Set 1

Clinical anaesthesia

Long case:

Young female, 6 hrs post-partum, no medical condition

Anxious, new onset PV bleeding

HR 120 BP 100/60, Hb: 6.8. Coagulation not provided

ECG: Sinus tachycardia

- Summarise the case and diagnosis, what further investigations you will ask for and why?
- Anaesthetic management: optimisation, resuscitation etc
- Further intraop bleed of two liters: Management, blood, blood products etc
- Post operative ICU admission, investigations and management on ICU
- CXR: printout of chest x-ray on A4 sheet not a good quality print! (Endobronchial intubation)
- How will your management on ICU if this patient had severe pre-eclampsia as well?
- What further monitoring will you like to establish in this scenario?

Can’t remember all of my short cases.

Only one I can remember was of middle-aged male, recent travel to Asia now complaining for cough, fever. CXR: right apical shadowing

Diagnosis: TB

Clinical management of TB

Issues in anaesthetic management for elective surgery

When would you accept this patient for elective list?

Basic sciences

1. Anaesthetic management of a case of carcinoid syndrome

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
2. What is carcinoid syndrome, clinical features, clinical management and treatment of carcinoid syndrome.

3. Pre-op optimisation and when would you accept this patient for elective list

4. Physiology of serotonin, physiological effect etc.

Anatomy of epidural space, how will you perform the block, how will you consent the patient for epidural, discussion of risks/complications.

Defibrillator:

1. Diagram, working of defib, how to safely defibrillate a patient
2. Capacitor in defib, how are they charged? How do they discharge?
3. How does charge travel between two plates of capacitor?

Set 2

Clinical sciences:

67/M Elective AAA repair

- Hypertension X 15 years
- Admitted with central chest pain 4 months ago but no evidence of ischemia at that time.
- Smoker (heavy) throughout life
- Rx: Enalapril 10 mg, furosemide 40 mg, ISMN
- CXR: Unremarkable (examiner happy with this finding)? Hyperinflation but normal contour of both domes of diaphragm, no focal lesion
- ECG: LVH, t wave inversion, 1 aVL, V4-V6
- Abnormal investigations were: creatinine 180, urea normal
- Na 133 K 3.3, blood sugar 18
- Fundus: grade 1 retinopathy

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
Final FRCA Viva Questions June 2009: Set1

Questions:

1. Summarise, stopped at ‘hypertension with end organ disease’ asked why? Significance of end organ disease

2. Discuss ECG findings

3. Explain CXR

4. What further investigation would you like for CVS? ECHO (what are looking for), Exercise testing, coronary angiography,

5. How you will assess respiratory status? History/exam/investigation/what investigations?

6. What will you do about high BM, (overnight sliding scale)

7. What further renal investigation? Urine, renal USG, why?

8. How will you conduct anaesthesia? What monitoring

9. Any special monitoring: said oesophageal doppler, happy with it and expected explanation of FTc and peak velocity/mean acceleration

10. Epidural awake asleep? Why awake?

11. Intraop: physiology of cross clamping, how will you deal with surge in BP

12. Massive haemorrhage and management

13. ST changes following x-clamp removal and hypotension how will you manage? Usual 100% o2 etc (Liked it when I said ‘ask the surgeon to x-clamp again’ fill, release slowly, other strategies

14. When you will extubate on ICU?

Short cases:

Young female, listed for day case, lap sterilisation and history of PONV. She asks you ‘am I going to be sick after this operation’? what will you say?

- Factors effecting PONV, how will you minimise them? Options for analgesia
- How will you manage: LMA/ETT?
- Advantages of LMA (no need for muscle relaxants and neostigmine which may precipitate vomiting)

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
32/F Primi, in labour for 6 hours, no epidural, HR 124 BP 150/102 RR 24. On Hydralazine. Obstetrician want to take her to theatre for ‘non-reassuring CTG trace,

- Definition of preclampsia
- What will you say to surgeons: discuss about LL uterine displacement/oxygen/reassess
- Further optimisation of BP control: Labetolol/Nifedipine/ speak to patient about epidural (pain control, improved placental perfusion, help in controlling BP) *wanted me to say magnesium for BP control.*
- Options for anaesthesia: GA/epidural/spinal/CSE. Reasons for CSE.
- Will need FBC recent clotting, fluid management, post-op HDU

65/F posted for bronchoscopy and ? thoracotomy for Left lower lobe SCC of lung

PFT:
- FEV1: 1.28 32%
- FVC: 110%
- FEV1/FVC: 52%
- FEV 25-75: 21%
- TLCO 50% of predicted

Interpretation

What is TLCO
What is FEV1 etc

Expected post op problems

What ‘numbers’ on PFT will be indicative of significant problems in post op period?
Other tests: CXR/ABG/CPX testing: anaerobic threshold?

