

# Stanford

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## Brandon Alan Guenthart

Clinical Assistant Professor, Cardiothoracic Surgery

### **CLINICAL OFFICE (PRIMARY)**

- **Thoracic Surgery**

300 Pasteur Dr  
CVRB Bldg MC 5407  
Stanford, CA 94305  
**Tel** (650) 721-2086      **Fax** (650) 725-9443

### **Bio**

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#### **BIO**

Dr. Guenthart is a board-certified, fellowship-trained cardiothoracic surgeon. He is a clinical assistant professor in the Department of Cardiothoracic Surgery.

He specializes in providing leading-edge surgical treatment for people with cancer and end-stage heart and lung disease. He performs the full range of surgical procedures ranging from minimally invasive thoracic surgery to heart and lung transplantation. Dr. Guenthart practices all aspects of thoracic surgery, including procedures for benign and malignant conditions of the airway, lung, mediastinum, esophagus, and foregut. He has a particular interest in minimally invasive techniques and has extensive experience in video-assisted thoracoscopic surgical (VATS), laparoscopic, robotic, endoscopic, and bronchoscopic approaches.

Dr. Guenthart earned his medical degree at Temple University School of Medicine. He completed general surgery residency at Cornell and a post-doctoral research fellowship in tissue bioengineering at Columbia University in the Laboratory for Stem Cells and Tissue Engineering. He then completed cardiothoracic surgery fellowship and advanced fellowship training in cardiothoracic transplantation and mechanical circulatory support at Stanford University.

Dr. Guenthart has conducted research supported by grants from the National Institutes of Health, Stanford University School of Medicine, and Columbia University. Dr. Guenthart has a particular interest in end-stage lung disease and his research focuses on lung perfusion and bioengineering strategies to promote lung recovery and regeneration. He has published in peer-reviewed journals such as *Nature Medicine*, *Nature Biomedical Engineering*, the *Journal of Heart and Lung Transplantation*. He has made numerous presentations to his peers at national conferences and given invited talks on patient selection, organ allocation, and other aspects of transplantation.

Dr. Guenthart is a member of the Society of Thoracic Surgeons, Western Thoracic Surgical Association, Biomedical Engineering Society, American College of Surgeons, Association for Academic Surgery, and Alpha Omega Alpha Medical Honor Society.

### **CLINICAL FOCUS**

- Thoracic and Cardiac Surgery

## ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Cardiothoracic Surgery
- Member, Cardiovascular Institute

## ADMINISTRATIVE APPOINTMENTS

- Attending Cardiothoracic Surgeon, Stanford Hospital and Clinics, (2022- present)
- Attending Cardiothoracic Surgeon, Lucille Packard Children's Hospital, (2022- present)

## PROFESSIONAL EDUCATION

- Board Certification, American Board of Thoracic Surgery , Cardiothoracic Surgery (2023)
- Fellowship: Stanford University Dept of Cardiothoracic Surgery (2022) CA
- Fellowship: Stanford University Dept of Cardiothoracic Surgery CA
- Board Certification: General Surgery, American Board of Surgery (2020)
- Residency: New York Presbyterian Cornell Campus General Surgery Residency (2019) NY
- Medical Education: Temple University School of Medicine Registrar (2012) PA

