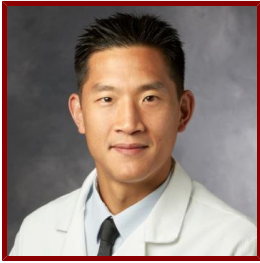


# Stanford

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## 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**

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### Bio

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### CLINICAL FOCUS

- Neonatal Cardiac Surgery
- Pediatric Cardiac Surgery
- Thoracic and Cardiovascular Surgery

### ACADEMIC APPOINTMENTS

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

### PROFESSIONAL EDUCATION

- Board Certification: Thoracic and Cardiovascular Surgery, American Board of Thoracic Surgery (2017)
- 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>
- Get a Second Opinion: <https://www.stanfordchildrens.org/en/landing/second-opinion>
- Follow us on Twitter: <https://twitter.com/StanfordCTSurg>

## Research & Scholarship

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### 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

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#### 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
- **Recent outcomes of the extracardiac Fontan procedure in patients with hypoplastic left heart syndrome** *ANNALS OF PEDIATRIC CARDIOLOGY*  
Arunamata, A., Tacy, T. A., Kache, S., Mainwaring, R. D., Ma, M., Maeda, K., Punn, R.  
2020; 13 (3): 186–93
- **RAPID AORTIC HOMOGRAFT DEGENERATION AND VAD SUPPORT IN A NEONATE WITH SINGLE VENTRICLE HEART DISEASE**  
Ahmed, H., Chen, S., Yarlagadda, V., Almond, C., Murray, J., Rosenthal, D. N., Ma, M., Dykes, J., Maeda, K.  
ELSEVIER SCIENCE INC.2020: 2865
- **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*  
Imbrie-Moore, A. M., Paulsen, M. J., Zhu, Y., Wang, H., Lucian, H. J., Farry, J. M., MacArthur, J. W., Ma, M., Woo, Y. J.  
2020
- **Comprehensive Ex Vivo Comparison of 5 Clinically Used Conduit Configurations for Valve-Sparing Aortic Root Replacement Using a 3-Dimensional-Printed Heart Simulator.** *Circulation*  
Paulsen, M. J., Imbrie-Moore, A. M., Baiocchi, M., Wang, H., Hironaka, C. E., Lucian, H. J., Farry, J. M., Thakore, A. D., Zhu, Y., Ma, M., MacArthur, J. W., Woo, Y. J.  
2020; 142 (14): 1361–73
- **Unifocalization and pulmonary artery reconstruction in patients with tetralogy of Fallot and major aortopulmonary collateral arteries who underwent surgery before referral.** *The Journal of thoracic and cardiovascular surgery*  
Ma, M., Zhang, Y., Wise-Faberowski, L., Lin, A., Asija, R., Hanley, F. L., McElhinney, D. B.  
2020
- **In Vivo Validation of Restored Chordal Biomechanics After Mitral Ring Annuloplasty in a Rare Ovine Case of Natural Chronic Functional Mitral Regurgitation.** *Journal of cardiovascular development and disease*  
Wang, H., Paulsen, M. J., Imbrie-Moore, A. M., Tada, Y., Bergamasco, H., Baker, S. W., Shudo, Y., Ma, M., Woo, J. Y.  
2020; 7 (2)
- **Recent outcomes of the extracardiac Fontan procedure in patients with hypoplastic left heart syndrome.** *Annals of pediatric cardiology*  
Arunamata, A., Tacy, T. A., Kache, S., Mainwaring, R. D., Ma, M., Maeda, K., Punn, R.  
2020; 13 (3): 186–93

- **Outcomes in Patients with Alagille Syndrome and Complex Pulmonary Artery Disease.** *The Journal of pediatrics*  
Luong, R., Feinstein, J. A., Ma, M., Ebel, N. H., Wise-Faberowski, L., Zhang, Y., Peng, L. F., Yarlagaadda, V. V., Shek, J., Hanley, F. L., McElhinney, D. B.  
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., Pun, 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.  
2019; 108 (5): E295–E296
- **Outcomes After Aortopulmonary Window for Hypoplastic Pulmonary Arteries and Dual-Supply Collaterals** *ANNALS OF THORACIC SURGERY*  
Bauser-Heaton, H., Ma, M., McElhinney, D. B., Goodyer, W. R., Zhang, Y., Chan, F. P., Asija, R., Shek, J., Wise-Faberowski, L., Hanley, F. L.  
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*  
Paulsen, M. J., Kasinpila, P., Imbrie-Moore, A. M., Wang, H., Hironaka, C. E., Koyano, T. K., Fong, R., Chiu, P., Goldstone, A. B., Steele, A. N., Stapleton, L. M., Ma, M., Woo, et al  
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*  
Bauser-Heaton, H., Ma, M., McElhinney, D. B., Goodyer, W. R., Zhang, Y., Chan, F. P., Asija, R., Shek, J., Wise-Faberowski, L., Hanley, F. L.  
2019
- **Outcomes After Initial Unifocalization to a Shunt in Complex Tetralogy of Fallot with MAPCAs.** *The Annals of thoracic surgery*  
Bauser-Heaton, H., Ma, M., Wise-Faberowski, L., Asija, R., Shek, J., Zhang, Y., Peng, L. F., Sidell, D. R., Hanley, F. L., McElhinney, D. B.  
2019
- **Use of a supramolecular polymeric hydrogel as an effective post-operative pericardial adhesion barrier.** *Nature biomedical engineering*  
Stapleton, L. M., Steele, A. N., Wang, H., Lopez Hernandez, H., Yu, A. C., Paulsen, M. J., Smith, A. A., Roth, G. A., Thakore, A. D., Lucian, H. J., Totherow, K. P., Baker, S. W., Tada, et al  
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*  
Paulsen, M. J., Kasinpila, P., Imbrie-Moore, A. M., Wang, H., Hironaka, C. E., Koyano, T. K., Fong, R., Chiu, P., Goldstone, A. B., Steele, A. N., Stapleton, L. M., Ma, M., Woo, et al  
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 of cardio-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., Sheckter, 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., Reinhartz, 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
- **Transplantation of hNT neurons into the ischemic cortex: Cell survival and effect on sensorimotor behavior** *JOURNAL OF NEUROSCIENCE RESEARCH*  
Bliss, T. M., Kelly, S., Shah, A. K., Foo, W. C., Kohli, P., Stokes, C., Sun, G. H., Ma, M., Masel, J., Kleppner, S. R., Schallert, T., Palmer, T., Steinberg, et al  
2006; 83 (6): 1004-1014
- **Transplanted human fetal neural stem cells survive, migrate, and differentiate in ischemic rat cerebral cortex** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Kelly, S., Bliss, T. M., Shah, A. K., Sun, G. H., Ma, M., Foo, W. C., Masel, J., Yenari, M. A., Weissman, I. L., Uchida, N., Palmer, T., Steinberg, G. K.  
2004; 101 (32): 11839-11844