



Hua Shan

Professor of Pathology

CLINICAL OFFICE (PRIMARY)

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Bio

BIO

Dr. Shan specializes in providing blood transfusion and apheresis treatment to patients with diverse medical problems. She has been practicing transfusion medicine for over thirty years. Dr. Shan served as the Medical Director of Transfusion Service at Stanford Medical Center from 2015 to 2026. Dr. Shan has also been leading research and education programs in the fields of transfusion safety, optimizing clinical blood transfusion practice and blood availability.

CLINICAL FOCUS

- Transfusion Medicine
- Anatomic and Clinical Pathology

ACADEMIC APPOINTMENTS

- Professor - University Medical Line, Pathology

ADMINISTRATIVE APPOINTMENTS

- Medical Director, Transfusion Medicine Service, Stanford Health Center, (2015-2026)

HONORS AND AWARDS

- Teaching Award (for a senior faculty member) in Clinical Pathology, Stanford Medical School (2018)
- Faculty Teaching Award, Johns Hopkins Medical School (2013)
- Award for Transfusion Medicine Fellows, AABB (American Association of Blood Banks) (1997)
- Paul E. Strandjord Young Investigator Awards for Physicians and Scientists, Academy of Clinical Laboratory (1996)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Faculty fellow, Center for Innovation in Global Health (Stanford) (2018 - present)
- Member, AABB Clinical Transfusion Committee (2018 - 2025)
- Editorial board member, "Transfusion Medicine Review" (2017 - present)

- Editorial board member, "Annals of Blood" (2017 - present)
- Editorial board member, "Transfusion" (2017 - present)
- Chair, NHLBI's REDS-III International Steering Committee (2016 - 2017)
- Member, AABB Transfusion Transmitted Disease Committee (2013 - 2017)
- Member, NHLBI's REDS-III International Steering Committee (2008 - 2017)
- Editorial board member, "Chinese Journal of Blood Transfusion" (2007 - present)
- Member, College of American Pathologists's Transfusion Medicine Resource Committee (2005 - 2007)
- Member, International Society of Blood Transfusion (ISBT) (2004 - present)
- Member, AABB (1994 - present)
- Member, College of American Pathologists (1994 - 2024)

PROFESSIONAL EDUCATION

- Fellowship: University of Pennsylvania Health System (1997) PA
- Board Certification: Blood Banking/Transfusion Medicine, American Board of Pathology (2000)
- Board Certification: Clinical Pathology, American Board of Pathology (1996)
- Residency: Hospital of Univ of Pennsylvania (1996) PA
- PhD, University of Pennsylvania , Immunology (1991)
- Medical Education, Peking University School of Medicine , Medicine (1983)

COMMUNITY AND INTERNATIONAL WORK

- NHLBI Recipient Epidemiology and Donor Evaluation Study-III (REDS-III) International program
- NIH Fogarty International Blood Safety Program

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Transfusion Medicine (Fellowship Program)

Publications

PUBLICATIONS

- **Clinical significance of anti-M in pregnancy and self-reported ancestry: The BEST collaborative study.** *Transfusion*
Lu, W., Ziman, A., Yin, C., Yan, M. T., Virk, M. S., Dilly Stephens, L., Raval, J. S., Radwi, G., Morrison, D., Marrero-Rivera, G., Ly, J., Juskewitch, J. E., Ikeda, et al
2026
- **Serologic Characteristics and Clinical Significance of Non-ABO Red Blood Cell Antibodies in Hematopoietic Stem Cell Transplant. The BEST Collaborative Study.** *Transplantation and cellular therapy*
Kogler, V., Pagano, M. B., Fontaine, M. J., Azimi, V., Brancamp, R., Cataife, G., Covington, M., Delaney, M., Eichbaum, Q., Jacquot, C., Kutner, J. M., Lu, W., Saifee, et al
2025
- **The incompatible match for transfusion medicine fellowships.** *Transfusion*
Bloch, E. M., Triulzi, D., Sachais, B. S., Hod, E. A., Cushing, M., Jacobs, J. W., Tobian, A. A., Shan, H., Chen, L. N., McGonigle, A. M., Tormey, C. A., Szczepiorkowski, Z. M., Siegel, et al
2025; 65 (1): 246-248
- **Current state of gene therapy in sickle cell disease.** *Vox sanguinis*
Tang, M. S., Shan, H.