## LINKS

- My Lab Site: <https://med.stanford.edu/ctsurgery/research/guenthart-lab.html>

## Publications

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### PUBLICATIONS

- **Four Decades of Progress in Heart-Lung Transplantation: 271 Cases at a Single Institution.** *The Journal of thoracic and cardiovascular surgery*  
Elde, S., Baccouche, B. M., Mullis, D. M., Leipzig, M. M., Deuse, T., Krishnan, A., Fawad, M., Dale, R., Walsh, S., Padilla-Lopez, A., Wesley, B., He, H., Yajima, et al  
2024
- **Lung-Mimetic Hydrofoam Sealant to Treat Pulmonary Air Leak.** *Advanced healthcare materials*  
Pinezich, M. R., Mir, M., Graney, P. L., Tavakol, D. N., Chen, J., Hudock, M., Gavaudan, O., Chen, P., Kaslow, S. R., Reimer, J. A., Van Hassel, J., Guenthart, B. A., O'Neill, et al  
2024: e2303026
- **Beating Heart Transplantation: How to Do It.** *Innovations (Philadelphia, Pa.)*  
Krishnan, A., Guenthart, B. A., Ruengesri, C., Elde, S., Zhu, Y., MacArthur, J. W., Woo, Y. J.  
2024: 15569845231220678
- **Beating Heart Transplants-Overview and Implications for Anesthesiologists.** *Journal of cardiothoracic and vascular anesthesia*  
Kothari, P., Kiwakyou, L. M., Guenthart, B. A., Vanneman, M.  
2023
- **Risk of developing subsequent primary lung cancer after receiving radiation for breast cancer.** *JTCVS open*  
Wong, L., Kapula, N., He, H., Guenthart, B. A., Vitzthum, L. K., Horst, K., Liou, D. Z., Backhus, L. M., Lui, N. S., Berry, M. F., Shrager, J. B., Elliott, I. A.  
2023; 16: 919-928
- **Comparison of failure to rescue in younger versus elderly patients following lung cancer resection.** *JTCVS open*  
Wang, Y., Kapula, N., Yang, C. J., Manapat, P., Elliott, I. A., Guenthart, B. A., Lui, N. S., Backhus, L. M., Berry, M. F., Shrager, J. B., Liou, D. Z.  
2023; 16: 855-872
- **Impact of hyperthermic intrathoracic chemotherapy (HITHOC) during resection of pleural mesothelioma on patient survival.** *Journal of thoracic disease*  
Elliott, I. A., He, H., Lui, N. S., Liou, D. Z., Guenthart, B. A., Shrager, J. B., Berry, M. F., Backhus, L. M.  
2023; 15 (11): 6140-6150

