SUMANDEEP VIDYAPEETH

(Declared as Deemed to be University under Section 3 of the UGC Act 1956)
Accredited by NAAC with a CGPA of 3.53 out of four-point scale at 'A' Grade
Category – I deemed to be university under UGC Act - 2018
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CURRICULUM
Master of Science
(M.Sc)
CARDIAC CARE TECHNOLOGY

Attested CTC

15/2/2021

Vice-Chancellor
Sumandeep Vidyapeeth
An Institution Deemed to be University
Vill. Piparia, Taluka: Waghodia.
Dist. Vadodara-391 760. (Gujarat)

Dean

AMENDED UP TO DECEMBER -2020

INTRODUCTION

Scope

The quality of paramedical care has improved tremendously in the last few decades due to the advances in technology, thus creating fresh challenges in the field of healthcare. It is now widely recognized that health service delivery is a team effort involving both clinicians and non-clinicians, and is not the sole duty of physicians and nurses.1 Professionals that can competently handle sophisticated machinery and advanced protocols are now in high demand. In fact, diagnosis is now so dependent on technology, that paramedical and healthcare professionals are vital to successful treatment delivery.

Effective delivery of healthcare services depends largely on the nature of education, training and appropriate orientation towards community health of all categories of health personnel, and their capacity to function as an integrated team, with a range of skills and expertise, play key roles within the National Health Service, working autonomously, in multi-professional teams in various settings. All of them are first-contact practitioners and work across a wide range of locations and sectors within acute, primary and community care.

Learning goals and objectives for paramedical healthcare professionals

The learning goals and objectives of the Postgraduate education program will be based on the performance expectations. They will be articulated as learning goals (why we teach this) and learning objectives (what the students will learn). Using the framework, students will learn to integrate their knowledge, skills and abilities in a hands-on manner in a professional healthcare setting. Apply knowledge of human cardiovascular system in the management of cardiovascular related disorders. Plan and implement clinical and scientific activities related to the profession of cardiovascular technology. Identify and solve complex problems arising during cardiovascular care of the patients.

Program outcomes

After completion of M.sc Cardiac care technology should be able to assist physicians by diagnosing and treating diseases of the heart and blood vessels and take the images of the heart and peripheral blood vessels through both invasive and non-invasive procedures, such as catheterization, balloon angioplasty, or the use of ultrasound equipment.

Commitment to professional excellence

Students will understand core concepts of clinical ethics and law so that they may apply these to their practice as healthcare service providers. Program objectives should enable the students to:

- Describe and apply the basic concepts of clinical ethics to actual cases and situations.
- Recognize the need to make health care resources available to patients fairly, equitably and without bias, discrimination or undue influence.
- Demonstrate an understanding and application of basic legal concepts to the practice Employ professional accountability for the initiation, maintenance and termination of patient-provider relationships.

- Demonstrate respect for each patient's individual rights of autonomy, privacy, and confidentiality.

Duration of the course:
Duration of the course is 2 years

Eligibility for admission:
B.Sc. in Cardiac Care Technology with a minimum 60% marks

Attendance:
A candidate has to secure minimum 80% attendance in overall with at least-
1. 75% attendance in theoretical
2. 80% in Skills training (practical) for qualifying to appear for the final examination.

No relaxation, whatsoever, will be permissible to this rule under any ground including indisposition etc.

Medium of instruction:
English shall be the medium of instructions for all the subjects of study and for examination of the course.

Assessment:
Assessments should be completed by the academic staff, based on the compilation of the student's theoretical & clinical performance throughout the training program me. To achieve this, all assessment forms and feedback should be included and evaluated. Student must attain at least 50% marks in each Theory, Internal assessment and Practical independently / separately for each individual subject.