2024

- **Use of Intravenous Albumin: A Guideline from the International Collaboration for Transfusion Medicine Guidelines.** *Chest*
Callum, J., Skubas, N. J., Bathla, A., Keshavarz, H., Clark, E. G., Rochweg, B., Fergusson, D., Arbous, S., Bauer, S. R., China, L., Fung, M., Jug, R., Neill, et al
2024
- **Incidence of formation of anti-D between patients with and without a history of solid organ transplant.** *Vox sanguinis*
Wali, J. A., Abdelmonem, M., Nguyen, A., Shan, H., Pandey, S., Yunce, M.
2024
- **Current advances in 2022: A critical review of selected topics by the Association for the Advancement of Blood and Biotherapies (AABB) Clinical Transfusion Medicine Committee.** *Transfusion*
Metcalf, R. A., Cohn, C. S., Bakhtary, S., Gniadek, T., Gupta, G., Harm, S., Haspel, R. L., Hess, A. S., Jacobson, J., Lokhandwala, P. M., Murphy, C., Poston, J. N., Prochaska, et al
2023
- **Hepatitis E virus seropositivity in an ethnically diverse community blood donor population.** *Vox sanguinis*
Mah, J. K., Keck, M., Chu, D. Y., Sooryanarain, H., Sahoo, M. K., Lau, P., Huang, C., Weber, J., Belanger, G. A., Keck, Z., Shan, H., Meng, X., Fount, et al
2023
- **Serologic reactivity of unidentified specificity in antenatal testing and hemolytic disease of the fetus and newborn: The BEST collaborative study.** *Transfusion*
Lu, W., Ziman, A., Yan, M. T., Waters, A., Virk, M. S., Tran, A., Tang, H., Shih, A. W., Scally, E., Raval, J. S., Pandey, S., Pagano, M. B., Shan, et al
2023
- **Plasma Exchange in Alzheimer's Disease.** *Transfusion medicine reviews*
Rohrer, L., Yunce, M., Montine, T. J., Shan, H.
2022
- **Transfusion Outcomes between Regular and Low Yield Pathogen Reduced Platelets across Different Patient Populations in a Single Institution**
Tang, M., Shu, E., Sussman, H., Virk, M., Pandey, S., Shan, H., Pham, T.
WILEY.2022: 268A
- **Transfusion outcomes between regular and low yield pathogen reduced platelets across different patient populations in a single institution.** *Transfusion*
Tang, M. S., Shu, E., Sussman, H., Virk, M., Pandey, S., Shan, H., Pham, T.
2022
- **Hospital red blood cell and platelet supply and utilization from March to December of the first year of the COVID-19 pandemic: The BEST Collaborative Study.** *Transfusion*
Lu, W., Yazer, M., Li, N., Ziman, A., Wendel, S., Tang, H., Tsang, H., Titlestad, K., Thibodeaux, S. R., Shih, A. W., Poisson, J. L., Pham, T., Pandey, et al
2022
- **Current advances in transfusion medicine 2021: A critical review of selected topics by the AABB Clinical Transfusion Medicine Committee.** *Transfusion*
Metcalf, R. A., Cohn, C. S., Allen, E. S., Bakhtary, S., Gniadek, T., Gupta, G., Harm, S., Haspel, R., Hess, A., Jacobson, J., Lokhandwala, P. M., Murphy, C., Poston, et al
2022
- **Analyzing real world data of blood transfusion adverse events: Opportunities and challenges.** *Transfusion*
Jhaveri, P., Bozkurt, S., Moyal, A., Belov, A., Anderson, S., Shan, H., Whitaker, B., Hernandez-Boussard, T.
2022
- **How do I implement pathogen-reduced platelets?** *Transfusion*
Pham, T. D., Kadi, W., Shu, E., Pandey, S., Sussmann, H., Shan, H., Virk, M. S.
2021

