



THE COLLEGES OF MEDICINE OF SOUTH AFRICA

Incorporated Association not for gain

Reg No 1955/000003/08

Final Examination for the Fellowship of the
College of Anaesthetists of South Africa

18 August 2009

Paper I

(3 hours)

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

Al die vrae moet beantwoord word. Elke vraag moet in 'n aparte boek (of boeke indien meer as een nodig is vir 'n vraag) geskryf word

-
- 1 a) Describe the haemodynamic changes that occur during spontaneous vaginal delivery, both with and without analgesia.
Beskryf die hemodinamiese veranderinge wat plaasvind gedurende spontane vaginale verlossing, met en sonder analgesie. (15)
- b) Describe the haemodynamic changes that occur during caesarean section, under both neuraxial and general anaesthesia.
Beskryf die hemodinamiese veranderinge wat plaasvind gedurende keisersnit met neuraksiale narkose en algemene narkose. (15)
- c) A parturient presents at 35 weeks gestation, for a routine antenatal visit. She had a mitral valve replacement, and takes warfarin daily. She is currently NYHA II (New York Heart Association II) for dyspnea. The obstetrician has asked for your advice on how to manage her further. Describe the advice that you would give the obstetrician.
'n Swanger pasiënt presenteer teen 35 weke gestasiën vir 'n roetine voorgeboorte ondersoek. Sy het mitraalklepverving gehad en neem daaglik warfarin. Sy is tans NYHA II (New York Heart Association II) volgens haar dispnee. Die verloskundige vra u advies rakende haar verdere hantering. Beskryf die advies wat aan die verloskundige sal gee. (70)
[100]
- 2 Discuss the relevance of aging (of the adult patient) to the administration of anaesthesia.
Bespreek die belang van veroudering (van die volwasse pasiënt) in die toediening van narkose. [100]
- 3 A forty-year-old woman presents for intra-medullary pin for a tibial fracture. She fell because of difficulty with walking due to avascular necrosis of her hip. She gives a history of recurrent episodes of jaundice and abdominal pain, as well as joint and bone pain which necessitated previous hospitalisations for pain management. Her haematocrit is 22%, blood pressure 130/90 and pulse rate 108. She is of African-American descent, and says that her blood is abnormal.
'n Veertigjarige vrou presenteer vir die plasing van 'n intramedullêre pen vir 'n tibeafraktuur. Sy het geval omdat sy moeilik loop vanweë avaskulêre nekrose van haar heup. Sy gee 'n geskiedenis van herhalende episodes van geelsug en abdominale pyn, asook gewrigspyn en beenpyn wat al verskeie vorige hospitaalopnames vereis het vir pynhantering. Haar hematokrit is 22%, bloeddruk 130/90 en polstempo 108. Sy is van Afro-Amerikaanse afkoms en sê haar bloed is abnormaal.

-
- a) What is the most likely diagnosis? Which other conditions would you consider?
Wat is die waarskynlikste diagnose? Watter ander toestand sal u ook oorweeg? (10)
- b) Discuss briefly the likely pathogenesis leading to her previous hospitalisations.
Beskryf kortliks die waarskynlikste patogenese wat gelei het tot haar vorige hospitalisasies. (10)
- c) List the chronic manifestations of her condition on organ systems of importance to the anaesthetist.
Lys die chroniese manifestasies van haar siekte op die orgaansisteme van belang vir die narkotiseur. (30)
- d) Discuss your anaesthetic management of this patient. Refer to both regional and general anaesthetic considerations.
Besprek u narkosehantering van die pasiënt. Verwys na beide regionale en algemene narkose-oorwegings. (40)
- e) Briefly explain your policy regarding possible peri-operative blood transfusion in this patient.
Verduidelik kortliks u beleid rakende perioperatiewe bloedtransfusie in hierdie pasiënt. (10)
- [100]

- 4 What are the causes of constrictive pericarditis? (5)
Wat is die oorsake van konstriktiewe perikarditis?

