

CURRICULUM VITAE

Personal information

Name: Satoshi Kainuma
Gender: Male
Date of Birth: March 20, 1978
Place of Birth: Osaka Prefecture, Japan
Marital Status: Married in 2007
Nationality: Japan

Business address: 6-1 Kishibeshinmachi, Suita, Osaka, Japan 564-8565

Business phone number: +81-6-6170-1070

Business e-mail address: s.kainuma19780320@gmail.com

Education

College/University:

1996-2002 Osaka University School of Medicine (MD)

Residency:

2002-2003 Osaka University Hospital

2003-2005 Rinku General Medical Center, General Surgery

2005-2007 Sakurabashi Watanabe Hospital, Cardiovascular Surgery

2007-2009 Japan Labor Health and Welfare Organization Osaka Rosai Hospital,
Cardiovascular Surgery

Fellowship:

2009-2010 Osaka University Hospital, Cardiovascular Surgery

2010-2014 Osaka University Graduate School of Medicine (PhD)

2014-2015 Japan Labor Health and Welfare Organization Osaka Rosai Hospital,
Cardiovascular Surgery

2016 Jan-Sep Sakurabashi Watanabe Hospital, Cardiovascular Surgery

2016 Oct- Centre for Microvascular Research, William Harvey Research Institute, Barts and
The London School of Medicine and Dentistry, Queen Mary University of London

2018-2021 Osaka University Graduate School of Medicine Hospital, Cardiovascular Surgery

2021-present National Cerebral and Cardiovascular Center, Cardiac Surgery

Boards and Professional Organizations

Board Certified Cardiovascular Surgery Training Leaders, Japanese Society for Cardiovascular Surgery (2019-Present)

Board Certified Cardiovascular Surgeon, Japanese Society for Cardiovascular Surgery (2015-Present)

Board Certified Cardiologist, Japanese Circulation Society (2014-Present)

Board Certified Surgeon, Japan Surgical Society (2008-Present)

Member, Japanese Circulation Society (2007-Present)

Member, Japanese Association for Thoracic Surgery (2005-present)

Member, Japan Surgical Society (2002-present)

Honors and Awards

2011 Young Investigator's Award

The 15th Annual Scientific Meeting of the Japanese Heart Failure Society

2011 Originality Award

The 64th Annual Scientific Meeting of the Japanese Association for Thoracic Surgery

2011 Young Investigator's Award

The 112th Kinki Regional Scientific Meeting of Japanese Circulation Society

2011 Grant-in-aid for International Academic Exchange Program

Osaka University Medical School Alumni Association

2012 Young Investigator's Award

The 114th Kinki Regional Scientific Meeting of Japanese Circulation Society

2013 Ozawa Prize for a Surgeon with the Most Outstanding Academic Achievement

Osaka University

2015 Research Award for a Surgeon with the Most Outstanding Academic Achievement

Osaka Rosai Hospital

- 2016 Postdoctoral Fellowship for Research Abroad
Japan Society for the Promotion of Science
- 2019 Research Grant, Clinical Category
Takeda Science Foundation
- 2019 Osaka Cardiovascular Surgery Research (OSCAR) Prize
Osaka University
- 2020 Prize for Cardiovascular Regeneration Medicine
Japanese Circulation Society
- 2021 Teaching Award
National Cerebral and Cardiovascular Center