Basic sciences:

Autonomic supply of the eye:

Trace sympathetic fibres from origin in brain to eye? Synapse in spinal cord
etc post ganglionic fibres? Where is superior cervical ganglion located? if sympathetic supply is from sup cx ganglion then why horner’s syndrome with stellate ganglion block (fibres pass through it). Where is ciliary ganglion located( in the orbit)? Causes and effects of lesions at different points in sympathetic supply

Trace parasympathetic fibres from origin in brain to globe

Effect of sympathetic and parasympathetic stimulation

Name muscles responsible for miosis and mydriasis

What happens on accommodation of the eye?

Catabolism of starvation: what happens? (glycogen then fatty acids then proteins as energy substrate)

Catabolism on ICU: how is it different from catabolism of starvation (glycogen then proteins as substrate)

Energy requirements on ICU

Types of neuropathic pain (central/peripheral)

- Mechanism/example
- Symptoms and signs (define allodynia/hyperalgesia)
- What motor change would you expect in CRPS?
- What bony changes would you expect in CRPS?
- Treatment options
- Mechanism of action of anti-epileptics and capsaicin

Pulse oximetry:

- What is its accuracy in normal clinical settings?
- Principles
- How does it work? (LEDs in probe etc)
- Sources of inaccuracy

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
• What happens in MethHb / CoHb and why? (Graph of absorption at different wavelengths)

Set 3

SCIENCE

1. What are the indications for and complications of trache
   How do you perform a perc trache
   draw a cross-section of the neck at C6

2. What are the causes of hypoventilation
   (identical question to one in your viva book)
   draw graph of AV v CO2

3. how do you decide which drugs to give to someone with shock
   led onto talk about inotropes

4. Tell me about scoring systems used in ITU!!!!
   wanted to know about APACHEE etc.

CLINICAL

long case
76 women for mastectomy for advanced ca breast. smoker,
COAD with numerous recent admissions, AVR 10 years ago, on warfarin. Now has orthopnoea, pdn. palpable liver edge.
ECG 1 degree heart block,
CXR hyperinflated lung fields ?LLL consolidation
PFT severe obstruction
Bloods
microcytic anaeemia
high urea with normal creat
high wcc

she had a pneumonia, had to treat this before surgery

2. prevention of secondary brain injury

3. 29 yr old 32 week pregnant presents with a cord prolapse, similar to SAQ you set

4. ECG, read it in a systematic way, LAD, LBBB, LVH, would you anaesthetise, what would the cardologists do

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
SET 4

Long Case:

76 yr/F, scheduled for mastectomy and axillary node clearance for advanced cancer of breast; she is a known COPD with limited exercise tolerance and previous hospital admissions for exacerbations; had aortic valve replacement 3 years ago; she had prednisolone two months ago for her COPD;

Clinical findings: palpable liver, no creps, no oedema

Medications- warfarin, beclomethasone/salbutamol/salmetorol/ipratropium inhalers and theophylline tabs, frusilax

Blood: Hb 10.5, WCC 13.5 (granulocytosis), Normal MCV, INR 1.7

Biochem: normal electrolytes and slightly raised urea

Blood gas: on air, po2 of 9.0  pco2 5.5 and rest normal

PFT : Severe obstructive (FEV1/FVC of 33%) no info on post inhaler

CXR: emphysematous, ?infection, Aortic valve

ECG: 1 deg block

1. Summarise/main problems

2. Asked about investigations- brief discussion about all of them –not too probing- whats missing in PFT (post bronchodilator values), cause of anemia, raised urea in this patient

3. Some discussion about warfarin, what to do with it; if changing to heparin, when? Target INR

4. Is she fit to be anaesthetised-obviously not!! ; why not-severe COPD and possible infection, possible cardiac failure; need further investigations and optimisation; but balance the risk and benefit of delaying surgery for cancer and increased perioperative risk

5. What further investigations-Echo/CPET, what to look for in ECHO

6. Why do you say this COPD is severe- all possible treatment and ratio of 33%

7. What organizational arrangements you will make before planning for surgery- ICU

8. Anaesthetic option- GA/ETT/IPPV with interpleural/paravertebral; i would

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
avoid epidural

9. Post-op: sudden dyspnea in HDU, how will you approach, DD

Short Cases:

1. Causes of secondary brain injury and how to minimise them; discussion on ICP reduction

2. 32 weeks pregnant with cord prolapsed-initial management-anaesthetic options-GA-Difficult intubation-LMA

3. ECG with LBBB- 40yr man- for knee arthroscopy as day case- he has travelled a long way and made lot of arrangements for this operation (??)-

Need further investigation and examination- towards aortic stenosis-and then came back and said, assume he is clinically normal; would you anaesthetize; literally pushing me towards anesthetising him; but i denied till the very end; finally saying, at least ask a second opinion if not a cardiologist

Basic science:

Anatomy:

1. Indications for tracheostomy

2. When do you decide about tracheostomy for weaning in ICU

3. How will you do percutaneous trachy

4. Complications

5. Anaesthetising a patient with long term tracheostomy

6. Draw a diagram of C/S at C6 level (including whats behind the vertebra,
of course!)-finally a question on anatomy

Physiology:

1. Causes of hypoventilation
2. Why is hypoventilation bad
3. How will you manage a patient with hypoventilation
4. Led into alveolar gas equation and respiratory quotient and factors influencing
   the R, when will the pH2O significant (high altitude)

Pharmac:

1. Types of shock
2. How will you manage each
3. Inotropes- how do they work; not happy with alph and beta receptors; they
   wanted cAMP and non cAMP agents (PDEi were included in the cAMP
   category- they wanted Digoxin after all....Ah! then a discussion on digoxin
   mechanism of action

?Stats: (many found this question difficult)

1. Scoring systems used in ICU
2. GCS/sedation....not happy....APACHE...they were keen to discuss on this
3. How do they devise scoring systems
4. How do you calibrate
5.Whats is purpose of this
6. Disadvantages

Set 5
Final Viva June 2009

Clinical Long Case

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
17mo male currently on childrens ward. Was brought into accident and emergency by mother due to grunting. 2hrs earlier he was eating Bombay mix when had an episode of coughing and went blue. Shortly afterwards was recovered and was well enough to eat a banana and chocolate biscuit.

PMH: Fit and well. No prev Gas.

O/E Sats 94% on air

CXR: looked quite normal ? slightly overexpanded R side

1) Summarize the case
2) What is the underlying pathology? – wanted ball valve mech
3) Present the CXR
4) How would you manage the case?
5) Would you give any premed? ?dose of oral atropine
6) How would you do a gas induction?
7) Resp distress in recovery how would you manage? What is diff diagnosis?

Short cases:

1) 80yo male was eating lunch when developed severe pain and hunched over. Brought into A+E. BP 60/30. Surgeons believe ruptured AAA.

How would you manage?

How would you decide if he should have operation? ?scoring system – didn’t know of one

How would you resuscitate?

How would you anaesthetise?

Epidural?

2) 70yo female on ITU for 7days with community acquired pneumonia. Develops weakness. What is the differential diagnosis? How would you diagnose critical illness neuropathy/myopathy. What is the cause?

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
3) 2yo post grommets in recovery. Agitated and distressed. How would you manage?


Clinical Science

Anatomy:

Femoral triangle, boundaries, facial layers, how would you block? How does 3 in 1 block differ?

Physiology:

Preoxygenation. What is it? How does it work? How long does it last for? What are the possible complications? pCO2 vs minute ventilation

Pharmacology:

Chronic opioids. Which groups of people are on long term opioids? What limits the upper dose of opioids in these pts? How can opioids be administered? How would you manage acute pain in these pts?

Physics and Clinical measurement:

Ultrasound – how does it work? What are it’s uses? Nice guidelines re central line insertion, regional block, epidural. How does Doppler work?

Set 6

Long Case

55 year old Afrocaribbean lady with sickle cell trait, hypertension and obesity for thyroidectomy.

FBC – microcytic anaemia

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
TFTS – normal

ECG – sinus tachy rate 120, nil else

CXR – large goitre causing tracheal deviation

-Summarise

-How will you manage this lady pre-intra-post op

-Airway management discussion, causes of post-op stridor.

Short Cases:

1. 19 year old man has been assaulted in a pub. He had a period of loss of consciousness. He presents for repair of fractured mandible. How will you manage this patient? What are the indications for CT head?

2. A 43 year old lady is referred back to you 6 weeks following a hysterectomy during which she remembers being awake. What will you do? Discussion about awareness – definition, incidence, risk factors, measurement.