An adult patient requires a pericardiectomy for constrictive pericarditis. Describe in detail

’n Volwasse pasiënt benodig perikardektomie vir konstriktiewe perikarditis. Besprek in besonderhede

- a) The pre-operative assessment and special investigations.
Die preoperatiewe beoordeling en spesiale ondersoeke. (30)
- b) Anaesthetic management.
Narkosehantering. (50)
- c) Post-operative management.
Postoperatiewe hantering. (15)
- [100]



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Final Examination for the Fellowship of the
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19 August 2009

Paper II

(3 hours)

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

Al die vrae moet beantwoord word. Elke vraag moet in 'n aparte boek (of boeke indien meer as een nodig is vir 'n vraag) geskryf word

- 1 Write notes on the following
Skryf notas oor die volgende
 - (a) Transfusion-related acute lung injury ("TRALI").
Transfusie-geassosieerde akute longbesering ("TRALI"). (25)
 - (b) Mechanical prophylaxis against venous thrombo-embolism.
Meganiese profilakse vir veneuse trombo-embolisme. (25)
 - (c) Prevention measures for "ventilator-associated pneumonia".
Voorkomende maatreëls teen "ventilator-geassosieerde pneumonie". (25)
 - (d) Treatment of acute organophosphorous poisoning.
Behandeling van akute organofosfaatvergiftiging. (25)[100]

- 2 Give a brief description of your anaesthetic concerns/management in a patient coming for a large volume liposuction.
Gee 'n kort beskrywing van u narkose-oorwegings/hantering van 'n pasiënt vir 'n groot-volume liposuiging. [100]

- 3 A patient with a bronchopleural fistula is scheduled for thoracotomy for surgical closure of the fistula. Write notes on pre-operative evaluation and anaesthesia related intra-operative management of such a patient.
'n Pasiënt met 'n brongopleurale fistel is geskeduleer vir 'n torakotomie vir die sluiting van die fistel. Skryf notas oor u preoperatiewe evaluasie en die narkoseverwante intraoperatiewe hantering van die pasiënt. [100]

- 4 Write concise notes on the peri-operative approach to a patient with myasthenia gravis that is booked for thymectomy.
Skryf bondige notas oor u perioperatiewe benadering tóó pasiënt met miastenia gravis wat bespreek is vir 'n timektomie. [100]



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FCA(SA) PART II

DATA INTERPRETATION

Questions 1 - 3

20 AUGUST 2009

Examination Number:
Eksamen Nommer:

- 1 Answer the questions on this questionnaire.
Beantwoord die vrae in die vraestelboek.
- 2 This questionnaire must be handed in to the invigilator.
Die vraestelboek moet aan die toesighouer oorhandig word.
- 3 The candidate's examination number must appear on the questionnaire.
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Question1/Vraag 1

A patient is undergoing liver resection. The arterial blood gas parameters are as follows
`n Pasiënt ondergaan `n lewerreseksie. Die arteriële bloedgasparameters is soos volg

	0	3	4	5
pH	7.33	7.29	7.12	7.11
HCO₃ (mmol/L)	22	19	15	14
Base excess/ Basis oormaat	-0.3	-5.4	-11.0	-15.2
Lactate (mmol/L)/ Laktaat (mmol/L)	0.2	2.1	4.7	7.9

*Time 0 = just before induction of anaesthesia.
Tyd 0 = net voor induksie van narkose.*

*Time 3 hours = just before parenchymal transsection.
Tyd 3 ure = net voor parenkiemtranseksie.*

*Time 4 hours = just after parenchymal transsection.
Tyd 4 ure = net na parenkiemtranseksie.*

*Time 5 hours = just before transfer to intensive care unit.
Tyd 5 ure = net voor oorplasing na intensiewe sorg.*

List reasons for the acid-base disturbance throughout the case.
Lys redes vir die suur-basisversteuring gedurende die geval.

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Question 2/Vraag 2

Three HIV-positive patients are on antiretroviral therapy, and have presented for inguinal hernia repair. Patient A has just started treatment, and has AIDS. Patient B has been on treatment for one year, and is well. Patient C has been on treatment for two years, and feels well, but has lost 2 kg in the past two months.

Drie HIV-positiewe pasiënte is op antiretrovirale terapie en het presenteer vir inguinale herniaherstelle. Pasiënt A het sopas begin met behandeling en het VIGS. Pasiënt B is op behandeling vir een jaar en dit gaan goed. Pasiënt C is op behandeling vir twee jaar en voel goed, maar het 12 kg verloor in die laaste twee maande.

