

# Stanford

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## Jai Madhok

Clinical Associate Professor, Anesthesiology, Perioperative and Pain Medicine

### CLINICAL OFFICE (PRIMARY)

- **Anesthesia Department**

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Stanford, CA 94305

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### Bio

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#### CLINICAL FOCUS

- Critical Care Medicine
- Cardiothoracic Anesthesiology
- Extracorporeal Membrane Oxygenation
- Critical Care Ultrasonography
- Quality Improvement
- Anesthesia

#### ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Anesthesiology, Perioperative and Pain Medicine

#### ADMINISTRATIVE APPOINTMENTS

- Program Director, Anesthesiology Critical Care Medicine Fellowship, Stanford University School of Medicine, (2024- present)
- Director, Critical Care Ultrasonography, Stanford University School of Medicine, (2021-2024)

#### HONORS AND AWARDS

- ACTA Fellowship Teaching Award, Adult Cardiothoracic Anesthesiology Fellowship Program, Stanford University School of Medicine (2023)
- ACTA Fellowship Teaching Award, Adult Cardiothoracic Anesthesiology Fellowship Program, Stanford University School of Medicine (2022)
- John Silvey Thompson III, MD Memorial Critical Care Medicine Fellowship Award, Department of Anesthesiology, Perioperative and Pain Medicine (2020)
- Frank H. Sarnquist Recognition Award, Department of Anesthesiology, Perioperative and Pain Medicine (2019)
- Best case presentation (second prize), Western Anesthesia Regional Conference (2018)
- Best presentation in category "Perioperative Challenges and Emergencies", Western Anesthesia Regional Conference (2016)
- TRANSFORM Patient Safety Program Award, Stanford Hospital & Clinics (April 2015)
- TRANSFORM Patient Safety Program Award, Stanford Hospital & Clinics (September 2014)

- Best Educational Abstract, Department of Anesthesiology, Perioperative, and Pain Medicine (2014)
- George M.L. Sommerman Engineering Graduate Student Teaching Assistant Award, Johns Hopkins University (2010)
- Center for Leadership Education Teaching Assistant Award of the Year, Johns Hopkins University (2008)
- Richard J. Jones Outstanding Academic Achievement Award in Biomedical Engineering, Johns Hopkins University (2008)

## PROFESSIONAL EDUCATION

- Board Certification: Adult Cardiac Anesthesiology, American Board of Anesthesiology (2023)
- Board Certification, National Board of Echocardiography , Advanced Perioperative Transesophageal Echocardiography (2021)
- Board Certification: Critical Care Echocardiography, National Board of Echocardiography (2020)
- Board Certification: Critical Care Medicine, American Board of Anesthesiology (2020)
- Board Certification: Internal Medicine, American Board of Internal Medicine (2019)
- Fellowship: Stanford University Anesthesiology Fellowships (2021) CA
- Fellowship: Stanford University Critical Care Medicine Fellowship (2020) CA
- Residency: Stanford University Anesthesiology Residency CA
- Medical Education: Stanford University School of Medicine (2014) CA
- MSE, Johns Hopkins University , Biomedical Engineering (2010)
- BS, Johns Hopkins University , Biomedical Engineering (2008)

## Teaching

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### COURSES

#### 2025-26

- Science of Medicine I: INDE 221 (Spr)

#### 2024-25

- Science of Medicine I: INDE 221 (Spr)

#### 2023-24

- Science of Medicine I: INDE 221 (Spr)

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Anesthesia (Fellowship Program)
- Cardiac Anesthesia (Fellowship Program)
- Critical Care Medicine (Fellowship Program)

## Publications

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### PUBLICATIONS

- **The Coronary Conundrum in Type A Dissection: Coronary Artery Bypass Grafting for All, or Just for Some?** *Journal of cardiothoracic and vascular anesthesia*  
Kothari, P., Madhok, J., Vanneman, M. W.  
2025
- **Antithymocyte Globulin and Acute Respiratory Distress Syndrome in Orthotopic Heart Transplantation.** *Journal of cardiothoracic and vascular anesthesia*  
Cadenhead, H., Sun, L., Madhok, J.  
2025