Major Research Interests

Heart failure

Functional mitral regurgitation

Coronary artery bypass surgery

Valve surgery

Atrial fibrillation

Cell therapy

Coronary circulation physiology

Publications

1. **Kainuma S**, Toda K, Daimon T, Miyagawa S, Yoshioka D, Kawamura T, Kawamura A, Kashiyama N, Kuratani T, Yokoi K, Ide S, Mizote I, Kioka H, Ohtani T, Hikoso S, Kondoh H, Hiraoka A, Sakaguchi T, Yoshitaka H, Kitamura T, Komukai S, Hirayama A, Taniguchi K, Sakata Y, Sawa Y, Osaka Cardiovascular Surgery Research (OSCAR) Group. Multiple Percutaneous Coronary Interventions Worsen Outcomes for Subsequent Surgical Correction of Chronic Ischemic Mitral Regurgitation. *JTCVS Open*. 2021, Aug;17(7):196-206.
2. Yamada S, **Kainuma S**, Toda K, Tahara S, Sawa Y. Gallium single-photon emission computed tomography/computed tomography-guided treatment of outflow graft infection during left ventricular assist device support. *JTCVS Tech*. 2021 Aug 19;10:352-355.
3. Yamada S, **Kainuma S**, Toda K, Sawa Y. Giant Left Ventricular Pseudoaneurysm 10 Years After Post-Infarct Ventricular Septal Defect Repair. *Circ J*. 2022 Apr 25;86(5):877.
4. Mikami T, **Kainuma S**, et al. Rare case of severe non-calcific aortic stenosis in an achondroplastic dwarf: surgical consideration. *Interact Cardiovasc Thorac Surg*. 2022 Feb 21;34(3):495-497.
5. Murakami T, **Kainuma S**, et al. Acute Coronary Syndrome Requiring Coronary Artery Bypass Grafting in a Patient With Sotos Syndrome. *JACC Case Rep*. 2021 Oct 20;3(14):1630-1634.
6. Senzai M, **Kainuma S**, et al. Clinical Outcomes After Durable Mitral Valve Repair for Ischemic Mitral Regurgitation. *Ann Thorac Surg*. 2021 Jul;114(1):115-124.
7. Misumi Y, **Kainuma S**, et al. Left ventricle-mitral valve ring size mismatch following ring annuloplasty for nonischemic dilated cardiomyopathy. *J Thorac Cardiovasc Surg*. 2021 Jun 8:S0022-5223(21)00901-6.
8. Imaoka,S, **Kainuma S**, et al. Impella as a Bridge to Surgery for Severe Mitral Regurgitation with Cardiogenic Shock. *Circulation Reports*. 2021, Mar 3;3(3):178-181.
9. **Kainuma S**, et al. Bilateral Internal Thoracic Artery Grafting Improves Survival for Severe Left Ventricular Dysfunction and Diabetes. *Circulation Journal*. 2021, Accepted
10. Nakae M, **Kainuma S**, et al. Incidence, determinants, and Clinical impact of left ventricular function recovery after surgical treatments for ischaemic cardiomyopathy *Eur J Cardiothorac Surg*. 2021, Accepted
11. **Kainuma S**, et al. Detrimental effects of elevated transpulmonary gradient on outcomes following restrictive mitral annuloplasty in patients with pre-existing pulmonary hypertension. *J Thorac Dis*. 2021, Accepted
12. Matsumoto R, **Kainuma S**, et al. Cool Seal Unit Obstruction as an Unusual Cause of Pump

