



Tiffany E. Chao, MD, MPH, FACS, FCS (ECSA)

Adjunct Professor
Human Biology

Bio

BIO

Dr. Tiffany E. Chao is a board-certified general surgeon at Santa Clara Valley Medical Center (SCVMC), a Clinical Associate Professor of Surgery (Affiliated) in the Stanford Department of Surgery (Division of General Surgery), and an Adjunct Professor in the university's Program in Human Biology. At SCVMC, Dr. Chao is the Site Director for the Stanford medical student surgical clerkship and the Associate Site Director for the Stanford General Surgery Residency Program. Her interests in surgery include minimally invasive foregut, hernia, and colorectal surgery, in addition to acute care & trauma surgery.

At Stanford, she is the Primary Instructor of the undergraduate course HUMBIO 29: Introduction to Global Health and the medical school seminar SURG 236: Seminar in Global Surgery and Anesthesia, both Winter Quarter classes. Her other roles at Stanford include Faculty Fellow with Center for Innovation in Global Health and the Clinical Competency Committee of the General Surgery Residency. Dr. Chao's research interests are in global surgery, including cost-effectiveness analysis, surgical device innovation, and expansion of surgical delivery for low-income populations through surgical workforce and infrastructure development.

Dr. Chao holds dual Bachelor's degrees in Symbolic Systems and Psychology from Stanford University, as well as MD and MPH degrees from Mount Sinai School of Medicine, where she graduated with Alpha Omega Alpha honors. She completed General Surgery residency at the Massachusetts General Hospital in Boston, the Paul Farmer Global Surgery Research Fellowship at Harvard Medical School's Program in Global Surgery and Social Change, and the CTSA/Lucile Packard Innovation Fellowship at Stanford Biodesign. Through the Biodesign program, she co-founded Zenflow, Inc., a venture-backed medical device company working in minimally-invasive therapy for prostate disease, and is a Founding Partner of 4i Ventures.

In addition to being a Fellow of the American College of Surgeons since 2018, Dr. Chao was also elected to be an Overseas Fellow of The College of Surgeons of East, Central and Southern Africa (COSECSA) in 2022. She has also been appointed as an Extraordinary Senior Lecturer at the Centre for Global Surgery at Stellenbosch University in Cape Town, South Africa and serves on the Editorial Board of the World Journal of Surgery.

ACADEMIC APPOINTMENTS

- Adjunct Professor, Human Biology

ADMINISTRATIVE APPOINTMENTS

- SCVMC Site Director, Stanford School of Medicine, Surgical Clerkship, (2020- present)
- SCVMC Associate Site Director, Stanford General Surgery Residency Program, (2021- present)

HONORS AND AWARDS

- Honor Society, Alpha Omega Alpha (2009 - Present)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Faculty Fellow, Stanford Center for Innovation in Global Health (2017 - present)
- Fellow, American College of Surgeons (2018 - present)
- Advisory Team, University of Global Health Equity - Global Surgery Track (2021 - present)
- Founding Partner, 4i Ventures (2021 - present)
- Editorial Board Member, World Journal of Surgery (2022 - present)
- Extraordinary Senior Lecturer, Centre for Global Surgery, Stellenbosch University, South Africa (2022 - present)
- Fellow, College of Surgeons of East, Central & Southern Africa (2022 - present)

PROFESSIONAL EDUCATION

- Board Certification, American Board of Surgery , General Surgery (2016)
- General Surgery Residency, Massachusetts General Hospital , Department of Surgery (2016)
- Biodesign Innovation Fellow, Stanford Biodesign Program , Innovation (2014)
- Global Surgery Fellow, Harvard Medical School , Program in Global Surgery and Social Change (Paul Farmer Global Surgery Research Fellowship) (2013)
- M.D., Mount Sinai School of Medicine , Medicine (2009)
- M.P.H., Mount Sinai School of Medicine , Community Medicine (Global Health) (2007)
- B.A., Stanford University , Psychology (2004)
- B.S., Stanford University , Symbolic Systems (Neuroscience) (2004)

