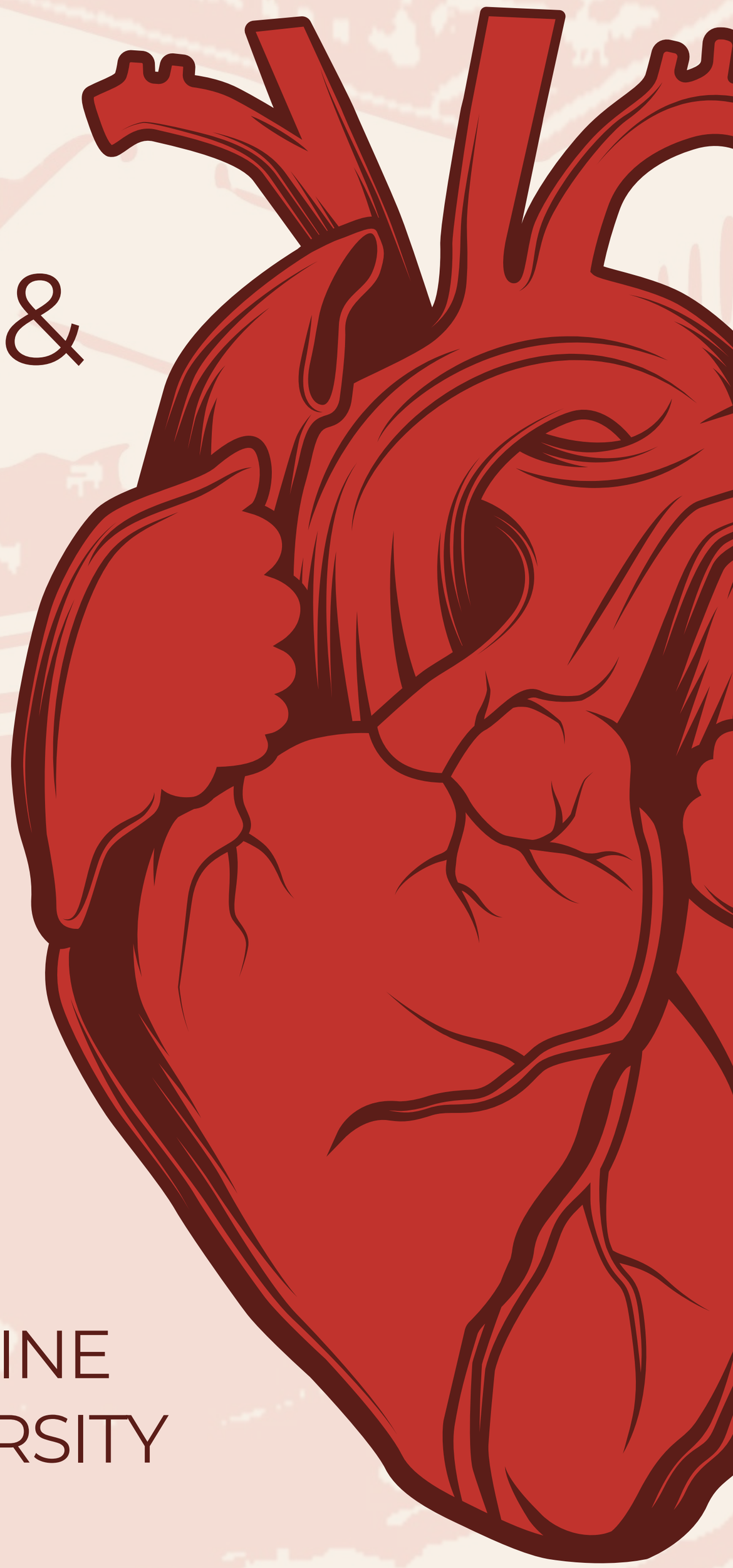
STUDENT GUIDE BOOK

SPECIALIST MEDICAL EDUCATION

Cardiology &
Vascular
Medicine
Specialist
Program



FACULTY OF MEDICINE
HASANUDDIN UNIVERSITY
2021

FOREWORD

Medical Specialist Education is a blend of academic education characterized by profound expertise through various academic activities and professional education supported by a solid educational foundation. Thus, Specialist Medical Education consists of Academic and Professional Material, which are inseparable. Theoretical material is the foundation or basis for achieving professionalism in the educational process of becoming a medical specialist.

A Student Guide Book for the Cardiology and Vascular Medicine Specialist Program, Faculty of Medicine, Universitas Hasanuddin, was compiled based on these matters.

The making of this guidebook is, of course, still far from perfect, both in context and content, for that, we are open to suggestions and criticism for future improvements.

This guidebook is an essential reference for students, pre-educators, and administrative staff of the Cardiology and Vascular Disease Specialist Program, Faculty of Medicine, Universitas Hasanuddin.

Makassar, 2021
Head of Cardiology and Vascular Disease
Specialist Program

Dr. dr. Muzakkir Amir, Sp.JP(K)

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CHAPTER I
INTRODUCTION

Specialist Medical Education is a combination of academic education characterized by profound expertise through various educational activities and professional education characterized by attaining professional abilities through a series of specialist medical education courses consisting of academic and professional material where both are inseparable. Theoretical material is the foundation or basis for professional achievement in the an educational process of becoming a medical specialist.

Based on this, the 2021 Student Guide Book for Specialist Medical Education Cardiology & Vascular Medicine Specialist Program, Faculty of Medicine, Universitas Hasanuddin, was compiled to refine the previous guidebook in 2011. This Guidebook also refers to Indonesia's Education Standards for Specialists in Cardiovascular Diseases.

This guide describes a curriculum that has applied the principles of a universal approach to higher education in competency-based professionalism. This guidebook is a reference for students, educators, and educational staff of the Faculty of Medicine Universitas Hasanuddin on the Cardiology & Vascular Medicine Specialist Program.

With this guide, the Cardiology & Vascular Medicine Specialist Study Program will be more effective, efficient, and flexible in keeping up with medical science and technology developments through society's ever-changing and developing needs.

CHAPTER II
HISTORY BEHIND THE STUDY PROGRAM

The establishment of the Department of Cardiology and Vascular Medicine, Faculty of Medicine, Universitas Hasanuddin began with the formation of the Cardiology Sub-Division, Division of Internal Medicine, Faculty of Medicine, Universitas Hasanuddin in 1975 which was chaired by Prof. Dr. Junus Alkatiri SpPD, SpJP(K). The advances made by the government in the industrial, socio-economic, and health fields have changed the pattern of disease in which infectious diseases, which previously occupied the top rank, were replaced by cardiovascular, degenerative, and cancer diseases. Average life expectancy of Indonesian people also increased.

Seeing the increasing number of people with cardiovascular disease, the eastern region of Indonesia, with its large area, certainly needs many doctors who specialize in cardiology and vascular medicine. Even though in Indonesia, there are only two centers for Cardiology & Vascular Medicine Specialist education, namely at the Faculty of Medicine, University of Indonesia, and the Faculty of Medicine, Airlangga University, a plan arose to establish a study program for Cardiology & Vascular Medicine Specialist Education at Faculty of Medicine Universitas Hasanuddin.

Toe Department of Cardiology and Vascular Medicine, Faculty of Medicine, Universitas Hasanuddin, Prof. Dr. Junus Alkatiri SpPD, SpJP(K) as Chair of the Cardiology Sub-Division for the Internal Medicine Department together with the Head of Cardiology and Vascular Medicine Department Dr. Wahidin Sudirohusodo has conducted open approaches/meetings with the senior staff of the Department of Internal Medicine for this matter. On August 12, 1996, Prof. dr. Junus Alkatiri, SpPD, SpJP, wrote to PP PERKI to form a Department of Cardiology, Faculty of Medicine, Universitas Hasanuddin. This was well received by PP PERKI (Letter No. 229/PP/X/96 dated: 4 September 1996) to form the Department of Cardiology and Vascular Medicine at Universitas Hasanuddin.

This information was forwarded to the Head of the Department of Internal Medicine, Faculty of Medicine, Universitas Hasanuddin, regarding the Education of Specialists in Cardiovascular Medicine, then followed up by a letter to Internal Medicine with the Dean of the Faculty of Medicine.

After going through discussions with the Cardiology Department of the Faculty of Medicine, Universitas Airlangga, the Dean of the Faculty of Medicine, Universitas

Hasanuddin, forwarded a letter dated 9 February 1998 to Prof. Dr. Dr. H. Askandar Tjokroprawiro that, in print, pile agrees with several notes that it does not deviate from the provisions of the meeting of the deans of medical faculties throughout Indonesia in 1991 and according to PERKI.

Furthermore, the Dean of the Faculty of Medicine, University of Hasanuddin, sent a letter dated 22 July 1998 No. 0774/104.7/PP/17/1998 regarding the education proposal to the Ministry of Education and Culture Consortium of Health Sciences and copies to related agencies. Not long after, a response emerged from the Ministry of Education and Culture of the Health Sciences Consortium on July 29, 1998 agreeing to a collaboration between FK UNHAS and FK-UNAIR where cardiology education activities are sufficient between faculties, namely the Faculty of Medicine UNAIR and the Faculty of Medicine UNHAS. Also, a letter from the Dean of the Faculty of Medicine UNAIR dated 24 August 1998 (No.1235/]03.1.1/PP.6/1998) stated that they have no objection to helping the educational program as long as it follows the submission procedure. After that a review was carried out by the staff of the Cardiology Department of the Faculty of Medicine UNAIR Surabaya, the head of the cardiology study program Faculty of Medicine UNAIR with a letter dated January 27, 2000 (No. 175/PP/1/17/IP]/1/2000) determined the Cardiology Sub-Division of the Faculty of Medicine Universitas Hasanuddin as a place of preliminary education for prospective Cardiology and Vascular Medicine Specialists, with the guidance from Cardiology Department, Faculty of Medicine UNAIR. For this reason, students have been sent to take part in the Preliminary Cardiology Education in the Cardiology Sub-Division, Department of Internal Medicine, Faculty of Medicine, Universitas Hasanuddin, with a length of study of 4 semesters. To anticipate these developments, it is necessary to establish a Department of Cardiology. Through a senior meeting of the Department of Internal Medicine, Faculty of Medicine, Universitas Hasanuddin, the Head of the Internal Medicine Division, followed up with a proposal to the dean to forward to the superiors. Then at the dean level, a Senate Meeting of the Faculty of Medicine, Universitas Hasanuddin, was held on February 27, 2001. It was agreed to propose that the Cardiology Sub-Division of the Internal Medicine Department, Faculty of Medicine, Universitas Hasanuddin, be upgraded to the Cardiology and Vascular Medicine Department, Faculty of Medicine, Universitas Hasanuddin.

On June 28, 2001 a Chancellor's Decree was published regarding establishing the Cardiology Department of Faculty of Medicine Universitas Hasanuddin. During this

time, the status changed from Cardiology Sub-Division of the Department of Internal Medicine, to Department of Cardiology and Vascular Medicine, Faculty of Medicine, Universitas Hasanuddin.

In 2005, Prof. dr. Junus Alkatiri, SpPD, SpJP(K), as Head of the Cardiology and Vascular Medicine Department, compiled a Proposal for the Specialist Medical Education Study Program for Cardiology and Vascular Medicine Study Program, Faculty of Medicine, Universitas Hasanuddin towards becoming a full-fledged education center for future cardiologists in eastern Indonesia. This has received strong support from the Dean of the Faculty of Medicine, Universitas Hasanuddin, Prof. Dr. dr. H. Idrus Paturusi, SpB, SpBO, Head of the Department of Internal Medicine, Faculty of Medicine, Universitas Hasanuddin Prof, dr. A. Rifai Amirudin, SpPD KGEH, Head of Specialist Medical Education Program, Faculty of Medicine, Universitas Hasanuddin, Prof, dr. Farid Nurmantu, SpBA, Director of RS Dr. Wahidin Sudirohusodo Dr. H. Nurdin Perdana, SKM, Head of the Department of Health of the Republic of Indonesia, South Sulawesi Province Dr. H. Muh Akib Kamaluddin and General Chairperson of the Indonesian Doctors Association for the South Sulawesi Region Dr. Farid Husain SpB(K).

After going through special negotiations with various parties, on June 2, 2008 in Surabaya, an MOU was declared between the Faculty of Medicine UNAIR - RSU Dr. Soetomo Surabaya with the Faculty of Medicine, University of Hasanuddin Dr Wahidin Sudirohusodo Hospital regarding the Development of Specialist Education Program in Cardiology and Vascular Medicine. This collaboration aims to foster the Cardiology Department of the Universitas Hasanuddin Faculty of Medicine to become a place of education for future Cardiologists. On October 13, 2008, Head of Department Cardiology and Vascular Medicine Faculty of Medicine UNAIR Prof. Dr. dr. R. Moh. Yogiarto SpJP(K), and Head of the Cardiology and Vascular Study Program, Faculty of Medicine UNAIR, dr. Muh. Aminuddin SpJP(K) wrote to the Chairperson of the Cardiology and Vascular Medicine Collegium (No. 466/J03.1.17/IPJ BKII/X/2008) conveying that the Department of Cardiology and Vascular Medicine, Faculty of Medicine, University of Hasanuddin Makassar has met the requirements and recommended to become Independent. On October 13, 2008 the Head of the Collegium, Prof. dr. H. Harmani Kalim MPH, SpJP(K), wrote to the Chairman of the Indonesian Medical Collegium Council in Jakarta for data on visiting the Cardiology and Vascular Medicine Division of the Medical Faculty, Universitas Hasanuddin.

On 23-25 October 2008, the Visitation Team consisting of Prof. Dr. Dr. Biran Affandi, SpOG(K) as chairman, Prof. dr. Harmani Kalim MPH, SpJP(K), and Prof. Dr. Dr. As a member, Dede Kusumana, SpJP(K), conducted a visitation at the Cardiology and Vascular Medicine Study Program Universitas Hasanuddin Faculty of Medicine as an independent education center. The visitation results have been reported to the Chairman of the Indonesian Medical Collegium Council and the Head of the MKKI Accreditation Commission and related agencies.

On February 9, 2009, the Director General of the Ministry of National Education, Directorate General of Higher Education, wrote to the Chancellor of Universitas Hasanuddin (No. 153/D/T/2009) stipulating the granting of permission to organize the Study Program in the Science of Cardiology and vascular medicine at the level of Specialist 1 (Sp1) program.) at Universitas Hasanuddin.

In 2009, Cardiology and Vascular Medicine, Faculty of Medicine, University of Hasanuddin Mulal, accepted students from the Medical Education Study Program specializing in cardiology and vascular medicine.

CHAPTER III

VISION, MISSION, AND OBJECTIVES OF THE STUDY PROGRAM

A. Vision and Mission

The vision of the 2016 Medical Specialist Medical Program for Cardiology and Vascular Diseases, Faculty of Medicine, Universitas Hasanuddin:

"Becoming a Center for Excellence, Independent and Dignified Education to Produce Graduates of Cardiology and Vascular Specialists who are Professional and Qualified, Have a Maritime Spirit and Capable of Competing at the National and International Levels."

The mission of the 2016 Medical Education Study Program for Specialists in Cardiology and Vascular Diseases, Faculty of Medicine, Universitas Hasanuddin:

1. Organize service-based education and evidence *based cardiology* in the field of Cardiology and Vascular disease through a comprehensive and quality maritime culture approach.
2. Increasing the quantity and quality of primary and applicable research in cardiovascular disease and blood vessels at national and international levels.
3. Creating a sound governance system for education study programs for cardiovascular disease and blood vessel specialists.

B. Purpose

Based on the 2016 - 2020 vision and mission of the 2016 - 2020 medical education program for specialists in cardiology and vascular medicine, the Faculty of Medicine, Universitas Hasanuddin, the aims of education for specialists in cardiology and vascular medicine are divided into three crucial points, namely:

1. Implementation of a health service-based educational process in Cardiology and Vascular disease in a complete, quality, based on "*evidence based cardiology* includes a maritime cultural approach.
2. Achieved an increase in quality basic and applied research results.
3. Implementive, efficient, transparent, accountable, responsible, independent, integrated and fair management.

CHAPTER IV
CURRICULUM

A. Graduate Competency

Core Competencies:

1. Competence in Ethics, Morals, Professionalism and Medicolegal :
    a. Behave professionally in medicine and support health policy.
    b. Be moral and ethical and understand ethical issues and medicolegal aspects in medical practice.
2. Competence as a scientist/researcher

    At least include:
    a. Critically assess medical information sources.
    b. Doing it alone or collaborating with other cardiology and vascular medicine research professionals.
    c. Develop, implement, and monitor an ongoing self-education strategy.
    d. Facilitate the learning of medical students and other professionals.
    e. Contribute to the development of new cardiovascular science.
    f. Assess the distribution of cardiovascular disease and blood vessels in the area.
3. Competence in the Area of Effective Communication

    Able to explore and exchange information (verbal and non-verbal) with patients of all ages, family members, society, colleagues and other professions.
4. Competence in Scientific Basis and Clinical Skills
    a. Scientific Foundation Area.

        Identify, explain, and design solutions to health problems to obtain optimum results.
    b. Clinical Skills Area
        i. Obtain a medical history, perform a physical examination and make a medical record.
        ii. Perform clinical procedures and essential laboratory examinations, and interpret the results.
        iii. Choose a supporting examination according to the needs of the patient.
        iv. Select and carry out therapeutic skills and preventive measures following their authority.
        v. Competence in the Health Problem Management Area.

            In primary health care, manage health problems in individuals,

families or communities in a comprehensive, holistic, sustainable, coordinative, and collaborative manner.

vi. Competence in the information management area of accessing, managing, critically assessing the validity and ability to apply information to explain and solve problems or make decisions concerning health services at the primary level.

vii. Competence in the Area of Self-Introduction and Self-Development

1. Practicing medicine with full awareness of its capabilities and limitations.
2. Overcome emotional, personal, health and well-being problems that may affect their professional abilities.
3. Lifelong learning.
4. Plan, implement and monitor professional development on an ongoing basis.

viii. Managerial Competence

At least includes:

1. Using and utilizing resources effectively, efficiently, and in a balanced way for: prevention of Cardiology and Vascular disease, examination, treatment and examination of patients, learning needs, outside activities.
2. Work effectively and efficiently in a health organizational unit.
3. Using the best information technology and clinical bulletins to optimize patient management, continuous learning, improve service quality, and other activities.
4. Leading a heart health service and vascular unit.

B. Competency Components

A Cardiologist and Blood Vessel Specialist (SpJP) has knowledge and skills in the following areas:

1. Electrocardiography
2. Echocardiography and Imaging

3. Cardiac Catheterization and angiography and non-surgical intervention
4. Cardiovascular genetics
5. Cardiovascular clinical pharmacology
6. Prevention of cardiovascular disease
7. Hypertension
8. Diabetic cardiovascular disease
9. Acute coronary syndrome
10. Ischemic cardiovascular disease (CHD)
11. Heart load training test
12. Myocardial disease
13. Pericardial disease
14. Heart tumors
15. Pregnancy in cardiovascular disease
16. Rheumatic fever and valvular cardiovascular disease
17. Infective endocarditis
18. Heart failure
19. Pulmonary arterial hypertension
20. Rehabilitation and exercise physiolog
21. Arrhythmia
22. Atrial fibrillation
23. Syncope
24. Sudden cardiac death and resuscitation
25. Aortic disease and trauma to the aorta
26. Vascular disease
27. Venous thromboembolic disease
28. Chronic pulmonary embolism and thromboembolism
29. Cardiovascular acute
30. Pediatric cardiology and Congenital Cardiovascular disease
31. Cardiovascular intensive
32. Nuclear cardiology, cardiovascular imaging, CT Cardio, MRI, and CMR

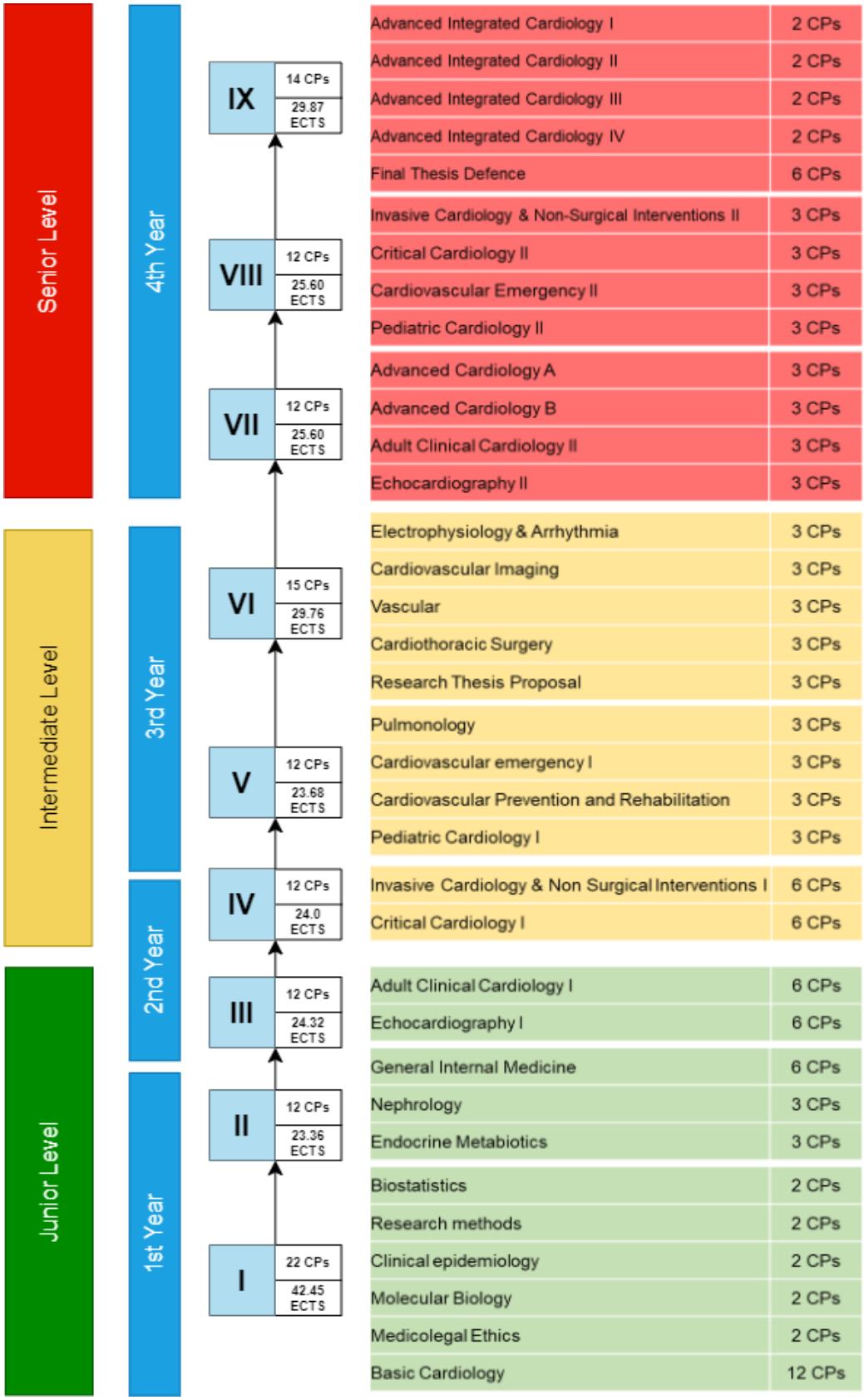
C. Learning Module Components

Educational materials are provided in the form of modules. It is hoped that learning in the form of modules will increase the competence of graduates of Cardiology and

Vascular Diseases of the Universitas Hasanuddin Medical Faculty so that they can increase the effectiveness of services and be able to become experts in the Field of Cardiac and Vascular Health Sciences.

