

Tsuyoshi Yamabe, MD

Shonan Kamakura General Hospital

Director, Department of Cardiothoracic and Vascular Surgery

1370-1, Okamoto, Kamakura, Kanagawa 247-8533, JAPAN

Tel +81(467)-46-1717 E-mail tsuyo28@gmail.com

Core Qualifications

● Open Heart Surgery

- Off-pump coronary artery bypass grafting
- Aortic valve replacement
- Mitral valve repair/replacement
- Valve-sparing aortic root replacement
- Bentall procedure
- Aortic replacement (Ascending-thoracoabdominal)
- Surgical ventricular septal reduction for HOCM
- Mechanical circulatory support

● Endovascular therapy

- Transcatheter aortic valve replacement (TAVR)
- Thoracic endovascular aortic repair (TEVAR) and Endovascular aneurysm repair (EVAR) including Physician-modified endografts

Education

Medical Doctor

Fukushima Medical University | 1, Hikarigaoka, Fukushima, Fukushima 960-1295, JAPAN

March 2005

Work Experience

Shonan Kamakura General Hospital,

Kamakura, Kanagawa, JAPAN

Chief physician in Cardiovascular Surgery

04/2022 - Current

- Member of the Medical Safety Management Committee.

Columbia University Irving Medical Center,

New York, NY

- Built a comprehensive aortic surgery database for CUMC aortic center.
- Led a collaborative study with Columbia University and Emory

Chief clinical research fellow in CT Surgery University.
09/2018 - 03/2022

- Mentored residents and students in clinical research and together we published a number of papers.
- Annual conference presentations at AATS and other meetings at STS and AHA.

Shonan Kamakura General Hospital,
Kamakura, Kanagawa, JAPAN

Chief physician in Cardiovascular Surgery

07/2013 - 08/2018

- Head of Endovascular Aortic Therapy section.
- Performed about 150 operations a year as a first operator.
- Teaching cardiovascular surgery residents.
- Member of TAVR clinical trials in the hospital.

The Cardiovascular Institute,
Minatoku, Tokyo, JAPAN

Sub-Chief physician in Cardiovascular Surgery

07/2012 - 06/2013

- Staff surgeon.
- Data collection for clinical use of PAS-Port system, an automated proximal anastomosis device for great saphenous vein grafts and present its outcomes.

Iwaki Kyoritsu General Hospital,
Iwaki, Fukushima, JAPAN

Clinical fellow in Cardiovascular Surgery

07/2010 - 06/2012

- Training open heart surgery and endovascular aortic therapy procedures.
- Participation in Disaster Medical Care and relief activities for victims (The 2011 of the Great East Japan Earthquake).

Fukushima Medical University Hospital,
Fukushima, Fukushima, JAPAN

Resident and Clinical fellow in Cardiovascular Surgery

04/2007 - 06/2010

- Started career as a cardiovascular surgeon.

Tokyo Metropolitan Bokutoh Hospital,
Sumidaku, Tokyo, JAPAN

General resident trainee

04/2005 - 03/2007

- Clinical resident.

Research Experience

I worked as a research fellow in the department of CT surgery at Columbia University Irving Medical Center (CUMC) for four years, 2018-2022. My primary research interests were 1) the clinical outcomes of contemporary aortic surgeries, 2) preoperative virtual myectomy using computed tomography for HOCM and its outcomes, 3) the impact of TAVR on coronary artery occlusion. I read or participated in multicenter studies on these topics in addition to CUMC. I also actively supervised medical students and post-docs and published many papers.

1) Clinical outcomes of contemporary aortic surgeries

- Built a 15-year database of aortic surgery in the aortic center at CUMC from scratch, and implemented the REDCap system in cooperation with a statistician to improve data management efficiency.
- To conduct a larger study, I led an outcomes study by building a joint aortic surgery database with Emory University.
- Published six papers as first author and seven papers as a co-author related to aortic surgery, especially aortic root replacement.

2) Preoperative virtual myectomy using computed tomography for HOCM and its outcomes

- Calculate the amount of septal myocardium to be resected in advance using preoperative CT.
- Further studies on the “septal band” observed in patients with HOCM reported by our department.
- Investigated the clinical outcomes of septal myectomy performed based on the concept of septal band and published a paper about LV myocardial remodeling after this procedure.