- **Impact of hyperthermic intrathoracic chemotherapy (HITHOC) during resection of pleural mesothelioma on patient survival JOURNAL OF THORACIC DISEASE**  
Elliott, I. A., He, H., Lui, N. S., Liou, D. Z., Guenthart, B. A., Shrager, J. B., Berry, M. F., Backhus, L. M.  
2023
- **Recovery of Extracorporeal Lungs Using Cross-Circulation with Injured Recipient Swine. The Journal of thoracic and cardiovascular surgery**  
Chen, P., Van Hassel, J., Pinezich, M. R., Diane, M., Hudock, M. R., Kaslow, S. R., Gavaudan, O. P., Fung, K., Kain, M. L., Lopez, H., Saqi, A., Guenthart, B. A., Hozain, et al  
2023
- **Tracheal stenosis and airway complications in the Coronavirus Disease-19 era. Annals of thoracic surgery short reports**  
Krishnan, A., Guenthart, B. A., Choi, A., Trope, W., Berry, G. J., Pinezich, M. R., Vunjak-Novakovic, G., Shaller, B., Sung, C. K., Liou, D. Z., Damrose, E. J., Lui, N. S.  
2023
- **World's first en bloc heart-lung transplantation using the paragonix lungguard donor preservation system. Journal of cardiothoracic surgery**  
Neto, D., Guenthart, B., Shudo, Y., Currie, M. E.  
2023; 18 (1): 131
- **Sound-guided assessment and localization of pulmonary air leak. Bioengineering & translational medicine**  
Pinezich, M. R., Mir, S. M., Reimer, J. A., Kaslow, S. R., Chen, J., Guenthart, B. A., Bacchetta, M., O'Neill, J. D., Vunjak-Novakovic, G., Kim, J.  
2023; 8 (1): e10322
- **Outcomes of Heart Transplantation Using a Temperature-controlled Hypothermic Storage System. Transplantation**  
Zhu, Y., Shudo, Y., He, H., Kim, J. Y., Elde, S., Williams, K. M., Walsh, S. K., Koyano, T. K., Guenthart, B., Woo, Y. J.  
2022
- **Resection of a synovial cell sarcoma by cardiac autotransplantation: A case report. JTCVS techniques**  
Mullis, D. M., Zhu, Y., Guenthart, B. A., Bonham, S. A., Trope, W. L., Berry, G. J., Woo, Y. J., MacArthur, J. W.  
2022; 16: 123-127
- **Technique for xenogeneic cross-circulation to support human donor lungs ex vivo. The Journal of heart and lung transplantation : the official publication of the International Society for Heart Transplantation**  
Kelly Wu, W., Guenthart, B. A., O'Neill, J. D., Hozain, A. E., Tipograf, Y., Ukita, R., Stokes, J. W., Patel, Y. J., Pinezich, M., Talackine, J. R., Cardwell, N. L., Fung, K., Vunjak-Novakovic, et al  
2022
- **Type A Aortic Dissection With Concurrent Aortic Valve Endocarditis, Subarachnoid Hemorrhage, and Disseminated Intravascular Coagulation. JACC. Case reports**  
Elde, S. F., Guenthart, B. A., de Biasi, A., Dalal, A. R., Casselman, K. G., Hiesinger, W., Burton, E. C.  
2022; 4 (14): 839-843
- **Half of Anastomotic Leaks after Esophagectomy are Undetected on Initial Postoperative Esophagram. The Annals of thoracic surgery**  
Elliott, I. A., Berry, M. F., Trope, W., Lui, N. S., Guenthart, B. A., Liou, D. Z., Whyte, R. I., Backhus, L. M., Shrager, J. B.  
2022
- **Pathological remodeling of distal lung matrix in end-stage cystic fibrosis patients. Journal of cystic fibrosis : official journal of the European Cystic Fibrosis Society**  
Pinezich, M. R., Tamargo, M. A., Fleischer, S., Reimer, J. A., Hudock, M. R., Hozain, A. E., Kaslow, S. R., Tipograf, Y., Soni, R. K., Gavaudan, O. P., Guenthart, B. A., Marboe, C. C., Bacchetta, et al  
2022
- **Sound-guided assessment and localization of pulmonary air leak BIOENGINEERING & TRANSLATIONAL MEDICINE**  
Pinezich, M. R., Mir, S., Reimer, J. A., Kaslow, S. R., Chen, J., Guenthart, B. A., Bacchetta, M., O'Neill, J. D., Vunjak-Novakovic, G., Kim, J.  
2022
- **Imaging-Guided Bioreactor for Generating Bioengineered Airway Tissue. Journal of visualized experiments : JoVE**  
Mir, S. M., Chen, J., Pinezich, M. R., O'Neill, J. D., Guenthart, B. A., Vunjak-Novakovic, G., Kim, J.  
2022
- **Ex vivo aortic valve replacement before orthotopic heart transplantation. JTCVS techniques**