Their blood gases are as follows

Hul bloedgasse is soos volg

	A	B	C
pH	7.28	7.38	7.29
BE	-6.2	-0.6	-5.9
Lactate Laktaat	1.2	6.2	5.8

- a) Give a reason for each patient's arterial blood gas values. (3)
Gee 'n rede vir elke pasiënt se arteriële bloedgaswaardes.

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.....

- b) State whether you would proceed with surgery (assume the rest of the examination/investigations are normal), and give a reason for your answer. (7) *Sal u voortgaan met sjirurgie (neem aan dat die res van die ondersoeke normaal is) en gee 'n rede vir u antwoord?*

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Question 3/Vraag 3

Name the monitor that you could choose to give you information regarding left ventricular function in each of the following scenarios, name the parameters that you would find useful, and give one reason for your choice:

Noem die monitor van u keuse om aan u inligting te verskaf oor linker ventrikulêre funksie in elk van die volgende scenario's. Gee die parameters wat u nuttig sal vind en gee een rede vir u keuse:

- a) Response to aortic cross-clamping. (2)
Respons tot aortakruisklemming.

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.....

- b) Pre-eclampsia with pulmonary oedema. (2)
Pre-eklampsie met pulmonale edeem.

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.....

- c) Pulmonary artery hypertensive crisis. (2)
Pulmonale arteriële hipertensiewe krisis.

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.....
.....

- d) Septic shock. (2)
Septiese skok.

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.....

- e) Hypertensive heart disease with diastolic dysfunction. (2)
Hipertensiewe hartsiekte met diastoliese disfunksie.

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FCA(SA) PART II

DATA INTERPRETATION

Questions 4 - 6

20 AUGUST 2009

Examination Number:
Eksamen Nommer:

- 4 Answer the questions on this questionnaire.
Beantwoord die vrae in die vraestelboek.
- 5 This questionnaire must be handed in to the invigilator.
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- 6 The candidate's examination number must appear on the questionnaire.
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Question 4/Vraag 4

Name the nerves that need to be blocked around the ankle in order to obtain reliable analgesia in the whole foot.

Noem die senuwees wat geblok moet word by die enkel om betroubare analgesie te verskaf vir die hele voet.

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(5)

Question 5/Vraag 5

According to the latest Resuscitation Council guidelines, during CPR

Volgens die nuutste Resussitasieraad-riglyne gedurende KPR

a) Chest compressions may be interrupted for ____ seconds in order to administer drugs or ventilate the patient.

Borskaskompressies mag onderbreek word vir ____ sekondes om middels toe te dien of om die pasiënt te ventileer.

b) The initial energy setting for use of a monophasic defibrillator on a shockable rhythm is ____.

Die inisiële energiestelling vir 'n monofasiese defibrillator vir 'n skokbare disritme is ____.

c) The initial management of a stable wide complex tachycardia is _____.

Die inisiële hantering van 'n stabiele, wye kompleks tagikardie is _____.

d) The initial dose of adrenaline for an adult is _____.

Die inisiële dosis adrenalien vir 'n volwassene is _____.

(5)

Question 6/Vraag 6

With reference to the following ECG :

Met verwysing na die volgende EKG:

What would you expect to find on this patient's biochemical profile? Give reasons for your answer.

Wat sal u verwag om te vind in hierdie pasiënt se biochemiese ondersoek? Gee redes vir u antwoord.

(5)



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FCA(SA) PART II

DATA INTERPRETATION

Questions 7 - 9

20 AUGUST 2009

Examination Number:
Eksamen Nommer:

- 7 Answer the questions on this questionnaire.
Beantwoord die vrae in die vraestelboek.
- 8 This questionnaire must be handed in to the invigilator.
Die vraestelboek moet aan die toesighouer oorhandig word.
- 9 The candidate's examination number must appear on the questionnaire.
Die kandidaat se eksamennommer moet op die vraestelboek verskyn.

Question 7/Vraag 7

With regards to the ECG
Met verwysing na die EKG

You are called to the recovery room to see a young woman who has developed tachycardia after a laparoscopy.

U word geroep na die herstelkamer van 'n jong vrou wat 'n tagikardie ontwikkel het na 'n laparoskopie.

a) What is the differential diagnosis of the arrhythmia?
Wat is u differensiële diagnose van die disritmie?

b) What is your management?
Wat is u hantering?

[10]

Question 8/Vraag 8

With regards to the following ECG
Betreffende die volgende EKG

- a) What is the arrhythmia shown?
Watter disritmie word vertoon?

.....

- b) What are the indications for a permanent pacemaker?
Wat is indikasies vir 'n permanente pasaangeër?

.....

- c) If the patient with this ECG presented with a fractured neck of femur, what might have been the precipitating cardiovascular cause?
Wat is moontlik die presipiterende kardiovaskulêre oorsaak indien hierdie pasiënt wie se EKG dit is, presenteer met 'n femurnekfraktuur?

.....

Question 9/Vraag 9

With regards to following following ECG.
Met betrekking tot die volgende EKG

- a) What is the arrhythmia? What are the commonest causes?
Wat is die disritmie? Wat is die algemeenste oorsake?

.....
.....

- b) What are the principles of management if this patient requires urgent surgery if the ventricular rate is 170/minute and the patient is in cardiac failure?
Wat is die beginsels van hantering indien dringende sjirurgie benodig word vir hierdie pasiënt en die ventrikeltempo is 170/minuut en hartversaking kom voor?

.....
.....
.....

[10]



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FCA(SA) PART II

DATA INTERPRETATION

Questions 10 - 12

20 AUGUST 2009

Examination Number:
Eksamen Nommer:

- 10 Answer the questions on this questionnaire.
Beantwoord die vrae in die vraestelboek.
- 11 This questionnaire must be handed in to the invigilator.
Die vraestelboek moet aan die toesighouer oorhandig word.
- 12 The candidate's examination number must appear on the questionnaire.
Die kandidaat se eksamennommer moet op die vraestelboek verskyn.

Question 10/Vraag 10

Given the following
Gegewe die volgende

Mean arterial pressure <i>Gemiddelde arteriële druk</i>	70 mmHg <i>70 mmHg</i>
Heart Rate <i>Harttempo</i>	100 beats/min <i>100 slae/min</i>
Central venous pressure <i>Sentraal-veneuse druk</i>	10 mmHg <i>10 mmHg</i>
Pulmonary artery pressure (mean) <i>Pulmonale arteriedruk (gemiddeld)</i>	30 mmHg <i>30 mmHg</i>
Pulmonary artery occlusion pressure <i>Pulmonale arterie-wigdruk</i>	12 mmHg <i>12 mmHg</i>
Cardiac Output <i>Kardiale omset</i>	4 l/min <i>4 L/min</i>
Body surface area <i>Liggaamsoppervlak</i>	2.5 m ² <i>2.5 m²</i>

- a) Calculate the total peripheral resistance (TPR)
Bereken die totale perifere weerstand (TPR).

.....
.....(4)

- b) Calculate pulmonary vascular resistance (PVR)
Bereken die pulmonale vasculêre weerstand (PVR).

.....
.....(3)

- c) Calculate the stroke index.
Bereken die slagindeks.

Be sure to show the equations and calculations as well as indicate the units.
Wys die vergelykings en berekeninge, asook die eenhede.

.....
.....(3)

Question 11/Vraag 11

Figures 1 and 2 are the flow-volume loops of two different patients on your elective theatre list.

Figure 1 en 2 is die vloei-volumekurwes van twee verskillende pasiënte op u elektiewe teaterlys.

a) With regards to Figure 1
Met betrekking tot Figuur 1:

i) Make a distinct diagnosis.
Maak 'n definitiewe diagnose.

.....
..... (2)

ii) Clearly motivate your diagnosis.
Motiveer duidelik u diagnose.

.....
..... (2)

iii) Give a possible etiological factor.
Gee 'n moontlike etiologiese faktor.

.....
..... (1)

b) With regards to Figure 2
Met betrekking tot Figuur 2:

i) Make a distinct diagnosis.
Maak 'n definitiewe diagnose.

.....
..... (2)

ii) Clearly motivate your diagnosis.
Clearly motivate your diagnosis.