3) Impact of TAVR on coronary artery occlusion

- Investigated the relation between the bifurcation angle of the left and right coronary arteries and the position of the implanted aortic valves using the 3mentio, and participated in a collaborative study with Mount Sinai Hospital.

Presentations

- The 3rd Aortic Summit (2023),
- ESVS 37th Annual Meeting (2023), “Appropriateness of Preemptive TEVAR in the Acute Phase for High-Risk Uncomplicated type B Aortic Dissection”
- The 51st Annual Meeting of Japanese Society for Vascular Surgery (2023), “Contemporary Outcomes of Surgical Treatment for Type B Aortic Dissection”
- STS 58th Annual Meeting (2022), “A Novel Anatomical Landmark, “Septal Band”, at Septal Myectomy for Obstructive Hypertrophic Cardiomyopathy” and “A Word of Caution: Limited Role of Failure to Rescue as a Metric of Quality in Thoracic Aortic Surgery”
- The 74th Annual Scientific Meeting of the Japanese Association for Thoracic Surgery (2021), “Surgical Aortic Valve Replacement in Dialysis Patients - Prosthetic Valve Selection Based on Age”

- AATS 101st Annual Meeting (2021), “Left Ventricular Remodeling Following Septal Myectomy in Hypertrophic Obstructive Cardiomyopathy” and “Open Proximal Aortic Aneurysm Repair in Contemporary Era (presenter: Hiroo Takayama)”
- The 51st Annual Meeting of the Japanese Society for Cardiovascular Surgery (2021), “Is Adding Hemiarch Replacement Meaningful in Proximal Aortic Aneurysm Repair?” and “Comparison of 10-year outcomes between Valve-Sparing Root Replacement and Bio-Bentall: Inverse Propensity Weighting of 796 Patients”
- STS 57th Annual Meeting (2021), “Incidence, Cause, and Outcome of Reinterventions after Aortic Root Replacement”
- STS 56th Annual Meeting (2020), “Probability of Uneventful Recovery After Elective Aortic Root Replacement for Aortic Aneurysm”
- AHA Scientific Session (2019), “Surgical Planning With 3D Modeling for HCM”
- The 70th Annual Scientific Meeting of the Japanese Association for Thoracic Surgery (2017), “Endovascular treatment of ruptured chronic type B aortic dissection - controlling false lumen blood flow”

Licenses

- Licensed Medical Doctor, Ministry of Health, Labour and Welfare, Japan, 2005
- Licensed Thoracic and Abdominal Stentgraft practitioner and supervisor, Japanese Committee for Stentgraft Management, 2010

Certifications

- Board Certified Advanced Cardiovascular Surgery Training Supervisor, The Japanese Society for Cardiovascular Surgery (JSCVS), 2022
- Board Certified Member of The Japanese Circulation Society (JCS), 2016
- Board Certified Cardiovascular Surgeon, The Japanese Society for Cardiovascular Surgery (JSCVS), 2013
- Board Certified Surgeon, Japan Surgical Society (JSS), 2010

Academic Society Affiliations

- The Japanese Association for Thoracic Surgery (JATS)
- The Japanese Circulation Society (JCS)
- The Japanese Society for Cardiovascular Surgery (JSCVS)
- The Japanese Society for Vascular Surgery (JSVS)
- Japan Surgical Society (JSS)
- European Society for Vascular Surgery (ESVS)