Course of Instruction:

Course Name	Course Code	Theory (In hrs.) (Class and lab)	Practical (In hrs.) (Clinical)
FIRST YEAR - Total Hours 400			
X-Ray Physics, Instrumentation, Hardware's and sterility	MCCT101	60	40
Electrophysiology and cardiac pacemakers	MCCT102	60	40
Ischemic & Valvular heart disease	MCCT103	60	40
Epidemiology & Biostatistics	MCCT104	60	40
Total	_	**240**	**160**
SECOND YEAR - Total Hours 1300			
Congenital Heart Diseases	MCCT201	60	40
Cath and Intervention in myocardial, pericardial Disease & Non cardiac intervention	MCCT202	60	40
Recent Advances in Intervention	MCCT203	60	40
Dissertation	MMCT204	_	500
Total		**180**	**620**

Scheme of Examination:

Course	Course Code	Assessment			
		Hours	Internal	External	Total
FIRST YEAR					

X-Ray Physics, Instrumentation, Hardware's and sterility	MCCT101	3	20	80	100
Electrophysiology and Cardiac Pacemakers	MCCT102	3	20	80	100
Ischemic & Valvular heart disease	MCCT103	3	20	80	100
Epidemiology & Biostatistics	MCCT104	3	20	80	100
Total			**80**	**320**	**400**
SECOND YEAR					
Congenital Heart Diseases	MCCT201	3	20	80	100
Cath and Intervention in Myocardial, pericardial Disease & Non cardiac Intervention	MCCT202	3	20	80	100
Recent Advances in Intervention	MCCT203	3	20	80	100
Dissertation	MCCT204	3	150	250	400
Total			**210**	**490**	**700**

FIRST YEAR M.SC CARDIAC CARE TECHNOLOGY

MCCT101-X-RAY PHYSICS, INSTRUMENTATION, HARDWARE AND STERILITY (60 HOURS)

Sr. No	Unit Title	Content	Hours
1.	Orientation and introduction to the course	_	1
2.	Heart and coronary anatomy for interventional cardiology	Coronary artery and coronary sinus anatomy- Cardiac chambers and peripheral anatomy	1
3.	Physiology of the coronary circulation	Coronary circulation Valvular pathophysiology Arterial disease and hemodynamic Approach, Ventricular pathophysiology	2
4.	Introduction to cardiac cath Lab	Indication and contraindication for Complications of cardiac cath	2
	(a)Cath lab data	Hemodynamic data Cine angiographic data Sterile Technique and preparation	1
	(b)Equipment's in the cath lab	X-ray cine angiographic system Physiological recorder Digital imaging formats and archiving Equipment for PCI Emergency equipment's	2
	Other adjunctive devices	Atherectomy Device Thrombectomy Embolic protection device IVUS, Doppler, Pressure Wires	4

5.	Environmental safety in Cath Lab Preparation and premedication of the patient	Blood and body fluids Blood born viruses Universal and standard precautions Environmental assessment Method of protection(Skin, Eye, Nose protection) Radiation protection	2
6.	Cine angiographic imaging, Radiation safety /Protection and contrast agents	GM	1
7.	Principle and catheterization	X-ray cine angiographic system -Operational radiation management	2
	laboratory equipment's (SP)	General principle of coronary artery brachytherapy X-ray Computed tomography and MRI of the coronary arteries Intracardiac echocardiography in the Cath lab Cath lab physiological recorders	
8.	Cardiac Cath basic Technique (GM)	Percutaneous approach :- Femoral approach, radial and brachial approach and its advantages	2
9.	Angiographic techniques (GM)	Coronary angiography Cardiac ventriculography Pulmonary angiography Angiography of the aorta and peripheral artery	3
10.	Special cardiac catheterization techniques	Evaluation of myocardial blood flow and metabolism Intravascular imaging Techniques IABP and other circulatory assist device	2
11.	Hardware	Hardware for diagnostic procedures coronary intervention Valvularintervention Closure devices Pacing devices	2
12.	Complication of cardiac Cath and optimal use of adjunctive pharmacology (GM)	Myocardial infarction Cerebrovascular complications Puncture site complication Renal dysfunction, Hypotension, Volume overload Arrhythmia and conduction disturbances	2

13.	Right heart catheterization	_	1
14.	Left heart catheterization		1
15.	Other procedures	Pericardiocentesis Electrical cardio version Endomyocardial biopsy IABP, TEE	2
16.	Cardiac Cath in infants and children	-	1
17.	Hemodynamic principles	-	1
18.	Percutaneous coronary angioplasty	Indications Hardware: Guiding catheters, Guide wires, Balloons, Stents Procedure Femoral approach Radial approach Complication	2

MCCT102 - ELECTROPHYSIOLOGY AND CARDIAC PACEMAKERS (60 HOURS)

