



Cert Neonatology(SA)

## THE COLLEGES OF MEDICINE OF SOUTH AFRICA

Incorporated Association not for gain  
Reg No 1955/000003/08

### Subspecialty Examination for the Certificate of Neonatology of the College of Paediatricians of South Africa

26 July 2018

Paper 1

(3 hours)

*All questions are to be answered. Each question to be answered in a separate book (or books if more than one is required for the one answer)*

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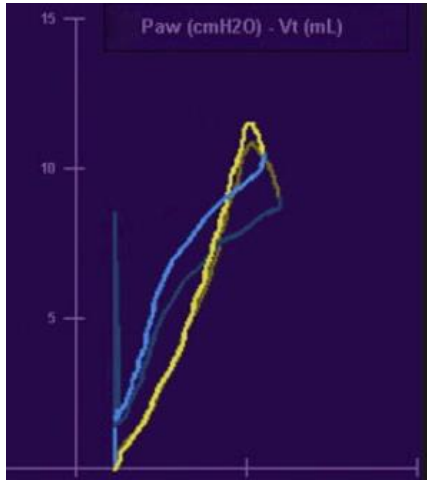
- 1 Discuss periventricular leucomalacia under the following headings
  - a) Pathophysiology. (10)
  - b) Incidence. (5)
  - c) Diagnosis. (5)
  - d) Prognosis. (5)[25]
  
- 2 In a patient with Bronchopulmonary Dysplasia (BPD) or Chronic Lung Disease (CLD)
  - a) Define Bronchopulmonary Dysplasia (BPD) or Chronic Lung Disease (CLD). (2)
  - b) Briefly outline the factors that may contribute to development of BPD or CLD. (10)
  - c) Discuss the strategies that can be applied both antenatally and postnatally to prevent preterm infants developing BPD. (13)[25]
  
- 3 While the under-5 mortality in Sub-Saharan Africa has declined significantly over recent decades, the reduction in neonatal mortality has been much slower
  - a) Define the neonatal mortality rate. (2)
  - b) Discuss briefly the major causes of neonatal mortality in Sub-Saharan Africa. (10)
  - c) Outline the major interventions necessary to bring about a more rapid decline in neonatal mortality in this region. (13)[25]

4 A male term neonate with a diagnosis of Meconium aspiration syndrome (MAS), was admitted to the NICU. He required ventilation and surfactant therapy. Pulmonary graphic was being monitored

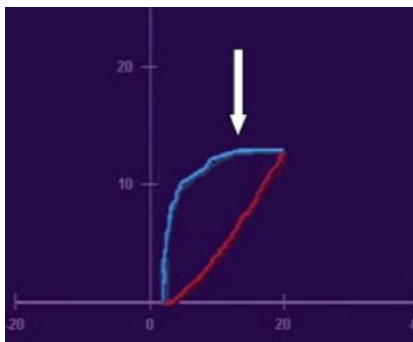
a) Describe, draw and label a typical pressure volume loop (with a diagram). (10)

b) The neonate is on assist control ventilation

i) What does this loop indicate and how would you manage the patient? (2)



ii) What does this loop show and how would you manage the neonate? (2)



c) What is volume guaranteed ventilation and its advantages? (5)

d) What are the different ways that meconium causes lung injury and what would be the rationale for using surfactant in a patient with MAS? (6)

[25]



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Paper 2

(3 hours)

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- 1 Write short notes on the use of procalcitonin and C reactive protein in the evaluation of neonatal sepsis. [10]
  - 2 Write short notes on
    - a) Type I and II statistical errors. (5)
    - b) The number needed to treat in a meta-analysis report. (5)
 [10]
  - 3 Hyperkalaemia
    - a) Describe ECG changes in acute neonatal hyperkalaemia. (4)
    - b) Describe the management of acute symptomatic hyperkalaemia in a neonate. (6)
 [10]
  - 4 Write short notes on maternal immunisation and potential benefits to the unborn baby. [10]
  - 5 Discuss the pharmacology, indications and benefits of caffeine in preterm infants. [10]
  - 6 Describe five circumstances in which you would consider withdrawal of mechanical ventilation in a neonate. [10]
  - 7 Describe the factors you would use to link neurological handicap in a 5-year-old to intrapartum hypoxia ischaemia. [10]
  - 8 Obstetric brachial plexus injuries involve nerves C5 to T1. There are three types of palsies/syndromes that are described. Describe both clinical features and spinal nerves involved in each of the three described palsies/syndromes. [10]
  - 9 Write short notes on pain management in neonates. [10]
  - 10 Briefly describe strategies to reduce hospital acquired infections caused by multidrug resistant organisms in your neonatal unit. [10]
  - 11 Write short notes on ileal atresia with regard to causes, incidence, association with other congenital abnormalities and different types. [10]
  - 12 Discuss the benefits and problems of using maternal breastmilk as the exclusive feed in an extremely preterm infant. [10]
- [120]