



Masataka Kawana

Assistant Professor of Medicine (Cardiovascular Medicine)
Medicine - Cardiovascular Medicine

CLINICAL OFFICE (PRIMARY)

- **Heart Failure Program CV Medicine**

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ACADEMIC CONTACT INFORMATION

- **Administrative Assistant**

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Bio

BIO

Dr. Kawana joined the Advanced Heart Failure and Transplant Cardiology group in 2018. He completed his internal medicine, cardiovascular medicine, and heart failure training at Stanford. He also completed a postdoctoral research fellowship under Dr. James Spudich in the Department of Biochemistry. He is the Medical Director of Ambulatory Heart Failure and Cardiomyopathy Service in the Advanced Heart Failure program. He manages advanced heart failure patients in the clinic, CCU/heart failure service, and post-heart transplant/MCS service. His research interests are in the fundamental mechanism of inherited cardiomyopathies, and he studies the effect of gene mutation on the cardiac sarcomere function using cutting-edge biochemical and biophysical approaches, which would lead to the development of novel pharmacotherapy that directly modulates cardiac muscle protein. He is involved in multiple clinical trials for pharmacotherapy and novel device studies in heart failure and inherited cardiomyopathy.

CLINICAL FOCUS

- Heart Failure
- Heart Transplantation
- Mechanical Circulatory Support
- Left Ventricular Assist Device
- Inherited Cardiomyopathy
- Hypertrophic Cardiomyopathy
- Dilated Cardiomyopathy
- Nonischemic cardiomyopathy
- Cirrhotic Cardiomyopathy
- Iron overload cardiomyopathy
- Advanced Heart Failure and Transplant Cardiology

ACADEMIC APPOINTMENTS

- Assistant Professor - University Medical Line, Medicine - Cardiovascular Medicine

- Member, Cardiovascular Institute

ADMINISTRATIVE APPOINTMENTS

- Medical Director, Ambulatory Heart Failure and Cardiomyopathy Service, (2024- present)

PROFESSIONAL EDUCATION

- Board Certification: Adult Echocardiography, National Board of Echocardiography (2017)
- Board Certification: Advanced Heart Failure and Transplant Cardiology, American Board of Internal Medicine (2018)
- Residency: Stanford University Internal Medicine Residency (2012) CA
- Board Certification, American Board of Internal Medicine , Advanced Heart Failure and Transplant Cardiology (2018)
- Fellowship: Stanford University Advanced Heart Failure and Transplant Fellowship (2018) CA
- Board Certification: Cardiovascular Disease, American Board of Internal Medicine (2017)
- Fellowship: Stanford University Cardiovascular Medicine Fellowship (2017) CA
- Board Certification: Internal Medicine, American Board of Internal Medicine (2012)
- Medical Education: Warren Alpert Medical School Brown University (2009) RI
- Fellow, Stanford University Medical Center , Advanced Heart Failure and Transplant Cardiology (2018)
- Fellow, Stanford University Medical Center , Cardiovascular Medicine (2017)
- Postdoctoral Fellow, Stanford University School of Medicine , Biochemistry (2015)
- Resident, Stanford University Medical Center , Internal Medicine (2012)
- MD, Brown University , Medicine (2009)

Research & Scholarship

CLINICAL TRIALS

- Aficamten vs Placebo in Adults With Symptomatic Obstructive Hypertrophic Cardiomyopathy (SEQUOIA-HCM), Not Recruiting
- Study for the Evaluation of a Non-invasive Hemodynamic Measurement in Heart Failure Patients, Not Specified

Publications

PUBLICATIONS

- **EVALUATION OF VENTILATORY THRESHOLDS DURING EXERCISE THROUGH THE PERCUTANEOUS OXYGEN SATURATION METHOD**
Parsa, S., Abe, M., Christle, J., Myers, J. N., Wheeler, M., Kawana, M.
ELSEVIER SCIENCE INC.2026: A1242
- **Distinct Mechanistic Features of Atrial Fibrillation in Hypertrophic Cardiomyopathy.** *Heart rhythm*
Liu, M., Huang, S., Kawana, M., Wheeler, M. T., Parikh, V., Perez, M. V.
2026
- **Assessment Of Ventilatory Thresholds During Exercise Using Percutaneous Oxygen Saturation Method**
Parsa, S., Abe, M., Christle, J., Myers, J., Wheeler, M., Kawana, M.
CHURCHILL LIVINGSTONE INC MEDICAL PUBLISHERS.2026
- **Bicuspid Aortic Valve Endocarditis and Q Fever.** *JACC. Case reports*
King, S. J., Trinh, K. V., Kawana, M.
2025; 30 (15): 103771
- **Functional assessment of recombinant human alpha-cardiac myosin and the effect of atrial arrhythmia mutations**
Pawar, A. D., Yokota, S. C., Spudich, J. A., Ruppel, K., Kawana, M.
CELL PRESS.2025: 615A