1. Outpatient Polyclinic Module
2. Cardiovascular Care Unit Module
3. Invasive Module
4. Vascular Module
5. Electrophysiology and Arrhythmia Module
6. Pediatric Cardiology and Congenital Cardiovascular Disease Module
7. Module for Medical Rehabilitation and Prevention of Cardiovascular Disease
8. Module for Cardiothoracic Surgery
9. Non Invasive Module
10. Internal Medicine knowledge modul

Program Structure and Content



Curriculum Mapping

SEM	Modules		Credit Point (CP)	ECTS	Learning Objectives	Intended Learning Outcomes										Teaching Strategy & Methods	Student Assesment	Academic Staff/ Instructures	Laboratory/ Practicum	Lifelong Learning Components
	Title	Code				A	K		S			C								
						1	1	2	1	2	3	1	2	3	4					
Semester I	Biostatistics	20Y0051032	2	3.6	Students are able to apply appropriate statistical tests in processing research data to reach appropriate conclusions and can be scientifically justified and able to properly compile systematic reviews and meta analyzes.	√	√	√				√				Lecture, Self-directed learning, practicum	Active participation, Practicum	Dr. dr. Burhanuddin Bahar, M.Sc Dr. dr. A. Alfian Zainuddin, MKM	computer laboratory	Crtical thinking and communication skills
	Research methods	20Y0051022	2	3.6	Students are able to understand and master the knowledge and skills regarding Research Methodology in the field of Medical and Health sciences and then compile research proposals, analyse research data and reporting the research findings.	√		√	√		√	√				Lecture, Self-directed learning	Active participation, Written Tasks, Oral Presentation	Prof. Dr. dr. Suryani As'ad, MSc., Sp.GK(K) Dr. dr. A. Alfian Zainuddin, MKM Dr. dr. Ilhamjaya Patellongi, M.Kes	n/a	Crtical thinking and communication skills

	Clinical epidemiology	20Y0051042	2	3.6	Students are able to master the knowledge of clinical epidemiology and evidence-based medicine from causal, diagnostic, prognostic and intervention research.	√	√	√	√		√	√				Lecture, Self-directed learning, literature review	Active participation, Written Tasks, literature review, Oral Presentation	Prof. Dr. Nur Nasry Noor, MPH Prof. dr. Husein Albar, SpA(K)	n/a	Crtical thinking and communication skills
	Biology Molecular	20Y0051052	2	3.6	Students are able to outline the structure of the biomolecules found in all living organisms and are able to describe the function and structure of cells including the metabolic reactions that occur in cells.	√	√	√	√	√		√				Lecture, Self-directed learning, literature review	Active participation, Written Tasks, literature review, Oral Presentation	Prof. dr. Rosdiana Natsir, Ph.D	n/a	Crtical thinking and communication skills
	Medicolegal Ethics	20Y0051012	2	3.6	Students are able to implement the principles of medical professional ethics and apply them in the services of the medical profession, health, education, research and be able to detect ethical violations of the medical and medicolegal professions so as to improve the quality and quality of medical professional services.	√	√	√		√						Lecture, Self-directed learning, literature review, small-group discussion	Active participation, Written Tasks, literature review	Prof. Dr. dr. Gatot Lawrence, Sp.PA(K), Sp.F, DFM	n/a	Crtical thinking and communication skills

	Basic Cardiology	20C16510112	12	24.3	Students are able to comprehend basic knowledge that are needed in the field of cardiovascular clinical practice	√	√	√	√	√		√	√	√	√	Case report, morning report, Small Group Discussion (SGD), literature review, journal discussion, bedside teaching, self-directed learning	Active participation, Oral Presentation, Mini-CEX, Case-based discussion (CBD), Journal Reaading, DOPS, Portofolio (log-book)	Prof. dr. Junus Alkatiri, SpPD, SpJP(K) Prof. Dr. dr. Ali Aspar Mappahya, SpPD, SpJP(K) Prof. dr. Peter Kabo, PhD, SpFK, SpJP(K) Dr. dr. Idar Mappangara, SpPD, SpJP(K) Dr. dr. Muzakkir Amir, SpJP(K) Dr. dr. Abdul Hakim Alkatiri, SpJP(K) dr. Pendrik Tandean, SpPD-KKV Dr. dr. Khalid Saleh, SpPD-KKV dr. Almudai, SpPD, SpJP dr. Akhtar Fajar Muzakkir, SpJP(K) dr. Zaenab Djafar,Mkes, SpPD, SpJP(K) dr. Aussie Fitriani Ghaznawie, Sp.JP(K) dr. Az Hafid Nashar, Sp.JP(K) dr. Fadillah Maricar, Sp.JP(K) dr. Amelia Arindanie, Sp.JP dr. Bogie Putra Palinggi, Sp.JP	n/a	Crtical thinking and communication skills
Semester II	General Internal Medicine	20C16510106	6	11.8	Students are able to comprehend knowledge of diseases and clinical skills in the field of general internal medicine	√	√	√	√	√		√			√	Case report, Small Group Discussion (SGD), morning report, journal discussion, case report discussion, bedside teaching, self-directed learning	Active participation, Death case presentation, journal reading, portofolio (log-book), oral examination	Prof. Dr. dr. Haerani Rasyid, Sp.GK, Sp.PD, K-GH, Prof. Dr. dr. Syakib Bakri, Sp.PD, K-GH, Prof. Dr. dr. Ali Aspar Mappahya, SpPD, SpJP(K) Prof. Dr. dr. Makbul Aman, Sp.PD, K-EMD, Dr. dr. Khalid Saleh, SpPD-KKV, SpJP(K) dr. Pendrik Tandean, SpPD-KKV Dr. dr. Idar Mappangara, SpPD, SpJP(K) dr. Almudai, SpPD, SpJP dr. Zaenab Djafar,Mkes, SpPD, SpJP(K)	n/a	Crtical thinking and communication skills
	Nephrology	20C16510203	3	5.8	Students are able to comprehend knowledge of diseases and clinical skills in the field of nephrology	√	√	√	√	√		√			√	Case report, Small Group Discussion (SGD), morning report, journal discussion, case report discussion, bedside teaching, self-directed learning	Active participation, Death case presentation, journal reading, portofolio (log-book), oral examination	Prof. Dr. dr. Haerani Rasyid, Sp.GK, Sp.PD, K-GH, Prof. Dr. dr. Syakib Bakri, Sp.PD, K-GH,	n/a	Crtical thinking and communication skills
	Endocrine Metabolics	20C16510303	3	5.8	Students are able to comprehend knowledge of diseases and	√	√	√	√	√		√			√	Case report, Small Group	Active participation, Death case presentation,	Prof. Dr. dr. Makbul Aman, Sp.PD, K-EMD Dr. dr. Khalid Saleh, SpPD-KKV, SpJP(K) dr. Pendrik Tandean, SpPD-KKV	n/a	Crtical thinking and communication skills

					clinical skills in the field of endocrine and metabolic diseases										Discussion (SGD), morning report, journal discussion , case report discussion , bedside teaching, self-directed learning	journal reading, portofolio (log-book), oral examination			
Semester III	Adult Clinical Cardiology I	20C16520106	6	12.2	Student are able to plan various diagnostic strategies and managing patient medication, as well as to educate patients in the setting of outpatient clinic.	√	√	√		√		√	√		√	small-group discussion , morning report, journal discussion , self-directed learning	Active participation, Oral Presentation , Mini-CEX, Case-based discussion (CBD), Journal Reaading, Portofolio (log-book)	Prof. Dr. dr. Ali Aspar Mappahya, SpPD, SpJP(K) Prof. dr. Peter Kabo, PhD, SpFK, SpJP(K) Dr. dr. Khalid Saleh, SpPD-KKV, SpJP(K) dr. Pendrik Tandean, SpPD-KKV dr. Zaenab Djafar,Mkes, SpPD, SpJP(K)	n/a	Crtical thinking and communicatio n skills
	Echocardiography I	20C16520206	6	12.2	Students are able to practice basic echocardiography skills and are able to interpret the echocardiography findings related to the patient's clinical conditions or diseases.	√	√	√	√	√		√	√		√	lecture, small-group discussion , morning report, journal discussion , bedside teaching, practicum, self-directed learning	Active participation, Oral Presentation , DOPS, Case-based discussion (CBD), Journal Reaading, Portofolio (log-book), oral/written examination	dr. Pendrik Tandean, SpPD-KKV dr. Akhtar Fajar Muzakkir, SpJP(K) dr. Aussie Fitriani Ghaznawie, SpJP	practical echocardiography	Crtical thinking and communicatio n skills
Semester IV	Invasive Cardiology & Non Surgical Interventions I	20C16520306	6	11.8	Students are able to practice basic skills in the field of invasive cardiology procedures under supervision and are able to interpret the findings.	√	√	√	√	√	√	√	√	√	√	lecture, small-group discussion , morning report, journal discussion , literature review, bedside teaching, practicum, self-directed learning	Active participation, DOPS, Journal Reaading, Portofolio (log-book), oral/written examination	Prof. Dr. dr. Ali Aspar Mappahya, SpPD, SpJP(K) Dr. dr. Abdul Hakim Alkatiri, SpJP(K) dr. Az Hafid Nashar, Sp.JP(K)	catheterisation laboratory	Crtical thinking and communicatio n skills

	Critical Cardiology I	20C16520406	6	12.2	Students are able to practice basic skills in the field of critical and intensive care of cardiology, to analyse patient-based problems and working-up the diagnosis, and deliver intensive management related to critical cardiovascular diseases.	√	√	√	√	√		√	√	√	√	lecture, small-group discussion, morning report, journal discussion, literature review, bedside teaching, practicum, self-directed learning	Active participation, Oral Presentation, Mini-CEX, DOPS, Case-based discussion (CBD), Journal Reaading, Portofolio (log-book), oral/written examination	dr. Akhtar Fajar Muzakkir, SpJP(K) dr. Fadillah Maricar, Sp.JP(K)	invasive ventilation, central venous catheter implantation	Crtical thinking and communication skills
Semester V	Pulmonology	20C16530103	3	5.8	Students are able to comprehend knowledge of diseases and clinical skills in the field of pulmonology and respiratory medicine	√	√	√	√	√		√			√	Case report, Small Group Discussion (SGD), journal discussion, literature review, bedside teaching, self-directed learning	Active participation, literature review, journal reading	Dr. dr. Irawaty Djaharuddin, Sp.P(K)	n/a	Crtical thinking and communication skills
	Cardiovascular emergency I	20C16530203	3	6.1	Students are able to practice their knowledge and skills in the field of cardiovascular emergency, to determine the clinical diagnosis, and to deliver fast-response management related to acute cardiovascular diseases.	√	√	√	√	√		√	√	√		Case report, Small Group Discussion (SGD), morning report, journal discussion, literature review, bedside teaching, practicum, self-directed learning	Active participation, Oral Presentation, Mini-CEX, Case-based discussion (CBD), Journal Reaading, Portofolio (log-book), oral/written examination	Dr. dr. Idar Mappangara, SpPD, SpJP(K) dr. Akhtar Fajar Muzakkir, SpJP(K)	n/a	Crtical thinking and communication skills

	Cardiovascular Prevention and Rehabilitation	20C16530303	3	6.1	Students are able to competently perform diagnostic and prognostic exercise assessment, validate the results and subsequently compile exercise and physical activity recommendation.	√	√	√	√	√		√			√	journal discussion, bedside teaching, practicum, self-directed learning	Active participation, Journal Reaading, DOPS, Portofolio (log-book), oral/written examination	Prof. dr. Junus Alkatiri, SpPD, SpJP(K) dr. Zaenab Djafar,Mkes, SpPD, SpJP(K) dr. Almudai, SpPD, SpJP	practical treadmill test	Crtical thinking and communication skills
	Pediatric Cardiology I	20C16530403	3	5.8	Students are able to practice fundamental learning in pediatric cardiology in order to determine the clinical diagnosis, to carry out invasive and non-invasive procedure, and to deliver proper therapy related to pediatric and congenital heart disease.	√	√	√	√	√	√	√	√	√	√	Lecture, Case report, Small Group Discussion (SGD), morning report, journal discussion, literature review, bedside teaching, practicum, self-directed learning	Active participation, Oral Presentation, Mini-CEX, DOPS, Case-based discussion (CBD), Literature review, Journal Reaading, Portofolio (log-book), oral/written examination	dr. Yulius Patimang, SpA, SpJP(K) dr. Andi Alief Utama Armyn, MKes, SpJP(K)	practical echocardiography, catheterisation laboratory	Crtical thinking and communication skills
Semester VI	Electrophysiology & Arrhythmia	20C16530503	3	5.8	Students are able to perform diagnostic and therapeutic skills associated with cardiac devices and cardiac electrophysiology procedures under supervision.	√	√	√	√	√	√	√	√	√	√	Small Group Discussion (SGD), morning report, journal discussion, bedside teaching, practicum, self-directed learning	Active participation, Oral Presentation, Mini-CEX, DOPS, Case-based discussion (CBD), Literature review, Journal Reaading, Portofolio (log-book), oral/written examination	Dr. dr. Muzakkir Amir, SpJP(K)	catheterisation laboratory	Crtical thinking and communication skills

	Cardiovascular Imaging	20C16530603	3	5.8	Students are able to practice numerous non-invasive diagnostic modalities in cardiology such as cardiac CT, cardiac MRI as well as nuclear cardiology	√	√	√	√	√		√	√			lecture, morning report, journal discussion, self-directed learning	Active participation, Oral Presentation, Journal Reaading, oral/written examination	Prof. dr. Muh Ilyas, SpRad(K) dr. Aussie Fitriani Ghaznawie, SpPD, SpJP	n/a	Crtical thinking and communication skills
	Vascular	20C16530703	3	6.1	Students are able to work-up clinical diagnosis and deliver management related to acute and chronic vascular diseases, including arterial diseases, venous diseases, and great vessel abnormalities.	√	√	√	√	√		√	√		√	small-group discussion, morning report, journal discussion, bedside teaching, practicum, self-directed learning	Active participation, Oral Presentation, DOPS, Journal Reaading, Portofolio (log-book), oral/written examination	Dr. dr. Idar Mappangara, SpPD, SpJP(K) dr. Amelia Arindanie, Sp.JP	practical echo doppler vascular	Crtical thinking and communication skills
	Cardiothoracic Surgery	20C16530803	3	5.8	Students are able to assist pre-operative, intra-operative and post-operative care in coronary artery bypass grafting, valvular surgery, and endovascular procedures.	√	√	√	√	√		√	√	√	√	small-group discussion, case-based discussion, journal discussion, bedside teaching, self-directed learning	Active participation, Oral Presentation, Case-based discussion, DOPS, Case report presentation, Portofolio (log-book), oral/written examination	dr. Muhammad Nuralim Mallapasi, SpB, SpBTKV Prof. Dr. dr. Syafri K. Arif, Sp.An, KIC-KAKV Dr. dr. Hisbullah, Sp.An, KIC-KAKV	n/a	Crtical thinking and communication skills

	Research Thesis Proposal	20C16550503	3	6.4	Students are able to deliver a comprehensive research proposal presentation and are able to determine a hypothesis or key research points in their thesis proposal	√	√	√	√	√	√	√				Lecture, Project research, self-directed learning	Thesis proposal: preparation and seminar (oral presentation)	Prof. dr. Junus Alkatiri, SpPD, SpJP(K) Prof. Dr. dr. Ali Aspar Mappahya, SpPD, SpJP(K) Prof. dr. Peter Kabo, PhD, SpFK, SpJP(K) Dr. dr. Idar Mappangara, SpPD, SpJP(K) Dr. dr. Muzakkir Amir, SpJP(K) Dr. dr. Abdul Hakim Alkatiri, SpJP(K) dr. Pendrik Tandean, SpPD-KKV Dr. dr. Khalid Saleh, SpPD-KKV dr. Almudai, SpPD, SpJP dr. Akhtar Fajar Muzakkir, SpJP(K) dr. Zaenab Djafar,Mkes, SpPD, SpJP(K) dr. Aussie Fitriani Ghaznawie, Sp.JP(K) dr. Az Hafid Nashar, Sp.JP(K) dr. Fadillah Maricar, Sp.JP(K) dr. Andi Alief Utama Armyn, MKes, SpJP(K) dr. Yulius Patimang, SpA, SpJP(K) dr. Az Hafid Nashar, Sp.JP(K)	n/a	Crtical thinking and communication skills
National Board Computer-based Test																			
Semester VII	Advanced Cardiology A	20C16540103	3	6.4	Students are able to demonstrate skills independently in the field of clinical cardiology, to provide and manage services for hospitalized patients.	√	√	√	√	√		√	√		√	Case report, morning report, Small Group Discussion (SGD), literature review, journal discussion, bedside teaching, self-directed learning	Active participation, Oral Presentation, Mini-CEX, Case-based discussion (CBD), Journal Reaading, DOPS, Portofolio (log-book)	Prof. dr. Peter Kabo, PhD, SpFK, SpJP(K) Prof. Dr. dr. Ali Aspar Mappahya, SpPD, SpJP(K) dr. Pendrik Tandean, SpPD-KKV Dr. dr. Khalid Saleh, SpPD-KKV dr. Zaenab Djafar,Mkes, SpPD, SpJP(K)	n/a	Crtical thinking and communication skills

	Advanced Cardiology B	20C16540203	3	6.4	Students are able to demonstrate skills independently in the field of clinical cardiology, to provide and manage services for hospitalized patients particularly for patients requiring multidisciplinary approach.	√	√	√	√	√		√	√		√	Case report, morning report, Small Group Discussion (SGD), literature review, journal discussion, bedside teaching, self-directed learning	Active participation, Oral Presentation, Mini-CEX, Case-based discussion (CBD), Journal Reaading, DOPS, Portofolio (log-book)	Prof. dr. Junus Alkatiri, SpPD, SpJP(K) Prof. dr. Peter Kabo, PhD, SpFK, SpJP(K) Prof. Dr. dr. Ali Aspar Mappahya, SpPD, SpJP(K) dr. Pendrik Tandean, SpPD-KKV Dr. dr. Khalid Saleh, SpPD-KKV dr. Zaenab Djafar,Mkes, SpPD, SpJP(K)	n/a	Crtical thinking and communication skills
	Adult Clinical Cardiology II	20C16540303	3	6.4	Student are able to plan and manage comprehensive diagnostic and therapeutic strategies as well as to educate patients in the setting of outpatient clinic.	√	√	√	√	√		√	√		√	small-group discussion, morning report, journal discussion, self-directed learning	Active participation, Oral Presentation, Mini-CEX, Case-based discussion (CBD), Journal Reaading, Portofolio (log-book)	Prof. dr. Peter Kabo, PhD, SpFK, SpJP(K) Prof. Dr. dr. Ali Aspar Mappahya, SpPD, SpJP(K) Dr. dr. Muzakkir Amir, SpJP(K) Dr. dr. Idar Mappangara, SpPD, SpJP(K) Dr. dr. Abdul Hakim Alkatiri, Sp.JP(K)	n/a	Crtical thinking and communication skills
	Echocardiography II	20C16540403	3	6.4	Students are able to practice advanced echocardiography skills including transesophageal echocardiography, stress echocardiography and other procedures as well as to interpret the echocardiography findings related to the patient's clinical conditions or diseases.	√	√	√	√	√		√	√	√	√	lecture, small-group discussion, morning report, journal discussion, bedside teaching, practicum, self-directed learning	Active participation, Oral Presentation, DOPS, Case-based discussion (CBD), Journal Reaading, Portofolio (log-book), oral/written examination	dr. Pendrik Tandean, SpPD-KKV dr. Yulius Patimang, SpA, SpJP(K) dr. Aussie Fitriani Ghaznawie, Sp.JP(K)	practical echocardiography	Crtical thinking and communication skills

Semester VIII	Invasive Cardiology & Non-Surgical Interventions II	20C16540503	3	6.4	Students are able to plan and manage diagnostic and therapeutic procedures as well as to practice skills in the field of invasive cardiology under supervision.	√	√	√	√	√	√	√	√	√	√	lecture, small-group discussion, morning report, journal discussion, literature review, bedside teaching, practicum, self-directed learning	Active participation, DOPS, Journal Reaading, Portofolio (log-book), oral/written examination	Prof. Dr. dr. Ali Aspar Mappahya, SpPD, SpJP(K) Dr. dr. Abdul Hakim Alkatiri, SpJP(K) dr. Az Hafid Nashar, Sp.JP(K)	catheterisation laboratory	Crtical thinking and communication skills
	Critical Cardiology II	20C16540603	3	6.4	Students are able to analyse patient-based problems and subsequently plan and manage diagnostic and therapeutic strategies in the field of critical and intensive cardiovascular care.	√	√	√	√	√		√	√	√	√	lecture, small-group discussion, morning report, journal discussion, literature review, bedside teaching, practicum, self-directed learning	Active participation, Oral Presentation, Mini-CEX, DOPS, Case-based discussion (CBD), Journal Reaading, Portofolio (log-book), oral/written examination	dr. Akhtar Fajar Muzakkir, SpJP(K) dr. Fadillah Maricar, Sp.JP(K)	invasive ventilation, central venous catheter implantation, endotracheal tube insertion	Crtical thinking and communication skills
	Cardiovascular Emergency II	20C16540703	3	6.4	Students are able to provide fast decision-making based on their knowledge and skills in the field of cardiovascular emergency in order to deliver fast-response management related to acute cardiovascular diseases.	√	√	√	√	√		√	√	√		Case report, Small Group Discussion (SGD), morning report, journal discussion, literature review, bedside teaching, practicum, self-directed learning	Active participation, Oral Presentation, Mini-CEX, Case-based discussion (CBD), Journal Reaading, Portofolio (log-book), oral/written examination	Dr. dr. Idar Mappangara, SpPD, SpJP(K) dr. Akhtar Fajar Muzakkir, SpJP(K)	n/a	Crtical thinking and communication skills

	Pediatric Cardiology II	20C16540803	3	6.4	Students are able to practice advanced learning in pediatric cardiology in order to determine the clinical diagnosis, to carry out invasive and non-invasive procedure, and to deliver proper therapy related to pediatric and congenital heart disease.	√	√	√	√	√	√	√	√	√	√	Lecture, Case report, Small Group Discussion (SGD), morning report, journal discussion, literature review, bedside teaching, practicum, self-directed learning	Active participation, Oral Presentation, Mini-CEX, DOPS, Case-based discussion (CBD), Literature review, Journal Reaading, Portofolio (log-book), oral/written examination	dr. Yulius Patimang, SpA, SpJP(K) dr. Andi Alief Utama Armyn, MKes, SpJP(K)	practical echocardiography, catheterisation laboratory	Crtical thinking and communication skills
Semester IX	Advanced Integrated Cardiology I	20C16550102	2	4.3	Students are able to independently perform comprehensive clinical cardiovascular practice. In addition, the students are able to build networking in other cardiovascular health services and interact with local staff and community in other districts.	√	√	√	√	√	√	√	√	√	√	Self-directed learning, practicum, small-group discussion	Active participation, portofolio (log-book), Mini-CEX, DOPS	Prof. dr. Peter Kabo, PhD, SpFK, SpJP(K) Dr. dr. Idar Mappangara, SpPD, SpJP(K)	n/a	Crtical thinking and communication skills

	Advanced Integrated Cardiology II	20C16550202	2	4.3	Students are able to independently perform comprehensive clinical cardiovascular practice. In addition, the students are able to build networking in other cardiovascular health services and interact with local staff and community in other districts.	√	√	√	√	√	√	√	√	√	√	Self-directed learning, practicum, small-group discussion	Active participation, portofolio (log-book), Mini-CEX, DOPS	Dr. dr. Idar Mappangara, SpPD, SpJP(K) dr. Zaenab Djafar,Mkes, SpPD, SpJP(K)	n/a	Crtical thinking and communication skills
	Advanced Integrated Cardiology III	20C16550302	2	4.3	Students are able to independently perform comprehensive clinical cardiovascular practice. In addition, the students are able to build networking in other cardiovascular health services and interact with local staff and community in other districts.	√	√	√	√	√	√	√	√	√	√	Self-directed learning, practicum, small-group discussion	Active participation, portofolio (log-book), Mini-CEX, DOPS	Dr. dr. Muzakkir Amir, SpJP(K) Dr. dr. Abdul Hakim Alkatiri, SpJP(K)	n/a	Crtical thinking and communication skills

	Advanced Integrated Cardiology IV	20C16550402	2	4.3	Students are able to independently perform comprehensive clinical cardiovascular practice. In addition, the students are able to build networking in other cardiovascular health services and interact with local staff and community in other districts.	√	√	√	√	√	√	√	√	√	√	Self-directed learning, practicum, small-group discussion	Active participation, portofolio (log-book), Mini-CEX, DOPS	Dr. dr. Abdul Hakim Alkatiri, SpJP(K) dr. Aussie Fitriani Ghaznawie, Sp.JP(K)	n/a	Crtical thinking and communication skills

	Final Thesis Defence	20C16550606	6	12.8	Students are able to present the research findings, interpret the results of data analysis in scientific manner, to discuss research findings related to current literature and research, to summarize and draw conclusion, and finally to defence for the final thesis.	√	√	√	√	√	√	√				Lecture, Project research, self-directed learning	Final Thesis Defense: preparation and seminar (oral presentation)	Prof. dr. Junus Alkatiri, SpPD, SpJP(K) Prof. Dr. dr. Ali Aspar Mappahya, SpPD, SpJP(K) Prof. dr. Peter Kabo, PhD, SpFK, SpJP(K) Dr. dr. Idar Mappangara, SpPD, SpJP(K) Dr. dr. Muzakkir Amir, SpJP(K) Dr. dr. Abdul Hakim Alkatiri, SpJP(K) dr. Pendrik Tandean, SpPD-KKV Dr. dr. Khalid Saleh, SpPD-KKV dr. Almudai, SpPD, SpJP dr. Akhtar Fajar Muzakkir, SpJP(K) dr. Zaenab Djafar,Mkes, SpPD, SpJP(K) dr. Aussie Fitriani Ghaznawie, Sp.JP(K) dr. Az Hafid Nashar, Sp.JP(K) dr. Fadillah Maricar, Sp.JP(K) dr. Andi Alief Utama Armyn, MKes, SpJP(K) dr. Yulius Patimang, SpA, SpJP(K) dr. Az Hafid Nashar, Sp.JP(K)	n/a	Crtical thinking and communication skills
Local OSCE Examination																			
National Board OSCE Examination																			

D. Competency of Medical Education Study Program Specialist in Cardiovascular Diseases Based on Student Level

1. JUNIOR LEVEL
   A. BASIC KNOWLEDGE OF CARDIOVASCULAR SCIENCES:
      i. Be able to explain the normal and abnormal heart anatomy and conduction system.
      ii. Be able to explain the physiology and pathophysiology of the cardiovascular system
      iii. Be able to explain the autonomic nervous system and the pharmacology of autonomic drugs:
      iv. Vasoactive substances:
         1. Catecholamines (Adrenaline, Nor-adrenaline, dobutamine, dopamine, and isoprenaline)
         2. Sympatholytic drugs.
         3. Colonergic and anticholinergic drugs
         4. Renin angiotensin aldosterone system.
      v. Ion transport dan signal transduction
      vi. Vasoregulatory system
         1. Vascular smooth muscle contraction and relaxation
         2. Arterial and cardiopulmonary baroreflexes.
      vii. Be able to explain the pathology of atherosclerosis
      viii. Be able to explain blood coagulation homeostasis.
   B. CARDIOVASCULAR DISEASE CLINICAL KNOWLEDGE:
      i. ACUTE CORONARY SYNDROME (ACS) AND CHRONIC ISCHEMIC DISEASE
         1. Acute Coronary Syndrome
            a. Recognize the clinical spectrum of ACS and differentiate each of these spectrums.
            b. Know the pathophysiology of ACS according to its spectrum.
            c. Knowledge of ACS diagnostic procedures.
            d. Describe the clinical characteristics of patients with ACS.
            e. Interpret findings

f. Evaluate and support examination.
g. Know the complications and prognosis of the patient
h. Understand the management of ACS sufferers and ACS treatment strategies.

SKILLS

- Knowledge/ Cognitive :

  Be able to explain the clinical spectrum of ACS and distinguish between each range, explain the pathophysiology of ACS according to its scope, explain diagnostic procedures for ACS, explain clinical characteristics of ACS sufferers, explain and interpret investigation findings, explain complications and patient prognosis, explain the management of ACS patients and strategies ACS treatment.
- Psychomotor / Professional skills
  - Able to assess the clinical symptoms of physical examination of ACS sufferers.
  - Able to interpret the ECG examination
  - Able to interpret laboratory results
  - Able to interpret other supporting results to select a treatment strategy.
  - Able to determine risk stratification
  - Able to select non-STEMI ACS treatment strategies
  - Able to make treatment selections for STEMI
  - Able to carry out treatment and care strategies while in the hospital
- Attitudes and Behavior / Affective
  - Able to explain diagnostic procedures and initial treatment of sufferers to families and sufferers.
  - Able to explain the purpose and benefits as well as possible complications that arise due to the course of the disease or the consequences of treatment

2. Chronic Ischemic Disease
   a. Diagnosis and management of chronic ischemic cardiovascular disease
   b. Able to explain the epidemiology of CHD and the influencing risk factors.
   c. Be able to explain the pathology and development of

CHD and the effects of ischemia on myocardial cells.

d. Be able to explain the events that influence the occurrence/triggering of angina attacks
e. Can explain the prognosis of CHD
f. Describe the clinical management of patients with suspected PJIK, including evaluation of complaints of chest pain and other accompanying complaints and diagnostic procedures.
g. Explain the management of CHD, including behavior change and pharmacological therapy.
h. Explain the role of medical and revascularization therapy (angioplasty or coronary bypass surgery) in patients with CHD
i. Describe the role of the referral health system for CHD management

SKILLS

- Able to perform correct anamnesis and clinical examination
- Can demonstrate the ability to differentiate the level of risk in each patient and choose the right therapeutic strategy.
- Able to select, use and interpret diagnostic tools to evaluate the presence or absence of ischemia, viability, left ventricular structure and function, and coronary vessel anatomy.
- Able to identify and perform therapy/control risk factors in CHD patients.
- Behavior
    - Recognize and understand the importance of risk factor intervention and CHD secondary prevention.
    - Can work closely with expert colleagues in other fields, for example, interventional cardiologists, cardiac surgeons, dieticians, and diabetics, to obtain an integrated treatment plan for patients.

C. HEART FAILURE

a. Identify the underlying causes of heart failure
b. Recognize the impact of heart failure on morbidity and mortality in the local

and general population.

c. Perform specialist assessment and treatment of acute and chronic heart failure patients.
    i. Diagnostic confirmation
    ii. Identify the cause of heart failure
    iii. Prognostic estimation
    iv. Choice of therapy
    v. Assessment of response to therapy.

SKILLS

- Knowledge (cognitive):
    - Able to explain the epidemiology, pathophysiology, and prognosis of heart failure.
    - Be able to recognize complications
    - Able to recall international classifications of functional limitations (e.g., NYHA classification)
    - Able to describe diagnostic procedures in patients with known or suspected heart failure, including natriuretic peptide examination, echocardiography, EKG, ambulatory ECG, stress testing, and cardiac catheterization.
    - Able to describe the medical management of acute heart failure.
    - Able to describe the medical management of chronic heart failure (neurohumoral blockade).
- Psychomotor (professional skills)
    - Take relevant history and perform an appropriate clinical examination.
    - Select and use diagnostic techniques to differentiate the underlying cause of heart failure.
    - Able to make lifestyle suggestions and management strategies at home in heart failure patients.
    - Able to stratify the risk of heart failure patients, and choose appropriate drugs and other therapies (ICD, CRT, surgery).
    - Able to evaluate heart failure patients during treatment and make correct and sustainable therapy adjustments.
- Attitude and behavior (affective)
    - Emphasizing the importance of setting lifestyle, exercise, and weight loss

- Helping sufferers understand the importance of long and complex treatment
- Explain the importance of rehabilitation

D. ARITHMETIC AND ATRIAL FIBRILLATION

a. ARYTHMIA

i. Able to perform examination and treatment of patients with arrhythmias.

ii. Electrophylogy: understands the diagnosis and management of electrophysiology in managing patients with arrhythmias.

SKILLS

- Knowledge (cognitive):

Classify and define:

a. Bradycardia

b. Tachycardia: supraventricular and ventricular

- Describes the epidemiology, genetic pathophysiology, diagnostics, and clinical presentation of various arrhythmias.
- Identify the prognosis, including a risk evaluation.
- Explain the principles of electrocardiography and the basis of electrophysiology in multiple arrhythmias.
- Describe the pharmacology of the types of antiarrhythmic drugs

- Psychomotor (professional skills)
  - Perform an appropriate history and physical examination.
  - Have physical competence in cardiopulmonary resuscitation.
  - Classify various arrhythmias based on a standard electrocardiogram.
  - Drug management of acute arrhythmias.
  - Management of acute arrhythmias with cardioversion.
  - Prescribe the right preventive medicine.
  - Perform and assess electrocardiographic monitoring.

c. Atrial fibrillation

- Able to assess and provide care as a specialist to patients with Atrial Fibrillation (AF).

SKILLS:

- Cognitively:
    - Explain the classification, etiology, epidemiology, pathophysiology, prognosis, and complications of atrial fibrillation.
    - Describes the steps to make a diagnosis (minimum evaluation and additional examinations), clinical picture, and management of atrial fibrillation in full.
    - Determine the selection of drugs for treating atrial fibrillation and prevent and treat the side effects that can be caused by it.
    - Describe management:
        a. Anticoagulant therapy
        b. Control rhythm vs. control rate
        c. Convert to sinus rhythm
        d. Recurrence prevention
        e. Control of ventricular rate
- Psychomotor:
    - Obtain relevant history and perform an appropriate clinical examination.
    - Formulating an appropriate antithrombotic therapy strategy for preventing ischemic stroke and systemic embolism as a complication of Atrial Fibrillation.
    - Selecting the right patient for cardioversion and competently performing rhythm conversions: pharmacologically and electrically.
    - Carry out rite control therapy pharmacologically.
    - Perform pharmacological heart rate control therapy (digoxin, calcium antagonists, beta-blockers, other classes of antiarrhythmic drugs)
- Affectively:
    - Able to empathize with the feelings and anxiety of patients suffering from AF while also being able to provide alternative management methods such as catheter ablation and heart rhythm stimulation.
    - Recognizing the importance of structural cardiac co-morbidities in the outcome and management of AF.
    - Able to assess the limitations and risks that may arise due to therapy with antiarrhythmic drugs in AF.

- Able to assess the level of importance of anticoagulant therapy.
- Able to evaluate palliative properties and unwanted effects that may arise due to the non-pharmacological therapy given.
- Able to evaluate newer methods for dealing with AF and assess when to refer the patient to a specialist for complete management, such as percutaneous ablation or surgery.

d. Myocardial disease

- Be able to explain the types of myocardial disease.
- Be able to explain the pathogenesis, therapy, and prognosis of cardiomyopathy.
- Be able to explain the pathogenesis, therapy, and prognosis of myocarditis.
- Be able to explain the role of supporting examinations.
- Be able to explain medical therapy.

SKILLS

- Be able to carry out anamnesis and carry out appropriate examinations.
- Able to choose the appropriate examination: echocardiography, MRI, Exercise test, oxygen consumption test.

e. Hypertension

- Recognizing and managing hypertension.

SKILLS:

- Knowledge/ cognitive:
  - Able to explain the definition of hypertension conceptually, know the operational definition of hypertension, know the prevalence and incidence of hypertension, and the advantages of controlling blood pressure and reducing blood pressure
  - Able to explain the clinical assessment procedure for hypertension examination.
  - Able to explain the pathophysiology of hypertension
  - Able to explain the etiology of hypertension.
  - Able to explain the division of hypertension.

- Be able to explain the complications of hypertension
- Be able to explain the treatment of hypertension, including lifestyle modifications and when to use a combination of drugs.
- Able to explain and treat hypertension with certain accompanying diseases.
- Able to explain and treat hypertension with certain conditions that accompany it.
- Be able to explain the pharmacology of drugs used to treat hypertension

- Psychomotor / professional skills:
  - Assess a possible diagnosis of latent or chronic hypertension based on symptoms (typical or atypical) and signs (physical, laboratory, ECG 12 lead, ambulatory blood pressure monitoring).
  - Able to know the complications of hypertension
  - Able to know and explain the indications for hypertension treatment
  - Be able to explain the indications for treating hypertension in certain circumstances.
  - Give examples directly or by medical staff skilled in conducting hypertension checks.
  - Observing complaints, symptoms, and signs of hypertension
  - Assess the results of treatment and the general condition of the patient during hypertension treatment and whether the treatment target has been achieved
  - Know the complications of hypertension and find out whether there is a separate disease that affects people with hypertension
  - Know and understand the treatment of hypertension with other diseases or specific conditions.
  - Able to know and perform treatment in a state of hypertensive crisis
- Attitude & Behavior / Affective.
  - Explain the procedure and use of hypertension examination in simple language.
  - Explain the results of the hypertension examination with an emphatic attitude and provide recommendations that follow the results of the examination
  - Describe follow-up examinations to find out whether complications have occurred.
  - Treat people with hypertension according to the circumstances and conditions

of the patient.

- Provide counseling regarding the benefits of hypertension treatment, and explain that hypertension is a risk factor for coronary cardiovascular disease.

f. Diabetic Cardiovascular disease

- Diagnosis and Management of Diabetic Cardiovascular Disease
  - Knowledge
    - Á Be able to explain the definition of diabetes mellitus.
    - Á Describe the role of diabetes in the occurrence of coronary cardiovascular disease, which includes:
      - Epidemiology
      - Pathophysiology of cardiovascular complications
      - The role of risk factor intervention
      - Screening of CHD in diabetic patients
      - Diabetes screening in CHD (oral glucose test)
    - Á Describe the pathophysiology of diabetes and cardiac and non-cardiac complications
    - Á Describe therapy, including diet, exercise, hypoglycemic drugs, and insulin.
    - Á Describes new developments regarding the concept of metabolic syndrome

SKILLS:

- Make history and perform appropriate physical examination
- Manage prevention, diagnosis, and therapy of diabetes and cardiovascular complications
- Actively participate in multidisciplinary physician collaborations and support medical staff in managing diabetes patients appropriately based on their disease status and complications

AFFECTIVE:

- Understand the multidisciplinary approach to the patient with diabetes
- Recognize the importance of recognizing the course of the disease from early prevention to treatment of permanent organ damage
- Recognize the importance of managing asymptomatic patients to improve prognosis.

g. Thyroid Cardiovascular disease

Diagnosis and management of thyroid cardiovascular disease

- Be able to explain the definition of THYROID CARDIOVASCULAR DISEASE
- Describe the role of thyroid hormone in the occurrence of cardiovascular disease, which includes the pathobiology of cardiovascular complications
- Perform laboratory tests and other supporting examination
- Treatment options include anti-thyroid drugs and beta-blockers, and medications if heart failure has occurred.
- Describe the development of new anti-thyroid drugs.

SKILLS:

- Able to take anamnesis and perform a proper physical examination
- Able to manage the prevention, diagnosis, and therapy of thyroid disease and cardiovascular complications.
- Actively participate in multidisciplinary collaboration of doctors and support medical staff in managing patients appropriately based on their disease status and complications.

AFFECTIVE:

- Understand the multidisciplinary approach in patients with thyroid cardiovascular disease.
- Recognizing the importance of knowing the course of the disease and early prevention to therapy for permanent organ damage.

h. Pericardial Disease

Perform clinical examination, diagnosis, prevention, and action

to address the urgency of pericardial disease

SKILLS:

- Classify and define acute pericarditis (infective, idiopathic, or malignancy), chronic pericarditis, and constrictive pericarditis.
- Describe the epidemiology (acute pericarditis, constrictive pericarditis, pericardial effusion, cardiac tamponade), pathophysiology (pericardial structure and function and their causes), and etiology (infective, inflammatory, neoplastic disorders).
- Describe the relevant examinations both non-invasively and invasively to establish the diagnosis of pericardial disease.
- Describe and compile the differential diagnosis of constrictive pericarditis with restrictive cardiomyopathy
- Describe the management of pericarditis (medical or surgical/pericardiectomy)
- Know the complications associated with pericardial effusion, cardiac tamponade, and constriction.

AFFECTIVE:

- Perform an appropriate history and physical examination.
- Demonstrate knowledge of EKG abnormalities in acute pericarditis.
- Evaluate hemodynamic status.
- Determine the etiology of the pericardial effusion.
- Able to distinguish pericarditis from myocardial ischemia clinically
- Be able to explain the pathology and mechanism of cardiac tamponade
- Able to clinically detect cardiac tamponade and use other tests (ECG, echocardiography).
- Respond to the various diagnostic and therapeutic strategies required in each case.
- Collaborate with radiologists, cardiac surgeons, and oncologists.
- Consider pericardial disease in the differential diagnosis of patients with cardiovascular disease.

i. Pulmonology

Students must be able to the knowledge of:

- Explain the physiology of the respiratory system
- Explain ventilation, perfusion.

SKILLS:

- Conduct a thorough history and physical examination of asthma, cor pulmonale, and COPD.
- Actively assisting with pleural tapping action.

AFFECTIVE:

Recognizing the importance of recognizing several lung diseases closely related to heart failure.

j. Rheumatic Fever & Valvular Cardiovascular disease

Perform specialist examinations and management of patients with rheumatic fever, rheumatic cardiovascular disease, valvular cardiovascular disease, post-surgical care, and percutaneous valve intervention.

SKILLS:

After attending this session, it is expected that students will be skilled in:

- Explain the epidemiology, definition, etiology, and pathogenesis of rheumatic fever, rheumatic cardiovascular disease.
- Recall the clinical course and disease progression of rheumatic fever and cardiovascular disease.
- Describe and recognize the complications of rheumatic cardiovascular disease (heart failure and infective endocarditis)
- Describe the strengths and weaknesses of non-invasive and non-invasive diagnostic techniques.
- Explain pharmacological and non-pharmacological therapy
- Explain non-surgical interventions and surgical interventions along with their indications and contraindications.
- Recall the main aspects of surgery and percutaneous intervention. - Describe the results and indications for medical, surgical, and therapeutic

interventions.

- Describe postoperative care.
- Understand the changes in ventricular function and pulmonary vascular resistance after surgery or intervention.
- Understand the use of anticoagulants, diuretics and other vasoactive drugs.\
- Describe primary and secondary prevention plans in patients with rheumatic cardiovascular disease.
- Describe the prognosis of rheumatic fever and rheumatic cardiovascular disease.
- Describe rehabilitation for patients with rheumatic cardiovascular disease, their families, and the surrounding communities.

PSYCHOMOTOR

- Obtain relevant history and perform appropriate physical examination.
- Choose non-invasive diagnostic techniques, other supporting examinations (ECG, chest Ro photo, specific laboratory) and invasive as appropriate.
- Establish a diagnosis and differential diagnosis of rheumatic cardiovascular disease based on the examinations that have been carried out
- Interpret the results of the diagnostic procedures that have been performed
- Able to determine surgical and non-surgical interventions and the right time of action.
- Plan and provide pharmacological and non-pharmacological therapy in patients with rheumatic fever, cardiovascular disease, and other valvular cardiovascular diseases.
- Planning and carrying out primary and secondary prevention in rheumatic cardiovascular disease patients, their families and surrounding communities.
- Plan and rehabilitate patients with rheumatic cardiovascular disease and other valvular cardiovascular diseases.
- Recognize and manage complications that occur in patients with prosthetic valves.
- Recognize and manage complications or side effects due to pharmacological and non-pharmacological treatments that have been given.

AFFECTIVE:

- Select a management strategy that reflects a multifactorial approach, including clinical evaluation, results of diagnostic procedures and risk-to-reward ratios of interventions
- Collaborate with all cardiovascular thoracic surgeons, interventional cardiologists, all anesthetics, and radiologists
- Recognize the importance of patient education regarding the clinical course of valvular cardiovascular disease, anticoagulant management, prophylaxis of bacterial endocarditis, and selection of appropriate prosthetic valves.
- Recognize the frequency of follow-up relative to clinical condition after intervention and surgery.

k. Infective Endocarditis

Recognize and treat infective endocarditis. Students are expected to be skilled in:

- Explain epidemiology
- Describe the pathology, pathogenesis and microbiology of endocarditis
- Know the clinical picture of infective endocarditis
- Describe laboratory tests, including microbiological results
- Explain the use of cardiac and extracardiac diagnostic procedures
- Describe the selection and management of antibiotic therapy
- Describe the role of valvular endocarditis surgery in patients with
- Describe the management of complications
- Recognize high-risk patients
- Can identify indications for prophylactic antibiotics

SKILLS:

- Take a relevant history and perform an appropriate physical examination
- Perform clinical evaluation
- Choose appropriate laboratory tests and diagnostic procedures
- Having the ability to combine information from multiple disciplines to establish a diagnosis
- Choose the proper antibiotic regimen
- Can determine the timing and importance of surgical intervention
- Able to deal with complications
- Prescribe appropriate antibiotics for prophylaxis
- Skills Perform relevant history and perform an appropriate physical examination
- Perform clinical evaluation
- Choose appropriate laboratory tests and diagnostic procedures
- Having the ability to combine information from multiple disciplines to establish a diagnosis
- Choose the right antibiotic regimen
- Can determine the timing and importance of surgical intervention
- Able to deal with complications
- Prescribe appropriate antibiotics for prophylaxis

AFFECTIVE:

- Take a multidisciplinary approach with cardiac surgeons and microbiologists for diagnosis and treatment
- Recognize the importance of patient education for prophylaxis.
- Encouraging patients in the prevention of endocarditis.

l. Pulmonary Artery Hypertension

- Recognize the clinical suspicion of the patient, establish the diagnosis and manage patients with pulmonary arterial hypertension.
- Perform optimal assessment and treatment of patients with primary pulmonary hypertension:
    - Diagnostic confirmation

- Rule out secondary causes

SKILLS:

After attending this session, students are expected to be skilled in:

- Defining pulmonary arterial hypertension and its functional classification.
- Describes the epidemiology of pulmonary arterial hypertension: incidence, prevalence, etiology, genetics, high-risk groups.
- Describe the pathophysiology and pathophysiology of pulmonary arterial hypertension.
- Describe the clinical features of pulmonary arterial hypertension.
- Understand the diagnostic criteria for pulmonary arterial hypertension
- Obtain the relevant history and perform appropriate clinical examinations
- Recognize clinical signs of suspected pulmonary arterial hypertension
- Perform and interpret accurate medical judgments (using the results

AFFECTIVE:

- Fostering collaboration with family doctors and other health professionals to recognize early primary pulmonary arterial hypertension.
- Effectively collaborate with other specialists (family medicine, thoracic surgery, invasive cardiology, imaging) for differential diagnosis of pulmonary arterial hypertension and timely referral to surgical management.
- Maintain long-term involvement of patients and their family members in support activities for attachment to a healthy lifestyle and medication adherence.
- Appreciate the increasing prevalence of pulmonary arterial hypertension in other medical conditions such as scleroderma.
- Refer to a specialist on pulmonary arterial hypertension when needed.

m. Aortic disease

Examination and management of patients with aortic vascular disease and trauma to the aortic vessels and heart.

SKILLS:

After attending this session, students are expected to be able to:

- Understand the epidemiology, etiology, pathology, molecular genetics, clinical presentation, and complications of diseases - aortic vessel disease

and trauma to the aorta and heart, including:

a. Acute and chronic aortic diseases (classic, intramural hematoma, discrete, penetrating atherosclerotic user, iatrogenic).
b. Thoracic and abdominal aortic aneurysms
c. Aortitis
d. Aortic trauma
    i. Recognize the advantages and disadvantages of the various types of imaging examinations
    ii. Explain appropriate medical, interventional, or surgical management strategies.

Can perform directed history and physical examination correctly:

Collaborate with cardiovascular surgeons, interventional cardiologists, and radiologists for diagnosis and treatment.

n. Peripheral Vascular Disease

Diagnosis and management of peripheral vascular disease.

SKILLS:

After attending this session, students are expected to be skilled in:

- Describe the Epidemiology and Pathology of peripheral vascular disease.
- Explains the diagnosis and evaluation of peripheral vascular disease.
- Understand peripheral vascular disease, including the aorta, artery /extremity veins, carotid arteries/veins, extra and intracranial arteries/veins, and visceral arteries/veins.
- Describe medical therapy, invasive (non-surgical / percutaneous and surgical) management, and considerations relative to the different situations in peripheral vascular disease.
- Describe the prognosis of peripheral vascular disease.
- Describe the management of peripheral vascular disease
- Describe the epidemiology and risk factors for peripheral vascular disease concerning clinical conditions such as pregnancy, use of contraceptive pills,

extended mobility, and obesity.

- Describe the changes in anatomy and hemodynamics about changes at the molecular level in peripheral vascular disease.
- Describe the clinical presentation about clinical complications that may occur
- There is a relationship between anamnesis and a proper physical examination, especially a peripheral pulse examination.
- Identifying risk factors and choosing the right management strategy, where atherosclerotic, thromboembolic, and inflammatory processes generally cause manifestations of peripheral vascular disease.
- Able to obtain anamnesis and perform an appropriate clinical examination.

AFFECTIVE:

- Able to assess the natural process of atherosclerosis, thrombosis, and its implications for patients with diseases included in its scope.
- Able to assess the importance of modifying risk factors in prevention.
- Can advise patients to follow a healthy lifestyle by suppressing specific risk factors.
- Understand the difficulty and make a diagnosis based solely on clinical complaints.

o. Venous Thromboembolic Disease

Diagnosis and management of venous thromboembolic disease

SKILLS:

After attending this session, students are expected to be skilled in:

- Describe the epidemiology and risk factors for deep vein thrombolysis in recovery cases after surgery or trauma, prolonged immobilization, use of oral contraceptives, pregnancy, and air travel.
- Describes increased pulmonary vascular resistance and ventilation-perfusion mismatch.
- Describe the clinical presentation of deep vein thrombosis and pulmonary embolism

- Describes the diagnosis of venous thromboembolic disease by - biochemical markers:
    - D-dimer and troponin
    - EKG
    - Echocardiography
    - Duplex sonography of extremities
    - CT Angio
    - Scanning ventilation perfusion
    - MR angio
    - Pulmonary angiography
- Describe therapy: heparin, new anticoagulants, warfarin, thrombolysis, embolectomy, and fragmentation.
- Describe preventive measures: Compression stockings, heparin.
- Describe the management of chronic pulmonary hypertension, including thromboendarterectomy.
- Perform an appropriate history and physical examination.
- Interpret EKG, echocardiography, spiral CT and scan ventilation-perfusion signs - signs of pulmonary hypertension and pulmonary thromboembolism.
- Diagnosis and appropriate management of acute and chronic pulmonary embolism.
- Diagnosis and management of acute and chronic deep vein thrombosis.
- Determine the duration of anticoagulant administration in patients with acute and chronic pulmonary embolism.
- Determine the duration of anticoagulant administration in patients with deep vein thrombosis.

AFFECTIVE:

- Recognizing the difficulties of diagnosing par emboli based on complaints and symptoms.
- Collaboration with radiologists and nuclear medicine experts.

p. Acute Cardiovascular

Recognize and intensively manage cardiovascular disease in

acute attack.

SKILLS:

After attending this session, students are expected to be skilled in :

- Basic knowledge of primary clinical sciences in caring for patients with chest pain and acute cardiovascular disease.
- Able to access and critically evaluate the latest medical information and scientific evidence related to acute cardiovascular management.
- Understand the indications for aggressive anticoagulant therapy and antithrombotic therapy following the mechanisms of various other agents.
- Understand the physiological and pathophysiological principles of Invasive hemodynamic monitoring and their indications.
- Can build and demonstrate an in-depth understanding of the principles of diagnosing and managing patients with hypertensive crisis; acute coronary syndrome; acute heart failure; cardiac arrhythmias, valvular cardiovascular disease, and congenital cardiovascular disease.
- Can develop and demonstrate an in-depth understanding of the indications, principles, complications, and interpretation of ECG, rime monitoring, electrophysiological studies, and transthoracic echocardiogram, echocardiogram transesophageal, nuclear imaging, right and left heart catheterization, coronary angiography, and percutaneous intervention
- Able to summarize the history of the disease and carry out a thorough and accurate physical examination with a focus on cardiovascular.
- Able to recognize clinical findings and management of patients with chronic heart failure, acute heart failure, mitral regurgitation, mitral stenosis, aortic stenosis, aortic regurgitation, tricuspid regurgitation, aortic dissection, pulmonary embolism, and acute limb ischemia.
- Able to write patient history and progress precisely and accurately with a cardiovascular focus.
- Able to arrange the management of patients with undiagnosed chest pain, including the selection of appropriate diagnostic tests.
- Able to perform and recognize significant abnormalities in cardiac stress tests, echocardiograms, and coronary angiography.
- Able to interpret complex ECGs and long "lead" recordings

- Able to provide emergency fibrinolytic therapy.
- Able to perform basic and advanced cardio-pulmonary resuscitation (BCLS & ACLS).
- Participate in and then be able to lead discussions on ending life issues with family.

AFFECTIVE:

- Able to communicate effectively with the patient's family in a stressful situation in intensive care.
- Able to communicate effectively with colleagues and members of other health professions so that patients receive timely and comprehensive services.
- Able to communicate effectively with colleagues when making medical summaries for patient transfers.
- Able to communicate effectively with patients and families of patients in critical situations. Able to communicate with fellow doctors and other medical members so that patients get fast and complete services.
- Able to communicate with colleagues when the patient is transferred to another treatment room.
- Develop plans and strategies to fill knowledge and skills gaps. In addition, participants gain the ability to manage with an "evidence-based" approach to increase survival rates and reduce morbidity and mortality.

q. Prevention of Cardiovascular Disease

Evaluation and management of cardiovascular risk factors and cardiovascular disease prevention communication to the public.

SKILLS:

After attending this session, students are expected to be skilled in:

- Be able to explain the incidence and prevalence of cardiovascular disease in the local community
- Able to mention risk factors
- Able to explain risk assessment on primary prevention, multifactorial risk interaction, and risk score calculation
- Be able to explain diet and nutrition concerning the management of

cardiovascular disease risk

- Be able to explain lipid metabolism, lipid disorders, and drugs that can affect lipid metabolism
- Able to provide exceptional management/prevention strategies for smoking, dyslipidemia, diabetes mellitus, hypertension, physical inactivity, left ventricular hypertrophy, obesity, metabolic syndrome, psychosocial factors.
- Be able to recognize that risk factors are often encountered in groups and require a comprehensive approach
- Able to explain risk assessment in secondary prevention, including drug therapy
- Be able to recognize the complications and consequences of each particular risk factor.
- Proficient in taking relevant medical histories and performing appropriate clinical examinations
- Being able to manage risk factors appropriately communicates the importance of primary and secondary measures to patients, families, and the wider community. Be able to evaluate the risk of cardiovascular disease in a patient.

ỏ Be able to evaluate the benefits of risk factor interventions in a patient.

Attitude & Behavior (affective):

ỏ Appreciate the importance of risk factor management.

ỏ Appreciate the diversity of risk factors for cardiovascular disease across populations, socioeconomic, gender, and race.

ỏ Through patient education, advocate a healthier lifestyle with a specific emphasis on controlling risk factors.

ỏ Offer advice and support to family members with inherited cardiovascular disease.

ỏ Able to cooperate with other specialists such as Nutritionist, Diabetologist, and Specialists in Care

ỏ Actively participate in Cardiovascular disease prevention

programs ỏ Able to consider cost-efficacy in prescribing drug regimens.

C. DIAGNOSTIC KNOWLEDGE AND SKILLS :

1. EKG

COMPETENCE

* Able to perform 12 leads ECG examinations.
* Able to read/interpret at least 1000 EKGs.
* Able to analyze the results of EKG examinations to support clinical diagnosis, prognostication, and evaluation of Cardiology and Vascular disease.

2. ECHOCARDIOGRAPHY

COMPETENCE

Able to perform examination, interpretation, and analysis of echocardiographic examination results to support clinical diagnosis, prognostication, and evaluation of Cardiology and Vascular disease.

SKILLS:

After attending this session, students are expected to be able to:

- Cognitively
  - ỏ Mastering measurement techniques in M mode, 2-dimensional mode, and Doppler imaging from transthoracic echo examination.
  - ỏ Able to explain echocardiography basics (M-mode, 2D, Color Doppler and contrast echocardiography).
  - ỏ Understanding and mastering volume measurement and shunt techniques, evaluation of systolic and diastolic functions (ejection fraction), regional wall motion abnormalities, LV mass, heart rhythm dimensions, degree of valve regurgitation, degree of valve stenosis, and congenital cardiovascular disease from transthoracic echo

examination .

ỏ Knowledge of TEE and stress echo examination procedures.

ỏ Able to explain the indications and contraindications for echocardiography (TTE, TEE, stress echocardiography, contrast echocardiography). ỏ Able to provide suggestions and suggestions for follow-up examinations.

Psychomotor

- ỏ Able to perform a complete transthoracic echocardiographic examination procedure (Level III).
- ỏ Able to perform M mode echocardiography, 2D, Color Doppler (Level III), contrast echocardiography, TEE, and stress echocardiography (Competency Level II).
- ỏ Able to perform a simple bubble contrast test (NaCL) by reaching competency level III.
- ỏ Able to interpret the results of routine transthoracic echocardiography examinations and emergency cases (competence level III).
- ỏ Able to relate medical history, physical examination, EKG, plain chest X-ray, cardiac tapping examination with echocardiographic examination (competence level III).

Effectively

- ỏ Recognize the strengths and weaknesses of echocardiographic examinations in a clinical situation.
- ỏ Collaborate with interventional cardiologists, electrophysiologists, anesthesiologists, and other specialties involved in emergency medicine, intensive care, and cardiac surgery.
- ỏ Explain clearly and ultimately to the patient about the procedure to be performed, the purpose and possible complications of a TEE and DSE procedure, and briefly

explain the results of the echocardiography tests that have been performed.

ỏ Able to choose wisely echocardiographic examination.

3. Treadmill test

COMPETENCE:

Carrying out a cardiac exercise test and its interpretation.

SKILL/PROFESSIONAL:

After attending this session, students are expected to be skilled

Knowledge (cognitive):

ỏ Be able to explain the clinical assessment of suspected (latent) or known CHD, including evaluation of chest pain (typical or atypical), other symptoms and signs, and the necessary diagnostic procedures.

ỏ Describe the anatomy and physiology of the coronary arteries.

ỏ Explain the basic physiology of acute and chronic aerobic (dynamic) exercise.

ỏ Understand the indications and contraindications for cardiac training tests to assess ischemic cardiovascular disease, be proficient in interpreting ECG changes (ischemia, arrhythmias), measure the level of physical ability, and provide exercise guidance and further examinations as needed.

Psychomotor (professional skills):

ỏ Assess the possibility of a latent or chronic JK diagnosis based on symptoms (typical or atypical) and signs (physical, laboratory, ECG 12 conduction).

ỏ Able to explain indications and absence of contraindications for training trials and have signed informed consent signed by patients who will carry out training trials.

ỏ Giving examples directly or by medical staff who are skilled

in conducting practice tests, and notifying when the test will be stopped based on subjective complaints (chest pain, shortness of breath or fatigue/fatigue), objective signs (ECG, or other hemodynamics/HR/blood pressure).

- ở Make Observe complaints, symptoms and signs during and after the training.
- ở Assess the detailed training test results (indications, test achieved or not based on HR targets, reasons for dismissal, hemodynamic and electrocardiographic changes, negative test results, positive associated with the possibility of CHD), write them down on a standardized form, and ask supervisors.

Attitude & Behavior (affective):

- ở Explain the procedure and use of the practice test in simple language and ask the patient to sign an informed consent.
- ở Explain the results of the heart exercise test with empathy and provide recommendations according to the test results.

4. Holter monitoring

2. INTERMEDIATE LEVEL

a. CARDIOVASCULAR DISEASE CLINICAL KNOWLEDGE

1) Heart Failure

In addition to the competencies/abilities and skills/professionals possessed at the junior level, students can:

• Describe the management of device use in heart failure.• Describe the role of cardiac surgery including heart transplantation.• Identify the role of the lath test program in heart failure patients.•. Recognize the importance of multidisciplinary management of heart failure, including home-based nursing.

- Determining appropriate follow-up in patients with heart failure.• Recognize the importance of volume status and renal function and electrolytes evaluation in patients with heart failure.
- Develop relationships with chronic heart failure patients.• Melatin patients, families, and nurses about managing heart failure.• Get to know ICD, CRT and heart transplantation.

2) Arrhythmia and Atrial Fibrillation

a) Arrhythmia

In addition to the competencies/abilities and skills/professionals possessed at the junior level, students have been able to:

• Pacemakers: able to determine the need a pacemaker; able to perform temporary pacemaker placement independently.Implantable Cardioverter Defibrillator (ICD): able to assess patients who require ID installation.Describes the principles of invasive management and aids in arrhythmias, including Catheter ablation; pacemakers (temporary and permanent); ICD therapy; Surgical therapy.

b) Atrial Fibrillation After attending this session, students are expected to be skilled at describing management:

* Defibrillator pacemaker therapy
* Catheter ablation
* Surgery

Psychomotor :

- Perform and interpret electrocardiogram, transesophageal echocardiogram, extended ECG monitoring (e.g. Holter monitoring), and exercise testing in cases of atrial fibrillation.
- Select and refer patients for electrophysiological examination, surgical ablation, implantation of pacemakers (pacing for both dual and single chamber rhythm support) and defibrillators (anti tachycardic pacing, atrial defibrillator in ICD), catheter ablation (AV node ablation and curative

ablation) and AV pacing junction.

3) Myocardial Disease

In addition to competency knowledge and skills at the junior level, students have been able to:

- Describes the indications for implantable cardioverter defibrillators, surgical and non-difference interventions, and heart transplantation.
- Able to overcome the emotional problems of patients and families with cardiomyopathy.
- Able to provide education to patients and families.
-

4) Pericardial Disease

After having the competencies and skills at the junior level, students can:

- Choose and use various non-invasive imaging modalities such as echocardiography, CM, CT scan, or invasive procedures to diagnose pericardial disease.
- Able to perform pericardiocentesis in appropriately selected patients.

5) Heart Tumors

COMPETENCE

Diagnose and treat cases of cardiac tumors.

SKILLS:

After attending this session, students are expected to be able to:

Cognitively:

- ỏ Classify and describe the epidemiology of primary and metastatic cardiac tumors, including lymphoma.
- ỏ Describe the pathophysiology of benign tumors (myxoma, lipoma, rhabdomyosarcoma, fibroma, hemangioma), malignant tumors (rhabdomyosarcoma, angiosarcoma,

mesothelioma), and the effects of tumor size, location, and type.

- ỏ Detailed clinical presentation including:
  a. Systemic manifestations
  b. Systemic and pulmonary embolism
  c. Signs of mechanical obstruction to blood flow (e.g., atrial myxoma) d. Pericardial involvement- constriction and tamponade
- ỏ Recall diagnostic examination procedures, namely chest x-rays, echocardiography, CT scans, and MRI
- ỏ Describe the procedure
  a. Complete tumor excision
  b. Partial revision + chemotherapy/radiotherapy
  c. Heart transplant
  d. Palliative management

Psychomotor:

- ỏ Perform an appropriate history and physical examination to diagnose cardiac tumors.
- ỏ Select and utilize appropriate imaging studies to determine the diagnosis.
- ỏ Considering the differential diagnosis of the heart's primary or secondary neoplastic involvement.
- ỏ Recognize other cardiac masses, including thrombus, which is similar to a neoplasm.

In behavior and attitude:

- ỏ Collaborate effectively with cardiac surgeons and other specialties dealing with neoplastic diseases.
- ỏ Understand the importance of family support and counseling to families and patients.

6) Pulmonary Artery Hypertension

After having the competence and skills/professionals at the junior level, students are expected to be skilled in:

- Identify prognostic markers.
- Explain the management of pulmonary artery hypertension (medical, surgical, and interventional, including Ballon atrial septostomy; indications, contraindications, and possible side effects).
- Perform and interpret accurate medical assessments (using laboratory results including blood gas analysis, pulmonary function tests, EKG, echocardiography, cardiopulmonary load testing, ventilation-perfusion lung scan, spiral CT, MRI, cardiac catheterization and pulmonary angiography, lung biopsies.
- Describe medical and invasive (surgical or interventional) procedures. Evaluate clinical and hemodynamic prognostic markers.
-

7) Aortic Disease

After having the competence and skills/professionals at the junior level, students are expected to be skilled in:

- Select, perform and interpret the results of appropriate imaging examinations
    - ỏ TTE dan TEE
    - ỏ MRI
    - ỏ CT-scan
    - ỏ Duplex sonography vascular (surface and intravascular)
    - ỏ Cardiac and aortic angiography to assess aortic disease and traumatic lesions.
- Perform management of various aortic conditions correctly at the wrong time.
- Recognizing potential complications that require managing

patients with Aortic disease and Heart trauma.

-

8) Peripheral Vascular Disease

After having the competence and skills/professionals as at the junior level, students are expected to be skilled in the:

- Interpret the diagnosis of peripheral vascular disease from the examination results:
  - ỏ Peripheral Doppler and Transcranial Ultrasound
  - ỏ Duplex Sonography Vaskular
  - ỏ Trans Echo Esophagial
  - ỏ Pletismography
  - ỏ Laser Doppler Fluximetri
  - ỏ Ambulatory Venous pressure monitoring
  - ỏ Computed Tomography Angio
  - ỏ Perfusion Scanning
  - ỏ Magnetic Resonance Angiography

- Can determine / choose the proper treatment by using:

∇ Arterial, lymphatic, and venous compression stocking pumps

∇ Sclerotherapy vena

∇ Endovenous laser therapy

∇ Percutaneous vascular invasive intervention

- Explain the diagnosis and principle management of various lymphatic diseases, especially leg lymphedema.
- Select, use, and interpret diagnostic tools appropriately, such as Doppler, duplex sonography, fluximetric Doppler laser, plethysmography, ambulatory venous pressure, TEE, and angiography. Able to

interpret MR angio, CT angio, and perfusion scanning.

- Able to perform conservative treatment and compression of arteries, lymph nodes, venous compression stockings, and venous sclerotherapy.
- Able to determine treatment methods such as Endo venous laser therapy and percutaneous vascular invasive intervention.
- Able to work with specialists such as radiology, vascular surgery, hematologist, neurologist, and diabetologist.
- Collaborate with a vascular consultant doctor in carrying out additional examinations (*exceptional imaging*).

9) Pregnancy and Cardiovascular disease

COMPETENCE:

- Recognize cardiovascular disease that may affect a pregnant patient's risk.
- evaluate the risk level of pregnant patients due to cardiovascular disease and cooperate with the obstetric specialization in determining the management steps for pregnancy and birth.
- Recognize situations where cardiac intervention is required in pregnant patients with cardiovascular disease and take appropriate management steps.
- Perform follow-up evaluation and appropriate management after delivery.

SKILLS:

After attending this session, students are expected to be skilled in:• Knowledge (cognitive):

∇ For each objective listed, be able to consider

clinical conditions that may affect pregnant women, such as congenital cardiovascular disease, acquired valvular disease, prosthetic valves, coronary cardiovascular disease, cardiomyopathy, arrhythmia, hypertension, Marfan syndrome, aortic dissection:

- 0Be can determine cardiac contraindications for pregnancy (or do early termination).
- 0Able to recall indications for genetic counseling in hereditary diseases
- 0Be able to identify women with a high risk of pregnancy related to heart complications and who need intervention before planning a pregnancy.

∇ Able to perform cardiac follow-up in pregnant women and identify conditions requiring medical therapy.

∇ Be able to identify situations where cardiac intervention is needed

∇ Able to determine the mode of delivery.

∇ Able to explain the use of anticoagulant treatment∇ Describe the follow-up modalities during the postpartum period.

• Psychomotor (Professional Skills):

∇ Proficient in conducting a directed history and performing a proper physical examination.

∇ Experienced in clinical evaluation and interpreting the results of diagnostic procedures to assess cardiac risk in pregnancy.

∇ Able to indicate preventive cardiac intervention if required

∇ Experienced in conducting clinical assessments and non-invasive measures to consider cardiac tolerance in pregnancy.

∇ Proficient in choosing cardiac drug applications that can be used during pregnancy.

∇ Able to evaluate the risks of the fetus and mother in cardiac interventions.

∇ Able to assess the prognosis of the fetus.

∇ Able to analyze the condition of the heart after pregnancy.∇ Able to evaluate cardiac risk for subsequent pregnancies• Attitudes & Behavior (affective):

∇ Be able to recognize the importance of educating women with cardiovascular disease about the potential dangers of pregnancy.∇ Able to work with obstetricians and midwives to detect unknown pregnant women's presence of cardiovascular disease and identify those at high risk.

∇ Recognize the importance of educating the patient about poor cardiac tolerance symptoms.

∇ Able to inform obstetricians and midwives on symptoms that have not been detected, so it is possible to carry out appropriate identification actions whether the patient needs immediate cardiac action.

∇ Able to work with obstetricians and anesthesiologists to plan delivery (dates, methods, drug therapy, medical

environment).

∇ Be able to inform obstetricians and midwives about the risk of worsening cardiac status in the early postpartum period.

10) Rehabilitation and Exercise Physiology

Competence

Organizing rehabilitation of patients with cardiovascular disease. SKILLS

After attending this session, students are expected to be skilled• Knowledge:

∇ Able to define rehabilitation programs and cardiovascular processes.

∇ Understand hemodynamic and other changes resulting from various types of exercise programs.

∇ Able to define target population and individual patient risk stratification.

∇ Able to identify the components of the rehabilitation program, including patient education, exercise testing, and exercise training.

∇ Able to recognize the principles of self-management of chronic diseases.∇ Able to explain programs to special populations in the right situations

∇ Be able to identify outputs and assessment methods.∇ Able to define matters related to security.

∇ Able to monitor participation and closeness to the program.

• Psychomotor

∇ Proficient in obtaining a relevant history and performing appropriate clinical examinations.

∇ Able to demonstrate involvement as an active member of a multidisciplinary rehabilitation team.

∇ Able to carry out risk stratification and create exercise programs for patients with various conditions.

∇ Able to explain/answer patient questions about work, exercise, and sex.

• Attitude & Behavior

∇ Able to recognize the importance of rehabilitation to restore the patient's optimal condition.

∇ Able to recognize the importance of patient education.

∇ Able to recognize the relationship between cardiovascular disease's physiological and psychological aspects.

∇ Able to recognize other professional roles including nurse, specialist, physiotherapist, nutritionist, and general practitioner in Cardiac rehabilitation.

∇ Able to recognize the challenges of special populations: aging, gender, socioeconomic status, and culture.

11) Syncope

COMPETENCE:

DIAGNOSIS AND MANAGEMENT OF SYNCOPE

SKILLS:

After attending this session, students are expected to be skilled in:• Knowledge (cognitive):

∇ Be able to describe the epidemiology and understand the prevalence of the different causes of syncope

∇ Be able to tell the pathophysiology

∇ Be able to classify the causes of loss of consciousness (e.g., reflex-mediated syncope, Adams-Stokes attacks, orthostatic hypotension)

∇ Be able to identify the prognosis.

∇ Be able to describe the diagnostic evaluation:

0Evaluation strategy

0Initial evaluation (history, physical examination, baseline EKG)0Echocardiogram

0Load test

0Upright test (Tilt testing)

0ECG monitoring (long-term EKG, external recorder, and Implantable loop recorder)

0Electrophysiological test

∇ Be able to describe treatment based on tools or pharmacology

0Neurally mediated syncope reflex

orthostatic hypotension

0Heart arrhythmia is a primary cause

0Heart structure or cardiopulmonary disease

- Psychomotor:

Diagnosis

∇ Proficient in taking relevant histories and performing accurate clinical examinations.

∇ Experienced at performing or interpreting: echocardiogram, carotid sinus massage, erection tests, electrocardiographic monitoring (long-term ECG, external recorder, and implantable loop recorder), electrophysiological tests, weight training tests, cardiac catheterization, and coronary angiography.

∇ Proficient in risk stratification.

- Treatment

∇ Being able to choose the proper treatment:

∇ Education and counseling, physical maneuvers, drug therapy, device implantation.

- Attitudes & Behavior (affective):

∇ Appreciate the impact of syncope on the patient's lifestyle.

∇ Appreciate that syncope is a universal symptom and not a disease.

∇ Consultation with other specialists.

∇ Recognize the diagnostic criteria for the causes of syncope.∇ Recognize appropriate investigations in various subgroups of patients with syncope.

∇ Recognize how patients with syncope should be risk stratified.

∇ Appreciate how patients with syncope should be treated in the hospital.

∇ Identify treatments that appear to be effective in preventing recurrent syncope.

- Diagnosis

∇ Appreciate that the diagnosis of syncope is often presumptive.

∇ Appreciate that the diagnostic value (sensitivity and specificity) of the test for syncope is imperfect.

∇ Appreciate that observation during the event is of key importance.

∇ Appreciate that the diagnostic result of the test depends on the accuracy of the selection (probability pre-test).

∇ *Therapy*

∇ Recognize that most patients do not require specific treatment beyond education and outreach.

∇ Recognize that drug therapy is often ineffective.

∇ Recognize the risks/benefits and costs of pacemakers, ICDs, and catheter ablation therapy.

12) Sudden Death

COMPETENCE/ABILITY

Skills/Professional

After attending this session, students are expected to be skilled in:• Knowledge

1. Sudden death due to heart:

∇ Define sudden death and know and understand the epidemiology, etiology, pathology, pathophysiology, and clinical presentation of the different conditions that cause sudden cardiac death.

∇ Determine the principles of acute management of patients with sudden cardiac death.

∇ Determining the principles of establishing patients' diagnosis and risk stratification was helped.

∇ Choose appropriate long-term therapy.

∇ Identify, stratify risk, and treat people at increased risk, including family members of patients with sudden cardiac death.

2. Resuscitation

To be able to handle basic and advanced cardiac life support

• Skills

1. Sudden death due to heart:

∇ Carry out resuscitation

∇ Relevant history and physical examination as appropriate.

∇ Interpret the prodromal symptoms, causes, and prognosis of the patient.

∇ Interpret and perform risk stratification methods (ECG, left ventricular function, echocardiography, catheterization, electrophysiology, heart rate variation).

2. Resuscitation

∇ Identify the cause of the incident.

∇ Perform essential Life Support (BLS).

∇ Cardiopulmonary resuscitation and ACLS include differences in skills.

∇ Lead and coordinate the work of the ACLS team.

∇ Teaching BLS.

• Attitude & Behavior/ Affective

1. Sudden death due to heart:

∇ Recognize the urgent importance of managing cardiac arrest.

∇ Recognize the importance and prodromal symptoms.

∇ Be aware of the concerns of patients and their families.

∇ Recognize the importance of patient education and secondary prevention.

2. Resuscitation

∇ Recognize the importance of teamwork with paramedics and other medical personnel during resuscitation.∇ Understand the importance of periodic audits of the BLS and ACLS programs

13) Pulmonary Embolism

COMPETENCE/ABILITY

Able to diagnose, treat and prevent pulmonary

embolism / acute and chronic pulmonary disease.

SKILL/ PROFESSIONAL

After attending this session, students are expected to be skilled in:

- Knowledge
  - ∇ Describe the epidemiology and risk factors for acute and chronic pulmonary embolism concerning clinical conditions such as: hemorrhoids, prolonged immobilization, deep vein thrombosis, etc.
  - ∇ Be able to describe changes in anatomy and hemodynamics about changes at the molecular level in acute and chronic pulmonary embolism.
  - ∇ Be able to tell the clinical presentation of acute and chronic pulmonary embolism.
  - ∇ Be able to interpret the diagnosis of acute and chronic pulmonary embolism based on the examination results:
    - 0electrocardiography
    - 0echocardiography
    - 0Duplex sonography of extremities
    - 0CT angio
    - 0MR angio
    - 0Angiograf
  - ∇ Be able to describe the treatment of acute and chronic pulmonary embolism.
  - ∇ Be able to explain preventive actions for acute and chronic pulmonary embolism.
- Psychomotor (professional skills)
  - ∇ Able to obtain anamnesis and perform an appropriate clinical examination.
  - ∇ Able to interpret non-invasive and invasive examinations in acute and chronic

pulmonary embolisms.

∇ Able to determine the treatment of patients with acute and chronic pulmonary embolism.

∇ Able to perform appropriate actions to treat acute and chronic pulmonary embolism.• In attitude & behavior (Affective)

∇ Able to understand the difficulties and constraints in establishing the diagnosis and management.

∇ Able to work with vascular consultant doctors in carrying out additional examinations (non-invasive or invasive imaging specialists).

14) Pediatric Cardiology

COMPETENCE/ABILITY

1. Make a diagnosis, treat and refer, according to conditions, all pediatric patients aged 0 - 18 years with CHD and PJD. 2. Recognize cardiovascular emergencies in pediatric patients aged 0-18 with CHD and PJD and take appropriate management steps before being referred if necessary.

3. Conduct follow-up evaluations and appropriate management of all pediatric patients aged 0-18 years with CHD and PJD who have undergone non-surgical/surgical interventions

SKILLS / PROFESSIONALS:

After attending this session, students are expected to be skilled in• Knowledge (cognitive):

∇ Describe the epidemiology, etiology, prevention, pathoanatomy, pathophysiology, nomenclature, embryology, fetal and transitional circulation.

∇ Identify pathology, establish and describe the diagnosis and explain the management of

specific conditions of CHD.

∇ Identify pathology, demonstrate and describe the diagnosis and explain the control of particular disorders of PJD in children aged 0-18.

∇ Explain the principles of medical management and non-surgical/surgical interventions.

∇ Conduct a follow-up evaluation for each child aged 0-18 with CHD and PJD.

• Professional Skills (Psychomotor):

∇ Get a good history of the disease, precise and directed (relevant).

∇ Able to perform appropriate physical and clinical examinations.∇ Able to choose the proper diagnostic support technique.∇ Able to perform and interpret non-invasive and invasive investigations required for diagnosis.

∇ Able to provide therapy according to the condition of the abnormality found.

∇ Able to handle emergencies that may occur.

∇ Able to perform emergency invasive interventions for management if needed when facilities are available.

∇ After establishing the diagnosis, providing medical therapy, determining the necessary non-surgical/surgical interventions, refer promptly to secondary and tertiary care centers, able to conduct long-term follow-up, including patient monitoring and lifestyle advice.

∇ Able to rehabilitate patients with CHD and PJD who have not and have had non-surgical/palliative/corrective interventions.

- Attitudes & Behavior (affective):

∇ Understand the importance of referring patients for specialist consultation.∇ Understand the importance of genetic counseling.

∇ Understand the social and emotional difficulties experienced by the patient's parents or himself.

15) Intensive Cardiovascular

COMPETENCE/ABILITY

Recognize and intensively manage cardiovascular disease in acute attack.

SKILL / PROFESSION

After attending this session, students are expected to be skilled in:- Knowledge/ Cognitive

∇ Understand the physiological and pathophysiological principles of invasive hemodynamic monitoring and their indications.

∇ Can build and demonstrate an in-depth understanding of managing patients with cardiovascular disease as found in "Intensive Cardiovascular Care Units" (ICVCU).

∇ Understand the rationale for use, indications, and contraindications for catheters, swan-ganz, IABP, and CRRT.

∇ Understand and be able to use non-invasive mechanical ventilation and simple invasive mechanical ventilation.

∇ Can develop and demonstrate an in-depth understanding of Indications, principles, complications, and interpretation of ECG, rhythm monitoring, electrophysiological studies, echocardiogram, nuclear imaging,

transthoracic, transesophageal echocardiogram, right and left heart catheterization, coronary angiography and percutaneous intervention.

∇ In-depth understanding of the principles of lifetime cardiovascular risk assessment & preventive cardiovascular risk.• Psychomotor/professional skills

∇ Able to summarize the history of the disease and carry out a thorough and accurate physical examination with a Cardiovascular focus.

∇ Able to write patient history and progress precisely and accurately with a cardiovascular emphasis.

∇ Able to formulate a list of problems precisely and accurately with differential diagnoses and treatment plans for patients with cardiovascular disease.

∇ Able to interpret complex EKG and long "lead" recordings

∇ Able to perform essential, non-invasive and invasive mechanical ventilator management.

∇ Able to perform CRRT (continuous renal replacement therapy) management.

∇ Able to install and manage swan-ganz catheters and temporary pacemakers.

∇ Able to provide emergency fibrinolytic therapy.

∇ Able to perform basic and advanced cardio-pulmonary resuscitation (BCLS & ACLS).

∇ Able to perform ICVCU routine procedures; procedure in question:

Placement of a temporary pacemaker.

0Central line veins with femoral, subclavian, and internal jugular access

0arterial line.

0endotracheal intubation

0basic mechanical ventilation

∇ Got a chance to help with the installation

- CVP
- catheter swan-ganz
- IABP

∇ Participate in and then be able to lead discussions on ending life issues with family.

• Attitudes & behavior / affective

∇ Able to communicate effectively with the patient's family in a stressful situation in intensive care.

∇ Able to communicate effectively with colleagues and members of other health professionals so that patients receive timely and comprehensive services.

∇ Able to communicate effectively with colleagues When compiling medical summaries for patient transfers.

∇ Able to communicate effectively with patients and families of patients in critical condition.

∇ Able to communicate with fellow doctors and other medical members so that patients get fast and complete services.

∇ Able to share with colleagues when the patient is transferred to another treatment room.

b. DIAGNOSTIC KNOWLEDGE and skills

1) Invasive Diagnostics

COMPETENCE/ABILITY

1. Knowing patients with indications for invasive

imaging clinical procedures - cardiac catheterization and angiography.

2. Able and proficient in performing invasive imaging clinical procedures for cardiac catheterization and angiography.
3. Able to carry out written interpretation results, make inspection reports and plan further management.
4. Able to handle any emergencies/complications that arise. SKILL/ PROFESSIONAL

After attending this session, students are expected to be skilled in:• Knowledge/ Cognitive

∇ Explain the principles of fluoroscopy imaging, radiation physics, and safety.

∇ Describe the complications of cardiac catheterization and angiography (including hypotension, heart failure, arrhythmias, myocardial ischemia, contrast reactions, and embolism).

Cholesterol, renal failure, vascular complications and retroperitoneal bleeding, and cardiac tamponade.

∇ Understand the radiological anatomy of the heart, aorta, great vessels, coronary arteries, and the femoral, radial, and brachial arteries used for vascular access during catheterization.

∇ Recognize the shape of the pressure wave obtained during cardiac catheterization

∇ Describes the hemodynamic and oximetry data that are routinely collected and how to calculate cardiac output, vascular resistance, valve area, and arteriovenous shunt from

these measurements.

- ∇ Describe the various percutaneous catheterization techniques*cut-down*.
- ∇ Describe the different types of catheters used in coronary angiography and cardiac catheterization.
- ∇ Describes the devices and techniques used for transeptal catheterization and discusses their applications.
- ∇ Explain when and how to perform cardiac pacemakers and pericardiocentesis and the complications associated with the procedure.
- ∇ Understand the basic principles and indications for intracoronary ultrasound, Doppler, and pressure assessment.

• Psychomotor/professional skills

- ∇ Demonstrate an understanding of the equipment in the catheterization laboratory (physiological monitoring, transducers, blood gas analysis, power injectors).
- ∇ Obtain percutaneous arterial access (femoral, radial, brachial) and venous access and achieve hemostasis after catheterization.
- ∇ Perform left heart catheterization, including coronary angiography, ventriculography, and coronary graft by pass angiography; Minimum documented experience is required.
- ∇ Perform left heart catheterization, including coronary angiography, ventriculography, and coronary graft bypass angiography; minimal experience documentation is needed.
- ∇ Perform bedside right heart catheterization,

including cardiac output measurement, pressure measurement, and oximetry; minimal experience documentation is required.

∇ Demonstrate expertise in managing life-threatening arrhythmias and other emergencies in the catheterization laboratory, including resuscitation and life support measurements.

∇ Evaluate normal and pathological coronary angiography, ventriculogram, aortogram, and pulmonary angiography.

∇ Must reach competency level III.

- Attitude Behavior / Affective

∇ The appropriate management modality (medical, percutaneous or surgical) can be selected based on angiography data.∇ Demonstrate responsibility in ordering, performing, and interpreting invasive tests by adequately considering the risks and benefits of the procedure.

∇ Recognize the dangers of ion radiation to patients and medical personnel.

∇ Recognize the strengths and weaknesses of invasive diagnostic procedures and interpret them with other clinical data.

∇ Consultation with nurses, technicians, and specialist doctors such as interventionists, electrophysiologists, or pediatric cardiologists.

2) Non Invasive Imaging

Echocardiography

In addition to having COMPETENCE and SKILL at the junior level, students are expected to be skilled at:

• Cognitively

∇ Able to explain echocardiography basics (M-mode, 2D, Color Doppler and contrast echocardiography).

∇ Understanding and mastering volume measurement and shunt techniques, evaluation of systolic and diastolic function (ejection fraction), regional wall motion abnormalities, LV mass, cardiac chamber dimensions, degree of valve regurgitation, degree of valve stenosis, and congenital cardiovascular disease from transthoracic echo examination.

∇ Knowledge of TEE and stress echo examination procedures.

∇ Able to explain indications and contraindications, examination, and echocardiography (TTE, TEE, stress echocardiography, contrast echocardiography).

∇ Able to provide suggestions and suggestions for follow-up examinations.• Psychomotor

∇ Able to perform a complete transthoracic echocardiographic examination procedure (Level III).

∇ Able to perform M mode, 2D, Color Doppler echocardiography (Level III), contrast echocardiography, TEE, and stress echocardiography (Competency Level II).

∇ Able to perform a simple bubble contrast test (NaCL) examination by reaching competency level III.

∇ Able to interpret the results of routine transthoracic echocardiography and

emergency cases (competence level III).

∇ Able to link medical history, physical examination, EKG, plain chest X-ray, cardiac tapping examination with echocardiographic examination (competence level II).

• Effectively

∇ Recognize the strengths and weaknesses of echocardiography in a clinical setting.

∇ Collaborate with interventional cardiologists, electrophysiologists, anesthesiologists, and other specialists involved in emergency medicine, intensive care, and cardiac surgery.

∇ Explain clearly and ultimately to the patient about the procedure to be performed, the purpose and possible complications of a TEE and DSE procedure, and briefly explain the results of the echocardiography tests that have been completed.

∇ Able to choose wisely echocardiographic examination.

3. SENIOR LEVEL

a. CARDIOVASCULAR DISEASE CLINICAL KNOWLEDGE

1) Arrhythmia

• Psychomotor (professional skills)

∇ Interpretation of the results of the electrophysiological study.

∇ Refer the patient for catheter ablation and follow up after the ablation.

∇ Heart Pace

- Assist with temporary pacemaker placement.

- Pinpointing patients with a biventricular pacemaker.

- Follow up on patients with pacemakers including anamnesis, familiarity with EKG "pacing rhythm,"

and device programming.- Use the results of the history, examination, and cardiac imaging to determine which patient requires an ICD.

- Attitude Behavior (affective)
  - ∇ Appreciate patients with arrhythmias and various methods such as catheter ablation, pacemaker placement, and ICD.
  - ∇ Appreciate the importance of coexisting structural cardiovascular disease, including coronary artery disease, in managing arrhythmias.
  - ∇ Appreciate the palliative abilities and potential side effects of non-pharmacological management.

2) Cardiac surgery/ICU post-op

- Diagnostic knowledge and skills

  Competence

  Able to perform examination, interpretation, and analysis of non-invasive imaging examination results to support clinical diagnosis, prognostication and evaluation of Cardiology and Vascular disease.• Psychomotor

  Evaluation of the CMR examination in a clinical context (20 cases documented and an eight-and-a-half day session recommended to achieve level I competency).

- Behavior and attitude
  - ∇ selecting the appropriate imaging technique for the specific clinical situation, including an in-depth understanding of the Bayesian approach.
  - ∇ Establishing imaging techniques, modalities, and protocols cost-effectively, avoiding overuse or suboptimal use.∇ Data integration from the results of various non-invasive and invasive procedures.∇ Recognizing developments in non-invasive imaging,

3) Sub Modul: Modul Cardiac Computed Tomography (CT)

Skills

After attending this session, students are expected to be able to:

- Knowledge

∇ Know the basics of Cardiac CT Scan examination.

∇ Know the indications and contra-indications of Cardiac CT.

∇ Know the physiology and pathophysiology of cardiovascular disease (everything that happens during systole and diastole).

∇ Know the anatomy of the coronary arteries and veins and their branches and the various normal variations of these arteries and veins.

∇ Knowing the process of atherosclerosis and the anatomy of the plaque (atheroma) and its complications (plaque rupture, dissection, etc.), which clinical manifestations can be angina pectoris or acute myocardial infarction.

∇ Know the assessment of global and regional cardiac function.

∇ Knowing other cardiac disorders (Non-Coronary) such as Congenital Cardiovascular disease with "shunt" (ASD, VSD, PDA), Pulmonary Embolism, Pericardial Effusion, Coronary Artery Anomaly, Aortic Aneurysm (including aortic dissection), Co-Aortic Archation, Venous Stenosis Pulmonary, etc.

∇ Explain the various measurement techniques and or use of modalities:

- 2D mode
- 3D mode

∇ Know the various indications of measurement and or assessment- Calcium score
- Coronary cardiovascular disease
- Congenital Cardiovascular disease

- Congenital Artery and Vein Anomall
- Peripheral Vascular Disease

∇ Modality:

- Ultra-fast CT
- Coronary angiogram

∇ Mastering techniques: examination with 2D and 3D modes∇ Understanding and mastering methods of measuring and analyzing Calcium Score and coronary cardiovascular disease.

∇ Understand and master the selection and analysis of modalities for ultra-fast CT and coronary angiogram examination.

- Psychomotor

Evaluation of CT examinations in a clinical context (20 cases documented and a half-day session recommended for level I competence)

∇ Can prepare for Cardiac CT examination.

∇ Able to carry out CT Cardiac examination (Calcium Score & CT Coronary Arteriography.

∇ Can overcome problems that arise due to side effects of contrast materials.

∇ Can analyze and interpret the results of the Calcium Score.

∇ Get analysis and interpretation of coronary arterography results.

∇ Get LV Function analysis.

∇ Can study Con-Coronary Cardiovascular diseases such as Aortic Aneurysm with/without Dissection, Co-Arctation of the Aorta, Pulmonary Embolism, Congenital Disease with "shunt" (ASD, VSD, and PDA), Thrombus and Cardiac Tumors, Pericardiac Effusion.

∇ Recognizing Non-Cardiac Incidental Findings, e.g., Lung Tumors, etc.

- Attitude and Behavior

∇ Explain the procedure and use of Cardiac CT examination in patients and families in simple

language and ask patients to sign informed consent.

∇ Be able to explain Cardiac CT results in simple language and an empathetic attitude and provide advice according to the test results combined with the results of other examinations. 4) Sub Module: Nuclear Imaging

Competency :

1. Be able to mention the indications for nuclear cardiology examinations. 2. safe use of basic nuclear materials.

3. Know the basic principles of the instrument used.

4. Knowing the basis of quality control of the images produced. 5. know how to use the results obtained from nuclear cardiology examinations in the management of patients. Skills:

After attending this session students are expected to be skilled at:• Knowledge

Cognitively:

∇ Know the types of nuclear inspection.

∇ Know the indications of a nuclear examination.

∇ Know how to use nuclear materials safely.∇ Know how to interpret the nuclear examination.

∇ Know how to use the results of nuclear cardiology examinations.∇ Explain various measurement techniques and or modality usage.

To. planar angiography

b. Single photon emission computed tomography (SPECT) c. Gated SPECT

d. Gated blood pool SPECT

e. Positron emission tomography (PET)

f. MSCT

∇ Tracers:

- Thallium

- Technetium-labelled tracers
- Fluorodeoxvalucose

∇ Know the various indications of measurement and or assessment:- myocardial perfusion
- Viablitas
- Volume RV and LV
- Ejection fraction
- Diastolic function
- Cardiac asynchronous phase analysis
- Shunt

∇ Modality:
- Rest metabolism

- Stress protocol (exercise or pharmacological)

• Psychomotor

∇ Able to carry out nuclear cardiology examination procedures∇ Able to interpret and explain the results of a complete atomic cardiology examination

∇ Evaluation of cardiac nuclear examination in the clinical context and about other invasive and non-invasive approaches (50 cases documented and a 20 half-day session is recommended to achieve the level I competence)

∇ Stress testing.

• Attitude and Behavior

∇ Selecting the appropriate stress modality for a particular patient.∇ Collaborate with nuclear medicine specialists and technicians.∇ Recognize the risks of ionizing radiation to patients and personnel.

CHAPTER V

RECRUITMENT OF STUDY PROGRAM PARTICIPANTS

A. Administration Selection

1. Administrative Completeness

a. For Self-funding Pre and Post-PTT Doctors

1) Application letter on sealed paper (sample attached)

2) Biography/work history (model BAKN No. 01/SE/1979 dated 9-3-1979. 3) Letter of Appointment of all PTT doctors Letter of Decision at the end of service.

4) Certificate to attend specialized education from the head of the Local Health Service (for Pre PTT doctors)

5) Letter of recommendation from the joint secretariat of the Faculty of Medicine in Jakarta. 6) Certificate of Good Behavior from POLRI.

7) Photocopies of diplomas and transcripts

8) References from the Indonesian Doctors Association

9) Certificate of Healthy Body declared by the Health Examination Team.

10) Passport photo size 4x6 cm (3 copies)

b. For doctors who are PNS / DEPHANKAM

1) Letter of Application on sealed paper (sample attached)

2) Curriculum vitae/work (BAKN model No. 01/SE/1979 dated 9-3-1979 3) Decree of Appointment as PTT doctor Decree of completion of term of service.

4) Letter of appointment from the Main Agency

a) SK Prospective Civil Servants (CPNS)

b) Decree of Last Rank.

5) Direct supervisor's permission letter

6) Letter of permission from the Head of the Local Health Service

7) Letter of permission from the Joint Secretariat of the Faculty of Medicine in Jakarta. 8) Certificate of good behavior from

POLRI

9) Photocopies of diplomas and grade transcripts.

10) References from the Indonesian Doctors Association (IDI)

11) Certificate of Healthy Body declared by the Health Examination Team.

12) Passport photo size 4x6 cm (3 copies)

2. Administrative Requirements:

a. Doctors with medical certificates recognized by the government.

b. STR (registration certificate) and or competency certificate.

c. Age requirements at the start of specialist medical education refer to collegium rules (Chancellor's Decree No. 3336/H4/DD36 18 May 2011).

d. The maximum length of study in general medicine is ten years (Chancellor's Decree No.3336/H4/DD36 18 Mel 2011).

e. The results of the psychological test can follow specialist medical education.

3. Academic Requirements:

a. Doctor Graduates from the Public or Private Medical Faculty who are recognized by the Ministry of Research, Technology, and Higher Education who have completed their first term of service or who have postponed their period of service in accordance with applicable regulations and accordance with a Joint Decree of the Minister of Education and

Culture and Minister of Health of the Republic of Indonesia No. 0273/1080 No. 467/men.Kes/SKB/X11/1980.

b. Cumulative Achievement Index (S.ed.d. den and doctoral education)z 2.75 2.75 determined through the Chancellor's Decree No. 3336/H4/DD36 18 Mel 2011. c. Internal Medicine Specialist or Pediatrician who is registered with the specialist doctor assembly.

d. TOEFL test certificate with a score >450 (if not yet having a score of 450, after receiving it, the participant must be able to

obtain that score during education.

e. Pass the selection, academic ability, psychological, and English tests.

B. Selection Implementation

Every candidate for Specialist Doctor Education is required to follow the following selection stages:

1. Selection administration
   - File accessories.
   - Administrative and academic requirements.
2. Academic selection
   - The written test assesses the candidates' cognitive and reasoning abilities with Multiple Choice Questions (MCQ), Short Answer Questions, or case simulations.

   The material tested includes:

   0General medical knowledge.

   0Science-related knowledge in the specialist area of interest.

   0TOEFL

   Indonesian.
3. Selection of health and psychology
   - A team of doctors at RSU carried out the medical test, Dr. Wahidin Sudirohusodo Makassar, including drug and HIV tests.
   - The psychological test was carried out by a team from the mental health department of Dr. RSU. Wahidin Sudirohusodo Makassar.
4. Interest selection

   The Cardiology Department's Cardiology Specialist Medical Education Study Program manager conducted the interview test.

C. Determination of accepted participants

1. The number of participants accepted is determined by the

formation available in each study program.

2. The results of the Tulls test, interviews, psychology, and TOEFL are weighted, including several other aspects the Collegium determines. Results are analyzed and ranked by the management team and decided at a staff meeting.
3. The results of the staff meeting are reported to the Faculty of Medicine UNHAS to be further proposed at the TKP-RESIDENTS meeting.
4. A letter of notification of the results of the selection of prospective Specialist Doctor Education Study Program Participants (RESIDENTS) was delivered by the TKP-RESIDENTS Faculty of Medicine to all participants, whether accepted or not.

Notes:

1. The highest score is the highest, decreasing downwards.
2. Local policies can be included in this matrix, such as local FK alums related to TS staff or leaders, etc. 3. At the interview, it can be assessed:
    - Professional appearance/behavior
    - Motivation exploration
    - Communication skills (Discussion, Indonesian language)
    - Progress and efforts to develop knowledge
    - Economic readiness during the educational process

The Recruitment Team brings together the evaluation results for each Study Program Manager for the final consideration to determine the number and who will be accepted. Both were received and not reported to TKP-RESIDENTS, Dean, and Chancellor with copies to the College concerned.

The number of RESIDENTS participants accepted takes into account the ability of the education center to educate in terms of the number of teaching staff (1; 2), facilities/infrastructure, and the number and types of cases so

that they can carry out the curriculum determined by the Collegium.

Candidates who are not accepted can participate in the following selection at the same or another education center. If there are candidates who are not accepted because of their bad attitude, they will be informed to all other education centers through MKKI.

D. Student Calling Process

Prospective students submit an application letter by completing administrative requirements to the TKP RESIDENTS FACULTY OF MEDICINE UNIVERSITAS HASANUDDIN. Participants who meet the academic and administrative needs will be summoned via a notification letter delivered to the participant's address or on the TKP RESIDENTS announcement board at the FACULTY OF MEDICINE UNIVERSITAS HASANUDDIN Makassar.

Selection for applicants with a degree in internal medicine specialist or pediatrician is carried out to assess and determine what competence and experience they already have and can be recognized.

E. Notification of Prospective Student Selection Results

The results of the selection exam and the decision on the selection results are posted to prospective participants through TK RESIDENTS or can be seen on the TK-RESIDENTS FACULTY OF MEDICINE UNIVERSITAS HASANUDDIN announcement board.

F. New Student Orientation

Before starting the implementation of education, new students are required to take part in the following activities:

1. Research Methodology Education Package for the Faculty of Medicine

This activity was organized by the Hasanuddin

Faculty/University Research Institute. New students of all specialist medical education study programs must follow the research methodology education package. After undergoing the Research Methodology Education Package, participants who pass will receive a certificate which must be included in the graduate report. Those who do not pass must repeat the research methodology education package until they graduate and receive a certificate.

2. Education Orientation and Hospital Administration

This activity is organized by the Hospital Education and Training (Training) division for specialist medical education students in all departments in the Hospital for ten days.

3. Orientation in the Department of Cardiology and Vascular Medicine

Two weeks before carrying out assignments at the Department of Cardiology and Vascular Medicine, all new students must attend an orientation in the form of briefings from the Department Head, Coordinator, and Staff and introductions. A workshop on Problem Oriented Medical Records/records was also held.

G. New Student Inauguration Ceremony

The inauguration ceremony for new students must be attended by all new participants, subject to a donation fee submitted to the Faculty Secretariat. Tuition Fee Contribution (SBP) each semester. Paid through the Bank, determined by the Faculty, at the beginning of each semester that will be passed. The fee amount depends on the institution where the participants come from (DEPKES/DEPDIKBUD, Defense and Security, and other agencies). In addition to SBP, each participant is required to pay a funding assistance fee

Student Facility Welfare (DFKM) every semester at the designated bank.

CHAPTER VI
ADMINISTRATION AND ACADEMIC ACTIVITIES

A. Payment of education implementation contribution (SPP)

SPP is a fee that must be paid by students to Universitas Hasanuddin based on Chancellor's Decree number: 653/J04/P/2006, which will be delivered to the TKP-RESIDENTS Universitas Hasanuddin Faculty of Medicine through the State Savings Bank. Blood spp that must be paid is IDR 10,000,000 per semester.

B. Professional Insurance

Follow professionalism insurance while undergoing education in the Specialist Medical Education Study Program.

C. Filling out the Study Plan Card

Each new/old student must fill out and sign a Study Card (KRS) at the beginning of each semester, prepared by the Study Program and signed by the Academic Advisor, KPS, and Chair of the TKP-RESIDENTS FK Unhas.

D. Study Implementation

1. Length of Education and Time Limits

Cardiologist and blood vessel specialist education for general practitioner education program participants will be taken for four years or eight semesters. After being accepted as an educational program participant, the program participants will go through the educational flow process as follows:

a. Debriefing (Basic Enrichment)

The duration is one month. At this time, program participants will undergo 1) Hospital Orientation

2) Basic material

3) Research methodology

4) Cardiopulmonary resuscitation (Advanced Cardiac Life Support)

b. General Clinical Medicine

The duration is four semesters. Program participants reaffirm their mastery of several knowledge and skills closely related to cardiovascular, which consist of:

1) Certain fields of medicine in pulmonary disease, all for 2 1/2 semesters

2) Certain fields of knowledge in Child Health, entirely for one semester. 3) Intensive care 1/2 semester

c. Cardiovascular Education

Cardiovascular Education consists of Basic Education and Further Education.

1. basic education

After completing primary Cardiovascular education, program participants have mastered Clinical Cardiology skills. The duration is four semesters. Program participants then take a national exam (National Board Examination).2. Continuing education

Improving skills in specific procedures and techniques requires education in an advanced component. 2 semesters in length.

(See attached to Cardiologist and Blood Vessel Specialist Education Scheme).

2. LEVEL AND LENGTH OF EDUCATION:

What is meant by stages of education are not stages based on years but on the level of competency achieved. The educational materials for cardiology and vascular medicine specialists are broadly divided into three education sets. Each stage has a unanimous goal and is achieved through the academic content of specific learning experiences in accordance with educational purposes.

The educational stages in the Cardiology & Vascular Medicine Specialist Medical Education Study Program consist of the following:

a. Activities The first phase, which includes activities:

1) Inpatient activities
2) Care activities
3) Scientific activity
4) Guidance activities
5) Tutorial activities
6) Activities of sub-branches of knowledge:

- Internal Medicine (nephrology, endocrine-metabolic, pulmonology)
- Pediatrics (children's hematology, nutrition, neonatology)
- Non-invasive cardiology

b. Phase two activities, which include

1) Activities of sub-branches of knowledge:

- Cardiology emergency
- Intensive care
- Interventional cardiology
- Nuclear cardiology
- Cardiac surgery postoperative care.
- Lungs
- Rehabilitation

2) Inpatient activities
3) Care activities
4) Scientific activity
5) Guidance activities
6) Activities, tutorials

c. Stage three activities, which include:

1) Activities of consulting doctors
2) Activities of emergency department doctors
3) Activities of the head doctor of the room
4) Activities of district hospital doctors
5) Special program activities

EDUCATION ACTIVITIES

A. SCIENTIFIC ACTIVITIES

While attending medical specialist education, all students are required to take part in and carry out continuous scientific activities in accordance with the scope of the educational side at each stage, namely inpatient, outpatient management modules and each sub-branch of knowledge in the Cardiology Department, by:

1. Search and browse bibliographical resources in the library.
2. Actively participate in the department's scientific activities.
3. Participating in other activities: seminars, symposiums, congresses (local/national, not international), community service, and others.
4. Presenting scientific lectures in the form of case reports, literature, and others.

During education, it is mandatory to participate in and carry out scientific activities consisting of:1. Morning reports and case discussions.

2. Presentation of cases/death cases/CPC
3. Presentation of critical review of the journal
4. Presentation of literature review/references
5. Presentation of the final research work
6. Cardiothoracic surgery conference

1. MORNING REPORTS AND CASE DISCUSSION

1.1. Morning Report

a. The purpose of this morning's report is for patients to get the best management and to input valuable knowledge about improving services and increasing knowledge

b. Morning reports are carried out three times a week, Monday, Wednesday, and Friday, starting at 07.00-finished.

c. Monday and Wednesday morning reports are in Indonesian, while Friday's are in English.

d. The morning report is supervised by a Morning Report Supervisor assigned according to the schedule and the doctor in charge of the patient (DPJP) who will be reported.

e. The morning report is presented by the Watch Team (led by Chief Keep) in the form of a PowerPoint containing complete data and physical data of the patient.

f. The patient's physical data must be included in the presentation of the report in the form of X-rays, EKG, echocardiogram, angiography, and others in the form of

photos or films.

g. This event must be attended by all Specialist Doctor Education Study Program Students (except those given special assignments), and are requested the absence list for participants in the morning report. Clinical clerkship students, nurses, and nutritionists can also attend this event.

1.2. Treatment Case Discussion

a. Once a week in the science sub-branches, a discussion of cases of outpatients or inpatients is held, led by the staff of the science sub-branches appointed by the head of the science sub-branches.

b. The purpose of the discussion is so that the patient gets the best management and follow-up. Besides, the participants are studied to get valuable input knowledge about service improvement and knowledge improvement.

c. Case discussions can be presented in the form of slides which include complete patient data at hospital admission and follow-up and are supported by physical evidence such as laboratories, X-rays, EKG, echocardiogram, angiogram, etc.

d. The event must be attended by all RESIDENTS participants who work in the sub-branches of science, the staff of the sub-branches of science, and the RESIDENTS where the patient is treated by being required to fill in the attendance list of case discussion participants.

2. CASE/CASE OF DEATH

2.1. General Provisions

a. The purpose of this meeting is to solve the problem of inpatients immediately and as an addition to the s t u d e clinical knowledge.

b. During education, RESIDENTS participants must present 7 cases (2 cases for each Education Stage) of 5 cases and 2 cases of death. c. Case presentations can be made four times a week, Monday, Tuesday, Wednesday, and Thursday, 12.00-14.00.

d. This event is supervised by a Scientific Supervisor (according to a determined schedule) and the RESIDENTS Case Advisor concerned.

e. This event was organized and led by a Moderator (RESIDENTS Stage III) and two Mandatory Objectors (RESIDENTS Phase I and II) f. This event must be attended by a minimum of 50% of the total number of RESIDENTS in the current stage (not including RESIDENTS in the outer location) and must fill in the attendance list of participants.

g. If the participants who attend do not meet the attendance criteria, then the case

presentation schedule is considered canceled, and the scientific presentation will be presented on the following program.

2.2. Sources and Types of Cases

Cases can come from a teaching hospital and a designated teaching network hospital. The issue can be appointed by the Case Advisor, Teaching Staff, or the RESIDENTS Participants approved by the Case Advisor. Types of cases can be:

a. Problematic: cases that have many dilemmatic problems
concerning the course of the disease, diagnostic and therapeutic management, and involving multi-disciplines.

b. Demonstration: a case involving procedures or implementation of a diagnostic or therapeutic medical procedure

c. Death: problematic cases that end in death

d. Rare: cases that have a rare incidence/prevalence

2.3. Case Preparation Procedure

a. Cases that have been appointed by the Teaching Staff or submitted by the RESIDENTS concerned must be reported within one week to the Case Advisor (which has been determined
earlier) for approval and a scheduled presentation date by the RESIDENTS Administrative Staff.

b. Cases set to be presented must be reported to the relevant sub-branch of science so that the head or staff of the sub-branch of science can examine the case and act as a resource person and an additional Case Advisor.

c. If the DPJP of the patient in the case differs from the Case Advisor that has been determined, then the DPJP of the patient in question has the right to become a case resource person and an additional Case Advisor.

d. In preparing case manuscripts, RESIDENTS participants must consult with Case Advisors regarding the case contents and write a bibliography (according to the format for writing case report manuscripts).

e. One week before the scheduled date, the case manuscript in hardcopy and softcopy must be submitted to the RESIDENTS Administrative Staff at the RESIDENTS Education Secretariat after it has been corrected and signed by all Case Advisors.

f. Case manuscripts are distributed to teaching staff in hardcopy and softcopy form at least three days before the presentation schedule by attaching a proof of submission signed by the team concerned.

g. If there are revisions to the case report text after the presentation, the revised case report text must be returned to the RESIDENTS Education Secretariat no later than one week after the presentation, along with softcopies of the manuscript and case report presentation slides in the form of a CD, flash disk or email attachment to be archived by Administration staff/ RESIDENTS Secretariat.

2.4. Case Manuscript Framework

a. Introduction

It contains a brief discussion of the latest literature regarding the problem to be presented and includes the reasons or objectives why this case is presented.

b. Case

Contains the patient's identity, anamnesis, physical examination, results of supporting tests (complete with units of numbers) presented in pictures, course of the disease, list of problems, diagnosis, and management, as well as follow-up plans.

c. Discussion

Discusses the case in more detail and compares and adjusts with information obtained from the literature.

d. summary

It contains an overview of the patient's case from the beginning to the end of treatment and conclusions that can be drawn from the point.

e. bibliography

Sexual writing in the Vancouver way, preferably up-to-date magazines (last three years) and textbooks (maximum two books).

2.5. How to Present Cases

a. Presentations are delivered using slides containing case data in a brief, clear, and concise manner. If possible, case patients can be presented. b. When presenting, the presenter faces the audience, and the presentation is transparent, concise, concise, communicative, and ethical.

3. LITERATURE REVIEW / REFERENCES

3.1. General Provisions

a. this activity aims to increase participants' knowledge of patient management activities by browsing the latest literature or literature.

b. During education, RESIDENTS participants must present three references (1 reference at each stage of education).

b. Referat presentations can be made four times a week, namely Monday, Tuesday, Wednesday, and Thursday from 12.00-14.00.

c. This event is supervised by a Scientific Supervisor (according to the specified schedule) and the RESIDENTS Referral Advisor concerned.

d. Referral Advisors are Teaching Staff who have been predetermined (according to the schedule). If necessary, RESIDENTS can request additional Referral Advisors (staff of sub-branches of knowledge) with the approval of the leading Referral Advisor.

e. This event was organized and led by a Moderator (RESIDENTS Stage III) and two Mandatory Objectors (RESIDENTS Phase I and II).

f. This event must be attended by a minimum of 50% of the total number of RESIDENTS in the current stage (not including RESIDENTS in the outer location) and must fill in the attendance list of participants.

g. If the participants who attend do not meet the attendance criteria, the schedule for presenting the references is considered canceled, and scientific presentations will be delivered on the following program.

3.2. Presentation of Literature Review/References

3.2.1. Topic

a. First reference: The topic is broad, cardiology in general.

b. Second reference: The topic is more specific and more in-depth.

c. Third reference: The topic relates to the Research Report the participants will make.

3.2.2. Topic Source

a. Submitted by RESIDENTS participants themselves with the approval of Referat Advisors.

b. Given or appointed directly by Referat Advisors

3.3. Referat Arrangement Procedures

a. Proposals for money titles designated by Referat Advisors or those submitted by RESIDENTS participants must be immediately submitted for approval and the Supervisor's signature.

b. In compiling the manuscript, if deemed necessary, RESIDENTS can consult with the relevant science sub-branch staff (no need for correction).

c. One week before the scheduled date, send the manuscript to the RESIDENTS Administrative Staff at the RESIDENTS Education Secretariat after it has been

corrected and signed by the Referat Advisor.

d. Reference manuscripts were distributed to the teaching staff in the form of attaching a proof of submission signed by the team concerned.

It is. Suppose there are revisions to the reference text after the presentation. In that case, the modification of the referential text must be returned to the RESIDENTS Education Secretariat no later than one week after the presentation, along with a flash disk or email attachment to be archived by the RESIDENTS Administration/Secretariat staff.

3.4. Literature Review Framework/References

a. Introduction

It contains a background for selecting the title/topic.

b. Library Review

It contains a literature review related to the title/topic and must cover at least 50% of the entire literature review list. c. Conclusion

Contains the essence or essential and exciting things that can be taken from the reference.

d. Bibliography

The minimum number of references is 15 references. Writing according to the Vancouver method, preferably the latest magazines (last five years). Maximum of two books.

3.5. How to Present Referrals

a. The presentation is delivered using slides containing reference texts explained briefly, concisely, and clearly. The contents of the slides must be in accordance with the reference text that has been prepared and should be presented in the form of charts, schemes, or pictures.

b. When presenting, the presenter faces the audience, and the presentation is transparent, concise, concise, communicative, and ethical, with a maximum time allocation of 30 minutes for presenting references.

4. CRITICAL REVIEW OF THE JOURNAL

4.1. General Provisions

a. The purpose of this scientific meeting is to increase students' knowledge in the advancement of research and technology in the cardiovascular field and to provide the ability to examine a research result so that

The results of this study can be applied to advancing student education and

improving services for cardiovascular patients.

b. During their education, RESIDENTS participants are required to present 14 journals, namely one journal from each sub-branch of knowledge or educational stage that students pass, including essential cardiology, nephrology, endocrine-metabolic, pulmonology, intensive care, echocardiography, invasive cardiology, cardiovascular surgery, preventive cardiology rehabilitation, pediatric cardiology, vascular, electrophysiology, imaging cardiology, cardiovascular surgery.

c. Presentation of journal critical reviews can be done every Monday, Tuesday, Wednesday, and Thursday after 12.00 or Monday, Wednesday, and Friday from 08.00-08.30 (after the morning report).

d. This event is supervised and organized by the relevant RESIDENTS Journal Advisor and staff of the scientific sub-branches related to the journal topic, if any. Branch of science/state and at least two student representatives from each stage of education.

e. If the participants who attend do not meet the attendance criteria, the schedule for presenting the journal is considered canceled, and the scientific presentation will be delivered on the following schedule.

4.2. Sources and Types of Journals

Research journal sources should come from leading cardiovascular journal pages in the form of full text within five years.

4.3. Procedures for Preparing and Presenting Critical Review of Journals

a. Journals appointed and approved by the Journal Advisor are reported to the RESIDENTS Administrative Staff/Secretariat for a presentation schedule.

b. Journals set to be presented must be reported, and the journal manuscript must be submitted to the relevant sub-branch staff so they can be present at the presentation and as an additional resource person.

c. The presentation is delivered using slides containing an introduction, method, results, discussion, and research conclusions in a brief, clear, and concise manner.

d. When presenting, the presenter faces the audience, and the presentation is relatively straightforward, concise, concise, communicative, and ethical, with a maximum time allocation of presenting cases of 15 minutes.

e. e. After the presentation, the complete manuscript of the journal, along with the presentation slides in hardcopy form, is submitted to the RESIDENTS Education Administration/Secretariat no later than three days after the presentation.

5. FINAL RESEARCH WORKS

5.1. General Provisions

a. The purpose of this scientific activity is to increase knowledge in the cardiovascular field by thinking critically and systematically about issues and the latest things of concern in efforts to improve the quality of education and services in the cardiovascular area. This scientific activity also aims as a prerequisite for graduating students at the end of the education period. The source of the research title comes from one of the three topics of the infection tree: cardiovascular risk factor scores and telemedicine.

5.2.Title Proposal Preparation Procedure

a. The proposed research title is complemented by the background of the problem of selecting the title and deferring the library. b. Proposal title signed by the Head of Sub-Branch to the RESIDENTS Research Coordinator and Education Coordinator, Phase-II, to be discussed at the RESIDENTS Education Coordinator and Staff meeting for approval or correction.

c. Title proposals that must be corrected are returned to the RESIDENTS Education Secretariat as soon as possible.

d. Title proposals received and approved are forwarded to the Research Coordinator for discussion and approval. e. After the Research Coordinator approves the title proposal, the participants immediately prepare a research proposal and submit it back to the Research Coordinator for discussion and approval.

f. If the proposal has been approved, a letter will be written and signed by the RESIDENTS Education Coordinator and Research Coordinator, addressed to the RESIDENTS Participants concerned, Advisors I and II of the Associated Science Sub-branch. The letter will include a research deadline.

5.3. Research Proposal Framework

a. Research Title

The title is written in Indonesian and without abbreviated words.

b. The scope of research

Include the name of the sub-branch of science or other related department where the research will be carried out. c. Research Executor

Write down the full name of the personnel who will help carry out the research (researchers, supervisors, and others). d. Research Background

It contains the background for selecting the research title.

e. Problems

Related problems, so it is deemed necessary to do research.

f. Research purposes

What motivations or factors are sought so that research is carried out?

g. Benefits of research

What are the benefits that can be reaped so that analysis is carried out

h. Research methodology

1. The type of research is cross Divisional research or other types.

2. Time and scope of research: write down the name of the month (start and end) the study will be carried out and the place of research.3. Population and sample: write down the criteria for the patient (representative) to be carried out in the study. Criteria for rejection: write down the problem or thing that states the patient (sample) is excluded from the study.

4. Research systematics: write down the study's systematic selection of patients (samples). The research involves (name, sex, age, activity, etc.).

5. Operational limits: write down the limitations adopted for the sample in the study.

6. Data processing and analysis described the way to analyze statistical data.

i. Research schedule

j. Write down the stages of the number of months) of research implementation (preparation, implementation, analysis, and presentation). k. Research Costs

Write down the costs that must be spent on research (cost of laboratory examination for samples, consultations, writing reports, etc.)

l. Bibliography

Writing according to the Vancouver method, preferably the latest magazines (last three years). Maximum of two books. 1. Appendix

Contains examples of forms used in research (criteria used, specially made medical records, etc.).

5.4 Research Procedures

a. The research period must be in accordance with the research approval letter made by the Research Coordinator and RESIDENTS Education Coordinator.

b. For prospective research, the place of collection, the data is in the related Sub-Branch of Science, at least three months and six months maximum.

c. For retrospective research, the place of data collection is not specified. Participants can research while still participating (four of duties).

d. While conducting the research, each month reports the progress of the study results to the Head of Science Sub-Branch or Supervisor II and the person in charge of Phase-III RESIDENTS Education.

e. During the data collection, encounter obstacles to report to the Level-Ill Responsible and the Supervisor for a way out.

f. If the research is canceled, it is advised to notify the Advisor and Head of Sub-Branch Science in writing, send a copy to the Person in Charge of Phase Ill, and immediately seek a new title. The title submission process is in accordance with the original procedure. 5.5. Draft Research Report Manuscript

a. In preparing the manuscript, consulting with Advisors I and II.b is necessary. Draft manuscripts completed and submitted to Advisors I and III for correction.

c. Manuscripts that have been corrected and approved, signed by Advisors I and II

d. The signed manuscript is submitted to the RESIDENTS Education Coordinator for correction. Note: Before submitting the manuscript to the RESIDENTS Education Coordinator, participants must have presented the third library text. e. After the manuscript has been approved and signed by the RESIDENTS Education Coordinator, it is submitted to the Secretariat for a presentation date to be determined by one week after the manuscript is signed.

5.6. Form of Research Report Manuscript

Refers to student report guidelines.

5.7.Method of Presentation of Research Reports

a. Presentations are delivered using slides, the maximum number of slides is 40.

b. Presentation is transparent, communicative, solid, and concise.

c. During the presentation facing the audience

d. Serving time 30 minutes.

6. SCIENTIFIC ASSEMBLY ACTIVITIES IN THE DEPARTMENT

6.1. On-call report session

6.2. Session presentation of the case

6.3. Session presentation of the library

6.4. Session presentation of research reports

6.5. Other Scientific Sessions (guest lectures, special lectures, and others).

B. On-call Activities

1. Place of Care

1.1. In the hospital

a. Cardiac Emergency

b. Cardiovascular Care Unit (CVCU)

c. Pediatric Cardiology Inpatient

d. Catheterization/Intervention Unit

1.2 In RS

a. ICCU room

2. On-call Time

Held every weekday and holiday. On working days, it is carried out after working hours are finished. On Sundays and holidays, it is divided into two shifts from 08.00 - 08.00 the following day

2.1. Monday, Tuesday, Wednesday, Thursday: 14.00-08.00 WIB.

2.2. Friday: 12.00-08.00 WIB.

2.3. Saturday: 13.00-08.00 WIB.

2.4 Sundays (holidays): 08.00-08.00 WIB

3. ORGANIZATION

Doctors on duty are all doctors on duty in the Cardiology Department after working hours consisting of:

3.1 Doctors on duty

The attending physician is a doctor participating in the Specialist Medical Education Program at the Cardiology Department from Phase-I to Phase II.

3.2 Doctor in charge of the Consultant

The Consultant Doctor is a Cardiology Specialist in the Cardiology Department.

3.3 Osus Consultant Doctor (Sub-Branch of Science)

Exceptional Consultant Doctors (Sub-Branch) are Cardiology Specialists (according to the Sub-Specialists) Sub-specialists who can be asked for consultations as needed after working hours.

3.4 Coordinator of Clinics / Community Services

The Clinic / Pelmas Coordinator and Head of Department are the consulting and reporting units regarding outbreaks, VIP sufferers, or other emergencies.

3.5 Head of Department

Reported to the On-call report session held every MONDAY morning and FRIDAY

morning, led by the Staff (Head of the General Assembly) appointed by the Head of the Department.

4. SCOPE OF SUPERVISION OF THE DOCTOR IN COURT

1.1.Department of Cardiology

a. Emergency Emergency / Cardiac Installation.

b. CVC

1.2. Tasks and Compilation of the Acute Watch List (Watch Team)

a. Doctor in charge I: Participant of Phase III

b. Doctor in Charge II: Phase II Participants and Final Phase II Participants

c. Doctor On-call III: Participant of intermediate level II and early level II

d. Doctor On-call IV: Level-1 participants just entered.

Duties and Responsibilities of Phase III as Doctor in Charge

1.3. Doctor on duty I

a. The person in charge of the On-call team during On-call time and the report session.

b. Act as a consultant for doctors. Images 11, 111, IV, V, and VI (internship)

c. Acting as a doctor.

d. If necessary, you can consult with

- Other departmental consultants in the hospital.
- The Consul Cardiology.
- Special Consultant, Sub-Branch of Science.

e. Answering/evaluating consuls from other departments.

f. Correct letters of request for support and requests for consuls made by the correct team members. g. Correct referral letters and manage proper inter-departmental or hospital consultations during shifts. h. Establish the correct indication for treatment.

i. Report extraordinary/particular matters to the authorities

(Medical Service Coordinator/Head of Department/Control Room/Treatment Division

j. Responsible as the Team Leader of the Doctor on Duty on duty at.

- Hospital Emergency Installation.
- Inpatient Room.

k. Responsible for overseeing the effectiveness and efficiency of the On-call team.

I. The place for the last consultation before the problem was consulted

Watch Counsel (Staff).

m. Control whether the doctor on duty IV and the doctor on duty v have written down the On-call notes. Then check whether the report notes have been submitted to the RESIDENTS Education Secretariat on time.

1,4. Physician on Watch II

a. Responsible direct service

b. Responsible for managing patients seeking treatment at the polyclinic and observing critical patients. c. Make a watch report on the activities carried out.

d. When necessary, consult the primary care doctor.

e. Assisting the doctor on duty IV in writing the duty of care report (as part of the materials of the Conference of Care Reports).

1.5. Doctor on duty in the treatment room

a. Those on On-call duty in the ICCU wards are RESIDENTS phase-III participants

b. Responsible for managing patients in the coronary cardiovascular disease intensive care unit. c. Manage consultations with Consultants.

d. Reporting on the implementation of management to the Consultant.

Phase-II Duties and Responsibilities As Doctor in Charge

1.6. Physician on duty III

a. Examination and service of patients being treated.

b. Make a watch report on activities with the senior duty doctor.

c. Responsible for the management of the action in the room
inpatient.

d. Helping DoMer On-call V consultation in the Inpatient Room.

e. Manage consultations in the inpatient room to the emergency room properly.

f. Helping Doctor Jaaa V write the duty report in the inpatient room (as material for the Watch Report Session). g. Check whether the records have been submitted to the RESIDENTS Education Secretariat.

Phase-I Duties and Responsibilities As Doctor in Charge

1.1 Doctor in Charge IV

a. Helping the work of the doctor on duty as a whole.

b. Participate in all On-call activities in the Cardiology Unit.

c. Collaborate/guide Medical Students in Cardiac Emergencies.

d. Responsible for managing actions and care of patients in the emergency room

according to their abilities.

e. Managing consultations with Doctors on Duty I and 11.

f. Write On-call notes at the emergency care installation and submit a duty report at the Watch Report Session. g. Present cases that arise during the trial of duty reports (problematic or death reports). h. At the beginning of the shift and the night before taking a break, do a round-the-clock inspection of the room under the leadership of the doctor on duty 1.

5. TERMS AND CONDITIONS DURING CARE

a. Before performing On-call duties (initial On-call) and before ending On-call duties, team members gather first, then perform a round inspection under the leadership of the doctor on task I (Main).

b. The primary duty doctor has the proper / obligation to call a Cardiology consultant if medical/technical difficulties arise. c. The junior duty doctor cannot handle consultations inside or outside the hospital.

d. During the watch, you cannot leave the place/On-call post until the next shift.

e. The doctor on duty who is unable to look for an assignment must arrange for a replacement and report it to the senior on duty at that time and the duty coordinator

f. No waiting list is provided.

g. Each doctor writes the On-call report on duty who deals with the patient and reports as a report of the primary care team responsible and On-call and signed by each care team member.

h. The corresponding doctor is ready at home and can be picked up or asked for a consultation by the primary doctor on duty. i. The clinical coordinator coordinates the attending physician for cardiac disease. In contrast, the exceptional consular attending physician is determined by each sub-branch of science and reported and proposed by the clinical coordinator.

j. Acute duty doctors are required to wear the duty uniform provided.

k. The acute duty doctor is required to conduct a round-the-clock inspection of the entire Cardiology room at least twice during the shift.**C. GUIDANCE ACTIVITIES**

While participating in special activities, all RESIDENTS participants are required to help with the education and assignments of medical, paramedic, and non-medical students both in inpatient and outpatient rooms, with the burden for each stage in the form of

1. GUIDANCE ACTIVITIES BY STAGE-1 RESIDENTS PARTICIPANTS

1.1 To Medical Students

a. Informally guiding medical students in managing patients in inpatient and outpatient rooms.

b. Helping and guiding students in making follow-up records and oriented to medical problems in the management of patients

c. Helping the smoothness of student education (such as written test supervisors, kullah recorders, and others).

1.2 To paramedics and non-medics

Guiding medical and non-medical staff in treating sufferers

Remind paramedics and non-medics to do

- How to collect urine within 24 hours.
- How to collect urine in the middle.
- How to take blood for MO culture.
- Time to change Dawer catheter, infusion
- Preparation of place for sputum.

And others.

2. GUIDANCE ACTIVITIES BY PARTICIPANTS OF RESIDENTS PHASE-II

2.1 Guidance to Medical Students

a. Guiding students professionally according to IImu Sub-Branch in managing patients in inpatient and outpatient rooms.

b. Helping and guiding students in making problem-oriented medical records and follow-up in the management of patients

2.2 Guidance to paramedics and non-medics

a. Guiding paramedics and non-medical personnel to be more professional in treating sufferers. b. Remind paramedics and non-medical staff to fill out medical records

c. Guiding paramedics and medics in performing sexual acts of each sub-branch of science properly under supervision.

2.3 Guidance for RESIDENTS Stage-1 Participants

a. helping doctors, heads of rooms guiding RESIDENTS stage I participants

b. assist RESIDENTS stage I participants in managing sufferers and act more professionally according to the sub-branches of science

c. Act professionally in the room as deputy head of the room (Co-chief of the ward) if the Head Doctor is unable to attend

3. GUIDANCE ACTIVITIES BY PARTICIPANTS OF RESIDENTS PHASE-II

1.1 Guiding Medical Students (if any)

1.2 Guidance to Phase-l RESIDENTS Participants

a. Guiding the RESIDENTS Stage-| who work in inpatient and outpatient rooms professionally in the management of patients.
b. Correct and sign the medical record made by RESIDENTS Stage-l Participants.
c. Guiding_ and supervising the actions performed by RESIDENTS Phase-I participants on patients (ascites, pleural puncture, NGT insertion, pericardial puncture, TPM, DC-Shock).
d. Correct and sign the medical record summary of the patient going homemade by the Phase-1 participant.

1.3 Guidance for non-medical paramedics
a. Guiding paramedic and non-medical personnel in treating sufferers.
b. Correcting the filling of k3rdeks made by paramedics (UMU, BAK, CHAPTER, temperature, pulse, etc.). c. Remind paramedics and non-medics to fill out medical records.

1.4 Guidance Activities for RESIDENTS Pulmonology Participants (if any)
Assisting supervisors in the guidance of RESIDENTS Pulmonology FK participants (who are currently undergoing clerkship at the DEPARTMENT of Cardiology FK), acting as the Head Physician of the Room in terms of filling out medical records

a. Guiding RESIDENTS Pulmonology participants in making medical records.
b. Correcting medical records made by RESIDENTS Pulmonology participants.
c. Ensure that laboratory examinations, consul letters, and other supporting examinations have been sent and the results are timely.
d. Correcting requests for supporting examinations listed on the gardens.
e. Corrected medication and diet lists on gardens.
f. Correct and sign a medical record summary when the patient goes home.

D. TUTORIAL ACTIVITIES

Tutorials held for RESIDENTS participants are held every week consisting of

1. Level-I Tutorial: First week of every month
2. Level-II Tutorial: Second week of every month

3. Tutorial Stage-III: The third week of every month

4. Full Level Tutorial: The fourth week of every month

1. LEVEL-I TUTORIAL

Time

Held on the first Thursday of every month at 08.00 or after the end of the scientific session in the department.

Organization

The Person in Charge of Phase-I RESIDENTS Education (PPIDS Education Coordinating Staff) DEPARTMENT OF Cardiology FK hosted the meeting.

Discussion.

1.1 Problems Raised by the Person in Charge of Stage-1 RESIDENTS

a. Submission of a general evaluation of educational or work activities of Phase-I RESIDENTS Participants in inpatient rooms and outpatient rooms, which includes

- Workability of RESIDENTS participants
- Ability to manage patients, request supporting examinations or consultations and carry out administrative procedures according to established procedures.
- The ability to cooperate with superiors, colleagues, paramedics, and non-medical as well as the attitude shown by the participants in carrying out daily tasks
- Briefing on the procedure for conveying cases to the inspection around the Head of DEPARTMENT and others. b. General reprimand for things that are not acceptable or do not meet the conditions set for Stage I participants in carrying out On-call duties (room On-call or emergency On-call duty) and writing On-call duty notes, and submitting On-call books or notes to the RESIDENTS Education Secretariat that do not on time. c. Reprimands to individual participants for the obligation to present cases that have been determined regarding the number of presentations that are still lacking, delays in sending manuscript drafts that are not timely, notification of deadline for submission of complete manuscripts for cases that have been presented, and others.

1.2 Problems raised by PPDS Participants

a. Difficulties faced by participants in managing sufferers, such as financing for painkillers, treatment for reasons incapacitated patient

b. Difficulty communicating or lack of guidance from the Head Doctor of the Room or the Supervisor, so that they face obstacles in carrying out general duties, such as:

- Manage patients.
- Make a request for support or consultation.
- Make medical records and summaries.

- Submission of cases at the time of inspection by the Head of Department and others.

c. Difficulties encountered when carrying out guard duties such as difficulties in managing sufferers and others as well as difficulties in making sexual watch duty records with predetermined conditions such as searching for status that is difficult to find, while cases must be reported.

d. Difficulties found in the preparation of the case presentation script, a.l: laboratory data that has not yet been entered, difficulties in finding literature for reference or discussion as well as signatures of approval from the Room Head Doctor and Room Supervisor.

e. Other matters encountered and deemed necessary to be conveyed.

1.3 Additional Guidance / Reasoning
Materials in the form of additional lectures, implementation instructions, standard procedures that apply in the Department.

2. TUTORIAL PHASE-II

Time:
Held on the second Thursday of every month at 08.00 or after the end of the scientific session in the department.

Organization:
The meeting was chaired by the Person in Charge of Stage-11 PPDS Education (PPDS Education Coordinating Staff) Department of Cardiology.

Discussion:
2.1 the problems raised by the Person in Charge of Phase-II PPDS a. Submission of general evaluation of educational activities or during implementation which includes:

- Work ability of PPDS participants
- Ability to manage patients, make letters of request for supporting examinations or consultations and carry out ata
- administration in accordance with established rules
- The ability to cooperate with superiors, colleagues, paramedics and non-medical as well as the attitude shown by participants in carrying out tasks assigned daily.

b. General reprimand for things that are not acceptable or do not fulfill the conditions set for Stage-II participants in carrying out guard duties (room guard or emergency emergency watch) and writing guard duty notes (starting at stage I1) and handing over books/records take care of the untimely PPDS Education Secretariat.

c. Reminder to individual participants for the obligation to present the first bibliography after working on the first three sub-branches of science and presenting the second bibliography before advancing to Stage-III, as well as delays in submitting manuscript drafts that are not timely.

2.2 Problems raised by PPDS Participants:

a. Difficulties faced by participants in managing patients, such as: financing for supporting examinations or treatment because the patient is unable.

b. Difficulty communicating or lack of guidance from the Head Doctor/Provider, thus facing obstacles in carrying out daily tasks, such as:

- Manage patients
- Make a letter of request or consultation
- Make medical records and others.

c. Difficulties encountered when carrying out guard duties, such as difficulties in managing patients and others as well as difficulties in making guard duty records in accordance with predetermined provisions such as searching for status that is difficult to find, while cases must be reported.

d. Difficulties encountered in making manuscripts for presenting literature such as: difficulty finding literature for reference because the workload of the polyclinic for the Sub-Branch of Science is quite high, so time runs out and so on. Other obstacles faced and deemed necessary to be conveyed.

2.3 Guidance / Additional lessons.
Materials in the form of additional lectures, implementation instructions, standard procedures that apply in the Department

3. LEVEL-III TUTORIAL

Time :
Held on the third Thursday of every month at 08.00 or after the end of the scientific session at the Department.

Organization
The meeting was chaired by the Person in Charge of Phase-III PPIDS Education (PPDS Education Coordinating Staff) DEPARTMENT of Cardiology FK.