Sr. No	Unit Title	Content	Hours
1.	The chest radiography in cardiovascular Diseases The normal chest radiography	Cardiac chambers Aorta/GA Lung and pulmonary vasculature	2
	Evaluation chest radiography in heart Disease	Lung and pulmonary vasculature Cardiac chambers and great arteries Pleura and pericardium	3
2.	Cardiac pharmacology		
	Anticoagulants	Heparin Low molecular weight heparin Warfarin Direct thrombin inhibitors	2
	Antiplatelet	Aspirin Clopidogrel glycoprotein IIb/IIa inhibitor	2

	Thrombolytic agents	Streptokinase Urokinase Tissue plasminogen activator(TPA)	2
	Other cardiovascular	Atropine	3
	drugs	Lidocaine	
	Adrenergic Receptors	Procanaimide Diltiazem Adenosine Sodium Bicarbonate Morphine Calcium chloride Dopamine Dobutamine Isoproterenol Nor epinephrine Digitalis(Digoxin) NTG Beta blockers Diuretics	2
3.	Cardiovascular Resuscitation	_	
	Basic and advanced life support	Approach to emergency cardiac care: VF, Hypotention,VT Asystole, Pulse less electrical activity	3
	Chance of survival	Adjucts of airway control Airway control, Airway adjuncts, Endotracheal intubation,	2
		Clinical profile of sudden unexpected cardiac arrest- Principle and management Approach to treatment Algorithms Approach to resuscitation	
4.	Electrophysiology	Diagnosis of cardiac arrhythmias(diagnostic tests) Holter, Exercise test, HR variability, QT Dispersion and SAECG, Tilt table test	3
	Genesis of cardiac arrhythmias Electrophysiological consideration	Intra ventricular conduction disturbance	3
	Invasive EP study	AV blocks Sinus node dysfunction Complications	2
	Therapy for cardiac	Pharmacological therapy(anti	3
	arrhythmia	Arrhythmic drugs classification) Direct current electrical cardio version ICD Ablation therapy Surgical therapy for tachyarrhythmia	
5.	Cardiac pacemakers and ICD	Guidelines for pacemaker, ICD and CRT Cardiac electrical stimulation principle of bioelectric stimulation Hemodynamics of physiology pacing Pulse generator, Hardware and components Pacemaker modes and timing cycle	8

		Rate adaptive pacemakers	
		Electrical therapy for ventricular tachyarrthmias (ICD therapy) Trouble shooting in pacemakers and ICD. Early and late Complications	
6.	3D mapping		4

MCCT103 - ISCHEMIC AND VALVULAR HEART DISEASE (60 HOURS

Sr. No	Unit title	Content	Hours
1.	Understanding coronary circulation	Pathogenesis of atherosclerotic plaques Abnormalities of coronary perfusion Anomalies of the Coronary circulation Wall motion scoring Global ventricular function Myocardial infarction Complication of MI Surgical aspect of IHD	3
2.	Angiographic technique	-Femoral and radial or brachial approach Adverse effect of coronary angiography Views and quantification of stenosis Coronary collaterals Coronary vasospasm Myocardial bridge Left ventriculography, Technique, Analysis. Complications	3
3.	Coronary angioplasty	Common angiographic views for coronary angioplasty Angiographic TIMI classification of blood flow Angiographic classification of collaterals flow Assessment of coronary stenosis Coronary lesion description for angioplasty Problem and solution in the interpretation of coronary angiogram	4
4.	Complications of PCI	MI during PCI Abrupt vessel closure after PCI Intracoronary thrombus Dissection Hypotension Arrhythmia Peripheral vascular complication	9

		No flow/slow flow/No-Reflow phenomena Stent thrombosis Complication related to radiographic contrast media	
	Non balloon PCI devices	Rotational ablation catheters Directional coronary atherectomy Thrombus aspiration system Embolic protection devices Cutting balloons	
	Restenosis, Brachytherapy and drug eluting stents	In stent restenosis and management brachytherapy DES	
5.	Difficult situation in PCI And strategies	Side branch and bifurcation stenosis and approach Eccentric stenosis Severe calcific stenosis Ostia lesions Total coronary occlusion Multivessel PCI IMA PCI PCI for bypass graft PCI for unstable angina and acute MI PCI for cardiogenic shock	3
	High risk PCI	Identifying the high-risk PCI patient ACC/AHA lesion classification Patient related and clinical risk factors Risk reduction and support of the high risk PCI Management of complication	2
	Percutaneous therapy for valvular heart disease	Hemodynamic information derived from echocardiography MS,MR,AR,AS,TR,TS Indications for balloon valvuloplasty(MS,AS) Angiographic assessment of valvular lesions(MR,AR)	2
	BMV	Balloon selection and technique for mitral valvuloplasty – Complications	2
		Post procedural evaluation Management of complications	
	Aortic Valvulolasty	Indications Technique(Retrograde and ante grade technique) balloon selection Procedure Complication	2
	Pulmonary and tricuspid valvuloplasty	Management Indications-Selection of balloons Technique	2