- **One-year real-world experience with mavacamten and its physiologic effects on obstructive hypertrophic cardiomyopathy** *FRONTIERS IN CARDIOVASCULAR MEDICINE*
Kim, D., Chu, E. L., Keamy-Minor, E. E., Paranjpe, I., Tang, W. L., O'Sullivan, J. W., Desai, Y. B., Liu, M. B., Munsey, E., Hecker, K., Cuenco, I., Kao, B., Bacolor, et al
2024; 11
- **One-year real-world experience with mavacamten and its physiologic effects on obstructive hypertrophic cardiomyopathy.** *Frontiers in cardiovascular medicine*
Kim, D. S., Chu, E. L., Keamy-Minor, E. E., Paranjpe, I. D., Tang, W. L., O'Sullivan, J. W., Desai, Y. B., Liu, M. B., Munsey, E., Hecker, K., Cuenco, I., Kao, B., Bacolor, et al
2024; 11: 1429230
- **Improved Cardiac Performance and Decreased Arrhythmia in Hypertrophic Cardiomyopathy With Non- β -Blocking R-Enantiomer Carvedilol.** *Circulation*
Seo, K., Yamamoto, Y., Kirillova, A., Kawana, M., Yadav, S., Huang, Y., Wang, Q., Lane, K. V., Pruitt, B. L., Perez, M. V., Bernstein, D., Wu, J. C., Wheeler, et al
2023
- **Implementation of evidence-based heart failure management: Regional variations between Japan and the USA.** *Journal of cardiology*
Ichiara, Y. K., Kohsaka, S., Kisanuki, M., Sandhu, A. T., Kawana, M.
2023
- **Molecular characterization of a novel MYH7 mutation Q222H in a patient with severe dilated cardiomyopathy**
Kawana, M., Goluguri, R., Dawood, A., Spudich, J. A., Ruppel, K.
CELL PRESS.2023: 258A
- **Molecular characterization of a novel MYH7 mutation Q222H in a patient with severe dilated cardiomyopathy.** *Biophysical journal*
Kawana, M., Reddy Goluguri, R., Dawood, A., Spudich, J. A., Ruppel, K.
2023; 122 (3S1): 258a
- **Severe Cardiovascular Complications Following Liver Transplantation in Patients With Iron Overload.** *JACC. Case reports*
Rhee, J., Zhang, S., Gallo, A., Ahmed, A., Kawana, M.
2022; 4 (11): 677-681
- **Multimorbidity, guideline-directed medical therapies, and associated outcomes among hospitalized heart failure patients.** *ESC heart failure*
Takeuchi, S., Kohno, T., Goda, A., Shiraishi, Y., Kawana, M., Saji, M., Nagatomo, Y., Nishihata, Y., Takei, M., Nakano, S., Soejima, K., Kohsaka, S., Yoshikawa, et al
2022
- **Effective Sphygmomanometer Based Non-invasive Central Venous Pressure Measurement In Hospitalized Heart Failure Patients**
Kawana, M., Cheng, P., Morimoto, H., Fowler, M.
CHURCHILL LIVINGSTONE INC MEDICAL PUBLISHERS.2022: S18
- **Hypertrophic cardiomyopathy: Mutations to mechanisms to therapies.** *Frontiers in physiology*
Kawana, M., Spudich, J. A., Ruppel, K. M.
2022; 13: 975076
- **Assessment of Physical Activity Using Waist-Worn Accelerometers in Hospitalized Heart Failure Patients and Its Relationship with Kansas City Cardiomyopathy Questionnaire.** *Journal of clinical medicine*
Shiraishi, Y., Niimi, N., Goda, A., Takei, M., Kimura, T., Kohno, T., Kawana, M., Fukuda, K., Kohsaka, S.
2021; 10 (18)
- **Time-sensitive approach in the management of acute heart failure.** *ESC heart failure*
Shiraishi, Y., Kawana, M., Nakata, J., Sato, N., Fukuda, K., Kohsaka, S.
2020
- **Long-term outcome of orthotopic heart transplantation in Asians: An analysis of the United Network of Organ Sharing database.** *The Journal of heart and lung transplantation : the official publication of the International Society for Heart Transplantation*
Kohsaka, S. n., Shudo, Y. n., Wang, H. n., Lingala, B. n., Kawana, M. n., Woo, Y. J.
2020

