

## MCQ August 2016

- 1) A 120kg lady 34/40 is admitted to the ward with threatened pre-term labour. What dose of s/c Clexane do you prescribe her for thromboprophylaxis?
- a) 20mg D
  - b) 40mg D
  - c) 60mg D
  - d) 100mg D
  - e) 120mg D

answer: C

- 2) What is the arrangement of 3 lead ECG:
- a) Left arm – black, right arm – white, left leg – green
  - b) Left arm – red, right arm – white, left leg – black
  - c) Left arm – black, right leg – white, left leg – red
  - d) Left arm – black, right arm – white, left leg – red
  - e) Left arm – black, right arm – white, right leg – red

answer: D

- 3) What is your aim for systolic blood pressure in a closed head injury
- a) 80 mmHg
  - b) 90 mmHg
  - c) 100 mmHg
  - d) 110 mmHg
  - e) 120 mmHg

answer: E

- 4) The vocal cords are lax after an LMA anaesthetic. What nerve has been injured?
- a) Superior laryngeal
  - b) Inferior laryngeal
  - c) Recurrent laryngeal
  - d)
  - e)

Answer: C

- 5) What is the 1<sup>st</sup> line treatment of a young man in ED with recently diagnosed phaeochromocytoma

who has presented with severe hypertension and tachycardia? He is not on any current treatment.

- a) Esmolol
- b) Phentolamine
- c) Phenoxybenzamine
- d) GTN
- e)

Answer: B

6) What is the safest duration between ceasing Ticagrelor and performing a neuraxial block?

- a) 1 day
- b) 3 days
- c) 5 days
- d) 7 days
- e)

Answer: D

7) You are a consultant anaesthetist asked to help a junior registrar who is having difficulty siting a labour epidural. In assisting them site the epidural all you do is place on sterile gloves. This is known as a:

- a) Slip
- b) Lapse
- c) Violation
- d) Deviation
- e) ?Mistake

Answer: C

[http://www.anzca.edu.au/documents/05\\_heard.pdf](http://www.anzca.edu.au/documents/05_heard.pdf)

8) You are called to assist a registrar in the next theatre who is having difficulty intubating a patient. On arrival, the nurse tells you he has been trying for 5 minutes and you notice the sats are 70%. You place an LMA easily and ventilate the patient back to normal saturations. According to Crisis Resource Management principles, the error the registrar was displaying is...

- a) Fixation error
- b) Failure to use cognitive aids
- c)
- d)
- e)

Answer: A

9) What is not a feature of Horner's Syndrome?

- a) Exophthalmos

- b) Anhydrosis etc
- c) Miosis
- d)
- e)

answer: a

- 10) Given a series of PFT's all approximately in the 80%. DLCO 102%. What is the diagnosis?
- a) Asthma
  - b) Emphysema
  - c) Fibrosis
  - d) Pulmonary hypertension

answer: ?normal maybe pulmonary hypertension

- 11) Unilateral lumbar sympathetic block. Most likely side effect?
- a) Genitofemoral neuralgia
  - b) Hypotension

Answer: A

- 12) Troponin rise in SAH occurs in what percentage of patients?
- a) 5-15%
  - b) 15-30%
  - c) 30-45%
  - d) 45-60%
  - e) 60-75%

Answer: B or C

Reference: Miller quotes Stroke 2009 31% (<http://stroke.ahajournals.org/content/40/11/3478>), UTD says upto 20%

- 13) Accidental needlestick injury with a hollow bore needle. Likelihood of Hepatitis C transmission?
- a) 0.3%
  - b) 2%
  - c) 10%
  - d) 20%
  - e) 30%

Answer: B

CEACCP 2015 1:30 for Hep C, MJA says 1.8 to 3% for hep C, perhaps that means hep B is 30% and HIV is 0.3%, i.e. each is a multiple of 10 more likely than the other

- 14) Emergence delirium in paediatric patients occurs most commonly after what type of surgery:
- a) Adenotonsillectomy

- b) Circumcision
- c) Closed reduction of fracture
- d) Colonoscopy
- e) Inguinal hernia repair

Answer: A

BJA 2012, blanket statement saying that tonsils and ophthalmic procedures the worst

15) The Pin Index System for nitrous oxide on a size C cylinder:

- a) 1, 5
- b) 1, 6
- c) 2, 5
- d) 3, 5
- e) 3, 6

Answer: D

O2 is 2/5 N2O 3/5, Air 1/5

16) 70 year old male in the emergency department with a ?small bowel obstruction. On candesartan, an NSAID and a diuretic. His serum potassium is 7.0mmol/L. What is the first/initial step for lowering his potassium?

- a) Slow IV injection of 10ml calcium gluconate 10%
- b) Salbutamol 5mg nebuliser
- c) 15IU insulin in 50ml of 50% dextrose
- d) Sodium bicarbonate 50ml
- e) Calcium resonium

Answer c) as per up to date

17) A patient has a tumour of some sort. He is hypokalaemic and has a metabolic alkalosis. What is the tumour most likely secreting?

