Michael Ma
Assistant Professor of Cardiothoracic Surgery at the Lucile Salter Packard Children's Hospital and at the Stanford University Medical Center

CLINICAL OFFICES
- Stanford Dept of Cardiothoracic Surgery
  300 Pasteur Dr Rm S287
  Falk Bldg CVRB
  Stanford, CA 94305
  Tel (650) 724-2925  Fax (650) 725-0707

Bio

CLINICAL FOCUS
- Neonatal Cardiac Surgery
- Pediatric Cardiac Surgery
- Thoracic Surgery (Cardiothoracic Vascular Surgery)

ACADEMIC APPOINTMENTS
- Assistant Professor - Med Center Line, Cardiothoracic Surgery
- Member, Maternal & Child Health Research Institute (MCHRI)

PROFESSIONAL EDUCATION
- Fellowship: Stanford University Dept of Cardiothoracic Surgery (2018) CA
- Residency: Stanford University Dept of Cardiothoracic Surgery (2016) CA
- Medical Education: Columbia University College of Physicians and Surgeons (2010) NY
- BS, Stanford University, Chemical Engineering (2003)

LINKS
- Stanford Pediatric Cardiac Services: http://med.stanford.edu/ctsurgery/clinical-care/pediatric-cardiac-surgery-services.html
- Make an Appointment: http://med.stanford.edu/ctsurgery/contact-us.html#division-of-pediatric-cardiac-surgery
- Follow us on Twitter: https://twitter.com/StanfordCTSurg
Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS
Our lab aims to understand the biomechanics that govern a wide spectrum of congenital heart defects, and how those biomechanics change with contemporary operative repair strategies. We simulate operations virtually via CFD, and in ex vivo and in vivo animal models, and analyze how the changes we make alter fluid flow, pressure, and stresses throughout the system. We hope that these experiments can impact and optimize existing techniques that translate quickly to the operating room.

Publications

PUBLICATIONS

- Corrected Transposition: Anatomic Repair Using the Hemi-Mustard Atrial Baffle and Bidirectional Superior Cavopulmonary Connection. Seminars in thoracic and cardiovascular surgery. Pediatric cardiac surgery annual
  Ma, M., Mainwaring, R. D., Hanley, F. L.
  2019; 22: 51–56

- Comprehensive Management of Major Aortopulmonary Collaterals in the Repair of Tetralogy of Fallot. Seminars in thoracic and cardiovascular surgery. Pediatric cardiac surgery annual
  Ma, M., Mainwaring, R. D., Hanley, F. L.
  2018; 21: 75–82

- A novel inflow cannulation strategy for pediatric mechanical circulatory support in small left ventricles. journal of thoracic and cardiovascular surgery
  Ma, M., Yarlagadda, V. V., Rosenthal, D. N., Maeda, K.
  2017

- A novel cross-species model of Barlow's disease to biomechanically analyze repair techniques in an exvivo left heart simulator. The Journal of thoracic and cardiovascular surgery
  2020

- Postoperative Recovery of Left Ventricular Function following Repair of Large Ventricular Septal Defects in Infants. Journal of the American Society of Echocardiography : official publication of the American Society of Echocardiography
  Adamson, G. T., Arunamata, A., Tacy, T. A., Silverman, N. H., Ma, M., Maskatia, S. A., Punn, R.
  2019

- Redo Valve-Sparing Root Replacement for Delayed Cusp Derangement From Ventricular Septal Defect ANNALS OF THORACIC SURGERY
  Zhu, Y., Cohen, J. E., Ma, M., Woo, Y.