Discussion
3.1 Problems raised by the Person in Charge of PPDS Stage II

a. Submission of a general evaluation of the educational or work activities of PPL Phase-II participants in the I/Poly Room. Consultant/CVC/Intervention Sub-Department which includes

- Ability to work PSPDS participants.
- The ability to collect and complete data for research while on duty in the Science Sub-Branch, perform the duties of a Head Doctor/ respond to consultative requests from inside and outside the hospital/ manage emergency patients/ perform mandirl duties as well as perform sexual administration with the provisions that have been set
- The ability to cooperate with superiors, colleagues, paramedics and non-medics, as well as the attitude shown by participants in carrying out daily assigned tasks.

b. A general reprimand for matters that are not relevant or do not meet the conditions set for Stage-Ill participants in carrying out their duties as the leader of the duty team and directing the writing and supervising whether the duty books/records have been completed by the duty doctor, and monitoring whether the

duty books / the duty record has been submitted to the PPDS Education Secretary in accordance with the applicable provisions.

c. Reprimand to individual participants for the obligation to present, the third bibliography, the obligation to seek and submit research title proposals and their proposals.

d. Reminder about the deadline for conducting research and submitting the concept of research report to the PSPDS Education Coordinator

3.2 Problems raised by PPDS Participants
a) The difficulties faced by PPDS Participants in collecting research data when carrying out research in the Science Sub-Branch
b) Difficulties in carrying out duties as the Head Doctor of the Room/as a Consultant Doctor
c) Difficulties in carrying out tasks in the Emergency Room and others d) Difficulties in finding titles for research and other matters related to these needs
e) Difficulties in collecting data for research and other difficulties related to this
f) Other constraints faced and deemed necessary to be conveyed.
3.3 Guidance / Additional lessons.
Materials in the form of additional lectures, implementation instructions, standard procedures that apply in the Department.

4. FULL LEVEL TUTORIAL
Time:
Held on the fourth Thursday of every month at 08.00 or after the Scientific session in the department.
Organization :
The meeting was chaired by the PPDS Education Coordinator and assisted by the PPDS Education Supervisors Phase I, II, III and the Person in Charge of Evaluation for all Stages (PPDS Education Coordinating Staff).
Discussion:
4.1 Problems raised by the Coordinator
PPDS Education:
namely a general evaluation of the entire intake of tutorials carried out by each PPDS Education Personnel at each stage, covering the following matters:
a) The work ability that has been demonstrated by all participants (Levels I, II and III) in carrying out daily tasks, whether they have complied with the provisions, professional work skills and ethics.
b) The progress of participants in carrying out the task of creating a scientific manuscript. c) Attitude and cooperation shown in carrying out tasks to superiors, peers and others.
d) Submission of new policies or regulations that apply in education, either policies or regulations stipulated by the Main Agency, Dean of the Faculty, Head of Department or regulations stipulated by the PPDS Education Coordinator himself.

4.2 Problems raised by PPDS Participants
a) The difficulties faced by each PPDS Participant in carrying out daily tasks,
b) Difficulties for PPDS participants in carrying out guard duties and writing and submitting guard duty notes in a timely manner.

c) The difficulty of each according to the stage of education.
d) Other issues deemed necessary to be raised.

4.3 Guidance / Additional lessons.

Materials in the form of guest lectures, additional lectures, implementation instructions, standard procedures that apply in the department.

E. ACTIVITIES OF EACH STAGE
1. LEVEL ONE
Organization :
The person in charge of education is the PPDS Education Coordinator assisted by the PPDS Education Coordinating Staff as Phase-I Person in Charge. Length of Education :
Long education Level
Type of Education

1. Inpatient Activities
2. Care activities
3. Scientific Activities
4. Guidance Activities
5. Tutorial Activities

Evaluation
1.1 INPATIENT ACTIVITIES (ROOM)
a. Place and duration of work

- Adult Cardiology Room-Ill: 3 months
- Pediatric Cardiology Room-Ill : 3 months
- Non Invasive Cardiology : 3 months

b. Working time

- Monday, Tuesday, Wednesday, Thursday, Saturday, 08.00-14.00 or later until the party is over
- Friday, 08.00-12.00 or later
- Except for conference day (Monday, Wednesday and Friday), the fun time in the room starts at 07.30.

c. Organization
The person in charge of the room is the supervisor, a cardiologist, and assisted by the head doctor (PPDS Stage-III participant).**d. Task**
Management of New Patients

- Examining new patients (preferably those that are not critical) and making medical records consisting of anamnesis (obtained from patients, families from doctors/hospitals who previously treated them, previous medical records, direct information from doctors who treated them previously), physical examination and supporting examinations that need to be immediately, as well as making a case summary
- Assign problems based on priority
- Make a study of each problem
- Make a plan to establish the diagnosis
- Perform treatment (rest, dit, medicine)
- Conduct outreach to patients and families

• The medical record above must be completed within 24 hours at the latest.• Consult with the head doctor.

Management of Old Sufferers

Make a summary during acceptance, and perform the fanfut action of the sufferer that consists of:

• Subjective discovery
• Objective findings (including physical examination, laboratory results, X-rays, EKG, consultation)
• Conduct outreach to patients and families during treatment and at the time of discharge
• The letter of request for consuls and referrals must be signed by the Supervisor of the Head Doctor of the Room.

Roving Inspection Activity (Ronde)

• Do a daily self-examination
• Take a walk around with:
  - Head doctor
  - Supervisor
  - Head or Staff of Sub-Department
  - Head of department

1.2 OUTPATIENT ACTIVITIES (POLYCLINIC)

a. Place and length of stay

Cardiology Specialist Polyclinic

b. Working time

• Monday, Tuesday, Wednesday, 14.00 - 17.00 or last day and S until the job is finished.
• Friday 08.00 - 12.00

c. Organization

The person in charge of the Polyclinic is the Polyclinic Supervisor, a Cardiologist.

d. Task

1. Management of New Patients

• Examining new patients (preferably those that are not critical) and making medical records consisting of anamnesis (obtained from the patient, family, from the doctor/hospital who previously treated him, previous medical records, direct information from the doctor who previously treated him), physical examination immediately , as well as make a summary of the case.
  • Assign problems based on, priority
  • Make an assessment of each problem
  • Make a plan to establish the diagnosis
  • Perform treatment (rest, dift, medicine)
  • Conduct outreach to patients and families
• The above medical records must be completed immediately after completing the patient's examination
  • Consult with a consulting doctor

2. Management of Old Sufferers

Perform patient follow-up consisting of:

- Subjective discovery
- Objective findings (including physical examination, laboratory results, X-rays, EKG, consultation, etc.)
- Assessment
- Future plans and actions
- Determine correct indications for treatment
- If necessary, discuss the case with the consulting doctor (PPDS Participant Stage-111)

3. Administrative Activities
- Make a request for a consul and a letter of request for supporting examinations correctly
- Ensuring that the laboratory examination/consul letter for other supporting examinations has been sent, and the results of the examination are completed on time• Make a referral letter and notify the day of referral for further management
- Conduct outreach to patients and their families

1.3 CARE ACTIVITIES

During Phase-I at the hospital, he carried out his duties as Doctor on Watch IV (intern), on Watch III (room) and on guard II at Cardiac Emergency.

a. Place and Duration of Work

- The duties of the Doctor in Charge IV, starting from Phase I to 6 months, and in charge of assisting the Doctor in Charge III at the Cardiac Emergency Hospital.
- If the duties carried out as a Doctor in Charge IV are good enough, at the end of Stage-1, (3 months before the start of Stage-11) as a Doctor in Charge III on duty at the Cardiac Emergency RS.

b. Working Hours (see Watch Activities)

c. Organization (see Watch Activities)

d. Duties (see Watch Activities)

1.4 SCIENTIFIC ACTIVITIES

The activities that must be followed and carried out by PPDS I stage-1 participants are:

a. Presentation of Cases in the department

- Presentation of Phase-I is required to carry out presentation of cases at the Department of at least 5 (five) cases.
- Case 4 is presented in English, while the others are in Indonesian. The topic of the case does not originate from the same sub DEPARTMENT, with the aim that the PPDS participants can read in depth all branches of Cardiology.
- As far as possible every 3 months submit one case.
- Case manuscripts, and so on, are made in a complete document bank (introduction, case, discussion, bibliography), while other cases are without introduction and discussion.

b. Presentation of Cases in the Room

c. Discussion of All Cases in the Room

d. Saripustaka (Journal reading)

e. Other Scientific Sessions in the Department

1.5 GUIDANCE ACTIVITIES
1.6 TUTORIAL ACTIVITIES
1.7 EVALUATION

Evaluation of educational outcomes consists of on-time and daily (continuous) assessments which include knowledge, skills and attitudes. a. Time Assessment

Assessment while focusing more on knowledge, consists of:
- Assessment of the department's scientific trial: (as a presenter and rebuttal to the presentation of the case), which is conducted by: Moderator, Speaker, and assessor from other Sub Departments.
- Written test
  - 6 month qualification. Qualification examination materials include: pathophysiology, materials for mobile examinations, scientific sessions (presentation of cases, heritage) and procedures carried out in the room.
  - Stage-I final qualification. Materials for qualifying exams include: pathophysiology, materials for mobile examinations, scientific sessions (presentation of cases, heritage extracts) and procedures carried out and management of patients in the room, EKG, chest X-ray, astrup, bleeding disorders. The assessment was carried out by the PPDS Education Coordinating Staff.

b. Daily Assessment (continuous)
Consists of evaluation results by:
- Head of Department: when carrying out inspp
- Head of Department and Staff of the Cardiology Department: when carrying out inspections around the Sub-Department, chairing scientific meetings, guard report meetings, and others.
- Room Supervisor at the Polyclinic.

Phase-III participants, medical, non-medical, sufferers and sufferers' families.
- In charge of PPDS Education Coordinating Staff and Head of Study Program (KPS).

1.8 Level-II Upgrade Conditions

To be able to advance to Stage-II, you must meet the following requirements:
a. Has completed the task of presenting the case required up to submitting the complete manuscript of the case presentation to the PPIDS Education Secretariat, no later than two weeks before final Stage 11.
b. The results of the evaluation of the case presentation were quite good.
c. The results of the on-time and continuous evaluation are quite good.

2. LEVEL TWO

Organization
The person in charge of education is the PPIDS Education Coordinator assisted by the Education Coordinating Staff as the Person in Charge of Phase-It.
Long Education
Type of education Level-II
Type of activity
1. Activities of Science Sub-Branch

2. Inpatient Activities
3. Care activities
4. Scientific activities
5. Guidance Activities
6. Tutorial Activities

2.1 Place and duration of work

a) Cardiac Emergency : 3 bulan
b) CVC : 3 finds
c) Invasive Intervention: 3 months
d) Nuclear Cardiology: 1 month
e) Nephrology (Internal Diseases) : 3 months
f) Metabolic-Endocrinology (internal diseases) : 3 months
g) Hospital obstetrics (cardiovascular): 1.5 months
h) Sub-Department of Pediatric Hematology: 1 month
i) Sub-Department of Child Nutrition : 1 month
j) Neonatology Sub-Department : 1 month
k) Post operative cardiac surgery: 1 month
l) ICU: 1 month
m) Obstetrics: 1 month

2.2 Working Time

- Monday, Tuesday, Wednesday, Thursday and Saturday: 08.00-14.00 or later until work is done
- Friday: 08.00-12.00 or later.
- Except on the day of the guard report hearing (Monday and Wednesday), working time in the room starts at 07.30

2.3 Organization

The person in charge of the room is the supervisor, a cardiologist and is assisted by the head doctor (PPDS Stage-III participant)

2.4 General Activities of Sub-Departments

2.4.1 Sub-Department Outpatient Polyclinic

Management of New Patients

- Examining new patients (preferably those that are not critical) and making medical records consisting of anamnesis (obtained from family sufferers, from previously treating doctors/hospitals, previous medical records, direct information from previously treating doctors), physical examination and examination necessary support immediately, as well as make a summary of the case.
- Defines based on priority
- Make an assessment of each problem
- Make a plan to establish a diagnosis
- Doing treatment (rest, diet, medicine)
- Conduct outreach to sufferers and famili
- The above medical records must be comple completing the patient examination
- Conducting consultations with Department Consultant Doctors in Sub

Management of Old Sufferers

Make a summary during weigh-in, and follow up on patients consisting of:

- Subjective Discovery

• Objective findings (including physical examination, laboratory results, X-rays, EKG, consultant)
• Assessment
• Future plans and actions
• Perform or follow a specific action
• Report any problematic cases to the person in charge• Report every case consulted
• Determine each indication for treatment correctly

2.4.2 Admission to the IRS Cardiology Department
• Monitor the management of patients treat
• Report problematic cases treated in the

2.4.3 Administrative Activities
• Make a consul request letter and supporting examination letter correctly
• Perform tasks assigned by Teaching Staff

2.4.4 Activities of Inspection Tour
• Carry out self-examination twice a week
• Follow the inspection around the head of the room and staff

2.4.5 Scientific Activities
a. Discussion
b. Case presentation
c. Saripustaka Presentation

2.4.6 Activities in the action room of each Science Sub-Branch 3. PHASE THREE
Organization
The person in charge of education is the Education Coordinator of the Specialist Medical Education Study Program assisted by the education coordinating staff as the person in charge of phase III.
Long Education
Length of Level III education
Type of activity
1. Doctor Consultant activities
2. Activities of Emergency Room Doctors
3. Head doctor's activity
4. Activities of District Hospital Doctors
5. Special Program Activities
6. Inpatient Doctor Activities
7. Care activities
8. Scientific Activities

Evaluation
1.1 INPATIENT ACTIVITIES (ROOM)
a. Place and duration of work
Cardiology Specialist Consultation Polyclinic at IRS
b. Working time

• Monday, Tuesday, Wednesday, Thursday and later until work is finished.

• Friday 12:00 or later
c. Organization

The person in charge of the room is the polyclinic supervisor (a cardiologist), assisted by the person in charge of the consulting polyclinic (a cardiologist).

d. Task

a. Outpatient Management:

- Examine new patients and make medical records briefly.
- Assign problems based on priority.
- Make a study of each problem.
- Make a plan to establish the diagnosis.
- Perform treatment (rest, diet, medicine).
- Conduct outreach to patients and families
- Conduct consultation with supervisors or other departments in managing patients when necessary.
- The above medical records must be completed immediately, after the patient's examination is complete.
- Establish appropriate indications for treatment.

b. Management of Inpatients or Consultants from other departments:

- Examining new reporters of consultations and making short medical records
- Assign problems based on priority
- Make a study of each problem
- Carry out a plan to enforce the diagnosis Perform treatment (rest, diet, medicine)
- Conduct outreach to patients and families
- Conduct consultation with supervisors at other DEPARTMENTS in managing patients when needed
- The above medical records must be completed immediately, after the patient's examination is complete.

c. Management of New Patients

- Subjective discovery.
- Objective findings (including physical examination, laboratory results and other supporting examinations)
- Study Plan and further action.
- Consult with supervisors or other departments if necessary
- Provide counseling to patients and families

f. Administration Activities

- Answer or write consul letters clearly and correctly
- Ensuring that laboratory examinations, as well as letters of consul and other supporting examinations have been sent and the results of the examination are completed on time.
- Make a referral letter on notify the next referral har for further management.

g. Scientific Activities

a. Implement and follow the library at the Polyclinic

b. Carry out and participate in scientific activities in the DEPARTMENT

h . Guidance Activities
1.2 DOCTOR'S ACTIVITIES
a. Place and Duration of Work
IRS CVC Cardiology Inpatient Ward
b. Working time
• Monday, Tuesday, Wednesday, 14.00 hours until work is finished.
• Friday, 12.00 hours until finished except on duty report hearing days (Monday and Wednesday), working time in the room starts at 07.30
c. Organization
The person in charge of the room is the room supervisor (a cardiologist)
d. Task
1. Guiding the Doctor Room (Stage I and Phase II)
a. Guiding the ward doctor in the management of new and old sufferers. b. Guiding the ward doctor in performing the procedure (ascites, pleural puncture, NGT installation, pericardial puncture, DC-Shock, TPM, and others).

2. Administrative Activities
• Correct the new patient's medical record made by the room doctor (base data, summary, problem list, multiplication, plan) and sign it.
• Correcting patient follow-up notes made by dolters.• Correct the medical record of new patients made by students and sign it.
• Correct and sign follow-up notes made by students.
• Correcting and signing a consultation request letter.
• Correcting examiner requests, support (new photos, CT scans, etc.).
• Corrected the list of medications and diet listed on Kardeks.• Correcting filling of kardeks (drug list, UMU, BAK, etc.).• Correct and sign a summary of the medical record when the patient goes home.

3. Guiding Paramedics and Non-Employees
Tell :
• 24 hour urine collection method
• How to take Middle Urn
• How to take blood for MO culture
• Time to replace Dawer catheter, infusion
• Preparation of place for sputum
•

4. Mobile Examination Activities
• Do a round-the-clock examination with the doctor in the room
• Doing a round-the-clock examination with students (personal sufferers)• Follow the inspection around the Supervisor
• Take a tour around the Sub-Department
• Take a tour around the Head of the Department

5. Scientific Activities
• Following the presentation of the case in the room.
• Participate in case discussions in the room.
• Follow the library talk in the room.
• Carry out and follow scientific activities in the department.

6. Activities with Supervisors

• Discuss with Penelia to solve smoothness problems (repairs, service in the room).
• Perform tasks assigned by the supervisor.

1.3 DOCTOR'S AERLANATION OF CARDIARY EMERGENCY
INSTALLATION a. Place and Length of Work
Cardiac Emergency, CVC IRS

b. Working time
• Monday, Tuesday, Wednesday, Thursday and Saturday: 08.00 – 14.00 or later until work is done.
• Friday 08.00-12.00 or so until finished.

c. Organization
In general, the person in charge of the Emergency Installation is the Head of the IRS Cardiac Emergency Unit (a Cardiology Specialist).

d. Task
1. Management of Emergency Patients consists of:
• Examine new patients and make medical records briefly• Assign problems based on priority
• Make a study of each problem
• Make a plan for diagnosis
• Perform treatment (rest, dilt, medicine)
• Conduct outreach to patients and families
• Conduct consultations with penvelia or other departments in managing patients if necessary
• The above medical records must be completed immediately, after the patient's examination is complete
• Establish appropriate indications for treatment
• Make referrals to other sub-departments or departments in fake cases.
2. Management of Inpatients
• Examine patient bar emergency. and make a medical record consisting of anamnesis (obtained from the patient, family, previously treating doctor/hospital, previous medical record, direct information from the previously treating doctor), physical examination and supporting examinations that need immediate attention, and make a summary case.
• Assign problems based on priority
• Make a study of each problem
• Determine the degree of severity correctly
• Perform procedures/resuscitation actions correctly
• Perform follow-up to confirm the diagnosis
• Perform treatment (rest, dit, medicine)
• Conduct consultations with Supervisors, Cardiology consultants (on the advice of the Penelia) of other departments in managing patients and their families.• Conduct outreach to patients and families
• Handover the patient when the patient is moved to another room (other department or hospital)
• Determine indications for patients to go home and notify when referred for further management.

e. Administration Activities

- Answer or write the consul's letter clearly and truthfully and signed by the Supervisor.
- Ensure that laboratory examinations, as well as letters of consul and other supporting examinations have been sent and the results of the examination are completed on time.
- Make a ruliukan letter to the IRS Cardiology treatment room in full for further management.

f. Science Activities

Carry out and participate in Scientific Activities in the Department

g. Examination Activities

- Carry out self-examination of critically ill patients followed temporarily in the resuscitation room, other treatment rooms.
- Follow up daily inspection with the Supervisor.

h. Guidance Activities

i. Activities with Supervisors

- Report problematic cases to the Supervisor
- Perform tasks assigned by Supervisor

1.4 ACTIVITIES OF REGIONAL HOSPITAL DOCTORS

a. Place and Age of Fun

IRS Regional Cardiology Unit

b. Working time

- Monday, Tuesday, Wednesday, 14.00 hours until finish
- Friday 12.00 until finish

c. Organization

Responsible for Hospital. is the head of the hospital

d. Task

Inpatient (room)

1. Management of New Patients

- Examining new emergency patients and making medical records consisting of anamnesis (obtained from the patient, family, previously treating doctor/hospital, previous medical records, direct information from the previously treating doctor), physical examination and necessary supporting examinations immediately, and make a summary of the case.
- Assign problems based on priority
- Make a study of each problem
- Make a plan to establish the diagnosis
- Perform treatment (rest, dit, medicine)
- Provide counseling to sufferers and families
- The above medical records must be completed immediately, after the patient's examination is complete
- Must consult with the Head of Unit

2. Management of Old Sufferers

a. Follow up and make a summary consisting of b. Subjective discovery

c. Objective findings I include physical examination, laboratory results, X-rays, EKG, consultants and others)
d. Study
e. Future plans and actions
f. Periodically discuss cases with the Unit Head

Outpatient
1. Management of New Patients
• Examine new emergency patients and make medical records briefly
  • Determine the problem assessment based on priority
  • Make a study of each problem
  • Perform follow-up to confirm the diagnosis
  • Perform treatment (rest, diet, medicine)
  • Conduct outreach to patients and families
• Consult with the Head of the Unit or other Units in managing the patient when necessary
• The above medical records must be completed immediately, after the patient's examination is complete
  • Determine appropriate indications for treatment

2. Management of Old Sufferers
Follow up and make a summary consisting of:
  • Subjective discovery
• Objective findings (including laboratory and physical examinations, results
  • other supports)
  • Review of plans and subsequent actions of other Units or Units.• Establish indications for treatment or consult with the Head• Provide counseling to patients and families.

e. Administration Activities
• Make a letter of request for consuls and a letter of request for an examination of support correctly
  • Ensuring that laboratory examinations, as well as consul letters and other supporting examinations have been sent and the results of the examination are completed on time.• Make a summary of the patient's medical record at home within 2x24 hours• Make a referral letter and notify the next referral day for further management
• Conduct outreach to patients and families during treatment and at the time of discharge.

f. Duty of Care
Carry out guard duties at the hospital. The area is in accordance with the provisions set by the Head of the Hospital.
g. Examination Activities
  • Do a daily self-examination
  • Do a round-the-clock examination with a general practitioner
  • Follow the inspection around the Head of the Unit

h. Scientific Activities
  • Implement and follow the presentation of the case
  • Carry out and follow the case discussion

• Carry out and follow the presentation of the literature review.

i. Activities with Head of Unit
Guiding Paramedic/Non-medical Personnel
a. Correct filling of kardeks b. Tell
b. 24 hour urine collection method
c. How to collect urine Middle
d. How to take blood for MO culture
e. Time to replace Dawer catheter, infusion
f. Preparation of place for sputum

1. 5 SPECIAL PROGRAM ACTIVITIES

1. 6 DOCTOR'S ACTIVITIES

The activity was carried out by phase III participants while waiting for the completion of the research they were doing
a. Place and duration of work in the designated room
b. Working time
• Monday, Tuesday, Wednesday, Thursday and Saturday: 08.00-14.00 or later until work is done
• Friday: 03.00-12.00 or later till finish. Cardiology assignment

c. Organization
The person in charge of the room is the room supervisor (a cardiologist).
d. Task
1. Management of New Patients
a) Examining new emergency patients and making medical records consisting of anamnesis (obtained from patients, families, previously treating doctors/hospitals, previous medical records, direct information from previously treating doctors), physical examination and supporting examinations urgently needed, and make a case summary.
b) Define problems based on priority
c) Make a review of each problem
d) Make a plan to establish the diagnosis
e) Doing treatment (rest, diet, medicine)
f) Establish appropriate indications for treatment
g) Conduct outreach to sufferers and families
h) Conduct consultations with Room Supervisors or other departments in managing patients if necessary.

2. Management of Old Sufferers
a) Subjective findings
b) Objective findings (including physical examination, laboratory results and other supporting examinations)
c) Study
d) Plans and further actions
e) Provide counseling to sufferers and families

e. Administration Activities
• Make a letter of request for consuls and a letter of request for supporting examinations correctly
• Ensuring that laboratory examinations, as well as consul letters and other supporting examinations have been sent and the results of the examination are completed on time• Make a summary of the medical record of the patient going home dMam 2x24 hours

• Make a referral letter and notify the day of referral for further management
• Conduct outreach to patients and families during treatment and at the time of discharge

f. PPDS Pulmonology Participant Guidance Activities (if any)

Assist supervisors in the guidance of PPDS Pulmonology participants, tasked with activities such as the Head Doctor of the Room, namely:

• Guiding PPDS Pulmonology participants in making medical records• Correcting medical records made by PPDS Pulmonology participants• Ensuring laboratory tests, as well as letters of consul and examination

other supporting documents have been sent, and the results of the inspection are completed on time• Correcting requests for supporting examinations listed on the kardeks• Corrected medication and diet lists on kardeks

• Correct and sign the medical summary on discharge

g. Examination Activities

• Do oeexamination, around yourself every day
• Conduct a round-the-clock inspection with PPDS Pulmonology participants (if any), personal cases.
• Follow the supervisor's round inspection
• Following the inspection around the Head of Sub-Department.

h. Scientific Activities

Carry out and follow scientific activities in the Department of Cardiology

i. Activities with Supervisors

• Perform tasks assigned by the Supervisor
• Discuss with the supervisor to solve service improvement problems in the room

i. Guidance Activities

• Correcting filling of UMU kardeks, BAK, defecation, temperature, pulse.
• Tell :
  - ỏ 24 hour urine collection method
  - ỏ Middle urine collection method
  - ỏ How to take blood for MO culture
  - ỏ Time to replace Dawer catheter, infusion
  - ỏ Preparation of place for sputum
  - ỏ EKG
  - ỏ DC-Shock
  - ỏ TPM

1.7 ON-CALL ACTIVITIES

a. Became Chief of the DoctorOn-call Team (DokterOn-call-I) at the IRS

Leading the smooth running of guard activities

Administrative Activities:

a. Correcting supporting request letters and requests made by members of the guard team correctly

b. Correct referral letters, and answer consultations or other hospitals correctly
c. Establish indications for treatment
d. Carry out guard duties according to the shift schedule

b. Physician on duty CVC at IRS
a. Responsible for the ponderita treated in the CVC room
b. Carry out consultations from or to other departments
c. Conduct a mobile examination of patients treated at the CVC. d. Take action (resuscitation) in accordance with the procedures and capabilities possessed.

1.8 SCIENTIFIC ACTIVITIES

a. Scientific Activities in the Room Sub DEPARTMENT

- It is mandatory for PPDS Phase-III participants, as well as PPDS participants who are conducting research
- For those who are currently conducting research, or who have previously participated in the Sub-Department, there is no need to carry out case presentations or bibliographical extracts
- For those who are participating in the Sub-Department for the first time, they must carry out the presentation of cases and literature extracts.

b. Scientific Activities in the Room

- PPIDS Phase-III participants (head doctor of the room) must take part in scientific activities in the room.
- In presenting cases and discussing cases, the Head Doctor of the room adds an explanation of the problems and management of the cases presented.

c. Sari library in the Outpatient Unit

- Once a week the doctor who works in the outpatient unit presents literature review alternately led by the Supervisor.
- Topics are chosen by the participants themselves, approved by the Supervisor or designated by the supervisor.

d. Case Reports in the Department
Presentation of Cases in the Department

- Before the trial

  As a doctor the Head of the Room makes an abstract of the case presentation which must be submitted to the PPDS Education secretariat no later than two weeks before the presentation of the case.

