RP, Kaufman J, **Blumberg N**. Platelet derived CD154 (CD40 ligand) and febrile responses to transfusion. *Lancet* 357: 2023-2024 (2001).
67. **Blumberg N**, Heal JM, Cowles JW, Hicks, GL, Jr, Risher WH, Samuel PK, Kirkley SA. Leukoreduced transfusions in cardiac surgery: Results of an implementation trial. *Am J Clin Path* 118: 376-381 (2002).
68. Goldman J, Liesveld J, Nichols D, Heal J, **Blumberg N**. ABO incompatibility between donor and recipient and clinical outcomes in allogeneic stem cell transplantation. *Leukemia Research* 27: 489-491 (2003)
69. **Blumberg N**, Heal JM, Gettings KF. Leukoreduction of transfusions is associated with a decreased incidence of red cell alloimmunization. *Transfusion* 43: 945-952 (2003).
70. Koumas L, Smith TJ, Feldon S, **Blumberg N**, Phipps RP. Thy-1 expression in human fibroblast subsets defines myofibroblastic or lipofibroblastic phenotypes. *Amer J Pathology* 163: 1291-1300 (2003).
71. **Blumberg N**, Heal JM and Rowe JM. A randomized trial of washed red blood cells and platelet transfusions in adult acute leukemia. *BMC Blood Disorders* 4:6 (2004). doi:10.1186/1471-2326-4-6.
72. Akbiyik F, Ray DM, **Blumberg N**, Francis CW, Phipps RP. Human bone marrow megakaryocytes and platelets express PPAR γ and PPAR γ agonists blunt platelet release of CD40 ligand and thromboxanes. *Blood* 104: 1361-1368 (2004).
73. Horan JT, Liesveld JL, Fenton P, **Blumberg N**, Walters MC. Hematopoietic stem cell transplantation for multiply transfused patients with sickle cell disease and thalassemia after low-dose total body irradiation, fludarabine, and rabbit anti-thymocyte globulin. *Bone Marrow Transplant* 35:171-7 (2005).
74. **Blumberg N**, Fine L, Gettings KF, Heal JM. Decreased sepsis related to indwelling venous access devices coincident with implementation of universal leukoreduction of blood transfusions. doi: 10.1111/j.1537-2995.2005.00565.x. *Transfusion* 45: 1632-1639 (2005).
75. **Blumberg N**, Gettings KF, Turner C, Heal JM, Phipps RP. The role of supernatant soluble CD40 ligand (sCD40L; CD154) in adverse reactions to platelet transfusions.

Transfusion 46: 1813-21 (2006).

76. Khan SY, Kelher MR, Heal JM, **Blumberg N**, Boshkov LK, Phipps RP, Getting KF, McLaughlin NJD, Silliman CC. Soluble CD40 ligand accumulates in stored blood components, primes neutrophils through CD40 and is a cofactor in the development of transfusion-related acute lung injury. Prepublished online June 13, 2006; DOI 10.1182/blood-2006-04-017251. Blood 108: 2455-62 (2006).
77. Rogers MAM, **Blumberg N**, Saint S, Kim C, Nallamotheu BK, Langa, KM. Allogeneic blood transfusions explain the increased mortality in women after cardiac surgery. Am Heart J 152: 1028-1034 (2006).
78. **Blumberg N**, Zhao H, Wang H, Messing S, Heal JM, Lyman GH. The intention to treat principle in clinical trials and meta-analyses of leukoreduced blood transfusions in surgical patients. Transfusion 47: 573-581 (2007).
79. Kaufman J, Spinelli SL, Schultz L, **Blumberg N**, Phipps RP. Release of biologically active CD154 during collection and storage of platelet concentrates prepared for transfusion. Journal of Thrombosis and Haemostasis 5: 788-296 (2007).
80. Rogers MAM, **Blumberg N**, Heal JM, Hicks, GL, Jr. Increased mortality in women after cardiac surgery related to blood transfusion. J Women's Health 16: 1412-1420 (2007).
81. Ray DM, Spinelli SL, Pollock SJ, Murant T, O'Brien JJ, **Blumberg N**, Francis CW, Taubman MB, Phipps RP. Peroxisome proliferator-activated receptor γ and the Retinoid X receptor are released from activated human platelets and are shed in platelet microparticles. Thrombosis Haemostasis 99: 86-95 (2008)
82. **Blumberg N**, Heal JM, Liesveld, J, Phillips, G, Rowe JM. Platelet transfusion and survival in adults with acute leukemia. Leukemia 22: 631-635 (2008) doi: 10.1038/sj.leu.2404920.
83. Chollette JM, **Blumberg N**, Phipps RP, McDermott MP, Gettings KF, Lerner NB. Developmental changes in soluble CD40 ligand. J Pediatrics 152: 50-54 (2008).
84. Khorana A, Francis CW, **Blumberg N**, Culakova E, Refaai M, Lyman G. Blood transfusions, thrombosis and mortality in hospitalized cancer patients. Archives of Internal Medicine 168:2377-81 (2008).
85. Hillyer CD, **Blumberg N**, Glynn SA, Ness PM for the members of the NHLBI Working Group. Transfusion recipient epidemiology and outcomes research: possibilities for the future. Transfusion 48: 1530-1537 (2008). doi: 10.1111/j.1537-2995.2008.01807.x
86. O'Brien J, Spinelli S, Tober J, **Blumberg N**, Francis C, Taubman M, Palis J, Seweryniak K, Gertz J, Phipps R. 15-deoxy- Δ 12,14-PGJ2 enhances platelet production from megakaryocytes. Blood 112:4051-4060 (2008).
87. O'Brien J, Baglole CJ, Garcia-Bates TM, **Blumberg N**, Francis CW, Phipps RP. 15d-PGJ2-induced heme oxygenase-1 in megakaryocytes regulates thrombopoiesis. Journal of Thrombosis and Haemostasis 7: 182-189 (2009).
88. Kanda J, Ichinohe T, Matsuo K, Benjamin RJ, Klumpp TR, Rozman P, **Blumberg N**, Mehta J, Sohn S-K, Uchiyama T. Impact of ABO mismatching on the outcomes of allogeneic related and unrelated blood and marrow stem cell transplantations for hematologic