- **Evaluating Large Language Model Performance in Generating Clinically Relevant Intensive Care Unit Discharge Summaries.** *A&A practice*  
Mudumbai, S. C., Chung, P., Chen, J. Q., Litake, O., Regala, S., Madhok, J., Krause, M., Pearl, R. G., Boateng Evans, A., Gabriel, R. A.  
2025; 19 (9): e02057
- **Impact of Longitudinal Pulmonary Ultrasound Curriculum in a Multi-disciplinary Critical Care Fellowship.** *Cureus*  
Chiacchia, S., D'souza, M., Madhok, J., Htet, N.  
2025; 17 (8): e89447
- **Evaluating Large Language Model Performance in Generating Clinically Relevant ICU Discharge Summaries Using MIMIC-III and G-Eval**  
Mudumbai, S., Chung, P., Chen, J., Litake, O., Regala, S., Madhok, J., Krause, M., Pearl, R., Boateng, A., Gabriel, R.  
LIPPINCOTT WILLIAMS & WILKINS.2025: 153-155
- **Impact of C-reactive Protein on Anticoagulation Monitoring in Extracorporeal Membrane Oxygenation.** *Journal of cardiothoracic and vascular anesthesia*  
Madhok, J., O'Donnell, C., Jin, J., Owyang, C. G., Weimer, J. M., Pashun, R. A., Shudo, Y., McNulty, J., Chadwick, B., Ruoss, S. J., Rao, V. K., Zehnder, J. L., Hsu, et al  
2024
- **Prolonged Postoperative Euglycemic Diabetic Ketoacidosis in a Lung Transplant Recipient With Preoperative SGLT2 Inhibitor Use.** *Journal of cardiothoracic and vascular anesthesia*  
Choi, C. H., Singh, S., Cheung, A. T., Vanneman, M., Madhok, J.  
2024
- **Preparing for the Adult Cardiac Anesthesiology Subspecialty Certification: Recognition of Expertise in Cardiac Anesthesiology.** *Journal of cardiothoracic and vascular anesthesia*  
Tsai, A., Faloye, A., Bodmer, N., Madhok, J., Nunes, S., Shook, D., Linganna, R.  
2023
- **Use of methylene blue to treat vasoplegia syndrome in cystic fibrosis patients undergoing lung transplantation: A case series.** *Annals of cardiac anaesthesia*  
Washington, G. C., O'Donnell, C. T., Madhok, J., Williams, K. M., Hill, C. C.  
2023; 26 (1): 36-41
- **IMPACT OF C-REACTIVE PROTEIN ON ANTICOAGULATION MONITORING IN EXTRACORPOREAL MEMBRANE OXYGENATION**  
Madhok, J., O'Donnell, C., Jin, J., Owyang, C., Weimer, J., Pashun, R., Shudo, Y., McNulty, J., Chadwick, B., Ruoss, S., Rao, V., Zehnder, J., Hsu, et al  
LIPPINCOTT WILLIAMS & WILKINS.2023: 54
- **Pheochromocytoma crisis precipitated by dexamethasone with profound lactic acidosis, but without severe hypertension.** *Endocrinology, diabetes & metabolism case reports*  
Lin, D., Madhok, J., Bouhenguel, J., Mihm, F.  
2022; 2022
- **Things We Do for No Reason™ : Mandatory central venous catheter placement for initiation of vasopressors.** *Journal of hospital medicine*  
Block, J. M., Boateng, A., Madhok, J.  
2022; 17 (7): 565-568
- **SGLT-2 Inhibitors: Proliferating Indications and Perioperative Pitfalls.** *Journal of cardiothoracic and vascular anesthesia*  
Madhok, J., Vanneman, M. W.  
2022
- **Unexpected Interruptions in the Inhaled Epoprostenol Delivery System: Incidence of Adverse Sequelae and Therapeutic Consequences in Critically Ill Patients.** *Critical care explorations*  
Block, J. M., Madhok, J., Owyang, C. G., Merriman, K. R., Ruoss, S. J., Rao, V. K.  
2021; 3 (10): e0548
- **Death From Primary Amebic Meningoencephalitis After Recreational Water Exposure During Recent Travel to India-Santa Clara County, California, 2020.** *Open forum infectious diseases*  
Harris, G. R., Karmarkar, E. N., Quenelle, R., Chaille, L., Madhok, J., Tien, V., Gupta, J., Jain, S., Liu, M., Roy, S., Narasimhan, S., Kimura, A., Cope, et al  
2021; 8 (8): ofab322