- **Blood Component Culturing Practices at an Academic Medical Center Transfusion Service**
Swenson, E. A., Kilambi, S., Shan, H.
WILEY.2021: 223A
- **Current advances in transfusion medicine 2020: A critical review of selected topics by the AABB Clinical Transfusion Medicine Committee.** *Transfusion*
Allen, E. S., Cohn, C. S., Bakhtary, S., Dunbar, N. M., Gniadek, T., Hopkins, C. K., Jacobson, J., Lokhandwala, P. M., Metcalf, R. A., Murphy, C., Prochaska, M. T., Raval, J. S., Shan, et al
2021
- **Active surveillance of serious adverse events following transfusion of COVID-19 convalescent plasma.** *Transfusion*
Swenson, E., Wong, L. K., Jhaveri, P., Weng, Y., Kappagoda, S., Pandey, S., Pritchard, A., Rogers, A., Ruoss, S., Subramanian, A., Shan, H., Hollenhorst, M.
2021
- **Development and Evaluation of a Novel RT-PCR System for Reliable and Rapid SARS-CoV-2 Screening of Blood Donations.** *Transfusion*
Li, M., Zhao, Y., Li, Y., Chen, X., Luo, D., Luo, M., Hou, J., Liu, J., Liu, H., Wang, H., Dong, Y., Zhang, L., Ji, et al
2020
- **Vox Sanguinis International Forum on Transfusion Services about Response to COVID-19.** *Vox sanguinis*
Lozano, M., Yazer, M., Jackson, B., Pagano, M., Rahimi-Levene, N., Peer, V., Bueno, J., Jackson, R., Shan, H., Amorim, L., Lopez, M. E., Boquimpani, C., Sprogøe, et al
2020
- **Deployment of convalescent plasma for the prevention and treatment of COVID-19.** *The Journal of clinical investigation*
Bloch, E. M., Shoham, S., Casadevall, A., Sachais, B. S., Shaz, B., Winters, J. L., van Buskirk, C., Grossman, B. J., Joyner, M., Henderson, J. P., Pekosz, A., Lau, B., Wesolowski, et al
2020
- **Establishing a Satellite Transfusion Service Within an Academic Medical Center.** *American journal of clinical pathology*
Murphy, C. H., Lim, A. Y., Chua, L., Shan, H., Goodnough, L. T., Virk, M. S.
2020
- **Coagulopathy and Transfusion Ratios in Pediatric Trauma.** *The journal of trauma and acute care surgery*
Murphy, C., Spain, D. A., Shan, H.
2020
- **Current advances in transfusion medicine: a 2019 review of selected topics from the AABB Clinical Transfusion Medicine Committee.** *Transfusion*
Pagano, M. B., Allen, E. S., Chou, S. T., Dunbar, N. M., Gniadek, T. n., Goel, R. n., Harm, S. K., Hopkins, C. K., Jacobson, J. n., Lokhandwala, P. M., Metcalf, R. A., Raval, J. S., Schwartz, et al
2020
- **Current risk factors for HIV infection among blood donors in seven Chinese regions.** *Transfusion*
Zeng, P. n., Liu, J. n., Zhang, C. n., Zhang, B. n., Liu, W. n., Huang, M. n., Ma, H. n., Zhao, Y. n., Guo, R. n., He, M. n., Liu, Y. n., Liao, D. n., Sullivan, et al
2020
- **The genotype distribution, infection stage and drug resistance mutation profile of human immunodeficiency virus-1 among the infected blood donors from five Chinese blood centers, 2014-2017.** *PloS one*
Liang, S., Liu, Z., Wang, S., Liu, J., Shi, L., Mao, W., Liu, C., Wan, J., Zhu, L., Huang, M., Liu, Y., Wang, J., Ness, et al
2020; 15 (12): e0243650
- **Vox Sanguinis International Forum on Transfusion Services about Response to COVID-19.** *Vox sanguinis*
Yazer, M. H., Jackson, B. n., Pagano, M. n., Rahimi-Levene, N. n., Peer, V. n., Bueno, J. L., Jackson, R. P., Shan, H. n., Amorim-Filho, L. n., Lopes, M. E., Boquimpani, C. n., Sprogøe, U. n., Bruun, et al
2020
- **Hepatitis C virus genotype/subtype distribution and evolution among Chinese blood donors: Revealing recent viral expansion.** *PloS one*
Zhang, Y. n., Gao, Z. n., Wang, S. n., Liu, J. n., Paul, N. n., He, T. n., Liu, C. n., Zhang, H. n., Lv, Y. n., Cao, R. n., Mao, W. n., Wan, J. n., Ma, et al
2020; 15 (7): e0235612