3. A 78 year old patient is brought to hospital by ambulance. She was found at the bottom of her stairs. She is unconscious and hypothermic. How will you proceed? Differential diagnosis? How do you grade severity of hypothermia?

Science Viva


2. How will you manage hypoxia during one lung ventilation?

3. What implications does renal failure have on drugs? Started broad, then discussion on specific types of drugs – muscle relaxants, opioids, nephrotoxins.

4. Mapleson E circuit – discuss. When seriously ran out of things to say they moved on to anatomical differences in paeds vs adults.

Set 7

SCIENCE

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1. What are the indications for and complications of trache
How do you perform a perc trache
draw a cross-section of the neck at C6

2. What are the causes of hypoventilation
(identical question to one in your viva book)
draw graph of AV v CO2

3. how do you decide which drugs to give to someone with shock
led onto talk about inotropes

4. Tell me about scoring systems used in ITU!!!!
wanted to know about APACHE etc.

CLINICAL
long case
76 women for mastectomy for advanced ca breast. smoker,
COAD with numerous recent admissions, AVR 10 years ago, on warfarin. Now has orthopnoea, pnd. palpable liver edge.
ECG 1 degree heart block,
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she had a pneumonia, had to treat this before surgery

2. prevention of secondary brain injury

3. 29 yr old 32 week pregnant presents with a cord prolapse, similar to SAQ you set

4. ECG, read it in a systematic way, LAD, LBBB, LVH, would you anaesthetise, what would the cardologists do

Set 8
Long case-55 yr lady with Sickle cell trait with neck swelling pushing trachea to left coming for near total thyroidectomy. Known Htn.Changed medication from atenolol to Captopril

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
O/E Tachycardia, high BP, Neck swelling, high BMI
Investigations-Anaemia, Normal TFT, CXR-retrosternal swelless pushing trachea

Short cases-Fracture mandible, Awareness under GA, Hypothermia.

Set 9
Viva
Long case - Elective Aortic aneurysm with cardiac disease, diabetes, hypertension, TIA's, renal failure.
Post-operative ECG AF. (R) lower lobe pneumonia, on CPAP Deteriorating etc etc etc
Short case - Wolf Parkinson White ECG elective case for ureteric stent
5 yr child for circumcision:
discuss pain relief and various regional techniques in detail latex allergy and anaphylaxis under anaesthesia
Basic Science Viva
Physiology of denervated heart in heart transplant
Anaesthesia for heart transplantation
Anatomy of liver and spleen with emphasis on vascular supply; effect of volatiles on hepatic blood flow etc(hepatic artery/portal vein as ?buffer pairs)
Control of gastric acid secretion; management
Enteral nutrition of critically ill
Electricity; macroshock/microshock/hazards in theatre etc etc
Ultrasound

Set 10
Long case
elderly woman for mastectomy and axillary node clearance Shown FBC U&E LFT PFT CXR ECG obstructive deficit on PFT raised wcc raised granulocytes Wheezy severe COPD FEV1 39% predicted CXR bibasal consolidation

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
Symptoms orthopnoea 2cm hepatomegaly
Asked about reversible obstructive symptoms
Asked about optimisation of respiratory condition
Asked about arterial line central line
asked about GA intubation vs LMA
Asked about analgesia - intercostal nerve block, paravertebral etc

Short clinical
1. cord prolapse. management. asked if spinal acceptable
2. management of secondary brain injury
3. shown ECG LBBB LAD. Asked if I would anaesthetise for arthroscopy

Basic Sciences
1. causes of hypoventilation and alveolar gas equation
2. scoring systems
3. vasoconstrictors - cellular mechanism of action and those that do not act via cyclic AMP.

Set 11
1. Long case
You have been asked to assess this patient in A&E for theatre
53 year old involved in RTA, driver of car hit by lorry, on high flow oxygen, shallow breathing, paradoxical movement right chest
HR 110/min, BP 95/45, sats 99%
c/o pain chest, hip and leg
Positive diagnostic peritoneal lavage
ABG- severe met acidosis with BE -8.9
Bloods- Hb 11, PCV -0.37, high WBC, normal MCV, MCH, MCHC
Urea, creatinine normal
CT shows fracture hip and femur
CXR given- multiple rib fractures with chest drain in situ seen

