

## 2023 Akita University Faculty of Medicine Syllabus

**Category** : 臨床医学 V (CC1)  
**Course Title** : Clinical Clerkship I Cardiovascular surgery  
**Eligible Students** : grade 5 Related Course  
**Code** : 71643002-09

### 1. Lead Instructor

Hiroshi Yamamoto (Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)

### 2. Instructors

Hiroshi Yamamoto (Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)  
Takayuki Kadohama (Associate Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)  
Genbu Yamaura (Assistant Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)  
Daichi Takagi (Assistant Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)  
Kentaro Kiryu (Assistant Professor, Cardiovascular surgery, 6135, Office Hour: 8:15-17:30)  
Fuminobu Tanaka (Medical Doctor, Cardiovascular surgery, 6135)  
Yoshinori Itagaki (Medical Doctor, Cardiovascular surgery, 6135)

### 3. Course Description Outline(Course Objectives)

#### 1. 授業の概要及びねらい

チームの一員として、手術や入院患者さんへの診療を通して、将来どの分野の医師にも必要な外科領域、特に心臓血管外科を中心とした症候や病態の臨床推論、鑑別診断、検査・治療方針決定などの実践力を習得する。また、関連する医学行動科学、医療倫理、医療安全、医療法（医療制度）、EBM について実践的に学ぶ。

#### 1. Outline and aims

As members of our teams, students will acquire practical skills in clinical reasoning, differential diagnosis, and decision making for examination and treatment of syndromes and pathological conditions in the field of surgery, especially cardiovascular surgery, which are necessary for future physicians in any field.

In addition, students will learn about medical behavioral science, medical ethics, medical safety, medical law (medical system), and EBM.

#### 2. 概要

・心臓血管外科の診療に関する基本的な知識・技能を習得するために、指導医を中心とした医療チームの一員として能動的に実習に取り組む。

・集中治療室の重症患者への診療を通し、自ら情報收拾を行い、問題点お抽出・整理、解釈を行い（臨床推論）、解決法（診断、治療）を立案するための訓練を行う。

##### 1) 病棟診療

各学生は、各診療チームに1週間配属され、指導医のもと1名の病棟（主に集中治療室）の術後患者さんを担当する。指導医の指導の下に、日々、担当患者さんの回診を行い、医療面接・身体診察による課題抽出、臨床推論、診療内容のカルテへの記載を通して、チームの一員として基本的な診療を実践的に学ぶ。

特に、術後患者の診療を通して、心臓血管外科術後急性期の呼吸・循環のダイナミクスを学ぶ。

##### 2) 外来診療、各種検査、手術などの治療への参加

実習班で一人の手術患者を担当する。術前検査、手術適応・術式判断、手術見学、術後管理について、診療チームの一員として、実践的に学ぶ。

#### 2. Outline

- Students should work actively as members of a medical team led by a supervisor, and acquire basic knowledge and skills in cardiovascular surgery.

- Students will be trained to collect information, identify and interpret problems (clinical reasoning), and formulate solutions (diagnosis and treatment).

#### (1) clinical clerkship in a ward

Students will be assigned to a medical team for one week and is responsible for one postoperative patient in a ward (mainly in intensive care units) under the supervision of a medical advisor.

Under the guidance of the supervising physician, the students make daily rounds of the patients, and learn basic medical treatment through identifying problems through medical interviews and physical examinations, clinical reasoning, and making medical records.

In particular, students will learn the dynamics of respiration and circulation in the acute phase after cardiovascular surgery by treating postoperative patients.

#### (2) Participation in outpatient care, various examinations, and surgical treatments

Each practice group will be in charge of one surgical patient. Students will learn preoperative examinations, surgical indications and procedures, surgical observation, and postoperative management as a member of a medical team.

### 3 . 学修目標

上記の概要・ねらいを中心に実習を進めるが、本診療科で特に経験する症候・病態、各種手技などの内容を下記に示す。

#### 1 ) 症候・病態 臨床推論

(1) 術後循環不全・術後呼吸不全 (2) ショック (3) 浮腫 (4) 胸水 (5) 胸痛 (6) 呼吸困難 (7) 動悸

#### 2 ) 基本的臨床手技

(1) 診療録 (カルテ) を記載する

(2) ICU フォーマットを理解し、実際に使用する

(3) 体位交換, 移送ができる

#### 3 ) 検査手技

(1) 12 誘導心電図を記録できる

(2) 血液ガス分析を行える

#### 4 ) 手術前検討・外科手技

(1) 術前症例検討のプレゼンテーションを通し, 心臓超音波検査・胸腹部骨盤 CT の読影を学ぶ。

(2) ガイドラインを用いて, 手術適応を判断する。

(2) 手術, 術前・術中・術後管理を見学し, 介助する

本科目は実務経験のある教員による授業科目です。

### 3. Learning goal

In addition to the above outlines and aims, the following is a list of syndromes, pathologies, and various procedures to be experienced in this department.