- **Emergency response to COVID-19 epidemic: One Chinese blood centre's experience.** *Transfusion medicine (Oxford, England)*
Hu, P. n., Kang, J. n., Li, Y. n., Li, X. n., Li, M. n., Deng, M. n., Zhao, Y. n., Tian, H. n., Li, R. n., Zhang, J. n., Xi, Y. n., Li, W. n., Gao, et al
2020
- **HIV prevalence and incidence estimates among blood donors in five regions in China.** *Transfusion*
Shi, L., Liu, Y., Wang, J., Zeng, P., Gao, Z., Wang, S., Fu, P., Liu, J., Mao, W., He, W., Ma, H., Huang, M., Wan, et al
2019
- **Coagulopathy Is Associated With Increased Mortality and Transfusion Requirements in a Pediatric Trauma Database**
Murphy, C. H., Spain, D. A., Shan, H.
WILEY.2019: 203A–204A
- **HCV Prevalence and Incidence Estimates in Chinese Blood Donors**
Fu, P., Lv, Y., Zhang, H., Liu, C., Wen, X., Ma, H., He, T., Liao, D., Liu, Y., Shan, H.
WILEY.2019: 67A–68A
- **Reducing Length of Stay and Red Blood Cell Transfusion by Implementing an Anesthesia Anemia Management Clinic**
Yunce, M., Shan, H., Tho Pham, Panigrahi, A.
WILEY.2019: 208A
- **Non-HLA Antibody-Mediated Rejection of Lung Transplant Masquerading Transfusion-Related Acute Lung Injury**
Yunce, M., Virk, M., Zhang, B. M., Mooney, K., Saleem, A., Shan, H.
WILEY.2019: 199A
- **Do high-risk behavior deferrals work? How to make it better?** *Transfusion*
Pandey, S., Shan, H.
2019; 59 (7): 2180–83
- **Blood utilization in five Chinese hospitals shows low hemoglobin thresholds in medical patients.** *Transfusion*
Carson, J. L., Liu, Y., Ness, P., Zaccaro, D. J., Wu, B., Meng, C., Zeng, X., Qin, L., Huang, C., Zhou, X., Xiong, T., Li, J., Xing, et al
2019
- **Estimation of hepatitis B-positive rates in Chinese blood donors by combining predonation and postdonation screening results** *TRANSFUSION*
Gao, Z., Liu, J., Fu, P., Huang, M., Cao, R., Wen, X., Zhang, C., He, T., Mao, W., Liao, D., Ke, L., Yang, Y., He, et al
2019; 59 (5): 1749–54
- **Probable transmission of hepatitis E virus (HEV) via transfusion in the United States** *TRANSFUSION*
Ticehurst, J. R., Pisanic, N., Forman, M. S., Ordak, C., Heaney, C. D., Ong, E., Linnen, J. M., Ness, P. M., Guo, N., Shan, H., Nelson, K. E.
2019; 59 (3): 1024–34
- **Estimation of hepatitisB-positive rates in Chinese blood donors by combining predonation and postdonation screening results.** *Transfusion*
Gao, Z., Liu, J., Fu, P., Huang, M., Cao, R., Wen, X., Zhang, C., He, T., Mao, W., Liao, D., Ke, L., Yang, Y., He, et al
2019
- **Probable transmission of hepatitis E virus (HEV) via transfusion in the United States.** *Transfusion*
Ticehurst, J. R., Pisanic, N., Forman, M. S., Ordak, C., Heaney, C. D., Ong, E., Linnen, J. M., Ness, P. M., Guo, N., Shan, H., Nelson, K. E.
2019
- **Evaluate performance of the Abbott chemiluminescent microparticle immunoassay assay for detection of syphilis infection in Chinese blood donors.** *Journal of clinical laboratory analysis*
Fu, P. n., Devare, S. n., Liu, J. F., Lv, X. T., Yin, P. n., Wu, B. T., Ke, L. n., Liu, Y. n., Shan, H. n.
2019: e23033
- **Hepatitis C virus prevalence and incidence estimates among Chinese blood donors.** *Transfusion*
Fu, P. n., Lv, Y. n., Zhang, H. n., Liu, C. n., Wen, X. n., Ma, H. n., He, T. n., Ke, L. n., Wu, B. n., Liu, J. n., He, M. n., Liao, D. n., Wang, et al
2019
- **HIV Molecular Surveillance in Chinese Blood Donors**