PATENTS

- Tiffany E. CHAO, Nicholas R. DAMIANO, Shreya MEHTA, John P. WOOCK. "United States Patent US20150257908A1 Indwelling body lumen expander", Leland Stanford Junior University, Mar 14, 2014

Teaching

COURSES

2024-25

- Introduction to Global Health: HUMBIO 29 (Win)

2023-24

- Introduction to Global Health: HUMBIO 29 (Win)

2022-23

- Introduction to Global Health: HUMBIO 29 (Win)
- Seminar in Global Surgery and Anesthesia: SURG 236 (Win)

2021-22

- Introduction to Global Health: HUMBIO 29 (Win)
- Seminar in Global Surgery and Anesthesia: SURG 236 (Win)

STANFORD ADVISEES

Med Scholar Project Advisor

Bunmi Fariyike, Dylan Griswold

Publications

PUBLICATIONS

- **Trauma care and its financing around the world.** *The journal of trauma and acute care surgery*
Chao, T. E., Chu, K., Hardcastle, T. C., Steyn, E., Gaarder, C., Hsee, L., Otomo, Y., Vega-Rivera, F., Coimbra, R., Staudenmayer, K.
2024
- **Patient-reported outcomes in inguinal hernia surgery-Results from the GENESIS study: A multinational multicenter study.** *World journal of surgery*
Chao, T. E.
2024
- **Angioembolization for splenic injuries: does it help? Retrospective evaluation of grade III–V splenic injuries at two level I trauma centers** *Trauma & Acute Care Open*
Ahmad, M., Lee, D., Tennakoon, L., Chao, T. E., Spain, D., Staudenmayer, K.
2024; 9
- **The Effect of Conflict on Obstetric and Non-Obstetric Surgical Needs and Operative Mortality in Fragile States.** *World journal of surgery*
Rahman, A. S., Chao, T. E., Trelles, M. n., Dominguez, L. n., Mupenda, J. n., Kasonga, C. n., Akemani, C. n., Kondo, K. M., Chu, K. M.
2021
- **Beyond outcomes: applying cost-effectiveness analysis to policy making.** *British journal of anaesthesia*
Chao, T. E.
2020
- **Catastrophic expenditures in California trauma patients after the Affordable Care Act: reduced financial risk and racial disparities.** *American journal of surgery*
Liu, C., Rahman, A. S., Chao, T. E.
2020
- **Sex Disparities in the Global Burden of Surgical Disease.** *World journal of surgery*
Powell, B. L., Lockett, R., Bekele, A., Chao, T. E.
2020
- **Neurosurgical Randomized Trials in Low- and Middle-Income Countries.** *Neurosurgery*
Griswold, D. P., Khan, A. A., Chao, T. E., Clark, D. J., Budohoski, K., Devi, B. I., Azad, T. D., Grant, G. A., Trivedi, R. A., Rubiano, A. M., Johnson, W. D., Park, K. B., Broekman, et al
2020
- **Use of vital signs in Predicting surgical intervention in a South African population: A cross-sectional study.** *International journal of surgery (London, England)*
Azad, A. D., Kong, V. Y., Clarke, D. L., Laing, G. L., Bruce, J. L., Chao, T. E.
2020
- **Operative Burden in Conflict vs Nonconflict Settings: Experience of Medecins Sans Frontieres**
Rahman, A. S., Chao, T. E., Centurion, M., Dominguez, L., Chu, K. M.
ELSEVIER SCIENCE INC.2019: S136
- **Impact of Affordable Care Act Implementation on Catastrophic Health Expenditures among Trauma Patients**
Liu, C., Rahman, A. S., Chao, T. E.
ELSEVIER SCIENCE INC.2018: S148–S149
- **Cost-Effectiveness in Global Surgery: Pearls, Pitfalls, and a Checklist** *WORLD JOURNAL OF SURGERY*
Shrime, M. G., Alkire, B. C., Grimes, C., Chao, T. E., Poenaru, D., Verguet, S.
2017; 41 (6): 1401–13
- **A geospatial evaluation of timely access to surgical care in seven countries** *BULLETIN OF THE WORLD HEALTH ORGANIZATION*

