



## Anil K. Panigrahi

- Clinical Associate Professor, Anesthesiology, Perioperative and Pain Medicine
- Clinical Associate Professor (By courtesy), Pathology

### CLINICAL OFFICE (PRIMARY)

- **Anesthesia Department**

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### Bio

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#### BIO

Anil K. Panigrahi, MD, PhD, FASA is a Clinical Associate Professor in the Departments of Anesthesiology and, by courtesy, Pathology at Stanford University School of Medicine. Dual board-certified in Anesthesiology and Blood Banking/Transfusion Medicine, he maintains active clinical practice in both fields. He serves as Director of Patient Blood Management at Stanford Health Care, Chair of the Stanford Health Care Transfusion Committee, Medical Director of the Anesthesiology Perioperative Anemia Management Clinic, and Assistant Medical Director of the Stanford Health Care Transfusion Service. His academic and clinical leadership focuses on advancing perioperative blood management strategies to optimize outcomes in complex surgical patients.

A Phi Beta Kappa graduate of Duke University, Dr. Panigrahi received his M.D. and Ph.D. degrees from the University of Pennsylvania School of Medicine, where he was awarded the John G. Clark Prize for meritorious research. He completed residency training in Anesthesiology and fellowship in Blood Banking/Transfusion Medicine at Stanford University.

Dr. Panigrahi's scholarly work spans immunology, transfusion safety, and patient blood management. He has authored numerous peer-reviewed publications, textbook chapters, including for Miller's Anesthesia and the AABB Technical Manual, and national guidelines. He contributes nationally through service on multiple committees for the American Society of Anesthesiologists (ASA) and the Association for the Advancement of Blood and Biotherapies (AABB), and he is a frequent invited speaker at national and international meetings, including those of the ASA, AABB, and Society for the Advancement of Patient Blood Management (SABM).

#### CLINICAL FOCUS

- Anesthesia
- Transfusion Medicine

#### ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Anesthesiology, Perioperative and Pain Medicine

- Clinical Associate Professor (By courtesy), Pathology

### **ADMINISTRATIVE APPOINTMENTS**

- Director, Patient Blood Management, Stanford Health Care, (2025- present)
- Chair, Transfusion Committee, Stanford Health Care, (2025- present)
- Co-Chair, Transfusion Committee, Stanford Health Care, (2022-2024)
- Director, Patient Blood Management, Stanford Anesthesiology, (2023-2025)
- Medical Director, Perioperative Anemia Management Clinic, Stanford Anesthesiology, (2018- present)

### **HONORS AND AWARDS**

- Fellow, American Society of Anesthesiologists (2023)
- Resident Scholar, Foundation for Anesthesia Education and Research (2013)
- John G. Clark Prize for Meritorious Research, University of Pennsylvania School of Medicine (2009)
- Medical Scientist Training Program Grant, University of Pennsylvania School of Medicine (2002-2011)
- Howard Hughes Biological Research Forum, Duke University (2000)
- Phi Beta Kappa Honor Society, Duke University (2000)

### **BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS**

- Member, Clinical Transfusion Medicine Committee, Association for the Advancement of Blood & Biotherapies (2023 - present)
- Member, Perioperative Standards Committee, Association for the Advancement of Blood & Biotherapies (2023 - present)
- Delegate, District 3, California Society of Anesthesiologists (2021 - 2024)
- ASA Representative, Perioperative Standards Committee, Association for the Advancement of Blood & Biotherapies (2021 - 2022)
- Member, Committee on Patient Blood Management, American Society of Anesthesiologists (2018 - present)

### **PROFESSIONAL EDUCATION**

- Board Certification: Blood Banking/Transfusion Medicine, American Board of Pathology (2017)
- Board Certification: Anesthesia, American Board of Anesthesiology (2017)
- Fellowship, Stanford University Medical Center, CA , Transfusion Medicine (2016)
- Residency, Stanford University Medical Center, CA , Anesthesiology (2015)
- Internship, University of Pennsylvania Health System , PA (2012)
- Medical Education: University of Pennsylvania School of Medicine (2011) PA
- PhD, University of Pennsylvania School of Medicine , PA (2009)

### **PATENTS**

- Anil K. Panigrahi, Eline T. Luning Prak. "United States Patent 9,115,399 Recombination Sequence (RS) Rearrangement Frequency as a Measure of Central B cell Tolerance"