Qs- Have you been in this situation before?
How would you go ahead with this patient? - Airway with c spine/ B/C/D
Standard resuscitation questions- fluids you would use, whats AVPU
How much would you resuscitate
How urgently does this patient have to go to theatre
How would you assess fluid balance?
How would you induce this patient in theatre? I mentioned RSI with manual c spine immobilisation
Examiner didn’t appear very keen, he asked what I would do if I have a poor view on laryngoscopy
I said intubation would be my priority - so I would use methods to improve the view- He appeared satisfied
How would you clear his C spine
I told East clinical criteria
Can you clear him clinically?- No, there are distracting injuries
CXR- is the chest drain doing its job?- No slight mediastinal shift to left, couldnt see pneumo/haemothorax
But said haziness could be due to lung contusion and unable to spot a pneumothorax through that

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
Methods of pain relief on ITU

2. Short cases

A. Lady with hoarseness coming for laryngoscopy
   Causes of hoarseness?
   What else you would look for in the history?
   Told almost everything and in the end he said, what's the commonest cause?
   Examiner came up with the reply "reflux, isn't it?" and I said yes
   Is indirect laryngoscopy helpful?
   In what way?
   Airway assessment fine, how would you anaesthetise?
   IV versus gas induction
   Procedure would take 20 minutes-
   I said I would use microlaryngeal tube
   He asked me the disadvantage of it
   I told the high resistance breathing through it
   "would you still use MLT?"
   He moved on to the next question

B. I think this was the 2nd question
   Chest X ray of female patient
   Obvious deformity - nodular shadow lung
   Causes of it?
   Cannot remember the rest

C. Down's with Eisenmengers with white limb- the one staright from Mills/Maguire/Barker- went fine

3. Basic sciences

A. Anatomy of sacral canal in 2 year old child
   Contents
   Draw diagram of sacrum
   Indications, contraindications, method of caudal block, complications

B. Myopathy in critically ill- causes
   How to diagnose?
   Moved on to EMG- physiology- didn't go very well
   But examiner prompted me saying what is stimulated, then what happens (I drew action potential),
   where does the action potential do
   What's the response in the patient?

C. Pharmacology- antibiotic prophylaxis in surgical patients- indications, drugs used, why?
   Methods in theatre to reduce infection rates other than antibiotics
   I told about asepsis/ laminar flow..... examiner asked me what about core temperature
   I said hypothermia increases post op infection rates

D. Awareness- define, causes
   Monitoring of awareness- happy with the details from Bricker viva book
   Examiner more interested in evoked potentials
   Described auditory evoked potentials
   Asked to describe the "pathway" of evoked potentials- didn't start off very well

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
Set 12

Long case; 38 yr old afro. lady with sickle cell trait coming for elective thyroidectomy with retrosternal ext.

Ht+ on atenolol had tightness in the chest and Drug was discontinued.

ivx; thyroid functions normal.

Blood picture; Microcytic hypochromic microcytic anae.

ECG; Sinus tachy rate of 100, normal axis

CXR: retrosternal mass with ?? calcification. Trachea shifted.

Qts Summary

What other invx: For sickle and for thyroid

S & S int history of this patient sickle, thyroid & tetrosternal goitre

Anaesthetic manangement; Prep, Monitoring, Induction, airway management complications; Intarop, Post op Immediate and late and there management

What instruction for the recovery, ward nursing staff you would give

Short cases

1. What is Qt interval and normal and how do you calculate

2. Any concerns with QT in the perioperative period. Prolonged QT syndromme; Causes anaesthetic manangement of a patient coming with prolonged QT Sy, Drugs need to be avoided. Management of Torsade De Po...

Set 13

LONG CASE

70 y.o man post elective AAA repair, on ICU Day 4. Extubated day 1 but remained on CPAP (we weren't told how much)

PMH- IHD, DM, PVD, Hypertension, TIA, BPH (previous TURP), hiatus hernia.

Was on aspirin, PPI, aldactone, diltiazem, (nothing for DM and no statin)

We were given some pre-op information- he had SOB on exertion, I think he was a smoker (or ex), BP pre-op 165/85 Chest- creps left base. Pre-op U&E reported as normal

Acutely, he had deteriorated, was clammy & agitated, and SOB, tachypnoecic RR 36, creps bibasally

There was LOTS of info to get through in the 10 minutes- there was a pre-op and a current ECG- pre-op fairly normal, SR rate 75bpm, axis normal limits, isolated Q in III. Current, fast AF, axis unchanged, ST segmental depression, II, V3-V6, ST elevation aVR.

CXR: bibasal patchy shaddowing, AP film but probable cardiomegaly, elevated right hemidiaphragm.