Publications

1. Kondo S, Hirota J, **Yamabe T**, Takano T, Nakamura K, Kondo T, Rokkaku K, Katada Y, Irie Y, Yokoyama H. Prevention of cerebral infarction in thoracic endovascular aneurysm repair (TEVAR) of distal aortic arch aneurysms; left subclavian artery balloon technique. *Kyobu Geka*. 2013;66(2):121-4.
2. Hirota J, Kondo S, **Yamabe T**, Kondo T, Seto Y, Suzuki S. Modified reduction aortoplasty with external reinforcement of the ascending aortic aneurysm caused by giant cell arteritis treated as polymyalgia rheumatica. *Gen Thorac Cardiovasc Surg*. 2013;61(4):226-30.
3. Kondo T, Hirota J, Kondo S, **Yamabe T**, Yokoyama H. Successful case of open heart surgery in a dialysis patient with infectious endocarditis and severe bone marrow suppression: report of a case. *Kyobu Geka*. 2013;66(9):841-3.
4. Katada Y, Kondo S, Kondo T, **Yamabe T**. Endovascular treatment for type Ia major endoleak after endovascular aneurysm repair. *J Vasc Surg*. 2014;59(5):1430-1.
5. Katayama I, Tanaka M, Noguchi K, **Yamabe T**, Yuji D, Ooshiro N, Shirouzu M. Early Results of Minimally Invasive Cardiac Surgery (MICS) Mitral Valve Surgery with 51 Cases. *Kyobu Geka*. 2015;68(1):16-22.
6. Takai H, Kawaguchi S, **Yamabe T**, Tanabe H. Successful 36 Months Result of Debranching TEVAR for Kommerell's Diverticulum with the Aberrant Left Subclavian Artery. *J Vasc Med Surg*. 2015;3:3.
7. Noguchi K, Tanaka M, Katayama I, **Yamabe T**, Yuji D, Oosiro N, Sirouzu M. Efficacy of Tolvaptan in Patients with Volume Overload after Cardiac Surgery. *Heart Surg Forum*. 2015;8(6):E232-6.
8. Takai H, Tanabe H, **Yamabe T**, Sasaki K, Suma H. Midterm Outcome of Mitral Valve Repair with Artificial Chordae for Only Posterior Leaflet Disease-Comparison with the Resectional Technique in a Single Institute. *Ann Thorac Cardiovasc Surg*. 2016;22(1):32-7.
9. Ochiai T, Saito S, Yamanaka F, Shishido K, Tanaka Y, **Yamabe T**, Shirai S, Tada N, Araki M, Naganuma T, Watanabe Y, Yamamoto M, Hayashida K. Renin-angiotensin system blockade therapy after transcatheter aortic valve implantation. *Heart*. 2018;104(8):644-651.
10. Shishido K, Yamanaka F, Ochiai T, **Yamabe T**, Noguchi K, Ota T, Koide Y, Ogino H, Tanaka Y, Saito S. Hemodynamic comparison of CoreValve and SAPIEN-XT TAVI valves in Japanese patients. *Heart Vessels*. 2019;34(10):1674-1683.
11. **Yamabe T**, Eudailey K, Jimenez O, DeRoo S, Kurlansky P, George I, Takayama H. Double mattress suture lines for valve-sparing aortic root replacement. *J Card Surg*. 2019;34(11):1344-1346.
12. Hattori S, Noguchi K, Gunji Y, Nagatsuka M, **Yamabe T**, Ogino H, Katayama I. Descending aortic banding for re-rupture of retrograde aortic dissection after emergency thoracic endovascular aortic repair. *Gen Thorac Cardiovasc Surg*. 2020;68(1):70-73.
13. Tang G, Zaid S, Fuchs A, **Yamabe T**, Yazdchi F, Gupta E, Ahmad H, Kofoed K, Goldberg J, Undemir C, Kaple R, Shah P, Kaneko T, Lansman S, Khera S, Kovacic J, Dangas G, Lerakis S, Sharma S, Kini A, Adams D, Khalique O, Hahn R, Søndergaard L, George I, Kodali S, Backer O, Leon M, Bapat V. Alignment of Transcatheter Aortic-Valve Neo-Commissures (ALIGN TAVR): Impact on Final Valve Orientation and Coronary Artery Overlap. *JACC*