.....
..... (2)

iii) Give a possible etiological factor.
Give a possible etiological factor.

.....
..... (1)

Question 12/Vraag 12

A five-week-old male infant is presented for pyloric stenosis repair. The special investigations of blood and urine revealed the following:

’n Vyf-week-oue babaseuntjie word aangebied vir pilorusstenoseherstel. Die spesiale ondersoeke op bloed en urine wys die volgende:

Plasma:	Na ⁺	131 mmol/l	Urine:	Na ⁺	32 mmol/l
	K ⁺	2.1 mmol/l	Urien:	K ⁺	25 mmol/l
	Cl ⁻¹	76 mmol/l		Cl ⁻	10 mmol/l
	HCO ₃ ⁻	40 mmol/l			
	Creatinine	0.52 mmol/l			

Arterial blood
Arteriële bloed:

H ⁺	26 nmol/l
pH	7.58
PCO ₂	6.4 kPa (48 mmHg)
PO ₂	7.1 kPa (51 mmHg)
AHCO ₃ ⁻	41 mmol/l

- a) Classify the main aberration that can be inferred from the above values.
Klassifiseer die hoof afwyking wat afgelei kan word uit hierdie waardes.

.....
.....
(3)

- b) What significance will you place on the urinary results? Why?
Watter waarde heg u aan die urienresultate? Waarom?

.....
.....
(3)

- c) What are your biochemical endpoints of resuscitation (serum and urine) prior to surgery?
Wat is u biochemiese eindpunte van resussitasie (serum en urine) voor sjirurgie?

.....
.....
(4)
[10]



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FCA(SA) PART II

DATA INTERPRETATION

Questions 13 - 15

20 AUGUST 2009

Examination Number:
Eksamen Nommer:

- 13 Answer the questions on this questionnaire.
Beantwoord die vrae in die vraestelboek.
- 14 This questionnaire must be handed in to the invigilator.
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- 15 The candidate's examination number must appear on the questionnaire.
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Question 13/Vraag 13

A 53-year-old insulin-dependent diabetic presents for a hysterectomy. She claims to have no other significant medical history, but on closer questioning reveals that she often feels dizzy on standing and has fainted several times over recent months. Her blood pressure is 130/90 mmHg, random blood glucose is 13.9 mmol/l, and a 12-lead ECG shows normal sinus rhythm, 115 beats/min with no ischaemic changes. A rhythm strip is taken whilst performing a Valsalva manoeuvre and this is shown here

’n 53-jarige insulien-afhanklike diabeet word aangebied vir ’n histerektomie. Sy beweer dat sy geen ander betekenisvolle mediese geskiedenis het nie, maar met nadere ondervraging sê sy dat sy dikwels duiselig is as sy opstaan en het al verskeie kere flou geword gedurende die laaste paar maande. Haar bloeddruk is 130/90, lukrake bloedglukose is 13.9 mmol/l en ’n 12-afleiding EKG wys ’n normale sinusritme teen 115 slae/ minuut sonder iskemiese verandering. ’n Ritmestroom word gedurende ’n Valsalva -maneuver geneem en word hier vertoon:

- a) What is the significance of the rhythm strip?
Wat is die belang van die ritmestroom?

.....

.....

(3)

- b) Why is she dizzy on standing up?
Waarom is sy duiselig as sy opstaan?

.....

.....

(3)

- b) Why is this relevant for anaesthesia?
Waarom is dit relevant vir narkose?

.....

..... (4).

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[10]

Question 14/Vraag 14

A 78-year-old man with mild cardiac failure on diuretics undergoes a transurethral resection of prostate (TURP) under general anaesthesia. In recovery, he is confused. His pulse is 60 beats per minute and blood pressure 90/45 mmHg. His urea electrolytes are checked and give the following results

’n 78-Jarige man wat diuretika neem en matige hartversaking het, ondergaan onder algemene narkose ’n transuretrale reseksie van die prostaat (TURP). Hy is verward in die herstelkamer. Sy polstempo is 60 slae per minuut en sy bloeddruk is 90/45 mmHg. Sy ureum en elektroliete word aangevra en vertoon die volgende resultate:

$\text{Na}^+ = 114 \text{ mmol/l}$, $\text{K}^+ = 3,1 \text{ mmol/l}$

$\text{Cl}^- = 94 \text{ mmol/l}$, bicarbonate/*bikarbonaat* = 21 mmol/l

Urea/*ureum* = 3,2 mmol/l, creatinine/*kreatinien* = 148 $\mu\text{mol/l}$

- a) What is the diagnosis?
Wat is die diagnose?