		Results Complication	

MMCT104- EPIDEMIOLOGY & BIOSTATISTICS (60 HOURS)

Sr. No	Topics	Hours
1.	**Introduction** Introduction to Biostatistics& Research Methodology, types of variables & scales of measurements, measures of central tendency and dispersion, Skewnessan Kurtosis Rate, ratio, proportion, incidence & prevalence and their meaning.	4
2.	**Sampling** Random & non-random sampling, various methods of sampling- simple random, stratified, systematic, cluster and multistage. Sampling and non-sampling errors.	4
3.	**Basic probability distribution and sampling distributions** Concept of probability distribution, normal, Poison and Binomial distributions, parameters and applications. Concept of sampling distributions. Standard error and confidence intervals.	6
4.	**Tests of Significance** Basics of testing of hypothesis - Null and alternate hypothesis, type I and type II errors, level of significance and power of the test, p value. Tests of significance (Parametric) T - test (paired & unpaired), Chi square test and test of proportion, one-way analysis of variance. Repeated measures analysis of variance. Tests of significance (nonparametric) - Mann Whitney U Test, Wilcoxon Test, Kruskal - Wallis analysis of variance Friedmann's analysis of variance	10
5.	**Correlation and Regression** Simple correlation-Pearson's and Separman's methods; testing the significance of correlation co-efficient simple and multiplelinear regression.	4
6.	**Sample size determination** General concept Sample size for estimating means and proportion, testing of difference in means and proportions of two groups and more than two groups	4
7.	**Study Designs** Descriptive epidemiological methods - case series analysis and prevalence studies. Analytical epidemiological methods - case control and cohort studies, Clinical trials / intervention studies, odds ratio and relative risk, stratified analysis.	10
8.	**Multivariate analysis** Concept of multivariate analysis, introduction to logistic regression and survival analysis	6
9.	**Reliability and validity evaluation of Diagnostic Tests** Cronbach's alpha and Test – retest methods	4

10.	**Format of Scientific documents** Structure of Research protocol, structure of thesis/research report, formats of reporting in scientific journals. Systematic review and meta-analysis.	8

SECOND YEAR M. SC CARDIAC CARE TECHNOLOGY

Each student shall undergo training in Skill Simulation Laboratory for learning certain basic clinical skills like IV/IM injection, setting IV line, Cardio-pulmonary resuscitation (CPR), and Life support skills in the beginning of second year, for duration of continuous four days. (Board of Studies letter No.:FPMS/SV/BOS-MIN/0006/2016-17, dated 19/04/2017, and vide notification of Board of Management resolution Ref.:No. SVDU/R/2017-18/5056, dated 09/01/2018).

MMCT201 - CONGENITAL HEART DISEASE (60 HOURS)

Sr. No	Unit title	Content	Hours
1.	Introduction	Basics of Cath and Intervention in Congenital Heart Diseases	1
2.	Basics	Shunt detection and Quantification - detection of left to right intracardiac shunts -oxymetry run-calculation of pulmonary blood flow and resistance(QPand PVR),-Calculation of systemic bloodflow and resistance(QS and SVR),-Flow ratio-calculationof bidirectional Shunt, -Eisenmenger's physiology	3
3.	Indications for CHD	Diagnostic catheterization indications and angiographic views in CHD	2
4.	Approach to the paediatric cath	_	1
5.	Cardiac output measurement	Various methods	2
6.	Oxygen consumption measurements	Various methods and pitfalls	2

