

National University of Lesotho
Faculty of Health Sciences
Department of Nursing
NURS520: Neonatal Care II

June 2023

Marks: 100

Time: 3 hours

INSTRUCTIONS:

1. Write legibly
2. Number your answers correctly
3. Answer all questions
4. Answer all sub-questions under the main question, **do not answer them separately.**

Question 1

For the following multiple questions select the most appropriate, e.g. 100 (a)

1.1 Which of the following has **no** effect on the initiation of respiration in a neonate?

- (a) Normal handling of the neonate
- (b) Drying of the skin of the neonate
- (c) Slapping the neonate's heel or buttocks

1.2 Which of the following neonates will **most** likely need respiratory support at birth?

- (a) Infant born by normal vaginal birth
- (b) Infant born by caesarean section
- (c) Infant born vaginally after 12 hours of birth

1.3 Which of the following observations is included in the 5 - minutes Apgar score?

- (a) Muscle tone
- (b) Blood pressure
- (c) Weight

1.4 Which of the following is **not** correct about relationship of newborn weight to gestational age?

- (a) All infants below the weight of 2500g are premature by gestational age
- (b) Gestational age is more closely related to fetal maturity than birth weight
- (c) Classification of infants by both weight and gestational age is important in predicting mortality risks

1.5 Which of the following does **not** contribute to newborns loss of 10% of their birth weight by 3 to 4 days of age?

- (a) Limited fluid intake in breast-fed infants
- (b) Incomplete digestion of complex carbohydrates
- (c) Loss of excessive extracellular fluid

1.6 Which of the following is true when assessing blood pressure of a newborn?

- (a) Blood pressure is affected by gestational age and birth weight
- (b) Routine BP measurements of full-term neonates are an excellent predictor of hypertension
- (c) A normal BP reading for a 3-day old infant is approximately 90/60

1.7 Which of the following is an abnormal finding when assessing the head of the newborn?

- (a) Moulding in an infant after vaginal birth
- (b) Inability to palpate the sphenoidal and mastoid fontanelles
- (c) Posterior fontanelle palpated at about 2.3cm

1.8 Which of the following observations from the eye assessment of a newborn is normal?

- (a) Presence of strabismus at age 48 hours
- (b) Absence of the red reflex at age 24 hours
- (c) No pupillary reflex at age 3 weeks

1.9 Which of the following findings need a midwife to notify a doctor?

- (a) The 2 -day- old neonate with periodic breathing
- (b) The 24-hour-old neonate with Epstein pearls on the side of the hard palate
- (c) The 24-hour-old neonate with nasal flaring

1.10 Which of the following is **not** a risk factor in birth injuries during delivery?

- (a) Dystocia
 - (b) Breech presentation
 - (c) Excess amniotic fluid
- 1.11 Which of the following birth injuries is **most** likely to need further evaluation?
- (a) Sclera haemorrhage
 - (b) Petechiae
 - (c) Ecchymosis
- 1.12 Nursing care for soft tissue injury is **not** usually directed towards:
- (a) Assessing the injury
 - (b) Explaining the need for careful follow up of injury after discharge
 - (c) Providing explanations and reassurance to the parents
- 1.13 An infant suffers a fracture of the clavicle during birth, which of the following would the midwife expect to observe on the physical examination of this infant?
- (a) Crepitus felt over the affected area
 - (b) Symmetric moro reflex
 - (c) Positive scarf sign
- 1.14 Which of the following statements about bilirubin encephalopathy is true?
- (a) Development may be enhanced by metabolic acidosis, lowered albumin levels, intracranial infections and increase in the metabolic demands for oxygen and glucose
 - (b) It does not lead to permanent neurologic damage
 - (c) It produces permanent liver damage by deposits of conjugated bilirubin within the cell
- 1.15 Which of the following is **not** correct in describing erythema toxicum neonatorum?
- (a) It a benign, self- limiting rash that appears within the first 2 days of life
 - (b) The rash may be located on all areas of the body, including the soles of the feet and palms of the hands
 - (c) The rash is most obvious during crying episodes
- 1.16 Neonatal herpes:
- (a) Rarely has a rash that affects the fetal scalp
 - (b) Does not present with a rash found in a cluster formation
 - (c) Does not always present with a rash
- 1.17 _____ is the term used to describe the yellow staining of the brain cells that can result in bilirubin encephalopathy
- (a) Jaundice
 - (b) Physiologic jaundice
 - (c) Kernicterus
- 1.18 A newborn develops hyperbilirubinemia at 48 hours of age, peaks at 72 hours and declines at about 7 days, which condition does the newborn has?
- (a) Physiologic jaundice
 - (b) Pathologic jaundice
 - (c) Haemolytic disease of the newborn
- 1.19 Which of the following statements is true about hypoglycaemia in a newborn?
- (a) Hypoglycemia is present when the newborn's blood glucose is lower than the baby's requirements for cellular energy and metabolism
 - (b) In the healthy term infant born without complications, blood glucose is routinely

monitored within 24 hours to detect hypoglycemia

(c) A plasma glucose level of less than 60mg/dl in a term infant requires intervention

1.20 What assessment finding is the midwife **most** likely to see in the infant as a result of hypoglycemia?

- (a) Forceful, low pitched cry
- (b) Jitteriness, tremors and twitching
- (c) Vomiting and refusal to eat

1.21 Which one of the following is **not** used as a category in the classification of high-risk newborns?

- (a) Birth size
- (b) Gestational age
- (c) Mortality

1.22 Which of the following interventions is **least** likely to be effective for high risk neonates?

- (a) Keeping the infant in an incubator or radiant warmer
- (b) Placing the heat sensing probe on the infant's abdomen when the infant is in the prone Position
- (c) Ensuring that the oxygen supplied to the infant is warmed and humidified

1.23 The best way to prevent infection in the high risk neonate is

- (a) Meticulous and frequent hand washing of all persons coming in contact with the infant
- (b) Observing continually for signs of infection
- (c) Performing epidemiologic studies at least monthly

1.24. In caring for a preterm infant's skin the midwife use

- (a) Scissors to remove dressings or tape from the infant's extremities
- (b) Solvents to remove tape form the skin
- (c) Use zinc oxide- based tape to secure monitoring equipment or IV infusions

1.25 KB, a neonate born 20 minutes ago, was observed at birth to have meconium staining. If KB has meconium in the lungs, this **most** likely will

- (a) Prevent air from entering the lungs
- (b) Trap inspired air in the lungs
- (c) Not cause problems with breathing

1.26 Which of the following is the best way for the midwife to promote a healthy parent-infant relationship for the family with a high-risk neonate?

- (a) Reinforce parents during their care giving activities and interactions with their infant
- (b) Help parents understand that the preterm infant offers no behavioural rewards
- (c) Reassure the parents that the infant is doing well

1.27. Discharge instructions for the preterm infant should **not** include:

- (a) Warning parents that their infant may still be in danger and will need constant attention
- (b) Providing information to the parents on how to contact health providers for later questions
- (c) Providing adequate information about immunizations

1.28. A physical characteristic usually observed in a preterm infant and not observed in a full term infant is:

- (a) Proportionately equal head in relation to the body

(b) Skin that is translucent, smooth and shiny

(c) Absence of lanugo

1.29 Apnoea in the preterm is defined as a lapse of spontaneous breathing lasting for how many seconds?

(a) 5

(b) 10

(c) 20

1.30 A late and serious sign of respiratory distress in the neonate is:

(a) Central cyanosis

(b) Respiratory rate of 90 breaths / minute

(c) Nasal flaring

1.31 The laboratory evaluation for the diagnosis of sepsis is **least** likely to include which culture:

(a) Blood

(b) Gastric secretions

(c) Urine

1.32 Clinical manifestations of patent ductus arteriosus (PDA) include which of the following?

(a) Narrow pulse pressure with increased diastolic blood pressure

(b) Bradycardia

(c) Systolic or continuous murmur heard as a “machinery- type” sound

1.33 Therapy for preterm infants who develop PDA often includes the administration of:

(a) Theophyllin

(b) Indomethacin

(c) Digoxin

1.34 Neonate born to narcotic –addicted mothers may exhibit all of the following clinical manifestations **except**:

(a) Tremors and restlessness

(b) Frequent sneezing

(c) Coordinated sucking and swallow reflex

1.35 The midwife can expect the infant with fetal alcohol syndrome to exhibit which of the following on assessment?

(a) Irritability

(b) Normal feeding patterns

(c) Thicker upper lip

1.36 When a mother smokes:

(a) Their breast milk will not be affected

(b) Their rate of preterm is increased

(c) Their level of nicotine is higher than that of their newborn

1.37 If the infant weighs 7.5 kg at age 5 months, what was his/her probable birth weight?

(a) 4kg

(b) 2.5 kg

(c) 3.3kg

- 1.38 Therapy for preterm infants who develop PDA often includes the administration of:
- (a) Indomethacin
 - (b) Heparin
 - (c) Digoxin
- 1.39 Which one of the following mechanisms decreases the newborn's thermoregulation efficiency?
- (a) Shivering
 - (b) Limited adipose tissue
 - (c) Dilation of the capillaries
- 1.40 On physical assessment of an infant, a cutaneous dimple with tuft of hair between L5 and S1 indicates
- (a) Spina bifida occulta
 - (b) Spinabifida cystica
 - (c) Meningocele
- 1.41 Therapeutic management that provides the most favourable morbidity and mortality outcomes for the neonate born with myelomeningocele is
- (a) Early physical therapy
 - (b) Closure of the defect within first 24 hours
 - (c) Vigorous antibiotic therapy
- 1.42 An important assessment for the nurse to perform in identifying a cleft palate is to:
- (a) Assess sucking ability
 - (b) Assess color of the lips
 - (c) Palpate the palate with the gloved finger
- 1.43 Which feeding practices should be used for the neonate with a cleft lip or palate?
- (a) Use a large, hard nipple with a large hole
 - (b) Use a normal nipple and position sideways in the mouth
 - (c) Use a special nipple, position so it is compressed by the infant's tongue and existing palate
- 1.44 The best definition of biliary atresia is:
- (a) Jaundice persisting beyond 2 weeks of age with elevated bilirubin levels
 - (b) Progressive inflammatory process causing intrahepatic and extrahepatic bile duct fibrosis
 - (c) Absence of bile duct
- 1.45. John is newborn just delivered of a diabetic mother. The midwife will watch John for signs that he is rapidly developing:
- (a) hyperglycemia
 - (b) hypoglycemia
 - (c) dehydration
- 1.46 Which of the following interventions is **contraindicated** in the preterm infant with increased intracranial pressure?
- (a) Avoiding interventions that produce crying
 - (b) Turning the head to the right without body alignment
 - (c) Administering analgesics to reduce discomfort
- 1.47 Why is important to carefully monitor and record amounts of all blood drawn for tests in the preterm infant?

- (a) Early prevention of anemia
- (b) Prevention of infection
- (c) Prevention of polycythemia

1.48 Which of the following behaviours are characteristic of the second period of reactivity?

- a) Difficult to awaken, lasts 2-4 hours, bowel sounds present
- b) Eye open, lasts 30 minutes, strong sucking reflex
- c) Awake and alert, lasts 4-6 hours, sucks, swallows

1.49. Habituation is defined as

- a) Responsiveness of the newborn auditory and visual stimuli
- b) Process whereby the newborn becomes accustomed to stimuli
- c) The ability of the infant to be easily aroused from sleep state

1.50. A primary nursing intervention appropriate to the second period of reactivity would be to:

- a) Observe for excessive mucus
- b) Auscultate the abdomen for the presence of bowel sounds
- c) Encourage the mother for breastfeeding

1.51 If respiration of a newborn drops below 30 or exceeds 60 when the neonate is at rest

- a) The midwife should continue monitoring the infant
- b) The doctor should be notified
- c) The senior midwife should be informed

1.52. Head compression during birth is known as

- a) Moulding
- b) Decompression
- c) Brain damage

1.53. Lungs begin to develop in

- a) Week 3
- b) Month 1
- c) Week 4

1.54. Alveolar development continues after birth up to

- a) 5 years
- b) 4 years
- c) 3 years

Mrs Moyo had a normal pregnancy and delivery without complications at 39 weeks gestation. She is breastfeeding her 2-day-old neonate when she notices that Lyla's skin looks yellow. Tests reveal that Lyla's total bilirubin level is 13 mg/dl. **Answer question 1.55 to 1.59**

1.55. Mrs Moyo asks the midwife about Lyla's condition and seriousness of her illness. Which one of the following is the best response?

- a) Lyla has pathologic jaundice, a serious condition
- b) Lyla has breast milk jaundice and will need to stop breastfeeding
- c) Lyla probably has physiologic jaundice, a normal finding at her age

1.56. Mrs Moyo is encouraged to increase her frequency of breast-feeding to every 2 hours. What is the rationale?

- a) The jaundice is related to the process of breast feeding, probably from decreased caloric and fluid intake by breast-fed infants
- b) The jaundice is caused by the mother's haemolytic disease
- c) The jaundice is increased because the infant was put on breast early, which increases the amount of time meconium is kept in the gut before excretion

1.57 Lyla's serum bilirubin has not decreased as the doctor hoped, and she is put on phototherapy. Which is the priority goal?

- a) The infant will receive adequate IV fluids
- b) The infant will have hourly bilirubin testing completed
- c) The infant will not experience any complications from phototherapy

1.58 When caring for Lyla, which of the following actions should the midwife **not** implement?

- a) Applying eye shields
- b) Applying oil daily to skin to avoid breakdown
- c) Monitoring the temperature closely

1.59. Which of the following is the best expected patient outcome for Lyla while she is on phototherapy?

- a) Newborn displays no evidence of eye irritation, dehydration, and temperature instability or skin breakdown
- b) Family demonstrates an understanding of therapy and prognosis
- c) Newborn displays no evidence of infection

Jane is a newborn diagnosed with myelomeningocele. She has been admitted to the neonatal intensive care unit. **Answer questions 1.60 to 1.70**

1.60 Which one of the following is the primary goal for the care of Jane before surgical correction?

- a) Observing for increased paralysis
- b) Preventing infection
- c) Preventing skin breakdown

1.61 Thirty-six hours after birth, the nurse notes that Jane is irritable and lethargic and has developed an elevated temperature. What should the nurse suspect?

- a) Hydrocephalus
- b) Infection
- c) Latex allergy

1.62 Which of the following nursing diagnoses is most relevant to Jane's care?

- a) Altered bowel elimination related to neurologic deficit
- b) High risk for infection related to the presence of infectious organisms
- c) Altered nutrition related to immobility

1.63 Which of the following is the best way to meet Jane's tactile stimulation needs before repair of the myelomeningocele?

- a) Cuddling Jane frequently and encouraging parents to hold her in their arms
- b) Placing black and white drawings within Jane's view

c) Caressing and stroking Jane frequently while she is placed on a pillow across her parent's lap

1.64 After closure of the myelomenigocele, Jane's nursing care should include which of the following

- a) Measuring the head circumference daily
- b) Keeping external stimulus at a minimum
- c) Keeping strict limitation of leg movements

(64 marks)

Question 2

For the following statements indicate whether **true of false. E.G 1.40 TRUE**

2.1 Factors that predispose the neonate to excessive heat loss are large surface area and thin layer of subcutaneous fat

2.2 Nonshivering thermogenesis is an effective method of heat production in the neonate

2.3 Brown fat or brown adipose tissue has a greater capacity to produce heat than ordinary adipose tissue

2.4 The longer the infant is attached to the placenta, the less blood volume will be received by the neonate

2.5 Deficient production of pancreatic amylase impairs utilization complex carbohydrates

2.6 The newborn is expected to void within the first 48 hours

2.7 deficiency of pancreatic lipase assists the neonate in the digestion of cow's milk

2.8 The liver is the most mature of the gastro intestinal organ at birth

2.9 A preterm infant weighs less than 2500g regardless of gestational age

1.10 Infants who are mechanically ventilated and have low Apgar scores can have lower blood pressures

1.11 Type 1 and type 11 pneumocytes are differentiated by 20-30 weeks .

1.12 During fetal life lungs are filled with amniotic fluid.

1.13 The surfactant is produced at around 24 weeks.

1.14 Initial breaths require high inspiratory and expiratory rates.

1.15 The alveoli should collapse during the initial breathing.

1.16 The left ventricle provides 35% of the cardiac output.

1.17 The newborn has a very low cardiac output (20ml/kg/minute).

1.18 Blood pressure tends to be high immediately after birth and descends to its lowest after about 3 hours of age.

1.19 HbF has a high Co₂ affinity and is good in fetal life.

1.20 Partially flexed extremities with the legs near the abdomen is the position of the normal newborn

1.21 The first cry of the newborn should be lusty and vigorous high pitched.

1.22 At birth a term newborn around 55% of the total body weight is water.

1.23 The initial bladder volume in a newborn is 6-44 ml of urine.

1.24 The gastrointestinal tract is formed by 25 weeks.

1.25 The glycogen stores are depleted in newborn around 2 hours post birth.

- 1.26 Term newborn usually pass meconium within 48 hours.
- 1.27 The first period of reactivity lasts approximately 30 minutes after birth.
- 1.28 Oral candidiasis can be treated with oral nystatin four times a day after feedings and at night.
- 1.29 Premature neonates receiving continuous feedings show better weight gain.
- 1.30 Low birth weight neonates who are fed only human milk demonstrate decreased growth rates and nutritional deficiencies.
- 1.31 Development maturation for the young preterm is seen by a decrease in quite sleep.

(31 marks)

Question 3

Match the terms in column A with the descriptions in column B. Write the number and the letter in B.

Column A	Column B
3.1 Anal patency	A. Passage of meconium from the rectum during the first 48 hours
3.2 Downs syndrome	B. Transverse palmer crease
3.3 Babinski reflex	C. Fanning of the toes and dorsiflexion of the great toe, disappear after 1 year
3.4 Rooting reflex	D. Response which touching cheek along the side , infant turn head toward that side and begin to suck
3.5 Lingual frenulum	E. Restriction can interfere with adequate sucking

(5 marks)