

Cardiovascular Surgery

1. Staffs and Students (April, 2010)

Professor	Hirokuni ARAI	
Associate Professor		
Junior Associate Professor		
Assistant Professor	Kiyoshi TAMURA, Naoto MIYAGI,	Satoru MAKITA, Eiki NAGAOKA
Hospital Staff	2	
Graduate Student	0	
Research Student	0	

2. Purpose of education

Cardiovascular Surgery is a branch of medical science which deals the surgical treatment of the disease of heart and aorta. Main objective of Cardiovascular Surgery in the graduate course is to provide students opportunity to study surgical anatomy, pathophysiology, pharmacology, and advanced treatment. Students are also taught basic research for the surgical treatment.

3. Research Subjects

- 1) Developing new device in OPCAB surgery and evaluation in clinical use
- 2) Developing new technique/surgery for ischemic heart disease
- 3) Developing technique of beating mitral valve surgery
- 4) Research for artificial heart transplantation

4. Clinical Services

Surgical treatment of the disease of heart and aorta, especially for ischemic and valvular heart disease, and aortic disease are performed. Especially for elderly patients, we offer minimum invasive surgery. We also offer the forefront science and technology to our treatment and surgery.

5. Publications in English

1. Kiyoshi Tamura, Hirokuni Arai, Fusahiko Ito, Takeshi Someya, Tomohiro Ushiyama, Naoto Miyagi. Pravastatin treatment before coronary artery bypass grafting for reduction of postoperative atrial fibrillation. *Gen Thorac Cardiovasc Surg.* 2010 Mar;58(3):120-5. Epub 2010 Mar 11.
2. Ricci D, Mennander AA, Miyagi N, Rao VP, Tazelaar HD, Classic K, Byrne GW, Russell SJ, McGregor CG. Prolonged cardiac allograft survival using iodine 131 after human sodium iodide symporter gene transfer in a rat model. *Transplant Proc.* 2010 Jun;42(5):1888-94.
3. Akiko Shioiri, Akeo Kurumaji, Takashi Takeuchi, Hiroshi Matsuda, Hirokuni Arai, Toru Nishikawa. White Matter Abnormalities as a Risk Factor for Postoperative Delirium Revealed by Diffusion Tensor Imaging. *Am J Geriatr Psychiatry.* 2010 Aug 18 (8)743-53
4. Eiki Nagaoka, Takeshi Someya, Takashi Kitao, Kiyoshi Kimura, Tomohiro Ushiyama, Wataru Hijikata, Tadahiko Shinshi, Hirokuni Arai, Setsuo Takatani. Development of a disposable magnetically levitated centrifugal blood pump (MedTech Dispo) intended for bridge-to-bridge applications--two-week in vivo evaluation. *Artif Organs.* 2010 Sep;34(9):778-83.

International Presentation

1. Hirokuni Arai, Naoto Miyagi, Tomoya Yoshizaki, Tomohiko Ushiyama, Satoru Makita, Eiki Nagaoka, Shunsuke Shindo, Naoki Kurashima On-pump beating Mitral Valve Plasty without aortic cross clamp ISMICS2010 Berlin, Germany, 2010, June 17
2. Hirokuni Arai On-pump beating Mitral Valve Plasty without aortic cross clamp. The 6th International Joint Meeting. Tenshin, Chaina, 2010, June 26
3. Naoto Miyagi MD, Kiyoshi Tamura MD, Satoru Makita MD, Tomohiro Ushiyama MD, Eiki Nagaoka MD, Shunsuke Shindo MD, Masashi Takeshita MD, Hirokuni Arai MD The Multi-Suction Heart Positioner TENTACLES Equipped with Epicardiac Sensors for Prediction of Ischemic Change and Hemodynamic Instability During OPCAB. The 6th

International Joint Meeting, Tenshin, China, 2010, June 25-27

4. Eiki Nagaoka, Takeshi Someya, Wataru Hijikata, Yusuke Ando, Yoshimasa Yokoyama, Tadahiko Shinshi, Hirokuni Arai, and Setsuo Takatani. MedTech Dispo, A Disposable Mag-lev Centrifugal Blood Pump: Two-month in vivo Evaluation of Biocompatibility in LVAD Condition. 18th Congress of International Society for Rotary Blood Pump (ISRBP). Berlin, Germany, 2010, October 15