Exchange of Centrifugal Pump EVAHEART. *Artif Organs* 2021, accepted

13. Ito Y, **Kainuma S**, et al. Unusual Case of Giant Non-thrombosed Right Coronary Artery Pseudoaneurysm with Coronary Artery Fistula. *JACC Case Rep* 2021, Accepted
14. Inoue K, **Kainuma S**, et al. Post-Sternotomy Internal Mammary Artery Pseudoaneurysm. *JACC Cardiovasc Interv* 2021, Accepted
15. **Kainuma S**, et al. Long-term Outcomes of Autologous Skeletal Myoblast Cell-sheet Transplantation for End-stage Ischemic Cardiomyopathy. *Mol Ther*. 2021 Jan 8:S1525-0016(21)00004-6. doi: 10.1016/j.ymthe.2021.01.004
16. **Kainuma S**, et al. Surgical Ablation Concomitant with Non-mitral valve surgery for Persistent Atrial Fibrillation. *Ann Thorac Surg*. 2020 2021 Feb 2:S0003-4975(21)00183-1. doi: 10.1016/j.athoracsur.2020.11.069.
17. **Kainuma S**, et al. Restrictive mitral annuloplasty with or without coronary artery bypass grafting in ischemic mitral regurgitation. *ESC Heart Fail*. 2020;7(4):1560-1570. doi: 10.1002/ehf2.12705.
18. **Kainuma S**, et al. Mediastinal Tube Caught in Fused Suprasternal Ossicles. *Eur Heart J Cardiovasc Imaging*. 2019;20(6):667. doi: 10.1093/ehjci/jez284.
19. **Kainuma S**, et al. Beneficial Effects of Restrictive Annuloplasty on Subvalvular Geometry in Patients with Functional Mitral Regurgitation and Advanced Cardiomyopathy. *J Thorac Cardiovasc Surg*. 2018 Aug;156(2):630-638 e1. doi: 10.1016/j.jtcvs.2017.11.090
20. **Kainuma S**, et al. Novel regenerative therapy combined with trans-phrenic peritoneoscopy assisted omentopexy. *Interact Cardiovasc Thorac Surg*. 2018. Jun 1;26(6):993-1001. doi: 10.1093/icvts/ivx430.
21. **Kainuma S**, et al. Influence of coronary architecture on the variability in myocardial infarction induced by coronary ligation in rats. *PLoS One*. 2017 Aug 24;12(8):e0183323.
22. **Kainuma S**, et al. Predictors and Clinical Impact of Functional Mitral Stenosis Induced by Restrictive Annuloplasty for Ischemic and Functional Mitral Regurgitation. *Circ J*. 2017 81(12):1832-1838. doi: 10.1253/circj.CJ-17-0060.
23. **Kainuma S**, et al. Iatrogenic Injury of Right Coronary Artery During Tricuspid Annuloplasty. *Circ J*. 2017 Apr 22. doi: 10.1253/circj.CJ-17-0153.
24. **Kainuma S**, et al. Surgical intervention for bilateral coronary artery fistulas to the pulmonary artery. *Eur J Cardiothorac Surg*. 2016 May;49(5):1527-9. doi: 10.1093/ejcts/ezv373. Epub 2015 Oct 24.
25. **Kainuma S**, et al. B-type natriuretic peptide response and reverse left ventricular remodeling after

