



COURSE SPECIFICATION

Elective course Neonatology

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme offering the course.	MSc Pediatrics (PED 500)
(2) Department offering the programme.	Pediatrics
(3) Department responsible for teaching the course.	Pediatrics
(4) Part of the programme.	2nd part MSc Pediatrics – Elective course Neonatology
(5) Date of approval by the Department's council	27/4/2016
(6) Date of last approval of programme specification by Faculty council	9-8-2016
(7) Course title.	Elective course Neonatology
(8) Course code.	PED 509 ANE
(9) Total teaching hours.	15 hours

(1) Course Aims:

The broad aims of the course are as follows:

1-To provide competencies, knowledge and skills needed to practice neonatology of high quality in the community.

2- To make the candidate function with other members of the health care team for promotion of child health and welfare.

(2) Intended Learning Outcomes (ILOs):

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding

- A1.Discuss policies and practices for infection control in NICU.
- A2.Discuss different modes of ventilatory support in neonates.
 - A2.1 Identify the different ventilator parameters.
 - A2.2 Identify the best mode of ventilation for the condition of the baby.
 - A2.3 Be aware of the complications of ventilation.
 - A2.4 Discuss immediate management of ventilation complications.
 - A2.5 Provide adequate nutrition support in a baby receiving assisted ventilatory support.
 - A2.6 Apply infection prevention measures during ventilation.
 - A2.7 Identify and correct the cause of inadequate ventilation.
- A3.Discuss head ultrasound in neonatal practice.
 - A3.1 Identify timing neonatal head ultrasound screening in neonates.
 - A3.2 Understand anatomical background to facilitate interpretation of different findings.
 - A3.3 Be aware of common abnormalities could be elicited using neonatal head ultrasound.
- A4.Discuss neonatal pain management in NICU
 - A4.1 Discuss physiology of pain.
 - A4.2 Identify long-term and short-term hazards of neonatal pain.
 - A4.3 Recognize different tools for assessment of neonatal pain.
 - A4.4 Discuss modalities to alleviate pain in different situations.
- A5.Discuss total parenteral nutrition (TPN) in neonates.
 - A5.1 Identify indications to apply total parenteral nutrition in neonates.

A5.2 Discuss how to modify amount and components TPN throughout NICU admission.

A5.3 Recognize how to monitor complications of TPN.

-A6. Recognize the renal problems in newborn

A6.1 Identify modern definitions of acute kidney injury in neonates.

A6.2 Identify the factors that increase the risks for acute kidney injury in neonates.

A6.3 Discuss different congenital anomalies of the kidney and urinary tract including; proper diagnosis and treatment.

-A7. Discuss patent ductus arteriosus (PDA) in neonates.

A7.1 Understand the pathophysiology of PDA.

A7.2 Identify the factors that increase the risks of delayed closure of ductus arteriosus in neonates.

A7.3 Know the sequelae of symptomatic untreated PDA.

A7.4 Recognize indications for medical closure by indomethacin or ibuprofen therapy.

A7.6 Identify when to refer to the cardiothoracic surgeon for surgical PDA closure.

-A8. Discuss apnea in neonates

A8.1 Know the incidence of apnea of prematurity according to gestational age.

A8.2 Recognize how to differentiate between types of apnea (e.g, central, obstructive).

A8.3 Identify potential causes of neonatal apnea and bradycardia.

A8.4 Define apnea and differentiate it from physiological periodic breathing observed in neonates.

A8.5 Recognize the relationship between apnea, bradycardia, and oxygen de-saturation .

A8.6 Be able to:

- Plan and initiate management of apnea ranging from simple tactile stimulation to continuous positive airway pressure (CPAP) and pharmacological therapies.
- Introduce CPAP when indicated .
- Identify need and duration of monitoring for a neonate with apnea.
- Determine the prognosis for apneic infants.

-A9.Discuss comprehensive discharge planning and follow-up plans

A9.1 Discuss the incidence of adverse outcome according to completed week of gestation at delivery.

A9.2 Discuss the outcomes for survival and factors influencing outcome .

A9.3 Identify a high risk pregnancy.

A9.4 Identify the factors associated with high risk pregnancy.