- malignancies: Individual patient data-based meta-analysis of cohort studies. *Transfusion* 49: 624-635 (2009).
89. Miller J, Suleiman A, Daly D, Springer D, Spinelli SL, **Blumberg N**, Phipps RP. Extracting Biological Meaning from Global Proteomic Data on Circulating-Blood Platelets: Effects of Diabetes and Storage Time Proceedings of the 2008 IEEE International Conference on Bioinformatics and Biomedicine, Workshop on Systems Biology and Medicine (2009).
 90. Springer DL, Miller JH, Spinelli SL, Pasa-Tolic L, Purvine SO, Daly DS, Zangar RC, Jin S, **Blumberg N**, Francis CW, Taubman MB, Casey AE, Wittlin SD, Phipps RP. Platelet proteome changes associated with diabetes and during platelet storage for transfusion. *J. Proteome Research* 8: 2261-72 (2009).
 91. Coppage M, Baker, M, Fialkow L, Meehan D, Gettings K, Chen L, Massey HT, **Blumberg N**. Lack of significant de novo HLA allosensitization in ventricular assist device recipients transfused with leukoreduced, ABO identical blood products. *Human Immunology* 70: 413-416 (2009).
 92. Bernard JJ, Seweryniak KE, Koniski AD, Spinelli SL, **Blumberg N**, Francis CW, Taubman MB, Palis J, Phipps RP. Foxp3 regulates megakaryopoiesis and platelet function. *Arteriosclerosis, Thrombosis & Vascular Biology* 29: 1874-82 (2009).
 93. Rogers MAM, **Blumberg N**, Saint S, Langa, KM, Nallamotheu BK. Hospital variation in transfusion and infection after cardiac surgery: a cohort study. *BMC Medicine* July 31: 7:37 (2009).
 94. Spinelli SL, Casey AE, Pollock SJ, Gertz JM, Narasipura SD, Mody NA, King MR, Maggirwar SB, Francis CW, Taubman MB, **Blumberg N**, Phipps RP. Platelets and megakaryocytes contain functional NF-kB. *Arteriosclerosis, Thrombosis & Vascular Biology* 30: 591-598 (2010).
 95. **Blumberg N**, Heal JM, Gettings KF, Phipps RP, Masel D, Refaai M, Kirkley SA, Fialkow LB. Decreased cardiopulmonary complications (TRALI and TACO) after implementation of universal leukoreduction of blood transfusions. *Transfusion* 50: 2738-2744 (2010).
 96. Refaai MA, Fialkow LB, Heal JM, Gettings KF, Spinelli SL, Phipps RP, Masel E, Smith B, Corsetti J, Francis CW, Bankey PE, **Blumberg N**. An association of ABO mismatched platelet and cryoprecipitate transfusions with increased red cell transfusion needs and mortality in surgical patients. *Vox Sanguinis* 101: 55-60 (2011).
 97. Refaai M, Chuang C, Menegus M, **Blumberg N**, Francis C. Outcomes after platelet transfusion in patients with heparin-induced thrombocytopenia. *J Thrombosis Haemostasis* 8: 1419-1421 (2010) (research letter).
 98. Cholette JM, Mamikonian L, Alfieris GM, **Blumberg N**, McDermott M, Lerner NB. Aspirin resistance following pediatric cardiac surgery. *Thrombosis Research* 126: 200-206 (2010).
 99. Rogers M, **Blumberg N**, Heal J, Langa K. Utilization of blood transfusion among older adults in the United States. *Transfusion* 51: 710-718 (2011).