- Outcomes After Aortopulmonary Window for Hypoplastic Pulmonary Arteries and Dual-Supply Collaterals ANNALS OF THORACIC SURGERY
  2019; 108 (3): 820–27

- Surgical results of unifocalization revision
  Mainwaring, R. D., Patrick, W. L., Rosenblatt, T. R., Ma, M., Kamra, K., Arunamata, A., Hanley, F. L.
  MOSBY-ELSEVIER.2019: 534–44

- Modeling conduit choice for valve-sparing aortic root replacement on biomechanics with a 3-dimensional-printed heart simulator JOURNAL OF THORACIC AND CARDIOVASCULAR SURGERY
  2019; 158 (2): 392–403

- Redo Valve-Sparing Root Replacement for Delayed Cusp Derangement from Ventricular Septal Defect. The Annals of thoracic surgery
  Zhu, Y., Cohen, J. E., Ma, M., Woo, Y. J.
  2019

- Outcomes After Aortopulmonary Window for Hypoplastic Pulmonary Arteries and Dual-Supply Collaterals. The Annals of thoracic surgery
• Outcomes After Initial Unifocalization to a Shunt in Complex Tetralogy of Fallot with MAPCAs. The Annals of thoracic surgery
2019

• Use of a supramolecular polymeric hydrogel as an effective post-operative pericardial adhesion barrier. Nature biomedical engineering
2019; 3 (8): 611–20

• Surgical Repair of Ebstein’s Anomaly Utilizing A Bicuspidization Approach. The Annals of thoracic surgery
Mainwaring, R. D., Rosenblatt, T. R., Lui, G. K., Ma, M., Hanley, F. L.
2019

• Surgical results of unifocalization revision. The Journal of thoracic and cardiovascular surgery
Mainwaring, R. D., Patrick, W. L., Rosenblatt, T. R., Ma, M., Kamra, K., Arunamata, A., Hanley, F. L.
2018

• Modeling conduit choice for valve-sparing aortic root replacement on biomechanics with a 3-dimensional-printed heart simulator. The Journal of thoracic and cardiovascular surgery
2018

• Repair of Ductus or Hemi-Truncus to One Lung and Major Aortopulmonary Collaterals to the Other Lung. The Annals of thoracic surgery
Mainwaring, R. D., Rosenblatt, T. R., Patrick, W. L., Ma, M., Peng, L., Hanley, F. L.
2018

• An analysis of patients requiring unifocalization revision following midline unifocalization for pulmonary atresia with ventricular septal defect and major aortopulmonary collaterals. European journal for pediatric-thoracic-surgery : official journal of the European Association for Cardio-thoracic Surgery
Mainwaring, R. D., Patrick, W. L., Ma, M., Hanley, F. L.
2018

• Current status of domino heart transplantation. Journal of cardiac surgery
Shudo, Y., Ma, M., Boyd, J. H., Woo, Y. J.
2017; 32 (3): 229-232

• Recovery of a Missile Embolus From the Right Ventricle. Annals of thoracic surgery
Marshall, C. D., Ma, M. R., Park, J., Scheckter, C. C., Massoudi, R. A., Ligman, C. M., Jou, R. M., Ogden, W. D.
2017; 103 (1): e69-e71

• Pulmonary Valve Repair for Patients With Acquired Pulmonary Valve Insufficiency ANNALS OF THORACIC SURGERY
Said, S. M., Mainwaring, R. D., Ma, M., Tacy, T. A., Hanley, F. L.
2016; 101 (6): 2294-2301

• Anatomic Factors Associated With Truncal Valve Insufficiency and the Need for Truncal Valve Repair. World journal for pediatric & congenital heart surgery
Patrick, W. L., Mainwaring, R. D., Carrillo, S. A., Ma, M., Reinheartz, O., Petrossian, E., Selamet Tierney, E. S., Reddy, V. M., Hanley, F. L.
2016; 7 (1): 9-15

• POST-TRANSPLANT HEMODIALYSIS DRASTICALLY REDUCES ONE-YEAR SURVIVAL IN PATIENTS ENTERING LIVER TRANSPLANTATION WITHOUT RENAL DYSFUNCTION 15th Annual Congress of the International-Liver-Transplantation-Society
Ma, M., Brennan, T., Reyes, I., Tamura, M., Feng, S.
WILEY-BLACKWELL.2009: S156–S156

• Post-Transplant Hemodialysis Drastically Reduces One-Year Survival in Patients Entering Liver Transplantation without Renal Dysfunction. 9th Joint Meeting of the American-Society-of-Transplant-Surgeon/American-Society-of-Transplantation
Ma, M., Brennan, T., Reyes, I., Tamura, M., Feng, S.
WILEY-BLACKWELL.2009: 261–261