7.	Oxygen saturation	Oximetry run	2
8.	Blood flow	Qp, Qs, Qep,Qes calculation	3
9.	Vascular resistance	SVR,PVR	3
10.	Intracardiac shunt lesions	Step-up and step-down of O2 saturation shunt calculation	6
11.	Interventions in acynotic heart DiseaseCHD	Cath, angiography and intervention in PFO,ASD VSD -PDA	10
12.	Cyanotic Heart disease	TGA, TAPVC, TA, DORV, DOLV, Ebstein, HLHS,	10
13.	Extra cardiac shunts	Fistulas intervention	3
14.	Venacaval anomalies	Intervention	2

MMCT202- CARDIAC CATH AND INTERVENTION IN MYOCARDIAL, PERICARDIAL DISEASE & NON-CARDIAC INTERVENTION (60 HOURS)

Sr. No	Unit title	Content	Hours
1.	Introduction		1
2.	Hypertrophic cardiomyopathy	Morphological variants, diagnosis, hemodynamics, assessing gradients, evaluation of therapy, pre and post procedural evaluation PTSMA methodology and complications	4
3.	Idiopathic dilated cardiomyopathy	Diagnosis and differentiation from other disorders Myocardial biopsy	2
4.	Restrictive cardiomyopathy	Diagnosis, hemodynamics	2
5.	Disease of the pericardium	Pericardial effusion Detection , quantitation of fluid Cardiac tamponade, pericardial aspiration Techniques Constrictive pericarditis Differentiation from Restrictive cardiomyopathy	4
6.	Aortic disease	Aortic dilation and Aneurysm Aortic dissection diagnosis and classification False aneurysm RSOV aneurysm Intervention in aortic aneurysm Aorto-LV tunnel Atherosclerosis	4
7.	Vascular Intervention	Mesenteric, celiac, Iliac artery intervention	3

8.	Carotid and cerebrovascular intervention	Aortic arch classification, intervention and complications CoA intervention	4
9.	Upper and lower extremity	Intervention and complications	3
10.	Renal artery intervention	Intervention and complications	3
11.	Venous intervention	IVC filter, Budd Cheri intervention, CS intervention	3

MMCT203 - RECENT ADVANCES IN INTERVENTION (60 HOURS)

Sr. No	Unit title	Content	Hours
1.	Introduction		1
2.	Percutaneous Mitral Valve Repair		3
3.	Percutaneous Aortic valvular approach	Percutaneous heart valve Implantation TAVI Mitral clip	5
4.	Pulmonary and Tricuspid valve implantation		4
5.	Stem Cell Therapy for IHD		1
6.	Percutaneous Ballon pericardiotomy for patient with Pericardial effusion and tamponed		2
7.	The LAA intervention	LAA closure device implantation	2
8.	PTSMA		2
9.	Support & Adjunct Devices	Support devices for High risk percutaneous coronary interventions. -Cutting Balloon, Thrombectomy Laser, Ultrasound &Atherectomy	3
10.	Cardiac Assist devices	Impella ECMO	3
11.	Intracoronary	Intracoronary Pressure & flow measurement IVUS & OCT Functional Flow Reserve (FFR)	3
12.	Trials	Preclinical and clinical trails	3

13.	CRT	Resynchronization therapy for heart failure and combo device	3
14.	Quantitative CAG	Coronary angiography	2

MMCT204- Dissertation/Research project (500 HOURS)

Each candidate will have to carry out of a dissertation on the related subject. The dissertation will be guided by one or two members of the faculty or cardiologist. The dissertation will be evaluated by the External/Internal Examiners at the time of viva voice examination of the candidate during the second year and the candidate will be asked to make presentation before the External/Internal Examiner.

The final dissertation duly approved by the External/Internal examiners will be submitted to the Dean's office with the result. The dean's office will send the dissertation to the library for record.

Every candidate shall submit to the Registrar (Academic) of the University in the prescribed Performa, a synopsis containing particulars of proposed dissertation/ research project work within six months from the date of commencement of the course on or before the date notified by the University. The synopsis shall be sent through the proper channel.
Such synopsis will be reviewed and the University will register the dissertation/ research project topic. No change in the dissertation topic/ research project or guide shall be made without prior approval of the University.

The dissertation/ research project should be written under the following headings:
Introduction
Aims or objectives of study
Review of literature
Material and methods
Results
Discussion
Conclusion
Summary
References
Tables
Annexure

The written text of dissertation/ research project shall not be less than 50 pages and shall not exceed 100 pages excluding references, tables, questionnaires and other annexure. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. A declaration by the candidate for having done the work should also be included, and the guide, head of the department and head of the institution shall certify the dissertation/ research project.