100. Sahler J, Bernard JJ, Spinelli SL, **Blumberg N**, Phipps RP. The feverfew plant derived compound, parthenolide enhances platelet production and attenuates platelet activation through NF-kB inhibition. *Thrombosis Research* 127: 426-434 (2011).
101. Cholette JM, Henrichs KF, Powers KS, Alfieris GM, Phipps R, Spinelli S, Gensini F, Swartz M, Sweeney D, Daugherty LE, Nazarian E, Rubenstein JS, Eaton M, Lerner NB, **Blumberg N**. Washing blood cells transfused in open heart surgery reduces post-operative inflammation and transfusion requirements: results of a prospective randomized trial. *Pediatric Critical Care Medicine* 13: 290-299 (2012).
102. Henrichs KF, Howk N, Masel DS, Thayer M, Refaai M, Kirkley SA, Heal JM, **Blumberg N**. Providing ABO identical platelets to (almost) all patients—approach, logistics and clinical outcomes. (published on-line Sept. 2, *Transfusion*, 2011). doi: 10.1111/j.1537-2995.2011.03329.x
103. Refaai MA, Henrichs KF, Spinelli SL, Phipps RP, Masel E, Smith BH, Francis CW, **Blumberg N**. Platelet activation following exposure to anti-ABO antibodies—an *in vitro* study. *US Oncology & Hematology* 7: 72-74 (2011).
104. Yazer MH, Raval JS, Triulzi DJ, **Blumberg N**. ABO mismatched transfusions are not over represented in febrile reactions to platelets. *Vox Sanguinis* 102: 175-177 (2011).
105. Rogers MAM, **Blumberg N**, Heal JM, Kuhn L, Greene MT, Shuman E, Chenoweth CE, Chang R, Saint S. Role of transfusion in the development of urinary tract-related bloodstream infection. *Arch Intern Med* 171: 1587-1589 (2011).
106. Rogers MAM, **Blumberg N**. Antigenic challenge in the etiology of autoimmune disease in women. *J. Autoimmunity* 38: J97-J102 (2012).
107. Shander A, Fink A, Javidroozi M, Erhard J, Farmer SL, Corwin H, Goodnough LT, Hofmann A, Isbister J, Ozawa S, Spahn DR; International Consensus Conference on Transfusion Outcomes Group. Appropriateness of allogeneic red blood cell transfusion: the international consensus conference on transfusion outcomes. *Transfusion Medicine Reviews* 25: 232-246 (2011).
108. Zucchiatti A, Fialkow LB, Fisher S, Piotrowski E, Sangosanya E, Cheng J, Stassen N, Gestring M, **Blumberg N**, Bankey P. ABO Non-Identical Plasma Component Transfusion Increases Post-Trauma MODS (in preparation, 2015).
109. Bernard JJ, Francis CW, Taubman MB, Spinelli SL, **Blumberg N**, Phipps RP. 15-deoxy- $\Delta^{12,14}$ prostaglandin J_2 induces vascular endothelial growth factor (VEGF) synthesis in megakaryocytes. (in preparation, 2015).
110. Rogers MAM, Levine DA, **Blumberg N**, Flanders SA, Chopra V, Langa KM. Triggers of hospitalization for venous thromboembolism. *Circulation* 125: 2092-2099 (2012).
111. Refaai MA, Carter J, Henrichs KF, Davidson DC, Pollock SJ, Casey AE, Spinelli SL, Phipps RP, Francis CW, **Blumberg N**. Alterations of platelet function and clot formation kinetics following *in vitro* exposure to anti-A and -B antibodies. *Transfusion* 53: 382-393 (2013).
112. Cholette JM, Powers KS, Alfieris GM, Angona R, Henrichs KF, Masel D, Swartz MF,

