Isfahan University of Medical Sciences

Cardiovascular clinical clerkship Guide

Importance of the Rotation:

Cardiovascular diseases are the leading cause of mortality and disability worldwide, including in our country. Cardiac patients constitute a significant proportion of individuals presenting to general practitioners in outpatient clinics and hospital emergency departments. Therefore, the ability to diagnose and manage cardiovascular diseases is essential for all physicians.

Achieving complete competence in the approach, diagnosis, and treatment of all cardiovascular diseases during a four-week internship is impossible. However, this rotation provides students with a general approach to cardiac patients and focuses on common and important conditions that every general practitioner is expected to recognize and manage.

Department Information:

Department: Cardiovascular Medicine

Course: Internship

Course Title: Cardiovascular Medicine Internship

Course Codes: 31130137, 31111114

Course Director: **Dr. Saeed Soltani**

Training Sites: Chamran Hospital, Khorshid Hospital, Al-Zahra Hospital

Duration: 1 month

Rotation Period: 1st to 30th of each month

Department Office: Administrative Building, 2nd Floor, Chamran Hospital

Office Phone: 32611406

Office Hours: Saturday to Thursday, 8:00 AM–2:00 PM

Email: 252soltani.s@gmail.com

General Objective:

To provide supervised care for patients with a broad spectrum of medical conditions, with an emphasis on cardiovascular diseases, under the guidance of faculty members and residents, while developing the competencies required of an independent and capable future physician.

Expected Knowledge Competencies:

By the end of the cardiology internship, students are expected to achieve competence in the following areas:

Clinical Approach to:

Chest pain

Dyspnea (shortness of breath)

Peripheral edema

Signs, Symptoms, Diagnosis, and Treatment of:

Acute Coronary Syndrome (ACS)

Aortic Dissection

Heart Failure

Hypertension (diagnosis, treatment, and hypertensive emergencies)

Dyslipidemia

Tachyarrhythmia and Brady arrhythmias (including AF, VT, PSVT, and conduction blocks)

Pulmonary Embolism and Venous Thromboembolism

Pericarditis

Aortic and Mitral Valve Diseases

Expected Clinical Competencies:

Electrocardiography (ECG)

Students should be able to:

Perform ECG acquisition (standard 12-lead, right-sided, and posterior leads)

Recognize normal ECG characteristics

Identify common ECG abnormalities

Cardiopulmonary Resuscitation (CPR)

Students should be familiar with:

Cardiac arrest and Basic Life Support (BLS)

Advanced Cardiac Life Support (ACLS)

Management algorithms for pulseless tachyarrhythmias, asystole, and pulseless electrical activity (PEA)

Temporary transcutaneous pacing

Defibrillator operation

Principles of cardiac monitoring and monitor use

Physical Examination Skills

Students should demonstrate proficiency in:

Accurate blood pressure measurement

Examination of carotid, brachial, femoral, radial, dorsalis pedis, and posterior tibial pulses

Proper palpation of the precordium and auscultation of cardiac areas

Recognition of abnormal lung sounds (wheezes and crackles)

Recognition of abnormal heart sounds:

S3 and S4 gallops

Distinguishing systolic from diastolic murmurs

Identifying murmurs of aortic stenosis, aortic regurgitation, mitral stenosis, and mitral regurgitation

Detection of elevated jugular venous pressure (JVP)

Recognition of peripheral edema

Common Cardiovascular Medications:

Students should be familiar with indications and adverse effects of:

Antiplatelet and Anticoagulant Drugs

Aspirin

Clopidogrel

Ticagrelor

Heparin

Enoxaparin

Warfarin

Rivaroxaban

Apixaban

Beta-Blockers

Metoprolol

Carvedilol

Bisoprolol

Calcium Channel Blockers

Diltiazem

Verapamil

Amlodipine

Other Cardiovascular Medications

Nitrates

Statins (Atorvastatin, Rosuvastatin)

Fibrates

Ezetimibe

Bempedoic Acid

Digoxin

Antiarrhythmics (Amiodarone, Adenosine)

Diuretics (Furosemide, Thiazides)

ACE Inhibitors

ARBs

ARNIs

Aldosterone Antagonists (Spironolactone, Eplerenone)

SGLT2 Inhibitors (Dapagliflozin, Empagliflozin)

Clinical Responsibilities:

Students are expected to:

Obtain comprehensive and organized patient histories

Obtain focused histories in emergency situations

Perform complete and focused physical examinations

Adhere to infection-control principles

Generate problem lists and differential diagnoses

Present patients orally and document findings appropriately

Understand factors affecting test selection, including:

Pre-test probability

Sensitivity and specificity

Cost

Risks

Patient preferences

Interpret laboratory and imaging studies including:

CBC

Electrolytes

Liver function tests

Renal function tests

Thyroid function tests

Arterial blood gases

Coagulation studies

Glucose profile

Lipid profile

Inflammatory markers

Cardiac biomarkers

ECG

Chest radiography

Document inpatient and outpatient encounters appropriately

Understand indications and complications of clinical procedures

Develop competency in managing common cardiovascular conditions

Professionalism, Ethics, and Medical Law:

Students must:

Prioritize patients' best interests

Treat patients and families with compassion and respect

Respect patients' values, beliefs, and concerns

Maintain professional boundaries

Preserve confidentiality in clinical, social, and electronic environments

Introduce themselves and obtain informed consent before examinations or procedures

Provide equitable care regardless of gender, race, socioeconomic status, intelligence, financial capability, or cultural background

Interact respectfully with patients, staff, and colleagues

Demonstrate honesty in verbal and written communication

Reflect on clinical experiences and feedback

Commit to lifelong learning

Fulfill assigned responsibilities accurately

Be available during designated working hours

Maintain professional attire

Wear identification badges visibly

Address unprofessional conduct appropriately

Clinical Reasoning and Problem Solving:

Students should be able to:

Identify and define clinical problems

Formulate answerable clinical questions

Apply logical reasoning while recognizing cognitive biases

Analyze problems and propose solutions

Prioritize management strategies based on outcomes, feasibility, cost-effectiveness, benefits, and risks

Utilize available information resources

Use textbooks, algorithms, and clinical guidelines effectively

Clinical Rounds:

Students must:

Be present on the ward by 7:00 AM

Obtain histories from assigned patients

Write daily progress notes

Attend daily faculty rounds

Present assigned patients comprehensively

Interpret and document ECG findings alongside the tracing

Morning Reports and Scientific Conferences:

Morning Reports and Scientific Conferences			
Student Morning Session	Cardiology Conference	Khorshid Morning Report	Chamran Morning Report
7:30–8:30 AM	7:30–8:30 AM	7:30–8:30 AM	7:30–8:30 AM
Monday	Monday	Sat, Sun, Tue	Sat, Sun, Tue
Patient Education Hall	Foroughi Hall	Noor Hall	Foroughi Hall

Evening Emergency Department Shifts:

Each student must complete three emergency shifts from 2:00 PM to 7:00 PM.

Required activities:

Independently perform a standard 12-lead ECG.

Interpret ECGs of at least four emergency patients.

Learn operation of the DC shock/defibrillation device.

Complete two full histories and physical examinations with differential diagnoses.

Outpatient Clinics:

Students must attend the supervising faculty member's clinic following ward rounds.

Students rotating through the EPS service must also attend EPS outpatient clinics according to faculty schedules.

Theoretical Classes:

Attendance at all lectures and Thursday workshops is mandatory.

Topics Include:

Approach to Chest Pain

Approach to Dyspnea

Approach to Lower Extremity Edema

Atrial Fibrillation

Hypertension

Dyslipidemia

Acute Coronary Syndrome

Heart Failure

Venous Thromboembolism and Pulmonary Embolism

Clinical Pharmacology of Cardiovascular Drugs

Electrocardiography Workshop

Cardiopulmonary Resuscitation Workshop

Cardiovascular and Pulmonary Examination Workshop

Case-Based Discussions

Assessment:

Multiple-choice examination at the end of the four-week rotation

Value: 15 points

Clinical Assessment

ECG interpretation

Basic and advanced resuscitation skills

Cardiovascular examination

Clinical management during ward rounds

Value: 5 points

Feedback:

Mid-rotation feedback: End of week 2

Final feedback: End of week 4

End-of-rotation online evaluation form completion is mandatory

Leave and Absence Policy:

Due to the short duration of the rotation:

Only one working day of leave may be granted for justified reasons.

Emergency absences require prior approval from the faculty supervisor.

Absence exceeding one day (more than 10% of active training days) will result in extension of the rotation.

Recommended Resources:

Cardiovascular Diseases by Dr. Nematipour et al.

Harrison's Principles of Internal Medicine, 22nd Edition

Additional Reference

Pathophysiology of Heart Disease – Leonard S. Lilly

Educational Telegram Channel

@edu_chamranhospital

Working Hours:

Daily attendance: 7:00 AM – 2:00 PM

Students at Khorshid and Al-Zahra Hospitals rotate with Chamran students after 14 days.

Three emergency shifts during the one-month rotation are mandatory.

Cardiology department

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2026