2010/11 Batch (Year 3 Semester I)
Pharmacology – I

Topic	Objectives	Time (hrs)	T/L activity	Comments
2010-3/PHARM-SBM-2/01				
Drugs in Cardiovascular Disease a. Drugs affecting cardiac function/ peripheral vascular tone	1. recall the physiological mechanisms of regulation of myocardial contractility and vascular tone 2. list the drugs that affect myocardial contractility 3. describe the mechanisms of action, pharmacokinetics, adverse effects and drug interactions of drugs affecting myocardial contractility 4. list the drugs that affect vascular tone 5. describe the mechanisms of action, pharmacokinetics, adverse effects and drug interactions of drugs affecting vascular tone 6. list the classes of drugs used in the treatment of hypertension 7. explain the principles involved in the selection of antihypertensive drugs in clinical practice 8. list the drugs used in the treatment of cardiac failure 9. explain the pathophysiological basis of drug therapy in cardiac failure 10. explain the pathophysiological basis of drug therapy in stable angina and acute coronary syndromes	7 3	Lecture SGD	
b. Drugs affecting coagulation	1. recall the physiological pathways of coagulation and fibrinolysis 2. list the commonly used • anticoagulant drugs • antiplatelet drugs • fibrinolytic drugs • antifibrinolytic drugs 3. describe the mechanism of action, pharmacokinetics, clinical uses, adverse effects and drug interactions of anticoagulants, antiplatelet drugs, fibrinolytic drugs and antifibrinolytic drugs			

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	4. compare and contrast unfractionated heparin and LMWHs 5. explain the basis of monitoring anticoagulant therapy			
c. Lipid regulating drugs	1. list the classes of lipid regulating drugs 2. describe the mechanism of action, pharmacokinetics and adverse effects of lipid regulating drugs 3. explain the principles involved in the selection of lipid regulating drugs in clinical practice			
d. Drugs in cardiac arrhythmias	1. outline the pathogenesis of cardiac arrhythmias 2. classify the antiarrhythmic drugs 3. describe the mechanism of action, pharmacokinetics and adverse effects of commonly used antiarrhythmic drugs			
2010-3/PHARM-SBM-2/02				
Drugs in Respiratory Diseases a. Asthma and COPD	1. recall the aetiology and pathophysiology of Asthma and COPD 2. list the classes of drugs used in the treatment of asthma and COPD 3. describe the mechanism of action, pharmacokinetics and adverse effects of the above drugs 4. identify the drug delivery devices used in asthma and COPD 5. give instructions to a patient on the use of above devices	2	Lecture	2h lecture demonstration on devices at the skills laboratory
b. Pulmonary tuberculosis	1. list the first and second line antituberculous drugs 2. describe the basis of drug treatment of tuberculosis 3. describe the mechanism of action, pharmacokinetics and adverse effects of the first line antituberculous drugs 4. describe the measures that can be taken to reduce the emergence of drug resistance in tuberculosis	3	SGD	
2010-3/PHARM-SBM-2/03				
Drugs in Bone and Joint Disorders a. Metabolic bone disease b. Osteoporosis	1. recall the physiological mechanisms involved in calcium and phosphate homeostasis 2. list the different types of vitamin D and its derivatives used in the treatment of metabolic bone disease	3 2	Lecture SGD	

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	3. explain the basis of using vitamin D and its derivatives in different metabolic bone diseases 4. explain the basis of drug treatment of hypercalcaemia and hypocalcaemia 5. list the drugs that are used in the treatment and prevention of osteoporosis 6. describe the mechanism of action, pharmacokinetics and adverse effects of the above drugs			
c. Drugs used in joint diseases	1. list the drugs that are used in the treatment of inflammatory joint disease 2. describe the mechanism of action, pharmacokinetics and adverse effects of the above drugs 3. explain the basis of using disease modifying antirheumatoid drugs			
a. Diuretics	1. classify diuretics on the basis of mechanism of action and efficacy 2. describe the mechanism of action, pharmacokinetics, adverse effects and clinical uses of diuretics			
b. Intravenous fluids (iv) and oral rehydration solution (ORS)	1. Classify iv fluids into different categories (eg. Colloids and crystalloids) 2. Discuss differences in iv fluids in relation to their distribution in different fluid compartments 3. Describe clinical uses and adverse effects of iv fluids 4. List constituents of ORS 5. list clinical uses of ORS			2h SGD to be done in collaboration with the Department of Anaesthesiology
c. Thyroxine and antithyroid drugs	1. recall the steps in the synthesis and secretion of thyroid hormones 2. recall the physiological effects of thyroid hormones 3. describe the pharmacokinetics of thyroxine 4. explain the principles underlying replacement therapy and suppressive therapy with thyroxine 5. describe the mechanism of action, pharmacokinetics, clinical uses and adverse effects of antithyroid drugs	8 6	Lecture SGD	2h lecture demonstration on insulin injection at skills lab
d. Antidiabetic drugs	1. recall the mechanism of insulin secretion and its regulation 2. list the classes of antidiabetic drugs 3. describe the mechanism of action, pharmacokinetics, adverse effects of antidiabetic drugs 4. describe the principles underlying the manufacture and storage of			2h SGD to

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	insulins 5. explain the principles underlying the use of antidiabetic drugs during acute metabolic complications (such as ketoacidosis), pregnancy, severe illness and surgery 6. give relevant advice on insulin treatment to a patient (eg. insulin injection techniques, recognition of hypoglycaemia)			cover drugs used in diabetes and thyroid diseases
e. Glucocorticoid and Mineralocorticoid drugs	1. recall the physiological effects of adrenocortical steroids 2. describe the anti-inflammatory and immunosuppressive effects of glucocorticoids 3. describe the mechanism of action, pharmacokinetics, clinical uses and adverse effects of glucocorticoid and mineralcorticoid drugs 3. compare the relative potency, glucocorticoid / mineralcorticoid activity and duration of action of commonly available steroid drugs 4. explain the principles underlying replacement therapy in adrenocortical insufficiency 5. describe the precautions that can be taken to minimize the adverse effects of long-term steroid therapy			
f. Immunomodulating drugs	1. describe the basis of using immunomodulating drugs in clinical practice 2. list the commonly used immunomodulating drugs 3. describe the mechanism of action, pharmacokinetics, clinical uses and adverse effects of the above drugs			

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Module Summary

Lectures (hrs)	SGD (hrs)	Total (hrs)
20	**14**	**34**

Examination Format

Credits	MCQ (hrs)	Essay
2.0	1	1