

AJK Medical College, Muzaffarabad



Study Guide

Growth & Development

G&D-0104

(1st Year MBBS)

Pre-Requisite: FM, CMB & Blood & Immunity Module

Duration: 2-Weeks

Starting on:

DEPARTMENT OF MEDICAL EDUCATION
AJK Medical College, Muzaffarabad

Table of Contents

Sr.	Title	Page#
1	Growth and development module Team	4
2	Rationale of Module	5
3	Learning Strategies	5-6
4	Assessments	6
5	TOS	7
6	Themes	8
7	Learning Objectives	9
8	PBL	10
9	Recommended Books	11
12	Important Notice	12
12	Time Table	(13-14)
13	Trouble Shooting	15

Growth & Development Module Team

1.	Prof. Jamshed Ali	Patron-in-Chief/Principal/Dean
2.	Dr. Shakil Sadiq	Module Planner
3.	Dr. Shafaq Hanif	Module Coordinator
4.	Dr. Sarmad Latif Awan	DME
5.	Dr. Mateen Khan	Member
6.	Dr. Shaukat Hayat	Member
7.	Dr. Fouzia Hameed	Member
8.	Dr Zahid Azeem	Member
9.	Dr. Asad Bilal Arif	Member

Rationale of Module

This module has two themes which will introduce you to embryology, physical development and dermatology. In this module you will learn how a single cell (zygote) divides, grows and differentiates into a complete human being. Your teaching & learning will be case-based to create clinical relevance and emphasize its importance for you as medical student to know about the basic sciences.

MODULE ORGANIZATION

LEARNING STRATEGIES

Module consists of themes, each based on learning objectives. The module will apply different modes of instruction briefly describe below. Major emphasis will be on Discussion, Analysis and deduction, all by the student and guided by the tutor.

Entire Curriculum will be delivered by the clinical case scenarios, each related to a theme. Read the cases and learning objectives of the theme which you are supposed to encounter next day. Understand and explain the cases to yourself and read the relevant information. Following learning/teaching strategies will be employed to discuss the cases.

SMALL GROUP DISCUSSION (SGD)

Main bulk of the course content will be delivered in the small group sessions. Each theme has an associated case. The case will be the centre around which learning will take place. Depending upon the case you might be required to deduce objectives or learning issues. Every group will have a facilitator to guide you and moderate.

LARGE GROUP INTERACTIVE SESSION (LGIS)

Large group instruction will be sparingly employed at time. Attend large group sessions to resolve queries, conceptual learning and to standardize learning of all groups.

HANDS ON ACTIVITIES/PRACTICAL

Practical activities, linked with cases, will take place.

LABORATORY

Attend your scheduled Lab and take advantage of the open times to continue study. Use your Labs to correlate text structures to actual specimen in Lab practice.

SELF DIRECTED LEARNING (SDL) AND DIRECTIVE SELF LEARNING (DSL)

A few SDLs and DSLs have been added in between to create an environment for you to search literature as well as to deduce and synthesize information from different sources to meet the learning objectives.

ASSESSMENT

In this, 2-week module, you will have surprise quizzes and formative assessments. Comprehensive written assessment (SAQ, MCQ) will be held at the end of the module, whereas performance assessment (IPE) will be held at the end of the block. The marks so obtained will contribute 30% towards the end of the year Professional Examination/Summative Assessment.

Table of Specifications (Growth & Development Module)

#	Themes	%
1	Early Human Development	70%
2	Basic and Specialized Tissues	30%
	Grand Total	100%

Themes /Core Content

- 1. Early human development**
- 2. Basic and Specialized Tissues**

LEARNING OBJECTIVES

Theme-1: Early Human Development

At the end of the module the students should be able to:

- Compare the genital organs in both genders
- Understand the process of growth and differentiation
- Compare and contrast the process of gametogenesis in both genders.
- Illustrate the steps, mechanism and outcomes of fertilization and implantation.
- Describe embryological basis and manifestations of normal and aberrant implantation.
- Illustrate female reproductive cycle and correlate it with ovarian cycle.
- Describe embryological basis of outcomes of the process of gastrulation and neurulation.
- Correlate the abnormalities in the process of gastrulation and neurulation with clinical presentations.
- Describe the phenomenon of teratogenesis
- Correlate the mechanism of folding with its consequences.
- Describe the three germinal layers with their derivatives.
- Enlist the diagnostic techniques employed for the prenatal diagnosis of fetal defects.
- Compare and contrast embryo and fetus.
- Understand how fetus adjusts to life after birth.
- Describe the development of placenta, umbilical cord and fetal membranes
- Describe the process of parturition
- Describe organogenesis and morphogenesis.
- Monitoring fetal growth and development
- Filling/maintaining percentile chart

Theme-2: Basic and specialized tissue

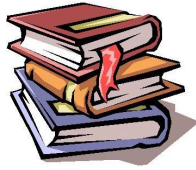
A 50 years old man presented in outdoor with 3 days history of rash on right cheek, side of neck and the back. There were associated symptoms of malaise and feeling of being unwell. He was diagnosed as a case of herpes zoster later on.