- **Perioperative Implications of the 2020 American Heart Association Scientific Statement on Drug-Induced Arrhythmias-A Focused Review.** *Journal of cardiothoracic and vascular anesthesia*  
Vanneman, M. W., Madhok, J., Weimer, J. M., Dalia, A. A.  
2021
- **The Use of Factor Eight Inhibitor Bypass Activity (FEIBA) for the Treatment of Perioperative Hemorrhage in Left Ventricular Assist Device Implantation.** *Journal of cardiothoracic and vascular anesthesia*  
O'Donnell, C., Rodriguez, A. J., Madhok, J., Sharifi, H., Wang, H., O'Brien, C. G., Boyd, J., Hiesinger, W., Hsu, J., Hill, C. C.  
2021
- **Antithrombin in Extracorporeal Membrane Oxygenation: To Replenish or Not to Replenish?** *Critical care medicine*  
Madhok, J., Ruoss, S. J.  
2021; 49 (4): e480–e481
- **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., Alassar, 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
- **A SYSTEMATIC REVIEW OF PALLIATIVE CARE IN MECHANICAL CIRCULATORY SUPPORT**  
Leong, J., Madhok, J., Vogelsong, M., Aslakson, R.  
LIPPINCOTT WILLIAMS & WILKINS.2021: 391
- **THE SAFETY AND EFFICACY OF PERIOPERATIVE FEIBA AFTER LEFT VENTRICULAR ASSIST DEVICE IMPLANTATION**  
ODonnell, C., Rodriguez, A., Madhok, J., Wang, H., Shad, R., Sharifi, H., Boyd, J., William, H., Hsu, J., Hill, C.  
LIPPINCOTT WILLIAMS & WILKINS.2021: 168
- **POCUS for Visualization and Facilitation of Urinary Catheter Placement.** *POCUS journal*  
Garagliano, J., Madhok, J.  
2020; 5 (2): 35-36
- **Rescue of Nimodipine-Induced Refractory Vasoplegia With Hydroxocobalamin in Subarachnoid Hemorrhage: A Case Report.** *Critical care explorations*  
Clifford, K. M., Madhok, J., Murray, N. M., Mohindra, V.  
2020; 2 (10): e0205
- **Rethinking sedation during prolonged mechanical ventilation for COVID-19 respiratory failure.** *Anesthesia and analgesia*  
Madhok, J., Mihm, F. G.  
2020
- **Mortality of Patients Requiring Escalation to Intensive Care within 24 Hours of Admission in a Mixed Medical-Surgical Population.** *Clinical medicine & research*  
Leong, J. n., Madhok, J. n., Lighthall, G. K.  
2020
- **Retrospective Analysis of Peri-Intubation Hypoxemia During the Coronavirus Disease 2019 Epidemic Using a Protocol for Modified Airway Management.** *A&A practice*  
Madhok, J. n., Vogelsong, M. A., Lee, T. C., Wilson, J. G., Mihm, F. n.  
2020; 14 (14): e01360
- **Traumatic Pneumothorax Presenting as a Subcutaneous "Airball".** *American journal of respiratory and critical care medicine*  
Madhok, J. n., Madani, M. H., Leung, A. N., Mihm, F. n.  
2020
- **Catecholamine-induced cerebral vasospasm and multifocal infarctions in pheochromocytoma.** *Endocrinology, diabetes & metabolism case reports*  
Madhok, J. n., Kloosterboer, A. n., Venkatasubramanian, C. n., Mihm, F. G.  
2020; 2020
- **DUAL TRAINING IN ANESTHESIOLOGY AND INTERNAL MEDICINE: SYNERGISTIC PATHWAY TO CRITICAL CARE MEDICINE**