Four copies of Dissertation/ research project shall be submitted to the university, through proper channel, along with a soft copy (CD), 6 months before the final examination.

It shall be assessed by two examiners appointed by the university, one internal and one external. No marks shall be awarded for Dissertation/ research project. Acceptance of the dissertation/ research project is a pre-requisite for a candidate to be permitted to appear for final examination. If there are corrections in the dissertation / research project suggested by the examiner(s), the candidate may make such corrections and may be allowed to re-submit in time and if approved can appear for the examination.

CODE OF PROFESSIONAL CONDUCT

INTRODUCTION

The Code of Professional Conduct is designed and set out as guidance for the Cardiac Physiologist functioning as a clinical practitioner within the relationship that exists with every patient receiving health care.

Essential to that relationship is the patient's trust in the practitioner. This trust hangs upon the patient's assurance of being the practitioner's first concern during their clinical encounter, and upon the patient's confidence that the care received will be competent, whether in diagnosis, therapy or counseling.

STANDARD OF PRACTICE AND CARE

Patients are entitled to the highest standard of practice and care. The essential elements of this are professional competence, good relationships with patients and colleagues and observance of professional ethical obligations.

In providing care you must therefore:

- Recognize the limits of your professional competence.
- be willing to consult colleagues
- Keep clear, accurate and contemporaneous patient records which report the relevant findings.
- Keep colleagues informed.
- Pay due regard to the efficacy and the prudent use of resources.
- be competent, truthful, and accurate, when reporting on investigations.
- be competent when giving or arranging treatment.

KEEPING UP TO DATE

You must maintain the standard of your performance by keeping your knowledge and skills up to date throughout your working life. In particular, you should take part regularly in educational activities which relate to the clinical application of cardiovascular science and

technology.

You must work with colleagues to monitor and improve the quality of the service which is provided.

Some parts of clinical and technical practice are governed by law. You must observe and keep up to date with the laws which affect your practice.

TEACHING

The Society for Cardio logical Science and Technology encourages you to contribute to the education and training of colleagues.

All competent practitioners should be prepared to supervise less experienced colleagues.

If you have special responsibilities for teaching you should develop the skills of a competent teacher. If you are responsible for training junior colleagues you must make sure they are properly supervised.

Patients' Rights

- Listen to patients and respect their views.
- Treat patients politely and considerately.
- Respect patients' privacy and dignity.
- Give information to patients in a way they can understand.
- Respect the right of patients to be fully involved in decisions about their care.
- Respect the right of patients to refuse treatment or to take part in teaching or research, reporting the refusal to the person requesting the procedure.
- Respond to complaints promptly and constructively.
- Ensure that your views about a patient's life style, culture, beliefs, race, color, sex, sexuality, age, social status, or perceived economic worth, do not prejudice the service you give.

CONFIDENTIALITY

Patients have a right to expect that you will not pass on any personal information which you learn in the course of your professional duties, unless they agree.

Attested CTC

15/2/2021

Vice-Chancellor
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ABUSE OF PROFESSIONAL POSITION

You must not abuse your patients' trust.

You must not, for example:

- Use your position to establish improper personal relationships with patients or their close relatives.

- Influence your patient to give money or other benefits to you or other people.

- Improperly disclose or misuse confidential information about a patient.

DUTY TO PROTECT PATIENTS

You have a duty to protect patients if you believe that a colleague's conduct, performance, or health, is a threat to them.

Before taking action, you should do your best to find out the facts. Then, if necessary, you must tell someone from the employing authority or from a regulatory body. Your comments about colleagues must be honest. If you are not sure what to do ask an experienced colleague. The safety of patients must come first at all times.

IF YOUR HEALTH MAY PUT PATIENTS AT RISK

If you have or are carrying a serious communicable condition, or if your judgment or performance could be significantly affected by a condition or illness, you must take and follow advice from a consultant in occupational health, or another suitably qualified person, on whether and in what ways you should modify your practice.
Do not rely on your own assessment of the risk to patients.

If you think you have or are carrying a serious communicable condition you must have all the necessary tests and act on the advice given to you by a qualified medical practitioner about necessary treatment and /or modification to the clinical service you are committed to give.

WORKING WITH COLLEAGUES

You must not give grounds for a patient to doubt a colleague's knowledge or skills through any comments you may make.