- Daugherty LE, Belmont K, **Blumberg N**. Transfusion of cell saver salvaged blood in neonates and infants undergoing open heart surgery significantly reduces RBC and coagulant product transfusions and donor exposures: results of a prospective, randomized, clinical trial. *Pediatric Critical Care Medicine* 14: 137-147 (2013).
113. Sahler J, Woeller C, Spinelli SL, **Blumberg N**, Phipps RP. A novel method for overexpression of PPAR α in megakaryocyte and platelet microparticles achieves transcellular signaling. *J Thrombosis Haemostasis* 10: 2563-2572 (2012)
114. Glance L, Mukamel D, **Blumberg N**, Fleming F, Hohmann S, Dick A. Association between surgical resident involvement and blood use in noncardiac surgery *Transfusion* 54: 691-700 (2014).
115. Glance L, **Blumberg N**, Eaton MP, Lustik SJ, Osler TM, Wissler R, Zollo R, Karcz M, Feng C, Dick AW. Preoperative thrombocytopenia and postoperative outcomes after non-cardiac surgery. *Anesthesiology* 120: 62-75 (2014)
116. Spinelli SL, Lannan KL, Casey AE, Croasdell A, Curran TM, Henrichs KF, Pollock SJ, Milne GA, Refaai MA, Francis CW, Phipps RP, **Blumberg N**. Isoprostane and isofuran lipid mediators accumulate in stored red blood cell concentrates and influence platelet function *in vitro*. *Transfusion* 54: 1569-1579 (2014).
117. Rohde JM, Dimcheff DE, **Blumberg N**, Saint S, Langa KM, Kuhn L, Hickner A, Rogers MAM. Healthcare-associated infection after red cell transfusion: a systematic review and meta-analysis of randomized trials. *JAMA* 311: 1317-1326 (2014).
118. Rogers MAM, Micic D, **Blumberg N**, Young VB, Aronoff DM. Storage Duration of red blood cell transfusion and *Clostridium difficile* infection: a within-person comparison. *PLOS One* 2014 Feb 21; 9(2): e89332. doi: 10.1371/journal.pone.0089332.
119. Cholette JM, Pietropaoli AP, Henrichs, KF, Alfieri GM, Powers KS, Phipps R, Spinelli S, Gensini F, Swartz M, Sweeney D, Daugherty LE, Nazarian E, Rubenstein JS, Eaton M, **Blumberg N**. Longer red blood cell storage duration is associated with increased post-operative infections in pediatric cardiac surgery. *Pediatric Critical Care Medicine* 16: 227-235 (2015).
120. Aquina C, **Blumberg N**, Fleming F. Significant Variation in Blood Transfusion Practice Persists following Upper GI Cancer Resection. *J. Gastrointestinal Surgery* (ePub ahead of print). PMID: 26264360 Aug. 12, 2015.
121. Schmidt AE, Kirkley S, Patel N, Masel D, Bowen R, **Blumberg N**, Refaai MA. An alternative method to dithiothreitol treatment for antibody screening in patients receiving daratumumab. *Transfusion* 55:2292-2293 (2015) (research letter).
122. Zaffuto BJ, Conley GW, Connolly GC, Henrichs KF, Francis CW, Heal JM, **Blumberg N**, Refaai MA. ABO-immune complex formation and impact on platelet function, red cell structural integrity and haemostasis: an in vitro model of ABO non-identical transfusion. *Vox Sang.* 110:219-26 (2016).
123. Alexander PE, Barty R, Fei Y, Vandvik PO, Pai M, Siemieniuk RA, Heddle NM, **Blumberg N**, McLeod SL, Liu J, Eikelboom JW, Guyatt GH. Transfusion of fresher vs older red blood cells in hospitalized patients: a systematic review and meta-analysis. *Blood* 127: 400-410 (2016).

124. Lannan KL, Refaai MA, Ture SK, Morrell CN, **Blumberg N**, Phipps RP, Spinelli SL. Resveratrol preserves the function of human platelet stored for transfusion. *Br. J. Haematol.* 172: 794-806 (2016).
125. Rogers MA, Rohde JM, **Blumberg N**. Haemovigilance of reactions associated with red blood cell transfusion: comparison across 17 countries. *Vox Sang.* 110: 266-277 (2016).
126. Cholette JM, Swartz MF, Rubenstein J, Henrichs KF, Wang H, Powers KS, Daugherty LE, Alfieri GM, Gensini F, **Blumberg N**. Outcomes using a conservative versus liberal red blood cell transfusion strategy in infants requiring cardiac operation. *Ann. Thorac. Surg.* 2 Aug 2016 (ePub). doi: 10.1016/j.athoracsur.2016.05.049.
127. Aquina CT, **Blumberg N**, Probst CP, Becerra AZ, Hensley BJ, Noyes K, Monson JR, Fleming FJ. Large variation in blood transfusion use after colorectal resection: a call to action. *Dis. Colon Rectum* 59: 411-418 (2016).
128. Aquina CT, **Blumberg N**, Becerra AZ, Boscoe FP, Schymura MJ, Noyes K, Monson JR, Fleming FJ. Association among blood transfusion, sepsis and decreased long-term survival after colon cancer resection. *Ann Surg.* 2016 Sep 14.
129. Rogers MAM, **Blumberg N**, Bernstein SJ, Flanders SA, Chopra V. Longitudinal study of delivery methods for red blood cell transfusion and risk of venous thromboembolism. *Lancet Haematology* (in press).
130. Greener DT, Henrichs KF, Liesveld JL, Heal JM, Aquina C, Phillips GL, Kirkley SA, Milner LA, Refaai M, Mendler JH, Szydlowski J, Masel D, Schmidt A, Boscoe FP, Schymura MJ, **Blumberg N**. Improved outcomes in acute myeloid leukemia patients treated with washed transfusions. *Am. J. Hematology* (in press, 2016) (research letter)

Invited Lectures/Visiting Professorships (Since 1991)

March 28-29, 1991—Rita and Taft Schreiber Memorial Lectureship in Transfusion Medicine/ Visiting Professor, Cedars-Sinai Medical Center/UCLA, Los Angeles, CA. “Risks Associated with Blood Transfusion Therapy--a 1991 Perspective” and “Transfusion Associated Immunomodulation and Its Clinical Consequences.”