Liu, Z., Zeng, P., Gao, Z., Liu, Y., He, M., Liu, J., Liao, D., Wang, J., Ness, P. M., Shan, H.
WILEY.2018: 206A

- **The infection staging and profile of genotypic distribution and drug resistance mutation among the human immunodeficiency virus-1 infected blood donors from five Chinese blood centers, 2012-2014** *PLOS ONE*
Zeng, P., Liu, Y., He, M., Wang, J., Keating, S., Mao, W., Huang, M., Ma, H., He, W., Bi, X., Liao, D., Busch, M., Ness, et al
2017; 12 (6): e0179328
- **A 30-year systematic review and meta-analysis of hepatitis B virus among blood donors in mainland China: revealing increase of new threats.** *Transfusion*
Gao, Z., Zhang, Y., Shan, H., Shi, L., Liu, J., Xu, M., Zeng, P., Liu, Y., He, M.
2017
- **The association of elevated alanine aminotransferase levels with hepatitis E virus infections among blood donors in China.** *Transfusion*
Wang, M., He, M., Wu, B., Ke, L., Han, T., Wang, J., Shan, H., Ness, P., Guo, N., Liu, Y., Nelson, K. E.
2017; 57 (2): 273-279
- **Transfusion Medicine in China Comes of Age.** *Transfusion medicine reviews*
Shi, L. n., Shan, H. n.
2017; 31 (2): 81–83
- **Development and validation of a real-time reverse transcriptase PCR assay for sensitive detection of SFTSV.** *Journal of medical virology*
Zeng, P., Yang, Z., Bakkour, S., Wang, B., Qing, S., Wang, J., Chen, L., Busch, M., Shan, H., Liu, J., Lee, T.
2016
- **Patient Blood Management: An International Perspective.** *Anesthesia and analgesia*
Eichbaum, Q., Murphy, M., Liu, Y., Kajja, I., Hajjar, L. A., Smit Sibinga, C. T., Shan, H.
2016; 123 (6): 1574-1581
- **Patient Blood Management: An International Perspective** *ANESTHESIA AND ANALGESIA*
Eichbaum, Q., Murphy, M., Liu, Y., Kajja, I., Hajjar, L. A., Sibinga, C. T., Shan, H.
2016; 123 (6): 1574-1581
- **The power of collaboration.** *Transfusion*
Liu, J. n., Shan, H. n.
2016; 56 (12): 2910–12