- Knowlton, L. M., Banguti, P., Chackungal, S., Chanthasiri, T., Chao, T. E., Dahn, B., Derbew, M., Dhar, D., Esquivel, M. M., Evans, F., Hendel, S., LeBrun, D. G., Notrica, et al
2017; 95 (6): 437–44
- **Staged Particle and Ethanol Embolotherapy of a Symptomatic Pancreatic Arteriovenous Malformation** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Frenk, N. E., Chao, T. E., Cui, J., Fagenholz, P. J., Irani, Z.
2016; 27 (11): 1734–35
 - **A Multinational Evaluation of Timely Access to Basic Surgical Services Using Geospatial Analyses**
Knowlton, L., Esquivel, M., Uribe-Leitz, T., McQueen, K., Chackungal, S., LeBrun, D. G., Chao, T. E., Weiser, T. G., Spain, D. A.
ELSEVIER SCIENCE INC.2016: E118
 - **Size and distribution of the global volume of surgery in 2012** *BULLETIN OF THE WORLD HEALTH ORGANIZATION*
Weiser, T. G., Haynes, A. B., Molina, G., Lipsitz, S. R., Esquiye, M. M., Uribe-Leitz, T., Fu, R., Azad, T., Chao, T. E., Berry, W. R., Gawande, A. A.
2016; 94 (3): 201-209
 - **Systematic review of laparoscopic surgery in low- and middle-income countries: benefits, challenges, and strategies** *SURGICAL ENDOSCOPY AND OTHER INTERVENTIONAL TECHNIQUES*
Chao, T. E., Mandigo, M., Opoku-Anane, J., Maine, R.
2016; 30 (1): 1–10
 - **Building a global surgery initiative through evaluation, collaboration, and training: the Massachusetts General Hospital experience.** *Journal of surgical education*
Chao, T. E., Riesel, J. N., Anderson, G. A., Mullen, J. T., Doyle, J., Briggs, S. M., Lillemoe, K. D., Goldstein, C., Kitya, D., Cusack, J. C.
2015; 72 (4): e21–8
 - **Estimate of the global volume of surgery in 2012: an assessment supporting improved health outcomes.** *Lancet*
Weiser, T. G., Haynes, A. B., Molina, G., Lipsitz, S. R., Esquivel, M. M., Uribe-Leitz, T., Fu, R., Azad, T., Chao, T. E., Berry, W. R., Gawande, A. A.
2015; 385: S11-?
 - **Strategies for last mile implementation of global health technologies.** *The Lancet. Global health*
Chao, T. E., Lo, N. C., Mody, G. N., Sinha, S. R.
2014; 2 (9): e497-8
 - **Cost-effectiveness of surgery and its policy implications for global health: a systematic review and analysis** *LANCET GLOBAL HEALTH*
Chao, T. E., Sharma, K., Mandigo, M., Hagander, L., Resch, S. C., Weiser, T. G., Meara, J. G.
2014; 2 (6): E334-E345
 - **Prioritizing essential surgery and safe anesthesia for the Post-2015 Development Agenda: Operative capacities of 78 district hospitals in 7 low- and middle-income countries** *SURGERY*
Lebrun, D. G., Chackungal, S., Chao, T. E., Knowlton, L. M., Linden, A. F., Notrica, M. R., Solis, C. V., McQueen, K. A.
2014; 155 (3): 365-373
 - **Survey of Surgery and Anesthesia Infrastructure in Ethiopia** *WORLD JOURNAL OF SURGERY*
Chao, T. E., Burdic, M., Ganjawalla, K., Derbew, M., Keshian, C., Meara, J., McQueen, K.
2012; 36 (11): 2545–53