April 3, 1991 —Surgical Grand Rounds, Hamot Medical Center, Erie, PA. “Transfusion, cancer recurrence and postoperative bacterial infection.”

May 1, 1991 —Surgical Grand Rounds, Infectious Disease Grand Rounds and Citywide Hematology Conference--Visiting Professor at Sunnybrook Medical Center (University of Toronto, Canada).

May 17-18, 1991--Rochester, MN--Mayo Clinic--Hematology and Transfusion Medicine Grand Rounds--Visiting Professor.

May 28, 1991—Medical Grand Rounds, St. Mary’s Hospital, Rochester, NY “Transfusion Induced Immunosuppression.”

September 24-28, 1991—Invited Speaker, Joint Meeting of the Australasian Society of Blood Transfusion and The Haematology Society of Australia; Joint Session with the Australian

Society of Anesthetists. "Transfusion induced immunomodulation; Platelet transfusion refractoriness; Erythropoietin and surgery." Melbourne, Australia.

October 26, 1991—Invited Speaker, Canadian Society of Blood Transfusion Fall Seminar, "Transfusion and its relation to cancer recurrence and postoperative infection." London, Ontario, Canada. University of Western Ontario, London, Canada--Visiting Professor in Transfusion Medicine.

October 17, 1991-- Orthopaedic Grand Rounds, Strong Memorial Hospital.

November 9-10, 1991--Baltimore, MD--Amer. Assn. of Blood Banks--Invited Speaker--Workshop on "Transfusion Medicine 1991 and Beyond"

November 21, 1991--Galveston, TX--University of Texas Medical Branch--Surgical Grand Rounds--Visiting Professor.

June 17, 1992--New Haven, CT--Yale University Dept. of Laboratory Medicine--Invited Speaker--Retirement Symposium for Joseph R. Bove

September 26, 1992—Grand Rounds, Dept. of Surgery, University of Colorado, Denver, CO.

October 30-31, 1992—Dept. of Medicine, University of Wisconsin, Madison, WI, Visiting Professor.

December 9-10, 1992— Invited Speaker, Los Angeles Red Cross Blood Services 50th Anniversary Symposium, Long Beach, CA.

March 2, 1993—Community General Hospital, Syracuse, NY. Medical Grand Rounds.

May 6, 1993—Invited Speaker. California State Assn. of Blood Banks Annual Meeting, Newport Beach, CA.

May 13, 1993—Invited Speaker. Norfolk Red Cross/East Virginia Medical School Symposium on Transfusion Practices, Norfolk, VA

August 26, 1993—Invited Speaker. College of American Pathologists Conference on Transfusion Medicine—Practices and Issues. Aspen, CO.

October 24–25, 1993—Invited Speaker. Pall Biomedical, American Red Cross, AABB and CCBC Symposium on Cost-Effectiveness of Leukocyte Depletion. Miami Beach, FL.

November 3, 1993—Invited Speaker. Case Western University School of Medicine Symposium on the Management of Anemia in Cancer Patients, Cleveland, OH.

November 16, 1993—Hematology Research Conf., Dept. of Medicine, University of Rochester.

November 23, 1993—Dept. of Surgery, University of Michigan/St. Joseph's Mercy Hospital. Grand Rounds. Ann Arbor, MI.

January 27-28, 1994—Invited Speaker/Co-Chair. Conference on Blood Transfusion in Cancer. Sponsored by the Erasmus University/Leiden University/Netherlands Red Cross. Leiden, The Netherlands.

April 15, 1994—Invited Participant. Canadian National Red Cross Advisory Committee on Leukocyte Depletion Policy. Toronto, Canada.

September 23, 1994—Invited Speaker. Vascular Surgery Symposium sponsored by New York Medical College. Poughkeepsie, NY.

October 13, 1994—Invited Speaker. Danish Society of Clinical Immunology Consensus Conference on Leukodepletion. Copenhagen, Denmark.

October 22, 1994—Visiting Professor, Departments of Anesthesia, Medicine and Pathology, University of Nebraska. Symposium on Blood Transfusion in Surgery. Omaha, NE.

November 12-17, 1994—Invited Speaker, AABB Workshop Transfusion Medicine 1994 and Beyond (Platelet Transfusion Refractoriness) and Research in Progress Session (Transfusion Immunomodulation). San Diego, CA.

February 2, 1995—Invited Speaker, New York Blood Center Symposium “Leukocyte Reduction in Transfusion Practice,” NY, NY.

April 29, 1995—Medical/Surgical Grand Rounds, Sarasota General Hospital, “Risks of Blood Transfusions,” Sarasota, FL.

September 13, 1995—Wahle Lecturer- City-Wide Medical Grand Rounds, Roswell Park Memorial Institute & SUNY Buffalo, “Transfusion Immunomodulation,” Buffalo, NY.