ABG: FiO2 0.7 pH 7.4, PCO2 3.8, PO2 11.6, HCO3 21

Bloods- U & E- Na, K normal, Ur 13, Cr 150 ish

Discussion was around

Diagnoses- fast AF, ST changes (they weren't very interested in talking about ST changes), resp failure, renal failure.

AF- causes/ treatments

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
Normal stays on ICU after elective AAA repair
Medication he was on
Medication he wasn’t on
Renal failure (potential causes in him)
Causes of resp failure
A-a gradient/ alv gas equation
Would you intubate

Set 1
Long Case

60-year old lady in A&E after RTA; complaining of right chest and abdo pain.
O/E Hyperventilating with paradoxical chest wall movement, sats 96% with facemask 15L, HR 120 BP 80/60, slightly obese BMI approx 30, fractured pelvis and femur

Investigations:
Blood in diagnostic peritoneal lavage
CXR showed multiple rib fractures and flail segments, no haemothorax, small pneumothorax right apex, chest drain in situ
Bloods - HB 8.0 PCV was low, K 3.3, glu 11, everything else normal
ABG - PaO2 33.1, metabolic acidosis BE - 18, pH 7.2
CT neck - normal, no fractures

Questions:
Summarise main problems
Further assessment + management
Airway management with specific concerns re C-spine and clearing; would I keep collar on, should I take it off for theatre management, delay theatre to clear c-spine
Would I keep her intubated at the end of the case in view of potential painful rib fractures, etc
Pain management for rib fractures - discussed thoracic epidural vs intercostal blocks vs intrapleural block
ITU management issues - pulmonary contusions, etc
Secondary survey- timing of orthopaedic repairs

Short clinical cases
1. Downs syndrome with Eisenmenger's presents with sudden onset painful pulseless foot
Likely diagnosis
Pathophysiology of Eisenmengers
Management issues in theatre re Eisenmenger's and Downs

2. Hoarse voice in long term smoker for direct laryngoscopy
Differential diagnosis
Pre-operative assessment - what airway and specific issues in this patient
Possible airway issues in theatre
How to anaesthetise
Post op issues

3. Long term smoker with right middle lobe lump on CXR
Present CXR findings
Possible differential diagnoses
Investigation of bronchial lumps
How to anaesthetise for rigid bronchoscopy
How to anaesthetise for lobectomy - double lumen tube issues

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
Physiology of OLV

Clinical Science Cases

Anatomy: describe sacral canal - bony boundaries, contents
Caudal epidural - doses
Possible consent issues for parents in 2-year old child
How to do caudal epidural

Physiology: Differential diagnoses for muscle weakness
Clinical features of different types e.g. Guillain Barre vs multiple sclerosis vs sepsis
Features on electrophysiology
Critical illness polyneuropathy - definition, diagnostic features, management (especially dietary nutrients)

Pharmacology: Prophylactic antibiotics in surgical patients - what is the scientific basis? What sort of patients?
Definition of surgical site infections
Risk factors for SSIs
NICE guidelines for infective endocarditis
Evidence base behind NICE guidelines - discuss reasons behind changes as well as possible adverse effects of with-holding antibiotics
Disadvantages for antibiotic therapy
My choice of antibiotics for various types of surgery: bowel vs orthopaedic and why

Physics: Definition of awareness
Depth of anaesthesia monitoring - clinical, EEG based and non-EEG based
Physiological basis of BIS monitoring and how it works
Evidence behind BIS monitoring - burst suppression ratios
Auditory evoked potentials - how it works and what is the better choice

Set 15

Clinical
55yr old woman, sickle cell trait, hypertension for thyroidectomy
Bloods - FBC low MCV and MCH but normal HB, Thyroid function tests - normal
ECG - sinus tachycardia, CXR - large goitre, trachea deviated to left
Summary, ECG and CXR findings
Further tests needed, flow-volume loops
how to anesthetise patient

ORIF mandible, young fit man
assessment airway
NICE guidelines CT head

35 yr old woman, hysterectomy 6 weeks ago, complaining of awareness
how to deal with complaint of awareness, prevention of awareness

old woman hypothermia, decreased GCS
ABC
signs/symptoms hypothermia

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Acknowledgement: many thanks to the candidates of June 2009 final FRCA viva course
Basic sciences
Anatomy coronary arteries and conducting system, long QT syndrome

Physiology one lung ventilation, shunt, PVR, treatment hypoxia during one lung ventilation

Pharmacology renal failure general principles and specific anaesthetic drugs

Equipment - ayres T piece

Set 16
Clinical viva:
A 67yr old gentelman with history of RCC and previous vertebral fusion presenting with lower limb weakness. Booked for vertebral fusion? via a right thoracotomy. History of hypertension.

