

2026 Akita University Faculty of Medicine Syllabus

Category	: 臨床医学アドバンストコース
Course Title	: Cardiovascular surgery - Analysis of Aortic Dissection -
Eligible Students	: grade 4 Elective Course
Code	: 71604003
Schedule	: week 13
Credits	: 0.5

1. Lead Instructor

Hiroyuki Nakajima (Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)

2. Instructors

Hiroyuki Nakajima (Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)

Daichi Takagi (Lecturer, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)

Genbu Yamaura (Assistant Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)

Kentaro Kiryu (Assistant Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)

Takeshi Arai (Medical Doctor, Cardiovascular surgery, 6135, Office Hour: 8:15-17:30)

3. Course Description Outline(Course Objectives)

1. Objectives

This course provides an integrated understanding of the basics of structure and function, diagnosis, and examination necessary for practice of emergency medicine through an important fatal disease, acute aortic dissection. In addition, students will learn about medical behavioral science, medical ethics, medical safety, medical law (medical system), and EBM.

2. Outline (general learning objectives and items)

Students will learn how to read basic imaging tests such as echocardiography and computed tomography (CT). They will also learn how to determine the treatment plan using guidelines and will experience a process required from diagnosis to treatment.

1) Symptoms and pathophysiology, Clinical reasoning

- (1) Disorders of consciousness, syncope
- (2) Shock
- (3) Chest pain
- (4) Abdominal pain
- (5) Back pain
- (6) Cardiac arrest

2) Basics of diagnosis and examination

- (1) Explaining the main findings of simple chest radiographs
- (2) Explaining the major findings of cardiac ultrasonography
- (3) Explaining the major findings of computed tomography (CT)

3) Learning medical behavior, medical ethics, medical safety, medical law, and EBM

- (1) Improving ability to search for evidence and medical guidelines from databases and secondary literature
- (2) Assessing critically the obtained information
- (3) Listing the types of medical guidelines and precautions for their use
- (4) Describing the differences between guidelines and recommendations

4. Textbook/Reference Books

Guidelines for the Medical Treatment of Aortic Aneurysm and Aortic Dissection, Revised Edition 2020 (Japanese Circulatory Society)

5. Assessment

The achievement level each student will be evaluated by oral examination.

6. Out of Class Study/Message

Beforehand, students should read through the section on "Aortic dissection" in the "Guidelines for the Medical Treatment of Aortic Aneurysm and Aortic Dissection, Revised Edition 2020" (Japanese Circulatory Society).

Topics and Contents of class, Course Objectives						
	Class Date	Period	Class Format	Topics and Contents of class, Course Objectives	Instructors	Class Room
1	6 / 29 (Mon)	1-2	Tutorial	Theme: Orientation and pre-test Student's level of understanding regarding acute aortic dissection will be checked by pre-test.	Hiroyuki Nakajima	Conference room, Department of Cardiovascular surgery
2	6 / 29 (Mon)	3-4	Lecture	Theme: Acute aortic dissection symptom and diagnosis Learning about the symptoms, examination, and imaging necessary for diagnosis of acute aortic dissection.	Daichi Takagi	Conference room, Department of Cardiovascular surgery
3	6 / 29 (Mon)	5-6	Lecture	Theme: Diagnostic Imaging Intensive course learning the basic knowledge required for imaging evaluation and the imaging classification of aortic dissection in CT.	Daichi Takagi	Conference room, Department of Cardiovascular surgery
4	6 / 29 (Mon)	7-8	Lecture	Theme: Respiratory management after cardiovascular surgery. Intensive course learning respiratory management after cardiovascular surgery.	Daichi Takagi	Conference room, Department of Cardiovascular surgery
5	6 / 29 (Mon)	9-10	Lecture	Theme: Circulatory management after cardiovascular surgery. Intensive course learning circulatory management after cardiovascular surgery.	Daichi Takagi	Conference room, Department of Cardiovascular surgery
6	6 / 30 (Tue)	1-2	Practice	Theme: Acute aortic dissection treatment and surgery Intensive course learning treatment and surgery for acute aortic dissection.	Takeshi Arai	Conference room, Department of Cardiovascular surgery
7	6 / 30 (Tue)	3-4	Practice	Theme: Case Study 実際の症例の経過・画像・治療について討議を行う。 Case study approach and discussion on diagnoses and treatments	Kentaro Kiryu	Conference room, Department of Cardiovascular surgery
8	6 / 30 (Tue)	5-6	Discussion	Theme: Basic surgical training (mock training) 1 Surgical training on ligation and suture of the skin.	Kentaro Kiryu	Conference room, Department of Cardiovascular surgery
9	6 / 30 (Tue)	7-8	Discussion	Theme: Basic surgical training (mock training) 2 Surgical training on vascular anastomosis using prosthetic grafts.	Genbu Yamaura	Conference room, Department of Cardiovascular surgery
10	6 / 30 (Tue)	9-10	Discussion	Theme: Preoperative conference Joining the conference and discussing on preoperative patients.	Genbu Yamaura	Conference room, Department of Cardiovascular surgery

Topics and Contents of class, Course Objectives						
	Class Date	Period	Class Format	Topics and Contents of class, Course Objectives	Instructors	Class Room
11	7 / 1 (Wed)	1-2	Discussion	Theme: Case study Discussion on acute aortic dissection under instructors.	Hiroyuki Nakajima	Conference room, Department of Cardiovascular surgery
12	7 / 1 (Wed)	3-4	Formative assesment	Theme: Post-course examination Student's level of understanding regarding acute aortic dissection will be checked after the course.	Hiroyuki Nakajima	Conference room, Department of Cardiovascular surgery