September 13, 1995--Hematology/Oncology Grand Rounds-- “Current Perspectives in Platelet Transfusion Refractoriness,” VA Hospital, Buffalo, NY.

September 14, 1995—Invited Speaker, Cambridge Healthtech Institute & American Red Cross, Symposium on “Leukodepletion of Blood Components: Implications for Transfusion Medicine,” Boston, MA.

October 12, 1995—Surgical Grand Rounds, St. Elizabeth’s Hospital, “Risks of Blood Transfusion and Alternative Strategies for Managing Anemia,” Boston, MA.

October 26, 1995--Invited Speaker, Symposium on Leukodepletion of Blood Components, University of Minnesota and St. Paul American Red Cross, St. Paul, MN.

February 28, 1996--Medical Grand Rounds, Cabrini Medical Ctr., NY, NY. “Recent Advances in Transfusion Support of Patients with Malignancies.”

April 26, 1996-- Hematology-Oncology Conference, St. Vincent’s Hospital, NY, NY. “Recent Advances in Transfusion Support of Patients with Malignancies.”

September 10, 1996--Surgical Grand Rounds, VA Medical Center, Albany, NY. “Alternative Strategies for Treatment of Anemia and Bleeding in Surgical Patients.”

September 30, 1996--Grand Rounds, FF Thompson Health System, Inc. “Blood Components for Immunocompromised Patients.” Canandaigua, NY

October 14, 1996--Invited Speaker, Research in Progress Session--AABB, Orlando, FL. “Platelet Refractoriness.”

October 31, 1996--Grand Rounds, Pathology, SUNY Upstate, Syracuse, NY. "Blood Components Support for Hematologic Malignancies-The Role of Leukodepletion."

December 2-4, 1996--Invited Speaker, Mt. Sinai School of Medicine, Surgical Critical Care Conference, "Transfusion, Leucodepletion and the Surgical Patient," St. Thomas, USVI.

December 6, 1996--Invited Speaker, American Society of Hematology "Super Friday" Satellite Symposium on "Anemia: Time for a Fresh Look at Attitudes, Transfusion Risks and Alternatives." Orlando, FL.

September 6, 1997--Invited Speaker, Institute for Transfusion Medicine/ University of Pittsburgh Symposium -- "A New Theory of Transfusion Immunology" Pittsburgh, PA.

December 18-19, 1997--Visiting Professor, Dept. of Pathology, University of South Florida--Moffitt Cancer Center, Tampa, FL. Grand Rounds and informal meetings with residents/ faculty.

February 24, 1998--Plenary Lecture, America's Blood Centers Annual Meeting--"Blood Transfusion Immunomodulation, the Silent 'Epidemic'." San Diego, CA.

May 7, 1998--Invited Lecture, Canadian Society for Transfusion Medicine. "ABO Matching and Leukocyte Depletion of Platelet Transfusions for Patients with Hematologic Malignancies." Ottawa, ON, Canada.

June 17, 1998--Invited Lecture, Community Blood Center of Dayton, "Blood Transfusion Immunomodulation, the Silent 'Epidemic'." Dayton, OH.

August 20-22, 1998--Invited Lecture, CAP Conference XXXIII: Transfusion Medicine Performance Improvement. "The Costs of Management Fads and Politically Driven Regulatory Oversight--The Case of Blood Transfusion." San Francisco, CA.

September 11-12, 1998--Third Annual Bloodless Medicine & Surgery Conference, Good Samaritan Hospital. "Transfusion Immunomodulation--The Silent 'Epidemic.'" Los Angeles, CA.

November 3, 1998--Pall Biomedical Symposium at the AABB National Meeting. "Universal Leukocyte Depletion of Transfusions--If Not Now, When?" Phila., PA.

June 17, 1999--Invited Testimony, Proposed Demonstration Projects in Bloodless Medicine & Surgery, State of New Jersey, Dept. of Health & Senior Services, Health Care Administration Board, Jamesburg, NJ.

June 23, 1999--Visiting Professor, Cleveland Clinic, American Red Cross & Case Western Reserve. "Universal Leukoreduction and Transfusion Immunomodulation. Cleveland, OH.

August 9-10, 1999--Expert Panel on Erythropoietin, Johnson & Johnson research advisory program. Princeton, NJ.

December 4, 1999--American Society of Hematology Annual Meeting. Meet-the-Expert Session: "Immunologic Effects of Transfusion," New Orleans, LA.

March 30, 2000--Invited Speaker, "Transfusion Immunomodulation: An Historical Primer," in the Clinical and Molecular Basis of Transfusion-Induced Immunomodulation Symposium, Washington, DC.

April 9, 2000--Invited Speaker, "Transfusion Immunomodulation" in the symposium "In Search of the Zero Risk Blood Supply," American Society of Clinical Pathologists annual meeting. Boston, MA.