- surgical correction of functional mitral regurgitation in patients with advanced cardiomyopathy. *J Cardiol*. 2015 Oct;66(4):279-85. doi: 10.1016/j.jjcc.2015.02.015. Epub 2015 Apr 4.
26. **Kainuma S**, et al. Dilated left atrium as a predictor of late outcome after pulmonary vein isolation concomitant with aortic valve replacement and/or coronary artery bypass grafting. *Eur J Cardiothorac Surg*. 2015 Nov;48(5):765-77. doi: 10.1093/ejcts/ezu532. Epub 2015 Jan 21.
 27. **Kainuma S**, et al. In Vivo Assessment of Novel Stentless Valve in the Mitral Position. *Circ J*. 2015 Feb 25;79(3):553-9. doi: 10.1253/circj.CJ-14-1113. Epub 2015 Jan 13.
 28. **Kainuma S**, et al. Cell-sheet Therapy with Omentopexy Promotes Arteriogenesis and Improves Coronary Circulation Physiology in Failing Heart. *Mol Ther*. 2015 Feb;23(2):374-86. doi: 10.1038/mt.2014.225. Epub 2014 Nov 25.
 29. **Kainuma S**, et al. Restrictive mitral annuloplasty with or without surgical ventricular reconstruction in ischaemic cardiomyopathy: impacts on neurohormonal activation, reverse left ventricular remodelling and survival. *Eur J Heart Fail*. 2014 Feb;16(2):189-200. doi: 10.1002/ejhf.24. Epub 2013 Dec 9.
 30. **Kainuma S**, et al. Novel surgical ablation through a septal-superior approach for valvular atrial fibrillation: 7-year single-centre experience. *Eur J Cardiothorac Surg*. 2013 Dec;44(6):1013-22; discussion 1022. doi: 10.1093/ejcts/ezt117. Epub 2013 Mar 13.
 31. **Kainuma S**, et al. Mitral valve repair for medically refractory functional mitral regurgitation in patients with end-stage renal disease and advanced heart failure. *Circulation*. 2012 Sep 11;126(11 Suppl 1):S205-13.
 32. **Kainuma S**, et al. Does Stringent Restrictive Annuloplasty for Functional Mitral Regurgitation Cause Functional Mitral Stenosis and Pulmonary Hypertension? *Circulation*. 2011 Sep 13;124(11 Suppl):S97-106. doi: 10.1161/CIRCULATIONAHA.110.013037.
 33. **Kainuma S**, et al. Advanced left-atrial fibrosis is associated with unsuccessful maze operation for valvular atrial fibrillation. *Eur J Cardiothorac Surg*. 2011 Jul;40(1):61-9. doi: 10.1016/j.ejcts.2010.11.008. Epub 2011 Jan 7.
 34. **Kainuma S**, et al. Pulmonary hypertension predicts adverse cardiac events after restrictive mitral annuloplasty for severe functional mitral regurgitation. *J Thorac Cardiovasc Surg*. 2011 Oct;142(4):783-92. doi: 10.1016/j.jtcvs.2010.11.031. Epub 2011 Mar 12.
 35. **Kainuma S**, et al. Restrictive mitral annuloplasty for functional mitral regurgitation: acute hemodynamics and serial echocardiography. *Circ J*. 2011;75(3):571-9. Epub 2010 Dec 22. Erratum in: *Circ J*. 2011 Apr 25;75(5):1285.

36. **Kainuma S**, et al. Modified maze procedure combined with mitral valve surgery via septal-superior approach. *Eur J Cardiothorac Surg*. 2009 Jul;36(1):198-9. doi: 10.1016/j.ejcts.2009.03.047. Epub 2009 May 2.
37. **Kainuma S**, et al. Implantation of a Jarvik 2000 left ventricular assist device as a bridge to eligibility for refractory heart failure with renal dysfunction. *J Artif Organs*. 2012 Mar;15(1):83-6. doi: 10.1007/s10047-011-0602-8. Epub 2011 Sep 18.
38. **Kainuma S**, et al. Transcatheter aortic valve implantation: first trans-iliac experience in Japan. *Gen Thorac Cardiovasc Surg*. 2011 Apr;59(4):273-6. doi: 10.1007/s11748-010-0662-3. Epub 2011 Apr 12.
39. **Kainuma S**, et al. Hybrid Endovascular Stent-Grafting Technique for Patent Ductus Arteriosus in an Adult. *Thorac Cardiovasc Surg*. 2011 Sep;59(6):370-2. doi: 10.1055/s-0030-1250504. Epub 2011 Mar 22.
40. **Kainuma S**, et al. Novel visceral reconstruction for paravisceral aortic aneurysm complicated with aortoiliac occlusion. *Interact Cardiovasc Thorac Surg*. 2011 Feb;12(2):331-3. doi: 10.1510/icvts.2010.259408. Epub 2010 Nov 25.
41. **Kainuma S**, et al. Endovascular aortic repair for spontaneous rupture of a nonaneurysmal infrarenal aorta. *Interact Cardiovasc Thorac Surg*. 2011 Nov;13(5):526-8. doi: 10.1510/icvts.2011.280198. Epub 2011 Aug 18.
42. **Kainuma S**, et al. Primary malignant pericardial mesothelioma presenting as pericardial constriction. *Ann Thorac Cardiovasc Surg*. 2008 Dec;14(6):396-8
43. **Kainuma S**, et al. Chronic expanding intrapericardial hematoma after coronary artery bypass surgery presenting with congestive heart failure. *Ann Thorac Cardiovasc Surg*. 2008 Feb;14(1):52-4