Health care is increasingly provided by multi-disciplinary teams. You are expected to work constructively within such teams and to respect the skills and contributions of colleagues.

You must ensure that any information you possess or acquire that has a bearing on the clinical management of a patient is communicated promptly and fully to those individuals who need to know.

If you are leading a team, you must do your best to make sure that the whole team understands the need to provide a polite and effective service, and to treat patient information as confidential.

GIFTS AND HOSPITALITY

You should not ask for, or accept from, companies, any rewards, except those of insignificant value.

You must not ask for or accept fees for agreeing to meet sales representatives.

You may accept personal travel grants and hospitality from companies for conferences or educational meetings, as long as the main purpose of the event is educational. The amount you receive must not be more than you would normally spend if you were paying to attend.

RESEARCH

If you are taking part in clinical trials, or any other form of patient based research, you must make sure that the research is not contrary to the patient's interests. Check that the research protocol has been approved by a properly constituted research ethics committee.

You must keep to all aspects of the research protocol. Your conduct in the research must not be influenced by payments or gifts.

You must always record your research results truthfully and maintain adequate records. In publishing the results you must not make unjustified claims for authorship.

You must always be prepared to explain and justify your actions and decisions.

DISCIPLINARY CODE FOR CARDIACPHYSIOLOGISTS

The Cardiac Physiologist has an obligation to adhere at all times to a standard of conduct, appropriate to the high standing of the Profession in its clinical care of patients, and meriting the confidence of the general public.

The Cardiac Physiologist shall adhere at all times to the Code of Professional Conduct of the Society for Cardiovascular Science and Technology (hereinafter referred to as 'the Society'). A breach of the Code constitutes professional misconduct and may result in disciplinary proceedings being taken against the Cardiac Physiologist by the Discipline Committee of the Society.

The Cardiac Physiologist may be subject to disciplinary proceedings by the Discipline Committee if any of the following applies:-

1. The Cardiac Physiologist neglects the professional responsibility owed to a patient by harming personal integrity, applying discriminatory practices, or by attempting to carry out procedures in respect of which the Cardiac Physiologist does not have the necessary authority, training or skill.

2. The Cardiac Physiologist is dismissed by an employer. Action falling short of dismissal would not normally give rise to disciplinary proceedings unless the circumstances were to breach another part of the Code.

3. There is a finding of serious misconduct in a professional respect against the Cardiac Physiologist.

4. The Cardiac Physiologist is convicted by a court of law of a criminal offence which may reflect adversely on the Profession.

5. The Cardiac Physiologist accepts a favor or gift (other than of insignificant value) or receives hospitality from a donor whose action might be construed as an attempt to secure preferential consideration.

It is not possible to provide a comprehensive list of every breach of discipline likely to come under scrutiny but the following examples are indicative:-

- Reckless or unskillful practice
- Failure to protect or promote the interests of patients.
- Physical, sexual, or verbal abuse of patients.
- Failure to act knowing that a colleague is improperly treating, or abusing, patients.
- Improper disclosure of confidential information about patients.
- Concealment of untoward incidents
- Falsification of records
- Failure to keep essential and accurate records.
- Theft from patients, employers or colleagues
- Drug related offences

COMPLAINTS ALLEGING MISCONDUCT

When in the course of professional duties a Member becomes aware of what appears to be an instance of misconduct in a professional sense it is the duty of that Member to report the circumstances.

MAKING A COMPLAINT

Complaints alleging misconduct shall be made in writing to the Chairman of Council.

The letter should set out the essentials of the complaint and provide as much information as is available to assist identification of the practitioner on the Council's register. When the practitioner has been identified a summary of the letter of complaint will be sent to the practitioner for comment.

Where the complaint arises from an incident associated with the practitioner's professional practice, which is not and has not been the subject of criminal proceedings, it should be reported as soon as possible. This helps to ensure that the incident will be fresh in the memory of potential witnesses and also that those witnesses will still be readily available. If the matter is serious enough to warrant an allegation of misconduct, it should be reported immediately rather than eventually.

The formal report of a complaint alleging misconduct should not be delayed pending the completion of employment appeal procedures.

A complaint can be submitted by any person who has knowledge of a court hearing involving an individual whose name appears on the Society's Register, and who believes that the offence of which the practitioner has been found guilty calls into question that individual's future registration status.