GENERAL PATHOLOGY

GOAL OF THE GENERAL PATHOLOGY MODULE

To equip the student with an understanding of the basic disease processes as a foundation for subsequent pathological and clinical studies.

GENERAL OBJECTIVES

This module aims to provide core concepts and knowledge of basic pathological processes.

THEMES

Some of the sub-themes should be considered in conjunction with corresponding modules as indicated in *italics.*

1. Introduction and Overview
2. Principles of Cellular Injury
3. The Cellular Response to Injury
4. Cellular Growth, Differentiation and Maturation: Cellular Adaptation

Host Response to Injury:

5. The Acute Inflammatory Response
6. *The Immune Response*
7. Chronic Inflammation
8. Tissue Healing and Repair

Agents Causing Tissue Injury:

9. *Immunologic Injury*
10. Haemodynamic Disorders I: Congestion, Oedema, Haemorrhage and Shock
11. Haemodynamic Disorders II: Thrombosis, Embolism and Infarction
12. *Infectious Diseases I*: *Mechanisms of Tissue Changes in Infection*
13. *Infectious Diseases II*: *Tuberculosis*

14. *Neoplasia*

SPECIFIC OBJECTIVES
At the end of this module, the student will be able:

THEME 1: INTRODUCTION AND OVERVIEW — **PA**/gen/L1; P1

1.1 to define the terms "aetiology", "pathogenesis", "morphology" and "pathophysiology".
1.2 to list and discuss the broad categories of disease processes
(a) congenital : genetic, non-genetic
(b) acquired : inflammatory, ischaemic, immunologic, infectious, neoplastic, metabolic and nutritional
1.3 to recognise the role of pathology in clinical practice

PA/gen /L2; P2; T1

THEME 2: PRINCIPLES OF CELLULAR INJURY

2.1 to discuss general causes of tissue injury
2.2 to describe the parenchymal and interstitial effects of tissue injuries

PA/gen /L3; P3; T2

THEME 3: THE CELLULAR RESPONSE TO INJURY

3.1 to distinguish between the different forms of host tissue response to injury
3.2 to compare and contrast the mechanisms, morphology and outcomes of cell degeneration and cell death (necrosis & apoptosis)

THEME 4: CELLULAR GROWTH, DIFFERENTIATON AND MATURATION: CELLULAR ADAPTATION — **PA**/gen /L4; P4; T3

4.1 to define and differentiate between the terms: "hyperplasia", "hypertrophy", "atrophy", "metaplasia" and "dysplasia"
4.2 to list examples of common physiological and pathological states giving rise to each of the above processes
4.3 to explain each process in terms of the cell cycle and types of cells, and molecular events in cell growth
4.4 to define the terms: agenesis, dysgenesis, hypoplasia and aplasia; and give examples of each
4.5 to define the term: hamartoma; and give examples

THEME 5: THE ACUTE INFLAMMATORY RESPONSE — **PA**/gen /L5; P5; T4

5.1 to appreciate the role of the acute inflammatory response in the body's defence mechanisms
5.2 to describe the sequence of events in the acute inflammatory response and discuss the roles of the different components of the response
5.3 to appreciate the possible pathological sequelae of acute inflammation
5.4 to list the local and systemic clinical changes that can result from acute inflammation

THEME 6: ***THE IMMUNE RESPONSE***		*Cross refer* **IM module**
THEME 7: CHRONIC INFLAMMATION		**PA**/gen /L6; P6; T5
7.1	to explain the process of chronic inflammation	
7.2	to explain the process of granulomatous inflammation	
7.3	to identify the morphologic patterns in acute and chronic inflammation	
7.4	to identify the factors that can modify the inflammatory reaction	
7.5	to discuss the sequelae and systemic effects of chronic and granulomatous inflammation	
THEME 8: TISSUE HEALING AND REPAIR		**PA**/gen /L7; P7; T6
8.1	to appreciate the relationship between cellular growth, fibrosis and wound healing	
8.2	to describe the process and outcome of regeneration	
8.3	to describe the process and outcome of fibrous connective tissue repair	
8.4	to list the factors that influence wound healing and describe the possible complications	
8.5	to present an overview of the inflammatory-reparative response	
8.6	to discuss the clinicopathological consequences of damage and healing in specific tissues: liver, kidney, lung, heart, nervous system, bone	
THEME 9: ***IMMUNOLOGIC INJURY***		*Cross refer* **IM module**
THEME 10: HAEMODYNAMIC DISORDERS I: CONGESTION, OEDEMA, HAEMORRHAGE AND SHOCK		**PA**/gen /L8; P8; T7
10.1	to define the terms: hyperaemia, congestion, oedema, haemorrhage and shock	
10.2	to describe the effects of congestion on various organs	
10.3	to discuss the pathophysiologic categories and causes of oedema and the mechanisms by which it occurs	
10.4	to discuss the clinicopathological forms of haemorrhage and explain the causes, effects and complications including disseminated intravascular coagulation	
10.5	to discuss the categories, causes and mechanisms of the different types of shock and describe the clinicopathological consequences in vital organs	

THEME 11:	**HAEMODYNAMIC DISODERS II: THROMBOSIS, EMBOLISM AND INFARCTION**	**PA**/gen /L9; P8; T7
11.1	to define the terms: thrombosis, embolism and infarction	
11.2	to describe the pathogenesis, fates, effects and complications of a thrombus	
11.3	to characterize the various forms of emboli, their effects and complications	
11.4	to describe the causes, effects and complications of infarction	
THEME 12:	***INFECTIOUS DISEASES I: MECHANISMS OF TISSUE CHANGES IN INFECTION***	*Cross refer* **MB module**
THEME 13:	***INFECTIOUS DISEASES II: TUBERCULOSIS***	*Cross refer* **MB** module
THEME 14:	***NEOPLASIA***	*Cross refer* **CA**/pat/L1-3; P1; T1.T2

Gsl/c:/4th Jan 2000