## **Research & Scholarship**

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### **CLINICAL TRIALS**

- Cerus ReCePI Study, Not Recruiting

## Publications

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### PUBLICATIONS

- **National Shortage of Type O Blood: What Anesthesiologists Can Do.** *Anesthesiology Open*  
Lee, B. R., Coberly, E. A., Leon, D. A., Panigrahi, A. K.  
2026; 1 (1)
- **Implementation of pathogen reduced cryoprecipitate for surgical services: A retrospective review of blood product utilization and fibrinogen repletion.** *Transfusion*  
Nicholas, J., Graber-Naidich, A., Pham, T., Panigrahi, A. K., Virk, M.  
2025
- **Current advances 2024: A critical review of selected topics by the Association for the Advancement of Blood and Biotherapies (AABB) Clinical Transfusion Medicine Committee.** *Transfusion*  
Crowe, E. P., Andrews, J., Chou, S. T., Cohn, C. S., Covington, M. L., Goel, R., Hess, A. S., Ipe, T. S., Jacobson, J., Jacquot, C., Khan, J., Murphy, M. F., O'Brien, et al  
2025
- **Perioperative Use of Activated Prothrombin Complex Concentrates.** *Anesthesiology*  
Panigrahi, A. K., Shaw, J. R.  
2025
- **Procedure-Specific Preoperative Blood Ordering Practices in 25 North American Hospitals.** *A&A practice*  
Nicholas, J. A., Ural, K. G., Guinn, N. R., Panigrahi, A. K., Tan, G. M., Butwick, A. J.  
2025; 19 (3): e01939
- **Advances in Transfusion Medicine** *ASA Monitor*  
Nicholas, J., Panigrahi, A. K.  
2025; 89 (6): 13-14
- **Standards for Perioperative Autologous Blood Collection and Administration**  
Schwartz, J., Fernandez, X., Merritt-Genore, H., Moolten, D., Panigrahi, A., Shepherd, J., Stoddart, L.  
AABB.2025
- **Characterizing the antibody response to amustaline/glutathione pathogen-reduced red blood cells.** *Transfusion*  
Karim, C., Panigrahi, A., Pearl, R. G., Sodha, N. R., Beaver, T. M., Pelletier, J. P., Nuttall, G. A., Reece, T. B., Erickson, A., Hedrick, T., Liu, K., Bentow, S., Corash, et al  
2024
- **Improving RBC inventory by optimizing preoperative ordering and eliminating crossmatch and hold.** *Transfusion*  
Virk, M. S., Cederlof, K., Howard, E., Panigrahi, A.  
2024
- **Factor Eight Inhibitor Bypass Activity use in cardiac surgery: A propensity matched analysis of safety outcomes.** *Anesthesiology*  
Nicholas, J. A., Harrison, N., Chakraborty, D., Chang, A. L., Aghaeepour, N., Wirtz, K., Nielson, E., Parsons, C., Jackson, E., Panigrahi, A. K.  
2024
- **Current advances in 2024: A critical review of selected topics by the Association for the Advancement of Blood and Biotherapies (AABB) Clinical Transfusion Medicine Committee.** *Transfusion*  
Poston, J. N., Andrews, J., Arya, S., Chou, S. T., Cohn, C., Covington, M., Crowe, E. P., Goel, R., Gupta, G. K., Haspel, R. L., Hess, A., Ipe, T. S., Jacobson, et al  
2024
- **Addressing Patient Concerns with Blood Transfusion from Donors Vaccinated Against COVID-19: A Clinician Primer.** *Anesthesiology*  
Forkin, K. T., Guinn, N. R., Warner, M. A., Panigrahi, A. K.  
2024
- **Blood transfusion in cardiac surgeries - Toward a personalized protocol.** *American journal of surgery*  
Min, Y., Dalal, A. R., Pedroza, A. J., Pham, T. D., Panigrahi, A. K., Goldstone, A. B., MacArthur, J. W., Woo, Y. J., Baiocchi, M., Fischbein, M. P.