Med: candesartan, diazide, dexamethasone

Bloods: Renal dysfunction,

Chest xray: bibasl shadowing

ECG: 1st degree heartblock

Discussion: mainly focused on periop management, bit on OLV and post op care especially regarding analgesia

Short cases:
4yr old child, correction of squint as day case
management of tracheostomy/ complications. also wanted to know about trachman study
76yr old gentleman with multiple comorbidities presenting for TURP

Science viva:
Anatomy of IJV and indications for cannulation/ complications
Cerebral blood flow, ICP and methods to lower it and also its measurement
PCA
Decontamination of equipment and a bit about prion disease.

Set 17
Basic sciences:

1) autonomic innervation of the eye
2) ITU starvation - compare normal starvation with itu patients
3) neuropathic pain
3) pulse oximetry

Clinical
1) PONV- how would you design a policy
2) PFTs - for lobectomy - why were they done/ how to stratify risk

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3) PET - and specifically management of hypertension
4) long case AAA - standard questions

**Set 18**

Long case (I think this one is in the old ROCA final book red book)

67 year old patient with history of hypertension peripheral vascular disease has come for elective aortic aneurysm surgery. He was a heavy smoker until last five years. He uses GTN spray for his angina induced by exertion. 3 months ago he was admitted with severe central chest pain during which Myocardial infarction was ruled out.

O/E

- wt 81 kg
- Plethoric man with bull neck
- 8cm pulsatile mass in abdomen (only place in the question which tells you that it is an abdominal aneurysm, as I could remember one of the candidate approached it as a thoracic aneurysm seeing the history)
- BP 160/91
- Patient on enalapril 10 mg Frusemide 20 mg
- Haematology N
- Biochemistry Hypokalaemic, Renal impairment and Hyperglycaemia
- ECG LVH with strain pattern LAD
- CXR plethoric chest mild hilar congestion

Questions
What further investigation?
What further cardiac investigation? details of CPEX testing
How would you pre optimise?
Would you institute any drug?
Pre op plans?
Anaesthetic management Details of pre, intra and post op
Post op ITU when will you extubate the patient factors you would look into

**Short cases**

1. 28 yr old lady with known PONV coming for lap sterilization emphasised on patient discussion, risk you would tell the patient, amount of risk reduction with institution of aniemitics with increasing no single vs multi (didnt focus on pathway or drug groups)
2. Primi with recently diagnosed PIH for CS asap Questions focussed on investigations, risk vs benefit of GA and RA
3. 67 yr lady with Squamous cell carcinoma of lung for lobectomy investigations, criteria for lobectomy/pneumonectomy

Applied science
- Auonomic nerve supply of eye
- Stravation physiology
- Neuropathic pain pharmacology
- Pulsoximetry

**Set 19**

55 year old, West Indian lady. For thyroidectomy due to incidental finding on CXR. Hypertensive. Sickle cell trait. On examination, weight 80kg, height 160cm, BP 180/90, HR 120, nil else significant.

DH: bendrofluazide, enalapril, Had become wheezy with atenolol. ECG sinus tachycardia, CXR mediastinal mass pushing trachea to other side. Bloods: TFT’s

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NAD, electrolytes normal, HB normal, WCC slightly elevated.

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>> Questions:

Summarise this case.
>> Why do you think her airway will be difficult?
>> Tell me about the CXR.
>> What other investigations are you going to do?
>> What problems do you get with a retrosternal goitre?
>> Why do you say she is obese? What are the problems with
>> anaesthetising obese people?
>> You mentioned that she was hypertensive, does she have any end organ
damage? What are the problems of anaesthetising hypertensive people.
Tell me about the ECG. What are the causes for her sinus tachycardia? Would you
anaesthetise her with this tachycardica.
Tell me about your anaesthetic management. What ET tube will you use? Would you
change anything given she is sickle cell trait positive? What analgesia will you provide
for her? What maintenance will you provide?
Tell me about some problems that patients can develop in recovery post-operatively.
What is tracheomalacia? How about within 24 hours, what problems can people
develop? Who gets thyroid storms? How would you treat it? Tell me about the
hypocalcaemia; when do they present, how do they present?
>>

A patient is listed for ORIF of fractured mandible. On pre-assessment the patient tells
you he was in the pub and got punched in the head. He thinks he was unconscious for
a couple of minutes.
What are your concerns about this case? How will you exclude a significant head and
c-spine injury? He is still drunk, what problems will this cause you? How will you
anaesthetise him?