A9.5 Identify maternal conditions affecting the fetus and newborn.

A9.6 Recognize the factors influencing the perinatal and neonatal mortality .

A9.7 Discuss the relationship between successful outcomes and the timing of starting management.

A9.8 Discuss the morbidities and sequelae of perinatal and neonatal illness.

A9.9 Define the level of in hospital perinatal care (eg, tertiary care).

A9.10 Be able to:

- Determine and explain the steps to successful breast-feeding .
- Ensure parent-infant bonding before discharge .
- Plan for discharge from intensive care or special care nurseries.
- Communicate with parents regarding discharge plans.
- Design a follow-up plan for parents.

- Ensure communication between parents and members of the multidisciplinary team.

A10. Recognize Bronchopulmonary-dysplasia (BPD) as an important long-term morbidity in neonates.

A10.1 Discuss the definition and factors associated with an increased risk of BPD and know the morbidities associated with BPD.

A10.2 -Identify histopathology of BPD.

A10.3 Discuss how to evaluate a patient with continuing oxygen dependence.

A10.4 Identify abnormal radiological findings in newborn with BPD.

A10.5 Discuss supportive care (e.g, nutrition, fluid requirements, and infection control).

A10.6 Recognize the indications for specific therapy (e.g, use of inhaled bronchodilators and/or inhaled steroids).

B- Intellectual skills

B1. Organise steps for successful discharge from the neonate

B2. Develop plan to prevent infection in NICU.

B3. Compare different modes of ventilation for respiratory distressed neonates.

B4. Interpret arterial blood gases in ventilated neonates

B5. Compare different types of apnea in neonate

B6. Compare types of parental nutrition.

(3)course Content

Course	Title	Teaching hrs	
		lectures	clinical
Neonatology	Prevention of infections in NCU	1	
	Basics of ventilation	1	
	Modes of ventilation (conventional)1	1	
	Modes of ventilation (conventional) 2	1	
	Other modes of ventilation (non conventional) 1	1	
	Other modes of ventilation (non conventional) 2	1	
	Ultrasound of the head	1	
	Neonatal CXR and other radiologic investigations	1	
	Neonatal pain management	1	
	Total parenteral nutrition	1	
	Renal problems in newborn	1	
	PDA	1	
	Neonatal apnea	1	
	Follow up of neonates after discharge from NCU	1	
	Chronic lung disease	1	

(4)Teaching methods:

4.1: lectures and scientific seminar

4.2: Self learning

(5) Assessment methods:

5.1:...Written. for assessment of..... (knowledge, intellectual skills)

5.2:... Oral for assessment of.....(knowledge, intellectual skills)

5.3 MCQ continuous assessment for assessment of..... (knowledge, intellectual skills)

Assessment schedule : Semester & Final Exam.

Course	Marks		
Infection and Nutrition	MCQ (Semester Exam)	Essay (Final Exam)	Oral
	10	40	25
Total	75		

6)References of the course:

6.1.Illustrated text book of pediatrics by Tom Lissaeur

6.2.Nelson's "Essentials of Pediatrics" (available from bookshops at the faculty)

6.3.Nelson's Text book of Pediatrics

6.4.Manual of Neonatal care

(7) Facilities and resources mandatory for course completion

- **LECTURE HALLS:** Two halls for lecturers are available at Mansoura University Children's Hospital (MUCH). The hall is equipped with white board, data show, and computer.
- **CLINICAL ROUNDS HALLS:**
Six halls for clinical rounds are available at Mansoura University Children Hospital (MUCH). Computer and AV aids facilities are available with prior arrangement.
- **LIBRARY:**
The library is located on the 4th floor of the Faculty of Medicine, Mansoura University.
- **FACILITIES FOR TUTORS**
In addition to the library on 4th floor of the Faculty of Medicine, Mansoura University, there is a specialized paediatric library at MUCH (Professor Mohammad Hafez's Library).
The offices of all staff at MUCH is equipped with computers and high speed internet connection.
International databases are available through the website of the university (www.mans.edu.eg)

Course coordinator: Dr. Eslam Nor

Head of the department: Prof. Ali Shaltout

Date: