

FELLOWSHIP IN CARDIAC & VASCULAR CARE NURSING

ABOUT THE COURSE:

Malla Reddy School of Nursing Science and Technology recognizes the critical need to empower registered nurses with the knowledge and skills essential for Cardiac & Vascular Care Nursing across healthcare settings. The Cardiac and Vascular Care Nursing course is designed for registered nurses who are looking to specialize in the assessment, management, and care of patients with cardiovascular and vascular diseases. This course will provide an in-depth understanding of the pathophysiology, diagnosis, and management of cardiac and vascular conditions, along with advanced nursing practices in both acute and chronic care settings.

This fellowship provides specialized training for nurses interested in cardiac and vascular care. The program equips nurses with the knowledge and skills needed to assess, manage, and treat patients with cardiovascular and vascular conditions, focusing on advanced practice and evidence-based care.

OBJECTIVES:

- To enhance understanding of cardiovascular and vascular pathophysiology.
- To develop advanced nursing skills in the care of patients with heart and vascular diseases.
- To gain proficiency in pharmacological management and intervention techniques for cardiovascular diseases.
- To promote evidence-based practice in the management and prevention of cardiac and vascular conditions.

ELGIBILITY

- Registered BSc Nursing in India or equivalent.

DURATION

- 52 Weeks or One Academic Year

COURSE DESCRIPTION

The course is designed to prepare registered B.Sc (N) with specialized knowledge, skills and attitude in providing advance quality care to clients with Cardiac Problems and their families at all the three levels of care.

EVALUATION

The examination will be conducted by school of nursing science and technology, Malla Reddy Vishwavidhyapeeth deemed to be university.

CRITERIA TO APPEAR THE EXAM

- 80% attendance in theory
- 100% attendance in practical

CRITERIA TO PASS

- In order to pass a candidate should obtain 50% in theory and 50% in practical separately
- A candidate should get 50% in internal assessment.

AWARD OF CERTIFICATE

Certificate will be awarded by Malla Reddy Vishwavidhyapeeth deemed to be university

S.No	COURSE CODE	SUBJECTS	THEORY	LAB	CLINICAL	TOTAL
1		Basic Nursing For cardiac & vascular care nursing (No Exam)	60	20	120	200
2		Cardiac & vascular care nursing -I	80	20	300	400
3		Cardiac & vascular care nursing – II	80	20	300	400

BASIC NURSING FOR CARDIAC & VASCULAR CARE NURSING

Theory: 60 hours

Lab: 20 hours

Practical: 120 hours

Unit	Hou rs	Learning objectives	Content	Teaching Learning Activity	Assessment Methods
Unit I	20	<ul style="list-style-type: none"> - Review the structure and function of body systems - Understand normal vs malignant cells - Apply knowledge to patient care, especially with opioids 	Applied Anatomy & Physiology <ul style="list-style-type: none"> ➤ Review <ul style="list-style-type: none"> ● Cell structure and physiology <ul style="list-style-type: none"> ✓ Normal cell ✓ Malignant cell ● Neurological system ● Respiratory system ● Blood and lymphatics ● Cardiovascular system ● Gastro intestinal system ● Endocrine system ● Musculoskeletal system ● Genitourinary system ● Reproductive system ● Sensory system Documentation and Instruction to be taken while taking opioids ● Nurses role while administering opioids and observing the client for side-effects 	Lectures, discussions, diagrams, demonstrations	Written test, practical, case-based questions
Unit II	10	<ul style="list-style-type: none"> - Review key drug types used in clinical care - Understand principles of pharmacokinetics - Learn safe drug administration practices 	Pharmacology <ul style="list-style-type: none"> ➤ Review <ul style="list-style-type: none"> ● Pharmacokinetics ● Analgesics ● Sedatives and Narcotics ● Antibiotics, antiseptics ● Drug reaction & toxicity ● Drugs used in cancer chemotherapy ● Blood and blood components <p>Principles of drug administration, role of nurse and care of drugs</p>	Demonstrations, drug chart review, case study	Quiz, observation checklist, drug calculations