- Elde, S. F., Guenthart, B. A., Shudo, Y., Woo, Y. J.  
2022; 12: 118-120
- **Cannulation Strategies in Ex Vivo Lung Perfusion.** *ASAIO journal (American Society for Artificial Internal Organs : 1992)*  
Guenthart, B. A., O'Neill, J. D., Bacchetta, M.  
2021
  - **Homogeneous Distribution of Exogenous Cells onto De-epithelialized Rat Trachea via Instillation of Cell-Loaded Hydrogel.** *ACS biomaterials science & engineering*  
Chen, J., Mir, S. M., Pinezich, M. R., O'Neill, J. D., Guenthart, B. A., Bacchetta, M., Vunjak-Novakovic, G., Huang, S. X., Kim, J.  
2021
  - **Extended Static Hypothermic Preservation In Cardiac Transplantation: A Case Report.** *Transplantation proceedings*  
Guenthart, B. A., Krishnan, A., Koyano, T., La Francesca, S., Chan, J., Allassar, A., MacArthur, J. W., Shudo, Y., Hiesinger, W., Woo, Y. J.  
2021
  - **Xenogeneic support for the recovery of human donor organs.** *The Journal of thoracic and cardiovascular surgery*  
O'Neill, J. D., Guenthart, B. A., Hozain, A. E., Bacchetta, M.  
2021
  - **Resection of a Giant Epithelioid Hemangioendothelioma Arising from the Superior Vena Cava.** *The Annals of thoracic surgery*  
Elliott, I. A., Kasinpila, P., Guenthart, B. A., MacArthur, J. W., Berry, M. F.  
2021
  - **First lung and kidney multi-organ transplant following COVID-19 Infection.** *The Journal of heart and lung transplantation : the official publication of the International Society for Heart Transplantation*  
Guenthart, B. A., Krishnan, A., Allassar, A., Madhok, J., Kakol, M., Miller, S., Cole, S. P., Rao, V. K., Acero, N. M., Hill, C. C., Cheung, C., Jackson, E. C., Feinstein, et al  
2021
  - **Non-destructive vacuum-assisted measurement of lung elastic modulus.** *Acta biomaterialia*  
Chen, J., Mir, S. M., Pinezich, M. R., O'Neill, J. D., Guenthart, B. A., Bacchetta, M., Vunjak-Novakovic, G., Huang, S. X., Kim, J.  
2021
  - **Surgical technique for atrial-esophageal fistula repair after catheter ablation: An underrecognized complication** *JTCVS TECHNIQUES*  
Guenthart, B. A., Sun, B., De Biasi, A., Fischbein, M. P., Liou, D. Z.  
2020; 4: 169-172
  - **Surgical technique for atrial-esophageal fistula repair after catheter ablation: An underrecognized complication.** *JTCVS techniques*  
Guenthart, B. A., Sun, B., De Biasi, A., Fischbein, M. P., Liou, D. Z.  
2020; 4: 169-172
  - **Gut bioengineering strategies for regenerative medicine.** *American journal of physiology. Gastrointestinal and liver physiology*  
O'Neill, J. D., Pinezich, M. R., Guenthart, B. A., Vunjak-Novakovic, G.  
2020
  - **Intracardiac paragangliomas: surgical approach and perioperative management.** *General thoracic and cardiovascular surgery*  
Guenthart, B. A., Trope, W., Keeyapaj, W., Weiel, J. J., Edmonson, A., MacArthur, J. W., Annes, J. P., Woo, Y. J., Lui, N. S.  
2020
  - **Greater Ipsilateral Rectus Muscle Atrophy after Robotic Thoracic Surgery Compared to Open and VATS Approaches**  
Wang, Y., Bhandari, P., Trope, W., Guenthart, B. A., Guo, H., Liou, D., Backhus, L. M., Berry, M., Ben Shrager, J., Lui, N.  
ELSEVIER SCIENCE INC.2020: S289
  - **Xenogeneic cross-circulation for extracorporeal recovery of injured human lungs.** *Nature medicine*  
Hozain, A. E., O'Neill, J. D., Pinezich, M. R., Tipograf, Y., Donocoff, R., Cunningham, K. M., Tumen, A., Fung, K., Ukita, R., Simpson, M. T., Reimer, J. A., Ruiz, E. C., Queen, et al  
2020; 26 (7): 1102–13
  - **Resident education in robotic thoracic surgery** *VIDEO-ASSISTED THORACIC SURGERY*  
Guenthart, B. A., Lui, N. S.

2020; 5

- **Commentary: Lung cancer outcomes reporting within the VA system: room for improvement.** *Seminars in thoracic and cardiovascular surgery*  
Guenthart, B. A., Backhus, L. M., Lui, N. S.  
2020