May 22, 2000--Visiting Professor and Holbrook Lecturer, "Transfusion Immunomodulation," Medical University of South Carolina, Charleston, SC.

October 19, 2000--Anesthesiology Grand Rounds, "Transfusion Immunomodulation," University of Rochester Medical Center, Rochester, NY.

January 25, 2001--Invited Speaker, "Universal Leukoreduction." HHS Advisory Committee on Blood Safety and Availability. Office of the Surgeon General. Washington, DC.

April 18, 2001--Urology Grand Rounds, "Alternatives to Allogeneic Blood Transfusions." University of Rochester Medical Center, Rochester, NY.

June 29, 2001--Grand Rounds, "Autologous Transfusions." Cayuga Medical Center, Ithaca, NY.

March 15, 2002--Invited Speaker on the occasion of the retirement of Alfred J. Katz MD, "A New Theory of Transfusion Immunology," Holland Laboratory, American Red Cross, Rockville, MD.

March 21, 2003--Pathology and Laboratory Medicine Grand Rounds. "Clinical and immunologic aspects of transfusion immunomodulation." Virginia Commonwealth University (Medical College of Virginia), Richmond VA.

September 13, 2003--Society for the Advancement of Blood Management Annual Meeting. "Transfusion, immunomodulation and inflammation." San Diego, CA

September 19, 2003--American Society of Clinical Pathology Annual Meeting. "Best of the American Journal of Clinical Pathology." One of the five best papers from the 2002 AJCP, selected for presentation and discussion at the annual meeting of the ASCP. "Leukoreduction of transfusions in cardiac surgery." New Orleans, LA.

September 23, 2004—Indiana Blood Center. "Leukoreduction of Blood Transfusions and Clinical Outcomes." Indianapolis, IN.

October 25, 2004—American Association of Blood Banks Annual Meeting. "The platelet as an inflammatory cell." Baltimore, MD.

December 14, 2004—Medical Grand Rounds, University of Rochester Medical Center—"Blood transfusions, helpful or harmful?"

April 25, 2005—California Blood Bank Society Annual Meeting. "The platelet as an inflammatory cell." Anaheim, CA

May 18, 2005—Blood Bank Association of New York State Annual Meeting. "The platelet as an inflammatory cell—implications for vascular and transfusion medicine." Verona, NY.

March 31, 2006—AABB Perioperative Conference—"Deleterious clinical effects of transfusion immunomodulation—proven beyond a reasonable doubt." Dallas, TX.

April 12, 2006—Rochester General Hospital-Hematology-Oncology Conference—“How I approach the prevention and treatment of platelet transfusion refractoriness.”

April 26, 2006—Visiting Professor, University of Pittsburgh, Hematology-Oncology

May 11, 2006—Visiting Professor, University of North Carolina, Pathology and Laboratory Medicine, Chapel Hill, NC

September 9, 2006—Visiting Professor, Medical College of Virginia, Richmond, VA.

February 21, 2007—“Immunomodulation by transfusion,” Navigant Corp., Lakewood, CO.

May 9, 2007—“Immunomodulation by transfusion,” Transfusion Medicine and Cellular Therapeutics Branch, Division of Blood Diseases and Resources, National Heart, Lung, and Blood Institute, NIH, Bethesda, MD.

October 31, 2007—“ABO and clinical outcomes in transfusion medicine,” Transfusion Medicine and Cellular Therapeutics Branch, Division of Blood Diseases and Resources, National Heart, Lung, and Blood Institute, NIH, Bethesda, MD.

June 5, 2008—Blood Bank Association of New York State Annual Meeting. “Hemovigilance—What is it? Why should you care?” Verona, NY

June 16, 2008—“Platelets and Inflammation.” Thrombosis and Hemostasis Branch, DBDR, NHLBI, NIH, Bethesda, MD.

November 20, 2008—“Transfusion Immunomodulation: Evolving Concepts in Patient Outcomes.” American Red Cross Seminar, Worcester, MA.

January 13, 2009—“To Transfusion or Not Transfuse.” Medical Grand Rounds, Univ. Rochester Medical Center, Rochester, NY.

May 4, 2009—“Transfusion Medicine’s Second Century: A Paradigm Shift in Progress.” Peter Jatlow Symposium, Dept. of Laboratory Medicine, Yale University School of Medicine, New Haven, CT.

May 30, 2009—“Transfusion reactions, platelet refractoriness and supportive care of oncology patients.” American Society of Clinical Oncology (ASCO) Annual Meeting, Clinical Education Session, Orlando, FL.

July 29, 2009—“TRALI—how to prevent it.” Pall Biomedical Corp. Working Group, Roslyn, NY.

September 14-15, 2009—NHLBI State of the Science Working Group on Transfusion Medicine, Hemostasis & Thrombosis. Invited participant. Bethesda, MD.