2023

- **Patient Blood Management** *Technical Manual*  
Frank, S. M., Panigrahi, A. K., Guinn, N. R.  
Association for the Advancement of Blood & Biotherapies.2023; 21
- **Hemostasis** *Miller's Basics of Anesthesia*  
Panigrahi, A. K.  
Elsevier.2022; 8
- **Rapid Blood Transfusion: The Importance of Hemodilution and Needleless Connectors.** *Cureus*  
Burbridge, M. A., Panigrahi, A. K., Stone, S. A., Jaffe, R. A., Brock-Utne, J.  
2021; 13 (3): e13999
- **Blood Component Therapy** *Manual of Clinical Anesthesiology*  
Panigrahi, A. K., Traynor, A. J.  
Wolters Kluwer.2020; 2: 315-20
- **Massive Transfusion and Resuscitation** *Manual of Clinical Anesthesiology*  
Panigrahi, A. K., Traynor, A. J.  
Wolters Kluwer.2020; 2: 327-34
- **Alternatives to Blood Product Replacement** *Manual of Clinical Anesthesiology*  
Panigrahi, A. K., Traynor, A. J.  
Wolters Kluwer.2020; 2: 321-26
- **Reducing Length of Stay and Red Blood Cell Transfusion by Implementing an Anesthesia Anemia Management Clinic**  
Yunce, M., Tho Pham, Panigrahi, A.  
LIPPINCOTT WILLIAMS & WILKINS.2019: 10
- **Patient Blood Management: Coagulation** *Miller's Anesthesia*  
Panigrahi, A. K., Liu, L. L.  
Elsevier.2019; 9: 1579–1601
- **Transfusion Management of Conjoined Twins Undergoing Surgical Separation: A Single Center Experience with Three Sets of Thoraco-Omphalopagus Twins over Ten Years**  
Tsang, H., Kuan, C., Boltz, M., Hartman, G., Joshi, R. P., Panigrahi, A., Andrews, J.  
WILEY.2018: 122A–123A
- **Rapid Blood Administration Via Small Bore Catheters Does Not Increase Potassium Concentration**  
Panigrahi, A., Giustini, A., Miller, C., Walker, M., Bowen, R., Andrews, J., Mendoza, J.  
WILEY.2017: 126A
- **Blood Transfusion Therapy.** *Medical clinics of North America*  
Goodnough, L. T., Panigrahi, A. K.  
2017; 101 (2): 431-447
- **A Standardized Approach for Transfusion Medicine Support in Patients With Morbidly Adherent Placenta.** *Anesthesia and analgesia*  
Panigrahi, A. K., Yeaton-Massey, A. n., Bakhtary, S. n., Andrews, J. n., Lyell, D. J., Butwick, A. J., Goodnough, L. T.  
2017
- **Intraoperative Coagulopathies** *Anesthesiology: Clinical Case Reviews*  
Djalali, A. G., Panigrahi, A. K.  
2017
- **Estimating Blood Loss.** *Anesthesia and analgesia*  
Goodnough, L. T., Panigrahi, A. K.  
2017; 125 (1): 13–14
- **Study to investigate the association between placenta accreta subtype and red blood cell transfusion**  
Bakhtary, S., Yeaton-Massey, A., Panigrahi, A., Lyell, D., Goodnough, L. T., Butwick, A. J.

MOSBY-ELSEVIER.2016: S380–S381

- **Altered BCR and TLR signals promote enhanced positive selection of autoreactive transitional B cells in Wiskott-Aldrich syndrome** *JOURNAL OF EXPERIMENTAL MEDICINE*  
Kolhatkar, N. S., Brahmandam, A., Thouvenel, C. D., Becker-Herman, S., Jacobs, H. M., Schwartz, M. A., Allenspach, E. J., Khim, S., Panigrahi, A. K., Prak, E. T., Thrasher, A. J., Notarangelo, L. D., Candotti, et al  
2015; 212 (10): 1663-1677
- **Coordination and Processing of DNA Ends During Double-Strand Break Repair: The Role of the Bacteriophage T4 Mre11/Rad50 (MR) Complex** *GENETICS*  
Almond, J. R., Stohr, B. A., Panigrahi, A. K., Albrecht, D. W., Nelson, S. W., Kreuzer, K. N.  
2013; 195 (3): 739-755
- **Altered B Cell Homeostasis Is Associated with Type I Diabetes and Carriers of the PTPN22 Allelic Variant** *JOURNAL OF IMMUNOLOGY*  
Habib, T., Funk, A., Rieck, M., Brahmandam, A., Dai, X., Panigrahi, A. K., Prak, E. T., Meyer-Bahlburg, A., Sanda, S., Greenbaum, C., Rawlings, D. J., Buckner, J. H.  
2012; 188 (1): 487-496
- **Developmental Acquisition of the Lyn-CD22-SHP-1 Inhibitory Pathway Promotes B Cell Tolerance** *JOURNAL OF IMMUNOLOGY*  
Gross, A. J., Lyandres, J. R., Panigrahi, A. K., Prak, E. T., DeFranco, A. L.  
2009; 182 (9): 5382-5392
- **RS rearrangement frequency as a marker of receptor editing in lupus and type 1 diabetes** *JOURNAL OF EXPERIMENTAL MEDICINE*  
Panigrahi, A. K., Goodman, N. G., Eisenberg, R. A., Rickels, M. R., Naji, A., Prak, E. T.  
2008; 205 (13): 2985-2994
- **Editing and escape-from editing in anti-DNA B cells** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Khan, S. N., Witsch, E. J., Goodman, N. G., Panigrahi, A. K., Chen, C., Jiang, Y., Cline, A. M., Erikson, J., Weigert, M., Prak, E. T., Radic, M.  
2008; 105 (10): 3861-3866