.....
.....

(1)

- b) Describe the treatment of this condition.
Beskryf die behandeling van hierdie toestand.

.....
.....

(5)

- c) What is the lowest serum sodium you will accept in an elective patient, and why?
Wat is die laagste serum-natrium wat u sal aanvaar in ’n elektiewe pasiënt? Waarom?

.....
.....

(2)

- d) How might this have been avoided?
Hoe kon dit voorkom word?

.....
.....

(2)

[10]

Question 15/Vraag 15

An adopted 12-year-old girl of African origin presents for cholecystectomy due to repeat episodes of gallstone colic. She appears well, but gives a history of repeated hospitalisation with abdominal pain and had an abdominal organ removed 2 years previously, although her foster parents do not know why. Her full blood count and liver function tests are as follows

'n Aangenome 12-jarige meisie van Afrika-oorsprong presenteer viñ cholesistektomie weens herhaalde episodes van galsteenkoliek. Sy kom gesond voor, maar gee geskiedenis van herhalende hospitalisasies met abdominale pyn en 'n abdominale orgaan is verwyder 2 jaar tevore, maar haar aanneem ouers weet nie hoekom nie. Haar bloedtellling en lewerfunksietoetse is soos volg

Hb 9.8 g/dl
MCV 82 fl
MCHC 27 g/dl
WBC 11.6 x 10⁹ /l
Platelets 468 x 10⁹ /l
Reticulocytes 12%
ALT 32 IU/l
Alk phos 67 IU/l
Albumin 49 g/l
AST 41 IU/l
Bilirubin (total) 53 µmol/l

- a) What do these blood results show?
Wat wys hierdie bloedresultate?

.....
.....

(2)

- b) What is the underlying diagnosis?
Wat is die diagnose?

.....
.....

(1)

- c) How might the diagnosis be confirmed?
Hoe kan die diagnose bevestig word?

.....
.....

(1)

- d) Which abdominal organ was removed 2 years previously and why?
Watter abdominale orgaan is 2 jaar tevore verwyder en hoekom?

.....
.....

(2)

- e) What are the important anaesthetic considerations for the planned surgery?
Wat is die belangrike narkose-oorewegings vir die beplande sjirurgie?

.....



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FCA(SA) PART II

DATA INTERPRETATION

Questions 16 - 18

20 AUGUST 2009

Examination Number:
Eksamen Nommer:

- 16 Answer the questions on this questionnaire.
Beantwoord die vrae in die vraestelboek.
- 17 This questionnaire must be handed in to the invigilator.
Die vraestelboek moet aan die toesighouer oorhandig word.
- 18 The candidate's examination number must appear on the questionnaire.
Die kandidaat se eksamennommer moet op die vraestelboek verskyn.

a) What is the silhouette sign?
Wat is die silhoeët-teken?

.....
.....

(2)

b) What are the implications of the presence of a silhouette sign on chest x-ray?
Wat is die implikasies van die teenwoordigheid van die silhoeët-teken op 'n borskas X-foto?

.....
.....

(2)

c) Which of the following listed structures are anterior and which are posterior on a PA chest x-ray?
Watter van die volgende gelyste strukture is anterior en watter is posterior op 'n PA borskasfoto?

i) Right heart border.
Regter hartgrens

.....

ii) Left heart border.
Linker hartgrens

.....

iii) Ascending aorta .
Opstygende aorta

.....

(3)

d) If the following structures are obliterated on a PA chest X ray, which segment or lobe of the lung is involved?
Watter segmente of lobbe van die long is betrokke indien die volgende strukture versluier is op 'n PA borskasfoto.

i) Left heart border.
Linker hartgrens.

.....

ii) Right heart border.
Regter hartgrens.

.....

iii) Ascending aorta.
Opstygende aorta.

.....