La, A., Madhok, J.  
LIPPINCOTT WILLIAMS & WILKINS.2020

- **Anesthetic Considerations for Liver Transplantation in a Patient with Mitochondrial Neurogastrointestinal Encephalopathy Syndrome.** *Cureus*  
Madhok, J., Leong, J., Cohn, J.  
2019; 11 (6): e5038
- **Curricular Innovations for Medical Students in Palliative and End-of-Life Care: A Systematic Review and Assessment of Study Quality** *JOURNAL OF PALLIATIVE MEDICINE*  
DeCoste-Lopez, J., Madhok, J., Harman, S.  
2015; 18 (4): 338-349
- **Hypothermia Amplifies Somatosensory-evoked Potentials in Uninjured Rats** *JOURNAL OF NEUROSURGICAL ANESTHESIOLOGY*  
Madhok, J., Wu, D., Xiong, W., Geocadin, R. G., Jia, X.  
2012; 24 (3): 197-202
- **Study of the origin of short- and long-latency SSEP during recovery from brain ischemia in a rat model** *NEUROSCIENCE LETTERS*  
Wu, D., Anastassios, B., Xiong, W., Madhok, J., Jia, X., Thakor, N. V.  
2010; 485 (3): 157-161
- **Quantitative assessment of somatosensory-evoked potentials after cardiac arrest in rats: Prognostication of functional outcomes** *CRITICAL CARE MEDICINE*  
Madhok, J., Maybhate, A., Xiong, W., Koenig, M. A., Geocadin, R. G., Jia, X., Thakor, N. V.  
2010; 38 (8): 1709-1717
- **Evolution of somatosensory evoked potentials after cardiac arrest induced hypoxic-ischemic injury** *RESUSCITATION*  
Xiong, W., Koenig, M. A., Madhok, J., Jia, X., Puttgen, H. A., Thakor, N. V., Geocadin, R. G.  
2010; 81 (7): 893-897
- **Characterization of Neurologic Injury using Novel Morphological Analysis of Somatosensory Evoked Potentials** *32nd Annual International Conference of the IEEE Engineering-in-Medicine-and-Biology-Society (EMBC 10)*  
Madhok, J., Iyer, S., Thakor, N. V., Maybhate, A.  
IEEE.2010: 2798–2801
- **Discovery of Long-Latency Somatosensory Evoked Potentials as a Marker of Cardiac Arrest Induced Brain Injury**  
Wu, D., Madhok, J., Choi, Y., Jia, X., Thakor, N. V.  
edited by Herold, K. E., Bentley, W. E., Vossoughi, J.  
SPRINGER.2010: 101–4
- **EARLY INDICATION OF NEUROLOGICAL OUTCOMES AFTER CARDIAC ARREST USING QUANTITATIVE SOMATOSENSORY EVOKED POTENTIAL MONITORING**  
Jia, X., Madhok, J., Xiong, W., Maybhate, A., Geocadin, R., Thakor, N.  
LIPPINCOTT WILLIAMS & WILKINS.2009: A308
- **Honors Biomedical Instrumentation - A Course Model for Accelerated Design** *Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society*  
Madhok, J., Smith, R. J., Thakor, N. V.  
IEEE.2009: 2015–2018
- **Neural Signals in Cortex and Thalamus during Brain Injury from Cardiac Arrest in Rats** *Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society*  
Zhang, D., Choi, Y., Madhok, J., Jia, X., Koenig, M., Thakor, N.  
IEEE.2009: 5946–5949
- **Information Theoretical Assessment of Neural Spiking Activity with Temperature Modulation** *Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society*  
Madhok, J., Jia, X., Choi, Y., Zhang, D., Thakor, N.  
IEEE.2009: 4990–4993

- **Specific Considerations for Venovenous Extracorporeal Membrane Oxygenation During Coronavirus Disease 2019 Pandemic.** *ASAIO journal (American Society for Artificial Internal Organs : 1992)*  
Guihaire, J. n., Owyang, C. G., Madhok, J. n., Laverdure, F. n., Gaillard, M. n., Girault, A. n., Lebreton, G. n., Mercier, O. n.  
; 66 (10): 1069–72