

Syllabus	PA_IK_04, PA_IK_05
Topic	Neonatal Anaesthesia

a)
What specific factors should enquire about when pre-operatively assessing a neonate for surgery? (6 marks)

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)

b)
What is the estimated blood volume in ml/kg of a term neonate? (1 mark)

..... ml/kg

c)
A 4 week old baby, born at term, is listed for an elective unilateral inguinal hernia repair. List 4 suitable options to provide anaesthesia for this child (4 marks)

- 1)
- 2)
- 3)
- 4)

d)
What type of fluid and how much fluid would you deem appropriate for this neonate undergoing surgery? (4 marks)

.....
.....

e)

What is the appropriate dose of intravenous paracetamol in this neonate and what is the maximum daily dose they can safely receive in 24 hours? (2 marks)

Intraoperative dose mg/kg

Maximum safe dose in 24 hours mg/kg/day

f)

List 3 risk factors for a child having apnoeas in the postoperative period (3 marks)

1)

2)

3)

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Q	Answer	Mark	Guidance
a)	<ul style="list-style-type: none"> • Post-menstrual age • Antenatal history • Birth history (Delivery, APGAR scores, birth weight) • Airway history & examination (may already be intubated or have a syndrome associated with difficult airway) • Breathing: Any lung disease due to Infant Respiratory Distress Syndrome (IRDS) • Circulation: Any congenital heart disease suspected, if so, an echocardiogram should be performed • Disability: Current glucose level and fluid regimen to maintain glucose • Current weight 	6	<p>Accept post-conceptual age</p> <p>Length of time intubated or receiving respiratory support</p>
b)	<ul style="list-style-type: none"> • 100 ml/kg in a preterm neonate • 90 ml/kg in a term neonate 	1	Accept either
c)	<ul style="list-style-type: none"> • General anaesthesia with: <ul style="list-style-type: none"> • Caudal block • Ilioinguinal block • Paravertebral block • Local anaesthesia by the surgeon • Feed and wrap with spinal anaesthetic 	4	Relies on a quick surgeon as block wears off quickly
d)	<ul style="list-style-type: none"> • <u>Maintenance</u> – needs a glucose containing fluid: <ul style="list-style-type: none"> • Isotonic crystalloids that contain sodium in the range 131-154 mmol/l with 5-10% glucose e.g. 0.9% NaCl with 5% glucose) • Rate of 4 ml/kg/hr • <u>Boluses</u>: <ul style="list-style-type: none"> • Isotonic crystalloids that contain sodium in the range 131-154 mmol/l Hartmann’s solution or 0.9% NaCl • 5-10 ml/kg boluses 	1 1 1 1	

e)	<ul style="list-style-type: none"> • Neonate 32 weeks corrected gestational age and above: <ul style="list-style-type: none"> • 7.5 mg/kg (every 8 hours) • 22.5 mg/kg/day • Neonate: <ul style="list-style-type: none"> • 10 mg/kg (every 4-6 hours) • 30 mg/kg/day 	2	Accept either premature neonatal or neonatal BNF values
f)	<ul style="list-style-type: none"> • Ex-premature infants who have on-going apnoeas at home or witnessed in the recovery room following surgery under GA • Ex-premature infants who have neurological impairment • All ex-premature infants <60 weeks post-menstrual age who undergo surgery under GA • All anaemic ex-premature infants who undergo surgery under GA (haematocrit <30) 	3	

References:

- 1) Chandrashekhar S, Davis L, Challands J. Anaesthesia for neonatal laparotomy. BJA Education 2015, 15(4)194-198
- 2) NICE Guideline 29: IV fluid therapy in children and young people in hospital
- 3) BNFC - Paracetamol