  At trial time

  ỏ Physician Head of the room (adding to the explanation of the asus problem presented by Phase-I or Phase-II participants) in the case presentation session.

  ỏ As a commentator (providing comments on the cases presented) thoroughly.

ỏ As a recorder, he is tasked with making the minutes of the trial properly.

e. Presentation of Sari Pustaka in the Department
The bibliography that must be presented by Phase-Ill participants is the 3rd bibliography with the following provisions:

- This 3rd library extract has something to do with the title of the final paper (Research Report).

• Presentation of the third bibliography must have been carried out when submitting the concept of the Research Report to the Educational Coordinator of the Specialist Medical Education Study Program.

f. Presentation of Research Reports in the Department
- Submit a research title proposal
- Submitting/participating in the research title discussion
- Submitting/participating in research proposal discussions
- Submit a research report concept
- Presenting research reports in the Department

g. Other Scientific Activities
- Attending the On-call Report meeting.
- Attending the presentation of cases in the Department
- Attend or carry out the presentation of literature review in the Department• Attend or conduct a research report presentation session (final paper).

• Participate in other scientific activities (guest lectures, etc.) Study result cards will be given no later than 2 weeks after the completion of the evaluation of the learning process being attended

E. Study Result Card
The study result card will be given no later than 2 weeks after the evaluation of the learning process followed.

F. Evaluation
h. Evaluation While consists of
Consist of
a) The scientific meeting of the Department, as:
a. Library sari presenter
b. Refutation of the presentation of the essence of the Library
c. Presenter of presentation of cases (applied)Rebuttal of presentation of cases
b) Written and oral exams in the Sub-Departments

i. Ongoing
Consists of evaluation results by:
- Head of Sub-Department and Staff of Sub-Department (See attachment of sub-departmental doctor's assessment)
- Paramedical and non-medical
- Sufferers and sufferers' families
- Person in charge of Phase-II and other PPDS Education Coordinating Staff and Head of Study Program.
- Has completed the task of presenting the required bibliography (second library) on time.
- The results of the evaluation of the presentation of the literature extract are quite good. The results of the on-time and continuous evaluation are quite good.

G. Logbook
Log book is a book used by PPDS to record every activity during education, both academic activities, training, research or activities such as participation in scientific

activities both at the medical faculty, and outside the local medical faculty, including abroad. Each activity must be approved by the relevant staff.

Log Book Benefits

- Help PPDS to find out about the activities that have been carried out, if they have fulfilled the educational goals in accordance with the field of knowledge that has been determined. If there is a shortage, a plan can be made to compensate for the deficiency.
- Helping staff/supervisors to assess the activities of PPDS participants, whether they have met the minimum capabilities, and if they are still not sufficient, can provide additional activities.

Use of log books

The log book has to be used since the beginning of educational activities. writing and confirmation of each activity that will be recorded in a log book (previously written), then initialed by the relevant supervisor. Therefore, filling in the log book must be done immediately after the activity is carried out, so that nothing is forgotten. At the end of each educational period, for example after carrying out education in sub-sections, the log book is read together with the relevant supervisor, to review and assess and plan activities to compensate for deficiencies.

confidentiality

To maintain patient confidentiality, the patient's name cannot be written, but only initials. But the medical record, gender, age and diagnosis and actions must be written in full.

H. Rights, Duties and Obligations of the Resident

1) Resident Rights

1. Every resident has the right to receive guidance during the education period.
2. Each resident has the right to take part in an evaluation of knowledge, skills, physics at the end of each cycle of related subdivisions and stages of education.
3. Every resident has the right to know the results of the evaluation that has been carried out. 4. Each resident has the right to continue education in a subdivision after completing an evaluation at the previous subdivision and educational stages. 5. Every resident has the right to obtain permission not to carry out educational activities temporarily if he is sick or has family problems or legal problems by showing a sick note from a doctor, permission from parents, or related agencies in accordance with the sick/leave/permit regulations set by the Section. . 6. Every resident has the right to submit wise arguments if the educational process is not in accordance with the applicable guidebook.
7. Every resident has the right to refuse to carry out unethical inspection actions/procedures and/or beyond the authority and/or competence of the resident concerned.
8. Every resident has the right to ask the KPS about inspection actions/procedures that are not in accordance with competence.
9. Every resident has the right to refuse treatment that is not in accordance with applicable norms such as sexual harassment from supervisors and has the right to report to KPS.
10. Every resident has the right to receive guidance on all professional and scientific activities while attending education from teachers/facilitators.

2) Duties and Obligations of the Resident in the Implementation of the Study Program General arrangements:

1. The minimum study period is 54 months (9 semesters) and a maximum of 80 months (13 semesters). 2. Modules, credits, and station periods according to the table

3. Implementation of educational activities for PPDS is 07.00 - 16.00 WITA (Monday - Friday) and 07.00 - 14.00 (Saturday).

4. During the education period is divided into 3 stages.

5. These stages are related to modules and night guard levels, competency levels.

6. Each stage includes several modules/stases and each PPDS will fill in the study plan fields for each semester according to the schedule determined by the study program.

7. If there is a module that has not been passed, it must be repeated immediately in the following semester.

8. PPDS who have not passed a certain stage, in principle, cannot take the next stage.

9. For the smooth running of station arrangements, a waiting period for the station will be imposed during the transition period. During the waiting period the PPDS station is assigned to adult care, polyclinic, emergency, IW, or CVCU. Collected all those who have not graduated, given time until graduation (placed in the library).

10. Attendance will be enforced at every station and every official scientific activity of the department.

a) If the attendance for the department's scientific activities is less than 80% (during internal staging), a penalty will be imposed in the form of a small rotation (1.5 months) in the clinical cardiology division (determined by the study program)

b) At the major stage (3 months), if absent > 6 days for any reason, then the person concerned is required to repeat half of the station period (1.5 months.

c) At a small stage (1.5 months), if absent > 3 days for any reason, then the person concerned is required to repeat the 1 month stage.

11. The tasks that must be carried out in each module are determined by the Head of the Sub Division.

Repetition of stations / modules if declared not passed

1. Statements of not passing a module will be determined by the head of the Sub-division, according to the requirements of each module.

2. Each module that has not passed must be completed before the next stage.

3. If at the end of the stage there is still an MPA module assignment that has not been fulfilled, then the person who has not been able to move up to the stage is placed in the library.

4. If there is a serious violation during the night guard (comprehensive cardiovascular emergency module 1,3,4), then the PPDS will be required to take the module again before being declared to have passed the stage, and the person concerned will be assigned to work in emergency during working hours for 1.5 months.

5. If at the end of the PPDS stage attendance in the department's official scientific activities is less than 80%, the PPDS concerned must take MPA courses in the following semester and be assigned to work in adult care, polyclinics.

Requirements to pass level I:

Pass all modules at that level

1. Requirements to pass each module:

- Have completed the tasks in the relevant module (must be completed 2 weeks before the station period)
- Pass the exam on the module in question.

2. Have fulfilled the duties of MPA 1 which is not

• Case presentation (minimum 3 calls) · Basic reference in)
• Present at least 80% at departmental scientific meetings (during internal station)

3. Pass the phase I exam which is conducted 2 weeks before the end of semester 4. Remedial is carried out 1 week later, if you still haven't passed then as a consequence the PPDS concerned rotates back 1.5 months from the module head.

4. Conditions for taking the level I written test:
a) Maximum of only 1 major or 2 minor stations that have not passed/finished b) Attendance in all departmental scientific activities of at least 80% (during internal stages)

Requirements to pass level II
1. Pass all the modules in that level
2. Requirements to pass each module:
• Have completed the tasks in the relevant module (must be completed 2 weeks before the station period)
• Pass the exam on the module in question
3. Have fulfilled MPA 2 tasks: the final thesis proposal has been approved by the research coordinator
4. Have fulfilled the tasks of MPA 4 that are not:
• Case presentation or chief presentation (minimum 3 times)
• Refarat clinic.
• Become an author (1x) and present at a national scientific event• Attendance at least 80% at departmental scientific meetings (during internal stages) 5. Pass the Phase II exam which is conducted 2 weeks before the end of semester 7. Remedial is carried out 1 week later, if you still haven't passed then as a consequence the PPDS concerned rotates again 1.5 months on module (CVCU/IW, emergency) with attendance and assignments (special assignments) from the head of the module.
6. Conditions for taking the level 2 written test:
• Maximum only 1 major or 2 small stations that have not passed/finished• Attendance in all departmental scientific activities of at least 80% (at internal station)

Requirements to pass level III
1. Pass all the modules in that level.
2. Requirements to pass each module:
• Have completed the tasks in the relevant module (must be completed 2 weeks before the station period)
• Pass the exam on the module in question.
3. Have fulfilled the tasks of MPA 4 which are not:
• Chief case presentation (minimum 3 times)
• Refarat thesis relate
• Make a final research essay
• Attendance at least 80% at departmental science meetings (during internal stages) 4. Pass the phase III examination which is conducted at the end of semester 8, remedial is carried out a week later (as well as the department final exam)
5. Conditions for taking the level III written test:
A maximum of only 3 small stations that have not passed are complete

Conditions for taking the NBOE written test

1. Maximum only 1 major or 2 small stations that have not passed 2. Pass the department panel exam

Requirements to take the department panel exam:

- Completed all stages and declared passed
- Have advanced to the final thesis

3. Have fulfilled the MPA 3 task: final thesis trial and declared passed

Requirements for advancing the final thesis:

- Have completed all subjects and declared pass
- Have passed the departmental panel exam
- Have passed the NBOE written test

4. Have passed the NBOE panel exam

Conditions for taking the NBOE panel test

- Have passed the departmental panel exam
- Have passed the NBO written test
- Has passed the final thesis (MPA 3)

I. Violations and sanctions in the PPDS program

1. Violations are all forms of acts of opposition or denial of the norms, rules or regulations that apply, violations of law and ethics.
2. Violations can be academic, administrative, and attitude violations.3. Sika violations are determined by the collegium
4. Determination of academic violations if residents cannot fulfill/complete academic tasks, for example writing papers, handling patients and committing fraud.
5. Administrative violations: applicable administrative provisions, for example SPP, KRS filling, etc.
6. Sanctions function, among other things, as prevention of violations by other students and enforcement of justice. According to Karen, saki must be given in kind, educational in nature, and can be accounted for and through the right procedures.
7. Determination of sanctions ranging from verbal warnings, written warnings, and temporary suspension of education (suspension), to permanent termination of education.

J. Leave and Leave

1. Leave/permission to submit papers at national or international congresses outside the city or abroad with a maximum record of 6 days in the big module (3 months) and 3 days in the small module (1.5 months).
2. Maternity leave (maximum 3 months) must be adjusted according to the module stage rotation and during the semester concerned.
3. Maximum annual cut of 6 working days/semester with a maximum record of 6 days in the large module (3 months) and 3 days in the small module (1.5 months) which must be adjusted to the YBS semester module rotation flow.
4. If YBS requires more than 6 days of leave, it is recommended to take academic leave by not following one small module (1.5 months) or one large module (3 months) in that semester which must be planned at the beginning of the semester because it is related to filling KRS (Study Plan Card) except for special reasons approved by the Head of the Study Program.

5. New annual cut can be taken in stages I and stages III, if not taken it will be forfeited and cannot be accumulated in the next step.6. The request for leave is submitted to the Head of the Study Program and to the knowledge of the Head of the YBS Sat Module while on duty and a copy to the Head of the Department of Cardiology and Vascular Medicine FK-UNHAS.
7. An academic cut is a period of not attending academic classes for at least one semester and a maximum of two semesters (see Hasanuddin University's academic leave rules).
8. When on leave, YBS gets night guard duty with an amount according to the level of the semester but the schedule can be arranged with friends of his class so that during leave he doesn't have night shifts.
9. Academic leave can only be granted after participating in academic activities for at least 2 (two) semesters with strong reasons approved by the Head of the Study program and the education coordinator of the Department of Cardiology and Vascular Medicine FK-UNHAS and when undergoing modules in RSWS.
10. If in the first 2 (two) semesters of academic activities you are forced to take an academic cut, YBS is advised to resign as a specialist medical education student and will have the opportunity to register and take part in the re-selection process in the future.

K. Termination of Education

1. At the request of students, by submitting it to the Dean with a copy of the Director of the Teaching Hospital, Head of TK-PPDS, Head of Section, Head of Study Program.
2. Administrative violations, for example not carrying out administrative and/or academic registration for 2 (two) consecutive semesters.
3. Conditions or health that do not allow continuing education issued by the PPDS health testing team,
4. Not able to carry out academic activities determined by the study program staff meeting led by KPS and section head.
5. If the length of study exceeds the time that has been set by the college of each study program.
6. Serious violations of ethics and medical discipline can be terminated through a coordination meeting between Study Programs, TK-PPDS, FK Disciplinary Commission, and Faculty Leaders.

L. Procedures for Giving Warnings and Termination of Education

1. Giving a Warning

a) Oral warning: students are called KPS and or Head of Section and given a warning by explaining the mistakes or violations committed. b) If point 1a is not heeded, the KPS and/or Section Head will issue written warnings I, II, and III.

2. Termination of Education

After going through the stages of the final warning it was decided by the study program staff meeting to stop education, the request for termination of education is issued by KPS submitted to the Dean of CQ TKP-PPDS. TKP-PPDS will proceed to the Disciplinary Commission and will be returned to the TKP-PPDS and study program. If the Disciplinary Commission's decision approves the KPS and Section Head's proposal, then it is forwarded to the dean to submit an application for termination of education to the rector based on a letter from the Study Program and the Disciplinary Commission.

foreign graduates who will take part in adaptation must first register their certificates with the Director General of Higher Education. After the diploma is registered by the Director General of Higher Education, participants can apply for adaptation through the TK-PPDS and complete other administrative requirements, only then will they take part in the adaptation selection. If the participant is declared to have passed the adaptation selection, then they can follow the adaptation process. Procedures, materials, and learning systems in adaptation will be regulated separately. New participant adaptation gatesai settings are permitted to take the national exam.

SPECIALIST ADAPTATION ACTIVITY PROCEDURE

1. PURPOSE

The purpose of organizing the adaptation of specialist doctors who graduated abroad is to provide an opportunity for adjustments for those whose certificates are valid, and are considered suitable for obtaining adaptation opportunities, so that at the end of the adaptation program:

a) Be able to apply the skills in the field of cardiology that they have studied, according to the rules commonly adopted by Cardiology Specialists in Indonesia.
b) Mastering patterns of morbidity and patterns of activity in public health services in accordance with the provisions that apply here. c) Understand and live up to the values and ethics of the cardiology profession, so that it can be accepted among the profession.

2. CONDITIONS

Adaptation candidates must meet the following administrative requirements:

a) The diploma is considered valid by the Evaluation Committee for Diplomas of Foreign Graduates (PPILLN Depdikbud).
b) The educational curriculum has been reviewed by the Board of Study and concluded to be suitable for adaptation opportunities.
c) Letter of request from the Ministry of Education and Culture Health Sciences Consortium for adaptation opportunities in FK.

3. ACCEPTANCE CHANNEL

a) Request documents in point 2.a. up to 2.c. above will be studied by the Coordinator of the Specialist Medical Education Study Program and Staff at the Cardiology Department of the Faculty of Medicine. If it is considered that there are too many sub-branches that must be passed, so that it takes more than 2 years, then the person concerned is considered inappropriate, and the file is returned to the Health Sciences Consortium.
b) Those who are assessed as suitable with adaptation opportunities, will be summoned for an interview with the Specialist Medical Education Study Program Coordinator and Staff.
c) Interviews were conducted to assess: The clarity of existing written information; Educational background; Values: professional responsibility, personal attitude. Self-assessment of adaptation program.
d) The conclusion of the interview consists of the following possibilities:
- It is not appropriate for the adaptation program in FK that the file be returned to the Health Sciences Consortium, with suggestions to be sent to other educational institutions.
- Can be given adaptation skills in FK and set a schedule for conducting an initial assessment.

4. PRELIMINARY ASSESSMENT

For those who have the opportunity to adapt in FK, the following activities are arranged:

a. Orientation

Orientation in Inpatient Room for: 3 months

1. Working time

Monday, Tuesday, Wednesday, Thursday and Saturday: 08.00-14.00 or later until work is done.

Except on duty report hearing days (Tuesday and Friday), working time in the room starts at 07.30

2. Organization

The adaptation doctor is under the supervision of and directly responsible to the Room Supervisor

3. Task

- Management of New Patients
- Management of Old Sufferers
- Administration Activities
- Examination Activities
- Scientific activity

b. Initial ability assessment

1. Ability to manage inpatients.
2. 2. Ability to make good medical records.
3. Make a list of problems based on priority.
4. Make a letter of request for support or consul with bear and pay attention to whether the request goes smoothly. 5. Presenting cases in the department.

C. Guard Activities During Orientation

1. In addition to carrying out duties in the inpatient ward as a ward doctor, adaptation participants are required to carry out guard duties including: 2. Placement as a follow-up doctor serving at the Hospital Emergency Room for 3 months from the start of orientation.
3. As a doctor on duty V for 3 months in the inpatient room.
4. As an IV doctor at the Emergency Care Installation for 3 months 5. As an IV and 11 doctor for 3 months.
6. See WATCH ACTIVITY.

d. Summary of initial abilities after the last week.

1. The ability of the candidate is too lacking for adaptation, and requires a program, education that is more than 2 years, then the file is returned to the Dedikbud Health Sciences Consortium with a copy of the Board of Study.
2. The candidate's ability to permit for the adaptation program for less than two years with continuous assessment, then the schedule to implement adaptation in any sub-branch of science and the amount of time for the person concerned is regulated based on the results of initial observations.
3. The time for carrying out tasks is adjusted to the tour of duty in the department. 4. The amount of time to undergo adaptation as a whole cannot be determined, depending on the results of the assessment of the sub-branches of knowledge after carrying out tasks in the sub-departments.
5. Ability to write and present cases/references both in rooms, sub-branches of knowledge and in departments.

e. SCIENCE SUB-BRANCHES ACTIVITIES

After completing the orientation period in the inpatient setting, the adaptation participants are assessed and considered for adaptation in the sub-branches of science, which consist of: 1. The number of sub-branches of science and what sub-branches of knowledge must be undertaken cannot be described here, because each adaptation participant is not the same, 2. The duration (months) of each sub-branch of knowledge must be lived.

3. Scientific activities of sub-branches and departments that must be implemented and followed.

Henceforth, the form of assignments in sub-branches of science in general are detailed as follows: 1. Working Time

2. Monday, Tuesday, Wednesday, Thursday and Saturday: 08.00-14.00 or later until 3. The work is over.

4. Friday: 08.00-12.00 or 1, -More until finished

5. Organization

The person in charge of the sub-branch of science is the Head of the Sub-branch of Science in general assisted by the Person in Charge of Education PPDS for each sub-branch of science, namely the Staff of the Sub-branch of science appointed by the Head of the Sub-branch of science.

f. General Tasks of Science Sub-Branch

1. Outpatient polyclinic sub-branch of science

- Management of new patients
- Old patient management

2. Hospitalization
3. Administrative activities
4. Scientific activity
5. Tour inspection activities
6. Activities in the Action room

g. Scientific Activities

1. In the sub-branches of science (following and doing):

- Discussion of cases in the sub-branches of science
- Presentation of cases in sub-branches of science
- Saripustaka in the sub-branch of science

2. In the Department:

- Implement and follow the presentation of the case
- Following the presentation of the library
- Following the presentation of the research report
- Participate in other scientific activities

CHAPTER VIII

GRADUATION

Participants who have passed the national exam will be graduated at the University level after completing the administrative requirements at the TKP-PPDS at the Hasanuddin University Medical Faculty. A. Schedule
Submission of diplomas (graduation) is held in March, June, September, and, December.
B. Implementation

- The brevet for the submission of specialist doctor certificates is carried out by the Faculty of Medicine, Hasanuddin University.
- Graduation for the submission of the Integrated PPDS Diploma, namely the master's certificate and specialist doctor's diploma, is carried out by the university.

C. Financing
The funding for Yudisium, Brevet and Graduation is borne by the graduates.

CHAPTER IX

MEDICAL ETHICS

As with medical education in general, participants in medical education specializing in heart and blood vessels must also comply with medical ethics (professional ethics) in every activity both during education and after graduation. since their education, specialist medical education participants have had to be warned about the limits of authority as a Specialist Doctor candidate. Of course, every specialist doctor or prospective specialist needs to prepare himself and equip himself with the latest knowledge, but in accordance with the limits of authority and carried out professionally, according to medical indications, rational and scientific, and based on medical ethics, because what is faced is human completely. Apart from that, specialist medical education participants must also be reminded that ethics and law are very close to the medical profession. Administrative violations (Practice License) and professional violations (standard of operational procedures/sop, informed consent) must be known in detail.

During education, it is necessary to pay attention to the doctor's responsibilities towards patients, doctor-patient relationships, effective ways of communication based on feelings of empathy for patients and paying attention to patient rights,

Each specialist medical education participant is required to have knowledge of: 1. Indonesian Medical Code of Ethics (KODEKI)
2. Professional ethics
3. Medical Service Standards (SPM)
4. Standard of Operational Procedure (SOP)

A. Head of Department

Job description:

1. Support the realization of the vision and mission of the faculty as well as the vision and mission of Unhas; 2. Helping faculties in realizing strategic plans for faculties and Unhas; 3. Compile a Work Program;
4. Manage human resources, facilities and infrastructure to support the learning process;
5. Prepare an annual performance budget plan together with the Head of the Study Program;
6. Support the program in terms of the availability of resources to plan, implement, develop and update the curriculum;
7. Develop a learning plan and allocation of teaching staff for the purposes of the Study Program together with the Head of the Study Program;
8. Organize the selection of candidates for Head and Secretary of the Department and recommend candidates for Chair of the Study Program and laboratory/Workshop/Studio;
9. Upholding the lecturer's code of ethics;
10. Provide recommendations for prospective Heads of Study Programs to be appointed by the Chancellor through the Dean;
11. Determine the requirements and the number of students accepted together with the head of the Study Program;
12. Support the implementation of research activities and community service, and;
13. Report the implementation of Department activities to the Dean

B. Department Secretary

Job description:

1. Support the implementation of the duties of the Head of the Department in planning, implementing, developing, controlling and evaluating academic activities in the Department;
2. Assisting the implementation of administrative functions and tasks in the Department; and 3. Implementation of other tasks given by the head of the Department

A. Head of Study Program
B. Job Description:
1. Compile, develop and update curricula and teaching materials; 2. Organizing learning activities;
3. Arranging a team of subject tutors with the approval of the Head of the Department 4. Fostering student activities under his authority; 5. Fostering and encouraging students to be involved in scientific and/or sports and arts activities;
6. Compile and update the results of self-evaluations and forms; 7. Report the results of the learning evaluation to the Dean;
8. Carry out education quality assurance;
9. Encouraging an academic atmosphere so that it can improve performance, student achievement, and teaching staff;
10. Coordinate filling of student study plan cards and their academic advisors online
11. Provide consulting services for students;
12. Conducting tracer studies to determine the relevance of graduates to the curriculum
13. Determine competency standards and the number of students accepted each year with the head of the department; And
14. Organizing research and community service activities

D. Study Program Secretary
Job description :
1. Assist KPS in organizing specialist medical education according to the curriculum. 2. Manage the administration of student rotation/stase.
3. Regulate the educational administration of students including: CHS files, files on the results of the entrance selection, learning progress scores, sanctions that have been given, minutes of academic leave.
4. Responsible to the KPS and the Head of the Department for the administrative completeness of students,
5. Replace the KPS function when needed or if the KPS is not in place or when the KPS is on leave.
6. Supervising the field (Education Hospital & Education Network Hospital).
7. Coordinating work with other education centers and teaching staff.
8. Responsible for permits or academic leave of students and secretarial employees of the Medical Education Study Program Specialist in Cardiovascular Diseases, FK UNHAS.
9. Responsible for purchasing secretarial and educational goods and inventory tools.
10. Responsible for inventorying Kordik tools for students of the Medical Education Study Program Specialist in Cardiovascular Diseases, FK UNHAS.

E. Student Education Coordinator
Job description :
1. Regulate the implementation of student education according to the curriculum set by each collegium.

2. Provide an assessment of student learning progress on the basis of reports from supervisors, clinical supervisors and other staff.
3. Provide coaching and impose academic sanctions.
4. Give consideration and approval of academic leave.
5. Arrange referrals and student final exams.
6. Responsible to the head of the department for the smooth process of student education

F. Quality Assurance Unit

Job description:

1. Implement a quality assurance system at the student level through evaluating achievement, reputation, and exam results of students in the Education Study Program Specialist Doctor of Cardiovascular Diseases, FK UNHAS.
2. Implement a quality assurance system at the level of the teaching and learning process through evaluation of study program services to foster and develop students' interest in the FK-UNHAS Cardiology and Vascular Specialist Medical Education study program.
3. Implementing a quality assurance system at the lecturer/teaching level through evaluating the academic performance of lecturers and education staff in the Medical Education Specialist Program in Cardiovascular Diseases, FK UNHAS.
4. Provide recommendations for improvements to study program implementers regarding the results of evaluations carried out at the FK-UNHAS Cardiology and Blood Vessel Specialist Medical Education Study Program.
5. Coordinate with the faculty regarding the quality assurance system of the FK-UNHAS Medical Education Study Program Specialist in Cardiovascular Diseases.

G. Library

Job description :

1. Guarantee the implementation of the educational process in the Department of Cardiology and Vascular Medicine through the library.
2. Make operational policies in the use of library facilities. 3. Inventory of library collections (books, text books, magazines). 4. Responsible to the head of the department for maintenance inventory of library facilities.

H. Division Head

Job description :

1. Giving lectures to medical students in professional programs. 2. Coordinate the placement of divisional lecturers as PBL tutors and CSL instructors for medical students.
3. Coordinating guidance during bedside teaching to specialist medical education students.
4. Leading scientific meetings in the form of conferences, journal presentations, case reports, reading literature, literature extracts, research proposals, longitudinal case studies and theses. 5. Coordinating the guidance of clerkship students and the guidance of Specialist Medical Education students in their respective divisions
6. Coordinate visit activities, outpatient examinations, emergency measures, procedural actions in each division. Consult with other sub-departments when necessary.

CHAPTER X

CLOSING

1. This guide is a guideline for all parties related to the Cardiology and Vascular Medicine Specialist Medical Education Program, FK Unhas Makassar, so that the implementation of education can run smoothly as expected

2. Matters that have not been regulated in this guideline will be further regulated in separate implementation instructions.