You receive a phone call from a GP to say that a patient you anaesthetised for an
abdominal hysterectomy had complained she had been
aware. What do you do? What types of awareness do you know about.
What causes awareness? How can you prevent it? What is the
incidence? DO you know of any recent trials about awareness? Have
you ever been involved in a case of awareness?

You receive an urgent phone call from A and E to say that a 78 year old lady has been
found on the floor in a cold house. Her temperature is 30 C. What do you do? What
are your concerns about this patient? What pre-disposes to hypothermia in the
elderly? What could have caused her fall? How would you re-warm her?
What are the complications of severe hypothermia?
>>

>> BASIC SCIENCES

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course
Draw the coronary circulation. How many cusps does the aortic valve have? What comes off the third cusp? Where are the coronary arteries. How does blood travel through from the epicardium to endocardium? Tell me about the cardiac conducting system? Is it better to have a left anterior or posterior fascicle block? Tell me about long QT syndrome? Who’s correction factor is used when calculating it? Where else is this correction used?

How would you manage a patient who was hypoxic during double lumen ventilation? What are the common causes? Tell me about the physiology of one lung ventilation? How does the cardiac out put affect oxygenation. How would you measure cardiac output during one lung ventilation?

Tell me about the Ayres T piece? How long does the expiratory limb have to be? What happens if it is too long. What fresh gas do you need? How about IPPV, how can you achieve that? What fresh gas flow do you need? Who was Jackson Reece? What are the differences between the adult and paediatric airways?

I am supposed to ask you about anaesthesia and renal failure and drugs. Tell me about that. Pick a drug and tell me how it is affected these pharmakokinetic changes. In terms of drugs, how would you change your anaesthetic? Tell me what happens with morphine? Would you give him a morphine PCA? What dose would you use in your fentanyl PCA? Would you use Sux?

Set 20
The long case was classic - inhaled peanut in a 17 month child.brought in grunting with a full stomach. The questions which were new for me were
1 - how would you attenuate the effects of intubation in a child?
2- what is the pathophysiology of "grunting"
3 - cxr showed hyperinflation and they wanted the pathophysiology of hyperinflation ie ball valve effect of foreign body
4 - they went through RSI, inhalational induction and then laryngospasm on inserting LMA - Wanted me to say that I would give suxamethonium into the tongue to manage laryngospasm because there was no iv access

Short cases
1
AAA management - wanted all the details about crossclamping and blood pressure rise during crossclamp and the possibity of injury to spinal cord and kidneys. Then asked me about a scoring system for prognosis in AAA - 1-Hardman and 2-Glasgow

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2 Causes of neuropathy and myopathy on intensive care. talked about diagnosis of critical illness neuropathy - EMG and nerve conduction studies

3 2 yr old with grommet insertion in recovery. becomes distressed. you are called to assess. causes of distress - gave them the list and then realised that they wanted me to say "full bladder". then showed me an ECG of SVT in this 2 yr old. ways manage SVT - vagal manoeuvers - diving reflex - stick the child’s head into a bowl of ice cold water.

BASIC SCIENCES

1 Anatomy of Femoral triangle - which other nerves are associated with the triangle - wanted medial femoral cutaneous nerve. wanted all the detail of genitofemoral, ilioinguinal and iliohypogastric nerves - course and areas of skin supplied

2 Physiology of pre oxygenation which circuit will you use? A how will you assess adequacy of pre oxygenation what are the disadvantages of pre oxygenation - basal collapse and delay in detecting esophageal intubation why do the bases of the lungs collapse? because the oxygen is absorbed by the well perfused bases

3 Opioids in chronic pain which patients need opioids? Drug abusers, malignancies and those with nonmalignant inflammatory conditions like RA How do you assess the amount of drug they need? why might requirements change? because disease course changes and the patients might develop tolerance or dependence what is tolerance? what is dependence? how much drug would you give them? in how many doses per day? and in what formulation - oral/transdermal which opioids are available as transdermal preparations? wanted oxycodon and fentanyl

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4
physics of ultrasound and Doppler
how do you get the dot on the screen?
what are A,B nd M Modes?
what forms of TOE imaging are there? Continuous, pulsed and colour