- a) Adrenocorticotrophic hormone
- b) Antidiuretic hormone
- c) Parathyroid-type secreting hormone
- d) Glucocorticoid
- e) Thyroid stimulating hormone

Ans: A

### **Causes of Cushing's Syndrome**

#### **ACTH Dependent (80%)**

- Pituitary tumors (60%)

- Lung cancers (5%)

**ACTH Independent (20%)**

- Benign adrenal tumors (adenoma) (25%)
- Malignant adrenal tumors (adrenal cell carcinoma) (10%)

- 18) The nerve integrity monitor (NIM) endotracheal tube works by monitoring:
- a) Electromyography of internal laryngeal muscles
  - b) Recurrent laryngeal nerve action potential
  - c) Movement of the vocal cords on the endotracheal tube
  - d) Pressure of the vocal cords on the endotracheal tube
  - e) Recurrent laryngeal nerve action potential

Ans: A

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3788248/>

- 19) External and internal diameter of the common gas outlet
- a) 30mm and 15mm
  - b) 22mm and 15mm
  - c) 30mm and 20mm
  - d) 32mm and 20mm
  - e)

Ans: B

- 20) Adult male is anaesthetised with a CVC in situ. Just before the surgeon starts the Line Isolation Monitor alarms about a leak of 5mA. What do you do?
- a) Check the diathermy pad
  - b) Ensure the patient is earthed/grounded
  - c) Unplug the CVL to isolate the patient until the fault is identified
  - d) Sequentially remove non-essential monitors from the circuit until the fault is identified
  - e) Stop the procedure and move the patient to a safe location

Ans: D

<http://www.kerrybrandis.com/wiki/mcqwiki/index.php?title=EZ86>

- 21) In a patient with rheumatoid arthritis, what is the most common direction of atlanto-occipital subluxation?
- a) Anterior
  - b) Posterior

- c) Vertical
- d) Rotatory
- e) Lateral

Ans: A

22) An interosseus aspiration is least accurate for measuring:

- a) Albumin
- b) Creatinine
- c) Chloride
- d) Sodium
- e) Potassium

Ans: E

<http://www.archivesofpathology.org/doi/pdf/10.1043/2009-0381-OA.1?code=coap-site>

23) You are called to assist your registrar who is administering an interscalene nerve block. After injection of 2ml 0.75% ropivacaine the patient has a grand-mal seizure. The local anaesthetic has likely been injected into the:

- a) Dural cuff
- b) Internal jugular vein
- c) Internal carotid artery
- d) External jugular vein
- e) Vertebral artery

Ans: E

<http://www.nysora.com/techniques/ultrasound-guided-techniques/upper-extremity/3014-ultrasound-guided-interscalene-brachial-plexus-block.html>

24) A patient has an above the elbow ulnar nerve palsy following a procedure. They

- a) Reduced sensation of posterior arm
- b) Arm held in persistent supination
- c) Unable to flex wrist
- d) Weakness of thumb abduction
- e) Weakness of finger adduction

Ans: E

<http://teachmeanatomy.info/upper-limb/nerves/the-ulnar-nerve/>

C too strong (still have some wrist flexion – FCR)

D wrong way – would have weakness of thumb ADduction

25) You've been asked to set up an outside area recovery room. All of the following are essential in each bay except:

- a) ECG
- b) Sphygmomanometer
- c) Stethoscope
- d) Pulse oximetry
- e) Thermometer

Ans: A

Ref: PS04

26) Praecordial thump

- a) Monitored ventricular fibrillation with no immediately available defibrillator
- b) Monitored ventricular tachycardia with no immediately available defibrillator

Ans: B

(not as effective for VF)

A. B

27) Patient asked to look straight ahead. Picture of eyes with lateral deviation of right eye. What is his abnormality?

- a) CN II palsy
- b) CN III palsy
- c) CN IV palsy
- d) CN V palsy
- e) CN VI palsy

Ans: B

28) A 63 yo lady has known chronic atrial fibrillation, hypertension, previous stroke, type 2 diabetes. What is her annual stroke risk if she is not on anticoagulation?

- a) 1.3%
- b) 4.0%
- c) 5.8%

$CHA_2DS_2VASC = 5$

Annual risk -> 6.7% or 7.2% (ie. somewhere around 7%)

29) A patient with cardiac disease gets short of breath moving around their house. What is their New York Heart Association classification?