#### 1) Symptoms and pathological conditions. Clinical reasoning

(1) Postoperative circulatory and postoperative respiratory failures, (2) Shock, (3) Edema, (4) Pleural effusion, (5) Chest pain, (6) Dyspnea, (7) Palpitation

#### 2) Basic clinical procedures

(1) Making medical records (medical charts)

(2) Understanding the ICU format and use it in practice

(3) Changing the patient position and patient transfer

#### 3) Examination techniques

(1) Performing a 12-lead electrocardiography

(2) Examining blood gas analysis

#### 4) Preoperative review and surgical techniques

- (1) Learning echocardiography and computed tomography (chest, abdomen and pelvis) through a presentation of preoperative case studies.
- (2) Determining indications for surgery based on the guidelines.
- (2) Observing operations (also as an assistant) and perioperative managements.

This course is performed by faculties with actual practical experiences.

#### 4. Textbook/Reference Books

心臓手術の周術期管理 (メディカル・サイエンス・インターナショナル)  
日本循環器学会ガイドライン

Robert M Bojar. Manual of perioperative care in adult cardiac surgery, 5th Ed. Wiley-Blackwell  
Japan Circulation Society (JCS) Guidelines

#### 5. Assessment

- (1) カンファレンスのプレゼンテーションを通して疾患・手術に関する知識・理解を評価する
- (2) 受け持ち患者の診察・カルテ記載のチェックを毎日行い、最終日のクロージングのディスカッションを通して評価する

Evaluating the student's ability understanding of the knowledge regarding diseases and surgical procedures through

- 1) a student's presentation ability in a preoperative conference,
- 2) daily checking of patient's examinations and medical records,
- 3) discussion at the course closing.

#### 6. Out of Class Study/Message

希望により当直医とともに心臓大血管手術後の術後管理を見学することができる。

毎日診療録を記載し、担当医と discussion をし、記載内容についてフィードバックを受け、必要に応じて追記・訂正を行って承認を得る。

In this course, students, if they wish, will be able to join postoperative management with on-duty doctors as an out of class study.

Students should record a medical chart daily and improve their records for approval through discussion and feedback under the attending doctor.

心臓血管外科学 臨床実習

| Schedule   |                                                   |                        | Contents of Class                                                                                                                                                                                                                                                                                      |
|------------|---------------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1          | Mon [ 8:00-17:00 ]                                |                        |                                                                                                                                                                                                                                                                                                        |
| Subtitle   | Clinical clerkship                                | cardiovascular surgery |                                                                                                                                                                                                                                                                                                        |
| Instructor | Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka |                        |                                                                                                                                                                                                                                                                                                        |
|            |                                                   |                        | 08:00 Morning conference (Conference room of cardiovascular surgery department )<br>09:00 Orientation<br>10:00 ~ Observing surgery, Patient examination, Making medical records                                                                                                                        |
| 2          | Tue [ 8:30-17:00 ]                                |                        |                                                                                                                                                                                                                                                                                                        |
| Subtitle   | Clinical clerkship                                | cardiovascular surgery |                                                                                                                                                                                                                                                                                                        |
| Instructor | Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka |                        |                                                                                                                                                                                                                                                                                                        |
|            |                                                   |                        | 08:30 朝カンファレンス<br>10:00 ~ 患者診療<br>13:00 ~ 16:00 手術担当患者術前プレゼンテーション準備<br>16:00 術前症例検討会（時間は前後するので，担当高木に確認）<br><br>08:30 Morning conference<br>10:00 ~ Patient examination, Making medical records<br>13:00 ~ 16:00 Preparing for a presentation about a preoperative patient.<br>16:00 Evening conference |
| 3          | Wed [ 8:30-17:00 ]                                |                        |                                                                                                                                                                                                                                                                                                        |
| Subtitle   | Clinical clerkship                                | cardiovascular surgery |                                                                                                                                                                                                                                                                                                        |
| Instructor | Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka |                        |                                                                                                                                                                                                                                                                                                        |
|            |                                                   |                        | 08:30 Morning conference<br>10:00 ~ Patient examination, Making medical records<br>13:00 ~ 17:00 Preparing for a presentation about a preoperative patient.                                                                                                                                            |
| 4          | Thu [ 8:15-17:00 ]                                |                        |                                                                                                                                                                                                                                                                                                        |
| Subtitle   | Clinical clerkship                                | cardiovascular surgery |                                                                                                                                                                                                                                                                                                        |
| Instructor | Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka |                        |                                                                                                                                                                                                                                                                                                        |
|            |                                                   |                        | 08:15 Morning conference : a presentation about a preoperative patient.<br>10:00 ~ Observing surgery, Patient examination, Making medical records                                                                                                                                                      |
| 5          | Fri [ 8:00-17:00 ]                                |                        |                                                                                                                                                                                                                                                                                                        |
| Subtitle   | Clinical clerkship                                | cardiovascular surgery |                                                                                                                                                                                                                                                                                                        |
| Instructor | Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka |                        |                                                                                                                                                                                                                                                                                                        |
|            |                                                   |                        | 08:15 Morning conference<br>09:00 Closing<br>10:00 ~ Observing surgery, Patient examination, Making medical records<br>14:20 ~ Comprehensive lectures on medicine and health care                                                                                                                      |