

# **Prospectus of Cardiac Critical Care program conducted by the Sri Lanka College of Cardiology**

## **Preamble**

Sri Lanka has a population of approximately 22 million and being a south Asian country has high incidence of coronary artery disease and it is the commonest cause of death among its citizens. To meet the increasing demand for cardiovascular care, ministry of health has taken steps to establish cardiology units, many of them with coronary care units, in each district. In few districts there are more than one such unit. Almost all of these units are manned by a cardiologist and centers with more facilities have more cadre for cardiologists. However significant amount of work is done by the medical officers of the unit, who may range from 2 to 20 in number depending on the size of the unit. The coronary care units are covered 24/7 by the medical officers and therefore are the first to deal with any emergencies in the CCU. In some centers they cover the unit without the physical presence of a consultant during the weekend. They also see patients in the outpatient clinics and perform exercise treadmill test. In some centers they also perform echocardiogram, coronary angiogram and insertion of permanent pacemaker under supervision of a consultant.

Most of the medical officers work in a cardiology unit for 4 years. Therefore, the need for continuous medical education is paramount. The SLCC considered this need and organizes a cardiac critical care online course annually starting from 2022.

## **Rationale**

A medical officer in charge of the CCU should be able to recognize and treat a wide variety of acute and chronic cardiac conditions leading to cardiac decompensation. CCU medical officer should be well acquainted with the diagnostic and therapeutic means available to the modern cardiologist including electrocardiography,

echocardiography, hemodynamic measurements and their interpretation, cardiac and coronary angiography, cardiac pharmacotherapy, and interventional cardiology. They should be familiar and fluent in the operation of the available equipment including monitoring (invasive and non-invasive), cardiac pacemakers, defibrillators, artificial respirators (invasive and non-invasive), renal replacement therapy and mechanical cardiac support. A comprehensive knowledge of drugs to treat cardiac conditions but also associated conditions such as liver and renal dysfunction, infection, nutrition, sedation, and analgesia is also mandatory.

### **Aims /Learning outcomes**

The aims of the learning process are:

- 1.- To provide guidance on the training requirements for medical officer in charge or working in the CCU
- 2.- To delineate the core competencies and curriculum for such medical officers
- 3.- To define the techniques in which the CCU medical officer should be proficient
- 4.- To determine the need for continuous medical education

### **Entry requirement**

The candidates are recruited from all the cardiology units of Sri Lanka to a total of 55-60 per year. There is no entrance exam and the selection is based on seniority and the contribution of the medical officer to the unit.

## Course details / Syllabus

The course consists of online lectures 30 in number conducted via Zoom by renowned consultant cardiologists and specialists from other fields where appropriate, some from Sri Lanka and some living and working in UK, Australia etc.

They also undergo training in bedside 2D echocardiogram, insertion of temporary pacemaker and aspiration of pericardial effusion at their respective cardiology units by the supervising consultant cardiologist.

## Lecture topics and speakers

1)Introduction to cardiac critical care	-Dr.Ruvan Ekanayaka
2)ECGs in ACS	-Dr.Sandamali Premaratne
3)Management of ACS	-Dr. Aruna Wijesinghe
4)Advanced cardiac monitoring	-Dr.Kumudini Ranatunga
5)How to identify a deteriorating patient in ICU	-Dr.Shanike Karunaratne
6)Management of acute Left Ventricular Failure	-Dr.M.H.M.Zacky
7)Management of cardiogenic shock	-Dr. Thamal Vithanage
8)Inotropes; what and when	-Dr.Sanjeewa Rajapakse
9)Introduction to IABP	-Dr.Upul Wickramarachchi
10)Noninvasive and invasive ventilation	-Dr.Nuwan Ranawaka
11)Acute valvular emergencies	-Dr.Bhathiya Ranasinghe
12)Point of care echo	-Dr.Prakash Priyadharshan
13)Bradyarrhythmias: diagnosis and management	-Dr.Janaka Pathiraja
14)insertion and management of TPM	-Dr.Susitha Amarasinghe
15)Tachyarrhythmias: diagnosis and management	-Dr.Rohan Gunawardena
16)Emergency cardiac procedures	-Dr.G.Mayurathan
17)Pulmonary embolism	-Dr.Sampath Withanawasam
18)Myocarditis	-Dr.Tilak Sirisena
19)Cardiorenal syndrome	-Dr.W.S.Santharaj
20)Glycaemic control in CCU	-Dr.Charles Antonypillai
21)Hypertensive emergency	-Dr.Uditha Hewarathna
22)Infective endocarditis	-Dr.Niroshan Lokunarangoda
23)Antiplatelets and anticoagulants	-Dr.Bhathiya Ranasinghe
24)Acid base balance and ABG	-Dr .K. Arulnithy
25)Fluid and electrolyte balance	-Dr.G.R.Francis
26)Management of yellow oleander poisoning	-Dr .M.Guruparan
27)ECMO: An introduction	-Dr.Tolusha Harishchandra
28)Post operative cardiac care	-Dr Kumudini Ranatunga
29)Care bundles in critical care	-Dr Kumudini Ranatunga

Procedure		Date	Signature
2D echo	LV assessment		
	LV assessment		
	LV assessment		
	Pericardial effusion		
	Pericardial effusion		
	Pericardial effusion		
	RA/RV dilatation		
	RA/RV dilatation		
	RA/RV dilatation		
	IVC fluid status		
	IVC fluid status		
	IVC fluid status		
TPM insertion	Observed		
	Observed		
	Performed		
	Performed		
Pericardial aspiration	Observed		
	Observed		
	Performed		
	Performed		

Figure 1 - skill assessment form

## Assessment

The **certificate of proficiency in cardiac critical care** is awarded by the SLCC, to candidates

- 1) who have an attendance of more than 80% for the online lectures
- 2) who score more than 50% in the final exam held at the end of the course. The final exam will consist of 60 MCQs mostly of best of five types, spread across
- 3) who have a valid ALS (advanced life support) certificate awarded by a recognized body
- 4) who have completed the skill development form including bedside echocardiogram.