Question 17/Vraag 17

Interpret these thromboelastogram data

R(reaction) time	K time	Alpha angle	Maximum amplitude (MA)	60 minutes after MA	Answer
a)Prolonged	Prolonged	Decreased	Decreased	Normal	
b)Prolonged, normal with heparinase	Prolonged, normal with heparinase	Normal	Normal	Normal	
c)Almost normal	Prolonged	Prolonged	Decreased	Normal	
d)Decreased	Decreased	Increased	Increased	Normal	
e)Shortened	Normal	Increased	Increased	Decreased	

Interpreteer hierdie trombo-elastogram data

R(reaksie) tyd	K-tyd	Alpha-hoek	Maksimum amplitude (MA)	60 minute na MA	Antwoord
a)Verleng	Verleng	Verminder	Verminder	Normaal	
b)Verleng met normale heparinase	Verleng met normale heparinase	Normaal	Normaal	Normaal	
c)Amper normaal	Verleng	Vermeerder	Verminder	Normaal	
d)Verkort	Verminder	Vermeerder	Vermeerder	Normaal	
e)Verkort	Normaal	Vermeerder	Vermeerder	Verminder	

[10]

A patient has acute lung injury. He is normotensive and is mechanically ventilated: The following data were recorded.

’n Pasiënt het akute longbesering. Hy is normotensief en word meganies geventileer. Die volgende data word verkry

$FiO_2 = 0.7$; PEEP = 15 cm H₂O

Haemoglobin/ *Hemoglobien* 7.5 g/dL

Central venous pressure = 18 mm Hg; Pulmonary artery wedge pressure = 18 mm Hg
Sentraal-veneuse druk = 18 mm Hg; Pulmonale arterie-wigdruk = 18 mm Hg

Mean pulmonary artery pressure = 42 mm Hg
Gemiddelde pulmonale arteriedruk = 42 mm Hg

Cardiac index = 2.3 l/min/m²
Kardiale indeks = 2.3 l/min/m²

Respiratory quotient = 0.8
Respiratoriese koëffisiënt = 0.8

Arterial blood gas: PaO₂ = 7.9 kPa, Haemoglobin saturation = 98 % and PaCO₂ = 6.9 kPa
Arterie bloedgas: PaO₂=7.9 kPa, Hemoglobiensaturasie = 98 % en PaCO₂ = 6.9 kPa

Mixed venous blood gases: PO₂ = 3.7; Haemoglobin saturation 42 %; PCO₂ = 7.5
Gemeng-veneuse gasse: PO₂ = 3.7; Hemoglobiensaturasie 42 %; PCO₂ = 7.5

Calculate the following (accept 1.39 for the oxygen binding constant to 1 gm Hb). Be sure to show the equations, calculations and units.

Bereken die volgende (aanvaar 1.39 as die suurstofbindingskonstante vir 1 g Hb). Wys die berekening en die eenhede.

a) End capillary oxygen content.
End-kapillêre suurstofinhoud.

.....
.....

(2)

b) Arterial oxygen content.
Arteriële suurstofinhoud.

.....
.....

(2)

c) Mixed venous oxygen content.
Gemeng-veneuse suurstofinhoud.

.....
.....

(2)

d) Pulmonary shunt fraction.
Pulmonale aftakkingsfraksie.

.....
.....

(2)

e) Whole body oxygen consumption
Heelligaam-suurstofverbruik.

.....
.....

(2)
[10]



FCA(SA) PART II

DATA INTERPRETATION

Questions 19 - 20

20 AUGUST 2009

Examination Number:
Eksamen Nommer:

- 19 Answer the questions on this questionnaire.
Beantwoord die vrae in die vraestelboek.
- 20 This questionnaire must be handed in to the invigilator.
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A high urine osmolality and low urine sodium concentration suggests which type of renal insufficiency ? Briefly motivate the answer.

Van watter tipe renale ontoereikendheid'ris hoë urinêre osmolaliteit en lae urinêre natriumkonsentrasie aanduidend? Motiveer kortliks u antwoord.

.....
.....
.....

Question 20/Vraag 20

Briefly explain the importance and relevance of a prolonged bleeding time.
Verduidelik kortliks die belang en relevansie van 'n verlengde bloeityd.

.....
.....
.....

(4)

[12]