

Department of Respiratory Care

Course Specification of Cardio-Pulmonary Rehabilitation

Course No. (08 05

882)2023/2024



LXXXVIII. Course Description:

This comprehensive course explores the principles, practices, and innovations in cardiopulmonary rehabilitation, an evidence-based approach to improving the quality of life and functional capacity of individuals with heart and lung diseases. Students will gain an in-depth understanding of the pathophysiology of these conditions and the impact on cardiopulmonary function. The course will cover comprehensive patient assessment, individualized exercise prescription, respiratory muscle training, and the importance of nutritional and psychosocial support. Additionally, the course will delve into emerging trends like tele-rehabilitation and address special considerations for aging populations and patients with comorbidities. Students will also learn to evaluate the effectiveness of rehabilitation programs, ensuring quality assurance and continuous improvement in patient care. This course is designed to equip healthcare professionals with the knowledge and skills to design, implement, and evaluate effective cardiopulmonary rehabilitation programs that promote optimal patient outcomes.

IV Course Content:

Distribution of Semester Weekly Plan of Course Topics/Items and Activities.

A – Theoretical Aspect: (if any)

S	Units/ Topics List	No. of Weeks	Contact hours	CILOs
1	Introduction to Cardiopulmonary Rehabilitation - Overview of cardiopulmonary disorders - Historical perspective and evolution of rehabilitation approaches	1	2	a1, a3
2	Pathophysiology of Cardiopulmonary Disorders - Understanding the underlying mechanisms of cardiopulmonary diseases - Implications for rehabilitation strategies	2	2	a1
3	Assessment in Cardiopulmonary Rehabilitation - Respiratory function tests and diagnostic procedures - Dyspnea assessment tools and exercise testing protocols	3	2	c1, b2
4	Patient Selection and Indications for Cardiopulmonary Rehabilitation - Criteria for referral to rehabilitation programs - Identifying appropriate candidates and contraindications	4	2	a3
5	Exercise Prescription and Training in Cardiopulmonary Rehabilitation - Principles of exercise conditioning and program design - Adaptations for different cardiopulmonary conditions	5	2	a2, c2, b1
6	Respiratory Muscle Training and Conditioning - Techniques for improving respiratory muscle function and endurance - Integration into comprehensive rehabilitation plans	6	2	c3, b1
7	Psychosocial Support and Behavioral Interventions - Addressing anxiety, depression, and psychosocial barriers to rehabilitation - Strategies for enhancing patient motivation and adherence	7	2	d1
8	Mid-Term Exam	8	2	

9	Nutritional Management in Cardiopulmonary Rehabilitation	- Importance of nutrition in optimizing cardiopulmonary health - Dietary considerations and counseling for patients with cardiopulmonary conditions	9	2	a4
10	Interdisciplinary Collaboration in Cardiopulmonary Rehabilitation	- Roles of physicians, nurses, respiratory therapists, exercise physiologists, dietitians, and psychologists - Collaboration and communication within the team	10	2	d1
11	Innovations in Cardiopulmonary Rehabilitation: Tele-rehabilitation and Technology	- Emerging trends and technologies in remote rehabilitation delivery - Opportunities and challenges in tele-rehabilitation implementation	11	2	b1
12	Long-Term Management and Maintenance of Cardiopulmonary Health	Strategies for sustaining improvements beyond the rehabilitation phase	12	2	a2, c2
		- Follow-up care, monitoring, and relapse prevention - COPD (emphasis on exacerbation management and long-term strategies) - Asthma, interstitial lung disease, neuromuscular disorders			
13	Special Considerations in Cardiopulmonary Rehabilitation: Aging Population and Comorbidities	- Addressing the unique needs and challenges of older adults with cardiopulmonary conditions - Managing complex cases with multiple comorbidities	13	2	a3, c2, b2
14	Quality Assurance and Evaluation of Cardiopulmonary Rehabilitation Programs	- Outcome measures and benchmarks for assessing program effectiveness - Continuous quality improvement and program evaluation strategies	14	2	b1, d2
15	Non-Pharmacological Interventions:	- Smoking cessation strategies and support - Multi-morbidity patients and those with complex needs - Airway clearance techniques and physiotherapy - Breathing exercises and relaxation techniques - Supplemental oxygen and noninvasive ventilation	15	2	c3

16	Final Exam		16	2	-
TOTAL			16	32	-
Number of Weeks /and Units Per Semester			16 weeks	2 Credits	-
B - Practical Aspect: (if any)					
S	Tasks/ Experiments	Number of weeks	contact hours	CILOs	
1	Not applicable	-	-	-	
TOTAL		-	-	-	
Number of Weeks /and Units Per Semester		-	-	-	

VI. Teaching strategies of the course:

127. Lecture method
128. Brainstorming
129. Demonstration
130. Case study discussions

XV. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	<u>Write Cardiac Arrhythmias</u> In groups, research and present on aspecific type of cardiac arrhythmia (e.g.,atrial fibrillation, ventricular tachycardia). Explain the pathophysiology, ECG characteristics, clinical manifestations, and treatment options for the chosen arrhythmia. Discuss the role of the respiratory therapist in the management of patients with arrhythmias.	b1	5-12	5

XXV. Schedule of Assessment Tasks for Students during the Semester Theoretical part

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Attendance and Activities	15 th week	5	5%	a, b
2	Student assignment	5 th and 12 th week	5	5%	b, c
3	Mid-term exam	7 th or 8 th week	20	20%	a, b
4	Final exam	16 th -17 th week	70	70 %	a, b, c, d
Total Theory Weight			100	100%	