14. McMullen H, **Yamabe T**, Zhao Y, Kurlansky P, Sanchez J, Kelebeyev S, Bethancourt C, George I, Smith C, Takayama H. Sex-related difference in outcomes after aortic root replacement. *J Card Surg.* 2020;35(5):1010-1020.
15. **Yamabe T**, Zhao Y, Sanchez J, Kelebeyev S, Bethancourt C, McMullen H, Kurlansky P, George I, Smith C, Takayama H. Probability of Uneventful Recovery After Elective Aortic Root Replacement for Aortic Aneurysm. *Ann Thorac Surg.* 2020;110(5):1485-1493.
16. Brener M, **Yamabe T**, Leb J, Khalique O, Takayama H, George I. Feasibility of Transcatheter Aortic Valve Replacement in Prior Aortic Root Surgery: Insights From Virtual Modeling. *Circ Cardiovasc Interv.* 2020;13(11):e009539.
17. Vandenberghe J, Kurlansky P, Takeda K, **Yamabe T**, Sanchez J, Naka Y, Takayama H. In Situ Composition of Valved Conduit for Complex Reoperative Aortic Root Replacement. *Ann Thorac Surg.* 2020;110(6):e549-e550.
18. Nguyen S, **Yamabe T**, Zhao Y, Kurlansky P, George I, Smith C, Takayama H. Bicuspid-Associated Aortic Root Aneurysm: Mid to Long-Term Outcomes of David V Versus the Bio-Bentall Procedure. *Semin Thorac Cardiovasc Surg.* 2021;33(4):933-943.
19. **Yamabe T**, Zhao Y, Kurlansky P, Nitta S, Kelebeyev S, Bethancourt C, George I, Smith C, Takayama H. Chronic kidney disease stage stratifies short- and long-term outcomes after aortic root replacement. *Interact Cardiovasc Thorac Surg.* 2021;32(4):573-581.
20. **Yamabe T**, Zhao Y, Kurlansky P, Nitta S, Borger M, George I, Smith C, Takayama H. Assessment of long-term outcomes: aortic valve reimplantation versus aortic valve and root replacement with biological valved conduit in aortic root aneurysm with tricuspid valve. *Eur J Cardiothorac Surg.* 2021;59(3):658-665.
21. **Yamabe T**, Pearsall C, Zhao Y, Kurlansky P, Bethancourt C, Nitta S, George I, Smith C, Takayama H. Incidence, Cause, and Outcome of Reinterventions After Aortic Root Replacement. *Ann Thorac Surg.* 2022;113(1):25-32.
22. Hu D, Blitzer D, Zhao Y, Chan C, **Yamabe T**, Kim I, Adeniyi A, Pearsall C, Kurlansky P, George I, Smith C, Patel V, Takayama H. Quantifying the effects of circulatory arrest on acute kidney injury in aortic surgery. *J Thorac Cardiovasc Surg.* 2022;S0022-5223(22)00375-0.
23. Bethancourt C, Blitzer D, **Yamabe T**, Zhao Y, Nguyen S, Nitta S, Kelebeyev S, Borger M, Kurlansky P, George I, Smith C, Takayama H. Valve-Sparing Root Replacement Versus Bio-Bentall: Inverse Propensity Weighting of 796 Patients. *Ann Thorac Surg.* 2022;113(5):1529-1535.
24. Pearsall C, Blitzer D, Zhao Y, **Yamabe T**, Rajesh K, Kim I, Bethancourt C, Hu D, Bergsohn J, Kurlansky P, George I, Smith C, Takayama H. Long-term outcome of hemiarach replacement in a proximal aortic aneurysm repair: analysis of over 1000 patients. *Eur J Cardiothorac Surg.* 2022;62(1):ezab571.
25. **Yamabe T**, Ginns J, Vedula V, Leb J, Shimada Y, Weiner S, Takayama H. Left ventricular remodeling following septal myectomy in hypertrophic obstructive cardiomyopathy. *JTCVS Open.* 2022;11:105-115.
26. **Yamabe T**, Ginns J, Vedula V, Leb J, Shimada Y, Weiner S, Takayama H. REPLY FROM AUTHORS: Septal myectomy performed along the "septal band". *JTCVS Tech.* 2022;16:70-71.
27. **Yamabe T**, Zhao Y, Kurlansky P, Patel V, George I, Smith C, Takayama H. Extent of aortic replacement and operative outcome in open proximal thoracic aortic aneurysm repair. *JTCVS Open.* 2022;12:1-12.
28. Hattori S, Noguchi K, Gunji Y, Nagatsuka M, **Yamabe T**, Kagaya H, Katayama I, Asai T. Descending Aortic Replacement with Third-Part Left Axillary Graft Perfusion. *J Card Surg.* 2023. DOI: 10.1155/2023/2767859

29. Anzai I, Pearsall C, Blitzer D, Adeniyi A, Ning Y, Zhao Y, Argenziano M, Shimada Y, **Yamabe T**, Kurlansky P, George I, Smith C, Takayama H. Influence of preoperative and intraoperative factors on recovery after aortic root surgery. *Gen Thorac Cardiovasc Surg*. 2023. Online ahead of print.
30. Nagatsuka M, Asai T, Noguchi K, **Yamabe T**, Gunji Y, Hama D. Impella-Supported Surgical Repair for Acute Phase Posterior Ventricular Septal Rupture. *Ann Thorac Surg Short Reports*. Available online 12 Dec 2023.