October 25, 27, 2009—AABB Annual Meeting Symposia on “Transfusion Associated Thrombosis/Inflammation/Immunomodulation” (Chair/Speaker) and “Platelet Transfusion Refractoriness” (Speaker). New Orleans, LA.

October 10, 2010—AABB Annual Meeting Seminar “Platelet Transfusion” (Speaker). Baltimore, MD.

February 17, 2011—Strategic Blood Management Webinar—“Transfusion Immunomodulation”

March 26, 2011—New York City Blood Transfusion Society Spring Seminar—“Transfusion Immunomodulation—the case for leukoreduced, washed blood transfusions.”

April 13, 2011—Univ. Pittsburgh Cancer Center Grand Rounds—“The ABO blood group and transfusion: 110 years after Landsteiner, do we still have a problem with clinical outcomes?”

April 22, 2011—Illinois Blood Bank Society Annual Meeting—“Transfusion Immunomodulation—the case for leukoreduced and (perhaps) washed blood transfusions. Chicago IL.

May 6, 2011—Blood Bank Assn. of New York Annual Meeting—“Transfusion Immunomodulation—the case for leukoreduced and (perhaps) washed blood transfusions.” Verona NY.

August 31, 2011—NHLBI, Transfusion Medicine and Cellular Therapeutics Branch, Working Group on Strategies to Optimize Blood Products. Moderator and presenter, “Soluble mediators: washing and/or other manipulations.”

October 22, 25, 2011 AABB Symposium on “Immune Regulation and Transfusion-Associated Complications” and “Platelet Transfusions—What are the Costs, Who Pays and How Can We Do Better” (Speaker).

November 4, 2011 Englewood Hospital Institute for Patient Blood Management and Bloodless Medicine and Surgery, Englewood, NJ. Third Annual Medical Education Day. “Is blood safe: the case for leukoreduced and (possibly) washed transfusions.”

December 5, 2011 French National Transfusion Service (EFS) International Symposium, Paris, France. Invited Speaker: “Inflammatory Reactions to Platelet Transfusions.”

December 15, 2011 American Red Cross National Medical Advisory Committee, Washington, DC. Invited Speaker: “Duration of Red Cell Storage and Clinical Outcomes.”

May 2, 2012 American Red Cross Regional Seminar, Perinton, NY. Invited Speaker: “Newer aspects of the ABO blood group system in clinical practice.”

September 22, 2012 Society for the Advancement of Blood Management Annual Meeting, Pittsburgh, PA. Invited Speaker: “Transfusion Immunomodulation.”

October, 2012 AABB Symposium on “Storage Duration of Transfused Red Cells and Clinical Outcomes. Invited Speaker: “Does red cell storage for transfusion alter host immune function and can we alter these effects by leukoreduction and/or washing?”

January 17, 2013—Strategic Blood Management University Webinar—“Transfusion Immunomodulation”

January 31, 2013—Terumo BCT, Lakewood, CO---“Reducing immunomodulation and mortality with washed, leukoreduced blood transfusions”

June 13-14, 2013—Blood Bank Association of New York State Annual Meeting, Albany, NY —“Is it time to abandon the concept of universal donor red cells, platelets and FFP?” and “Reinventing Blood Transfusion—What are the benefits and risks of red cells and platelet transfusions?”

September 20, 2013-- Society for the Advancement of Blood Management Annual Meeting, Los Angeles, CA. Invited Speaker: "Transfusion associated thrombosis and hemostasis defects."

October 23, 2013—3rd Awareness Week on the Rational Use of Blood in Medicine & Surgery, "Moving toward the Future." Teknon Medical Centre, Barcelona, Spain. Invited speaker: "Perils and Pitfalls: Transfusion Associated Bleeding and Thrombosis." Web presentation.

February 3, 2014—Pathology and Laboratory Medicine Grand Rounds, University of Rochester Medical Center. "Reinventing Blood Transfusion—What are the benefits and risks of red cells and platelet transfusions?"

June 5, 2014—Blood Bank Association of New York State Annual Meeting, Rochester, NY —"Transfusion immunomodulation—a clinical update."

August 8, 2014—"The Role of the Stem Cell Processing Laboratory, Apheresis and the Transfusion Service in Improving Clinical Outcomes in Patients Undergoing Blood or Marrow Stem Cell Transplantation." 25th Anniversary Symposium—University of Rochester Medical Center BMT Program. Rochester, NY.

April 29, 2015—"Adverse effects of ABO non-identical transfusions—is it time to reconsider the concept of "universal donors?" Yale University School of Medicine, Department of Pathology and Laboratory Medicine. New Haven, CT.

January 23, 2016—"Is it time to reconsider the practice of ABO universal donor blood component transfusion?" Japanese National Leadership Transfusion Medicine Conference. Hayama, Japan.

April 24, 2017—"When transfusion is not the answer: RBC dysfunction, immunomodulation and outcomes." Society of Cardiovascular Anesthesiologists' Annual Meeting. Orlando, FL.