- **Hospital meal intake in acute heart failure patients and its association with long-term outcomes.** *Open heart*
Yoshida, T. n., Shoji, S. n., Shiraishi, Y. n., Kawana, M. n., Kohno, T. n., Inoue, K. n., Fukuda, K. n., Heidenreich, P. A., Kohsaka, S. n.
2020; 7 (1)
- **Interpreting the evidence from tolvaptan clinical trials.** *Journal of cardiology*
Tanaka, T. n., Kawana, M. n., Kohsaka, S. n.
2019
- **Physical therapy in successful venoarterial extracorporeal membrane oxygenation bridge to orthotopic heart transplantation.** *Journal of cardiac surgery*
Rinewalt, D. n., Shudo, Y. n., Kawana, M. n., Woo, Y. J.
2019
- **Dilated cardiomyopathy myosin mutants have reduced force-generating capacity** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Ujfalusi, Z., Vera, C. D., Mijailovich, S. M., Svcevic, M., Yu, E., Kawana, M., Ruppel, K. M., Spudich, J. A., Geeves, M. A., Leinwand, L. A.
2018; 293 (23): 9017–29
- **Controlling load-dependent kinetics of beta-cardiac myosin at the single-molecule level.** *Nature structural & molecular biology*
Liu, C., Kawana, M., Song, D., Ruppel, K. M., Spudich, J. A.
2018; 25 (6): 505–14
- **Controlling Cardiac Contractility at the Single Molecule Level**
Liu, C., Song, D. L., Kawana, M., Ruppel, K. M., Spudich, J. A.
CELL PRESS.2018: 37A
- **Biophysical properties of human β -cardiac myosin with converter mutations that cause hypertrophic cardiomyopathy.** *Science advances*
Kawana, M., Sarkar, S. S., Sutton, S., Ruppel, K. M., Spudich, J. A.
2017; 3 (2)
- **Acute Right Ventricular Failure After Successful Opening of Chronic Total Occlusion in Right Coronary Artery Caused by a Large Intramural Hematoma.** *Circulation. Cardiovascular interventions*
Kawana, M., Lee, A. M., Liang, D. H., Yeung, A. C.
2017; 10 (2)
- **Effects of hypertrophic and dilated cardiomyopathy mutations on power output by human beta-cardiac myosin** *JOURNAL OF EXPERIMENTAL BIOLOGY*
Spudich, J. A., Aksel, T., Bartholomew, S. R., Nag, S., Kawana, M., Yu, E. C., Sarkar, S. S., Sung, J., Sommese, R. F., Sutton, S., Cho, C., Adhikari, A. S., Taylor, et al
2016; 219 (2): 161-167
- **Effects of hypertrophic and dilated cardiomyopathy mutations on power output by human β -cardiac myosin.** *The Journal of experimental biology*
Spudich, J. A., Aksel, T., Bartholomew, S. R., Nag, S., Kawana, M., Yu, E. C., Sarkar, S. S., Sung, J., Sommese, R. F., Sutton, S., Cho, C., Adhikari, A. S., Taylor, et al
2016; 219 (Pt 2): 161-7
- **Understanding the Effects of Cardiomyopathy Causing Mutations on Human Beta Cardiac Myosin Biomechanical Function**
Nag, S., Sommese, R., Sung, J., Choe, E., Kawana, M., Cho, C., Taylor, R., Liu, C., Sutton, S., Ruppel, K., Spudich, J.
CELL PRESS.2014: 156A
- **Improved Loaded In Vitro Motility Assay and Actin Filament Tracking Software Delineates the Effect of Hypertrophic and Dilated Cardiomyopathy Mutations on the Power Output of Cardiac Myosin**
Aksel, T., Kawana, M., Adhikari, A., Sutton, S., Ruppel, K., Spudich, J.
CELL PRESS.2014: 562A
- **Quantification of gene transcripts with deep sequencing analysis of gene expression (DSAGE) using 1 to 2 μ g total RNA.** *Current protocols in molecular biology*
Christodoulou, D. C., Gorham, J. M., Kawana, M., DePalma, S. R., Herman, D. S., Wakimoto, H.
2011; Chapter 25: Unit25B 9-?

- **Heterogeneous myocyte enhancer factor-2 (Mef2) activation in myocytes predicts focal scarring in hypertrophic cardiomyopathy** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Konno, T., Chen, D., Wang, L., Wakimoto, H., Teekakirikul, P., Naylor, M., Kawana, M., Eminaga, S., Gorham, J. M., Pandya, K., Smithies, O., Naya, F. J., Olson, et al
2010; 107 (42): 18097–102
- **Endogenous regulation of cardiovascular function by apelin-APJ** *AMERICAN JOURNAL OF PHYSIOLOGY-HEART AND CIRCULATORY PHYSIOLOGY*
Charo, D. N., Ho, M., Fajardo, G., Kawana, M., Kundu, R. K., Sheikh, A. Y., Finsterbach, T. P., Leeper, N. J., Ernst, K. V., Chen, M. M., Ho, Y. D., Chun, H. J., Bernstein, et al
2009; 297 (5): H1904-H1913
- **PTC124 targets genetic disorders caused by nonsense mutations** *NATURE*
Welch, E. M., Barton, E. R., Zhuo, J., Tomizawa, Y., Friesen, W. J., Trifillis, P., Paushkin, S., Patel, M., Trotta, C. R., Hwang, S., Wilde, R. G., Karp, G., Takasugi, et al
2007; 447 (7140): 87–U6
- **Systemic administration of L-arginine benefits mdx skeletal muscle function** *MUSCLE & NERVE*
Barton, E. R., Morris, L., Kawana, M., Bish, L. T., Torsell, T.
2005; 32 (6): 751–60
- **gamma-sarcoglycan deficiency increases cell contractility, apoptosis and MAPK pathway activation but does not affect adhesion** *JOURNAL OF CELL SCIENCE*
Griffin, M. A., Feng, H. S., Tewari, M., Acosta, P., Kawana, M., Sweeney, H. L., Discher, D. E.
2005; 118 (7): 1405–16