Unit III	10	<ul style="list-style-type: none"> - Develop communication skills for family and patient support - Understand psychosocial issues in care - Support during end-of-life and grief situations 	Psychosocial and Family Support <ul style="list-style-type: none"> • Communication with patients and families • Stress management for patients and caregivers • End-of-life care and decision-making • Grief, loss, and palliative approach 	Role play, group discussion, real-life scenarios	Case discussions, reflective writing, peer feedback
Unit IV	10	<ul style="list-style-type: none"> - Learn basic assessment skills - Monitor and document clinical parameters - Use tools like GCS and pain scales effectively 	Basic Assessment of the Critically Ill Patient <ul style="list-style-type: none"> • Primary and secondary assessment (ABCDE) • Monitoring vital signs and level of consciousness • Head to Toe Assessment • System wise Assessment • Glasgow Coma Scale (GCS) • Input-output charting • Pain assessment in non-verbal patients 	Demonstration, hands-on practice, clinical exposure	OSCE, observation checklist, written test
Unit V	10	<ul style="list-style-type: none"> - Develop effective interpersonal skills - Communicate appropriately in clinical settings 	Communication skills and IPR <ul style="list-style-type: none"> • Process and methods • Establishing and maintaining good IPR & communication with family, staff and colleagues • Multidisciplinary team and role of nurse • Breaking bad news • Guidance and counseling 	Communication exercises, role play, group activity	Communication skill checklist, peer review, practical exam

CARDIAC & VASCULAR CARE NURSING – I

Theory: 80 hours

Lab: 20 Hours

Practical: 300 hours

Unit	Hours	Learning objectives	Content	Teaching Learning Activity	Assessment Methods
Unit - I	10	<ul style="list-style-type: none"> - Understand the structure and function of the heart and vessels - Explain how the heart pumps blood and maintains circulation 	Anatomy & Physiology of the Cardiovascular System <ul style="list-style-type: none"> • Heart anatomy (chambers, valves, vessels) • Electrical conduction system (SA node to Purkinje fibers) • Cardiac output, stroke volume, heart rate • Arterial vs venous systems 	Diagrams, models, lectures, quizzes	Written tests, labeling diagrams
Unit - II	10	<ul style="list-style-type: none"> - Learn basic cardiac assessment techniques - Understand common diagnostic tools for heart conditions 	Cardiovascular Assessment & Diagnostic Tools <ul style="list-style-type: none"> • Inspection, palpation, auscultation • Heart sounds, pulses, edema, cap refill • ECG basics, cardiac enzymes (troponin, CK-MB) • Chest X-ray, echocardiogram, stress testing 	Demonstrations, hands-on practice, case studies	Skills checklist, OSCE, short answer tests
Unit - III	10	<ul style="list-style-type: none"> - Identify common heart diseases and their symptoms - Understand causes and basic treatments 	Common Cardiac Disorders <ul style="list-style-type: none"> • Coronary Artery Disease (CAD) • Heart Failure (HF) • Myocardial Infarction (MI) • Arrhythmias (AFib, VTach) • Valvular disorders 	Case scenarios, charts, discussion	MCQ, case-based questions
Unit IV	10	<ul style="list-style-type: none"> - Recognize and describe 	Common Vascular Disorders <ul style="list-style-type: none"> • Hypertension 	Lecture, case studies,	Quiz, written test

		common blood vessel diseases - Understand basic nursing care for each condition	<ul style="list-style-type: none"> Peripheral Arterial Disease (PAD) Deep Vein Thrombosis (DVT) Aneurysms Varicose veins 	group discussion	
Unit V	10	- Learn medication use and lifestyle changes for heart patients - Understand monitoring and documentation responsibilities	Nursing Management of Cardiac & Vascular Conditions <ul style="list-style-type: none"> Medications: beta-blockers, nitrates, ACE inhibitors, anticoagulants Oxygen therapy, fluid balance Diet, exercise, smoking cessation Monitoring and documentation 	Medication demo, patient charts, role play	Case-based evaluation, drug calculations
Unit VI	10	- Respond to cardiac emergencies like heart attacks and arrests - Practice CPR and emergency protocols	Emergency Situations & Critical Care in Cardiac Nursing <ul style="list-style-type: none"> Cardiac arrest, CPR, AED Acute MI response Recognizing arrhythmias and calling a code Post-resuscitation care 	Simulation, code blue drill, CPR practice	Practical test, scenario-based quiz
Unit VII	10	- Support patients through rehab and teach home care - Collaborate with the healthcare team	Cardiac & Vascular Rehabilitation and Patient Education <ul style="list-style-type: none"> Phases of cardiac rehab (inpatient, outpatient, maintenance) Home care and follow-up appointments Patient education: low-sodium diets, smoking cessation, medication compliance Role of multidisciplinary team: PT, dietitian, social worker 	Role play, patient teaching plans, group work	Teaching plan evaluation, presentation