At the end of the module the students will be able to:

- Define, classify and differentiate various types of epithelia.
- Identify epithelia under light microscope; give two key points of identification of each type of epithelium.
- Compare & contrast simple, stratified and special epithelia.
- Describe different layers of skin with its contents. Identify the layers of skin under light microscope and give two points of identification.
- Discuss the mechanism of X-chromosome inactivation.
- Describe congenital disorder.
- Describe the concept of health and disease.

PBL-1 Team 2

As per facilitator directions / desire



Recommended Books

The Developing Human: Clinically Oriented Embryology

(Moore and Persaud)

Human Embryology by Liaq Hussain

Langman's Medical Embryology

Wheater's Functional Histology

(Young, Lowe, Stevens and Heath)

DiFore atlas of histology.

Textbook of Human Physiology

(Guyton and Hall)

Biochemistry – Lippincott's Illustrated Reviews (6th edition)

(Champe, Harvey and Ferrier)

Marks' Essentials of Medical Biochemistry – A Clinical Approach *(Lieberman, Marks and Smith)*

Harper's Illustrated Biochemistry

(Murray, Bender, Botham, Kennelly, Rodwell and Weil)

Caution!
Eighty percent (80%) attendance is mandatory to appear in Module/Professional/University Examination as per Pakistan Medical and Dental Council (PMDC) regulations.

AJK Medical College, Muzaffarabad

Schedule for Growth & Development – (1st Year)

Week-1

	Monday	Tuesday	Wednesday	Thursday	Friday
8 – 10 AM	LGIS Introduction to module Prof. Ghuncha	LGIS Fertilization & Implantation Prof. Ghuncha	LGIS Development of male & female reproductive systems Prof. Ghuncha	LGIS Physiological nges in mother during pregnancy Dr. Ijaz Anwar	LGIS Reproductive Health Prof. Brig^(R) Ahmed Khan
	PBL – 1A				
	(Team-1)				
	Tea Break (10:00 – 10:30 AM)				
10.30 – 12:30	DSL Seven stages of life	LGIS Developmental biology Dr. Zahid Azeem	SGD Menstrual cycle & ovarian cycle Prof. Ayub	LGIS Gametogenesis Prof. Ghuncha	LGIS Organogenesis & morphogenesis Prof. Ghuncha
	LGIS Overview of human reproductive cycle Prof. Ayub	SGD Nomenclature of male & female reproductive organs Team 1 Wrap-up Dr. Asad		PBL – 1B Dr. Asad Arif	
12:30-1:30			LGIS Nutritional requirements of the mother & the child Prof. Alam Khan		LGIS Terratogenesis Dr. Asad Arif
	Lunch & Prayer Break (1:30 – 2:00 PM)				
2:00 – 4:00 PM	Practical Hematology Team-1 & 2	Practical Hematology Team-1 & 2	Practical Hematology Team-1 & 2	Presentation Seminar	DSL Basic types of Tissues

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Schedule for Growth & Development – (1st Year)

Week-2

	Monday	Tuesday	Wednesday	Thursday	Friday
8 – 10 AM	LGIS 1 st week of fetal development Dr. Asad Arif	LGIS 2 nd week of fetal development Prof. Dr. Ghuncha	LGIS 3 rd week of fetal development Prof. Dr. Ghuncha	LGIS 4 th to 8 th week of fetal development Dr. Asad Arif	SGD Teratogenesis Team-1 Wrap-up Dr. Shafaq
Tea Break (10:00 – 10:30 AM)					
10:30–12:30	PBL -2A Team-1	SGD Compare and contrast of Embryo and fetus (Team-1) Wrap-up Dr. Asad	LGIS Concept of Health & Disease Brig® Ahmed Khan	LGIS Parturition Dr. Maj. Abida	SGD Derivatives of 3 germinal layers (Team-1) Wrap-up Dr. Asad
12:30-1:30	LGIS Physiology of pregnancy Dr. Fouzia	LGIS Placenta Dr. Mohsina Saeed	LGIS Fetal Membranes Dr. Shafaq	Dr. Ijaz Anwar	PBL-2B Dr. Asad
Lunch & Prayer Break (1:30 – 2:00 PM)					
2:00 – 4:00 PM	<u>Practical</u> Hematology Team-1 & 2	<u>Practical</u> Hematology Team-1 & 2	<u>Practical</u> Hematology Team-1 & 2	SGD Antenatal fetal assessment (Team-1) Wrap-up Prof. Nagi/Dr. Tahir	DSL Organogenesis & morphogenesis

IMPORTANT

The time table for each week will be posted on the notice board outside Lecture Hall-2, on ground floor, notice board in Medical Education Department on near library.

Student distribution and location for small group discussions (SGDs) will also be posted on these notice boards, and on the relevant SGD rooms.



For Inquiries & Trouble Shooting Please contact

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