CARDIAC & VASCULAR CARE NURSING – II

Theory: 80 hours

Lab: 20 Hours

Practical: 300 hours

Unit	Hours	Learning objectives	Content	Teaching Learning Activity	Assessment Methods
Unit-I	10	- Interpret and explain advanced cardiac diagnostic tools - Prepare and care for patients undergoing diagnostic procedures	Advanced Cardiac Diagnostics & Monitoring <ul style="list-style-type: none"> 12-lead ECG interpretation Holter monitor, event recorder Cardiac catheterization, electrophysiology studies Nursing responsibilities before/after procedures 	ECG interpretation in practice, video demo, case studies	ECG quiz, observation checklist
Unit-II	10	- Understand advanced cardiac medications - Teach safe medication use and patient education	Cardiac Pharmacology <ul style="list-style-type: none"> Antiarrhythmics, inotropes, diuretics Antiplatelets and anticoagulants Statins and antihypertensives Medication safety and patient teaching 	Drug cards, medication demos, role play	Drug quiz, case-based questions
Unit - III	10	- Understand and interpret invasive cardiac monitoring - Manage devices and respond to readings	Hemodynamic Monitoring <ul style="list-style-type: none"> Central venous pressure (CVP) Pulmonary artery catheter (Swan-Ganz) Arterial lines and waveform reading Nursing roles in critical care monitoring 	ICU observation, waveform reading sessions	Skills demo, MCQ
Unit-	5	- Identify stages of HF and	Heart Failure – Advanced Management	Group discussion,	Written test, patient

IV		manage patients accordingly - Plan discharge and educate patient	<ul style="list-style-type: none"> • NYHA classification • BNP levels, fluid balance, and daily weights • HF medications and lifestyle modification • Discharge planning and follow-up 	case scenarios	teaching plan
Unit-V	5	- Manage post-cardiac surgery patients - Prevent complications and promote recovery	Post-Operative Cardiac Surgery Care <ul style="list-style-type: none"> • CABG, valve replacement, pacemaker insertion • Sternal precautions, wound care • Pain management, infection prevention • Early ambulation, DVT prophylaxis 	Bedside demo, post-op simulation	Observation checklist, OSCE
Unit-VI	10	- Recognize and manage cardiac arrest situations - Apply ACLS protocols confidently	Cardiac Emergencies & ACLS Application <ul style="list-style-type: none"> • Bradycardia, tachycardia with/without a pulse • Asystole, pulseless electrical activity (PEA) • Defibrillation, synchronized cardioversion • Medication administration in codes (e.g., epinephrine, amiodarone) 	Code blue drills, ACLS video module	Simulation, skills test
Unit-VII	10	- Care for patients post vascular surgeries - Perform wound management and infection control	Vascular Surgery & Wound Care <ul style="list-style-type: none"> • Bypass grafts, endarterectomy • Amputations and stump care • Wound VAC, dressing changes • Infection control and documentation 	Dressing change demo, group work	Skills checklist, short answer quiz

Unit-VIII	5	- Address cardiovascular care in pediatrics, elderly, and women - Apply culturally competent care	Cardiac Care in Special Populations <ul style="list-style-type: none"> • Pediatric congenital heart disease • Geriatric cardiovascular changes • Women and heart disease • Cultural considerations in care 	Guest lectures, case discussion	MCQ, reflection paper
Unit-IX	10	- Support patients in rehabilitation - Use telehealth and home care strategies	Cardiac Rehab & Community-Based Care <ul style="list-style-type: none"> • Phases of cardiac rehabilitation • Home care nursing roles • Lifestyle change reinforcement • Telehealth in cardiac follow-up 	Field visit, teaching plan creation	Patient education evaluation, quiz
Unit-X	5	- Navigate ethical dilemmas and legal responsibilities - Support families in end-of-life decisions	Ethical & Legal Aspects in Cardiac Nursing <ul style="list-style-type: none"> • Do Not Resuscitate (DNR), advance directives • Organ donation after cardiac death • Informed consent for procedures • Dealing with family grief and end-of-life care 	Role play, ethics debate	Role play, ethics debate

Research Activity:

An independent research is to be carried out by the student.

ESSENTIAL CARDIAC & VASCULAR CARE NURSING SKILLS

I. Procedures Observed

1. Cardiac Monitoring: Observing continuous ECG monitoring for heart rhythm disturbances.
2. Echocardiography: Understanding the use of echocardiogram to assess heart function and blood flow.
3. Angioplasty & Stent Placement: Watching procedures aimed at clearing blockages in coronary arteries
4. Coronary Artery Bypass Grafting (CABG): Observing cardiac surgeries to improve blood flow to the heart.
5. Vascular Surgeries: Observing procedures to address peripheral artery disease and aneurysms.
6. Cardiac Catheterization: Observing catheter insertion to diagnose and treat heart conditions.

II. Procedures Assisted

1. Basic Cardiac Life Support (BCLS): Assisting in resuscitation and maintaining sterile technique.
2. Advanced Cardiac Life Support (ACLS): Assisting in the management of cardiac arrest, arrhythmias, and other life-threatening heart conditions.
3. Cardiac Arrest Management: Assisting with defibrillation, airway management, and drug administration in cases of cardiac arrest.
4. Arterial Line Insertion: Assisting with the insertion and monitoring of arterial lines to measure blood pressure.
5. IV Cannulation & Medication Administration: Assisting with the administration of cardiac drugs (e.g., antiarrhythmic, thrombolytic agents) via IV.
6. ECG Recording and Interpretation: Assisting in the recording and interpretation of ECG readings to assess heart function.
7. Hemodynamic Monitoring: Assisting in monitoring vital signs, arterial blood pressure, and other cardiac parameters.
8. Chest Tube Insertion: Assisting with procedures to drain air or fluid from the chest cavity post-cardiac or vascular surgeries.
9. Cardiac Rehabilitation: Assisting patients in post-surgery recovery and lifestyle modifications for heart disease prevention.

III. Procedures Performed

1. Cardiac Monitoring and Surveillance:

Continuous monitoring of heart rate, rhythm, and ECG for arrhythmias. Early detection of abnormalities and reporting to medical team. Use of 12-lead ECG to monitor cardiac function during critical care.

2. Cardiopulmonary Resuscitation (CPR):

Performing BCLS and ACLS in response to cardiac arrest, including chest compressions and use of defibrillators.

3. Medication Administration:

Administering cardiac drugs such as anticoagulants, antiarrhythmic agents, and vasodilators. Monitoring for side effects and complications like bleeding or arrhythmias.

4. Arterial Blood Gas (ABG) Sampling:

Collecting blood samples to monitor oxygen and carbon dioxide levels, and pH balance in patients with heart conditions.

5. Post-Operative Care:

Monitoring and assessing the condition of patients post-surgery (e.g., CABG, stent placement). Providing care for incisions, ensuring sterility, and preventing infection.

6. Invasive Monitoring:

Performing hemodynamic monitoring such as central venous pressure (CVP) and pulmonary artery pressure monitoring.

Assisting with the insertion and maintenance of central venous lines (CVL) and arterial lines.

7. Patient Education:

Educating patients about lifestyle changes to prevent cardiovascular disease (e.g., diet, exercise, smoking cessation).

Teaching patients how to manage blood pressure, cholesterol, and diabetes to reduce cardiovascular risk.

8. Vascular Access & Blood Sampling:

Insertion of peripheral IV lines for medication or fluid therapy.

Drawing blood for laboratory tests related to heart and vascular function (e.g., cholesterol, electrolytes).

9. Pain Management:

Administering pain relief for patients undergoing cardiac procedures or post-surgery.

Monitoring the effectiveness of analgesics and adjusting doses as needed.

10. Prevention of Complications:

Observing for complications like deep vein thrombosis (DVT), pulmonary embolism (PE), and infections.

Implementing preventive measures such as anticoagulation therapy, early ambulation, and wound care.

Signature of Resident/SNO