- a) Class I
- b) Class II
- c) Class III
- d) Class IV
- e) Class V

Ans: C

- 30) Patient having resection of a lesion from the lateral border of their lower right lip. The surgeon does not want to perform local infiltration and the patient refuses a GA. Which nerve will you block?
- a) Infraorbital
  - b) Mental

Ans: B

- 31) The afferent limb of the oculocardiac reflex is mediated by:
- a) Long and short ciliary nerves
  - b) Facial nerve
  - c) Vagus nerve
  - d) Optic nerve
  - e) Ophthalmic nerve

Ans: E (ophthalmic branch of trigeminal)

- 32) Patient's core temperature drops 1 degree 20 minutes after induction of general anaesthesia. What is the most likely cause:
- a) Redistribution from core to peripheries
  - b) Radiation
  - c) Conduction from body to operating table/bed
  - d) Evaporation

ANSWER: A

- 33) Well child for closed reduction of a fracture sustained 2 days ago. Well controlled asthma (on inhalers), current URTI. Chest sounds clear, systemically well. What is the best option for managing his airway?
- a) Controlled ventilation via ETT
  - b) Spontaneous ventilation via ETT
  - c) Spontaneous ventilation via face mask
  - d) Spontaneous ventilation via Laryngeal Mask Airway
  - e) Spontaneous ventilation via Proseal Laryngeal Mask Airway

ANSWER: C

- 34) Pressure comparison, list in order from highest to lowest (different combos of 10 kPa/10 atm/10 psi/10 mmHg/10 cmH<sub>2</sub>O)

ANSWER: 10atm, 10psi, 10kpa, 10mmHg, 10cmH<sub>2</sub>O

35) How much fibrinogen will it take to increase fibrinogen by 1g/L

- a) 1ml/kg
- b) 5ml/kg
- c) 10ml/kg
- d) 20ml/kg
- e) 30ml/kg

Answer: B

<https://academic.oup.com/bja/article/113/4/585/2919887/Theoretical-modelling-of-fibrinogen>

<https://www.blood.gov.au/system/files/documents/companion-27-pbm-guidelines.pdf>

36) Time taken for plasma and brain equilibration of methadone

- a) 3 minutes
- b) 8 minutes
- c) 20 minutes
- d) 60 minutes
- e) 120 minutes

ANSWER: B

37) Septic elderly patient with multiorgan failure requiring laparotomy for suspected dead gut. INR 2.1, Hb 90, Platelets 105, Fib 4 (?or 1.5). What products to give?

- a) 2 units FFP, 1 unit platelets
- b) 2 units FFP, 1 unit blood
- c) 50IU/kg Prothrombinex to correct INR
- d) Platelets
- e) Fibrinogen to aim fib >2

ANSWER: ? B or C

38) BIS change when suxamethonium given to an awake patient:

- a) Decrease
- b) Increase
- c) Increase then decrease
- d) Decrease then increase
- e) Nothing

Answer A

<https://www.ncbi.nlm.nih.gov/pubmed/26174308>

39) Drug least likely to interfere with MEP monitoring during scoliosis surgery

- a) N2O
- b) Non-depolarising neuromuscular blocker
- c) Opioids
- d) Propofol
- e) Volatile

Answer: C

<http://www.jnaccjournal.org/article.asp?issn=2348-0548;year=2014;volume=1;issue=1;spage=2;epage=12;aulast=Bithal>

40) According to NAP4: incidence of failed cannula cricothyroidotomy

Answer 60% <https://lifeinthefastlane.com/ccs/surgical-cricothyroidotomy/>

41) Morbidly obese lady in ICU with pneumonia, elective tracheostomy placed 8 hours ago. On rolling for pressure care, started desaturating and you suspect dislodgement of the tracheostomy. What is your immediate management?

- a) Readvance tracheostomy over gum elastic bougie
- b) Use fiberoptic bronchoscope
- c) Intubate from the mouth
- d) Insert airway exchange catheter
- e) Perform needle cricothyroidotomy

Answer: C

<http://www.derangedphysiology.com/main/required-reading/airway-management/Chapter%203.1.3/dislodged-tracheostomy>

42) A 53 year old man is having major urological surgery. The surgeon asks you to give methylene blue to help avoid ureteric injury. What drug interacts with methylene blue?

- a) Droperidol
- b) Prazocin
- c) Fluoxetine
- d) Oxybutynin
- e) Risperidone

C - fluoxetine - risk of serotonin syndrome (Methylene blue increases serotonin via MOA-A inhibition)

43) You review a patient 12 hours post right pneumonectomy on the ward. He is hypoxic, distressed with distended neck veins. What is the best IMMEDIATE management?

- a) Clamp chest tube to prevent more air leak
- b) Place patient left lateral
- c) Place another chest tube on the right side
- d) Perform urgent pericardiocentesis
- e) Urgently transfuse 2 units packed red blood cells

Answer: B

44) What is a positive endotracheal tube cuff leak test?

- a) >110ml leak with cuff deflated
- b) >110ml leak with cuff inflated
- c) Audible leak with cuff deflated
- d) No audible leak with cuff deflated
- e) No audible leak with cuff pressure <30cm H<sub>2</sub>O

Answer: A+B (same) <https://lifeinthefastlane.com/cc/cuff-leak-test/>

45) Horner's syndrome results from blockade of which structure?

- a) Ciliary ganglion
- b) Stellate ganglion
- c) Pterygopalatine ganglion
- d) Otic ganglion
- e) Submandibular ganglion

Answer B

46) According to PS09, the minimum requirement for administering propofol for conscious sedation is

- a) Medical practitioner with a skilled assistant that is separate from the assistant to the proceduralist
- b) Medical practitioner
- c) Nurse supervised by proceduralist with recent ALS training
- d) Specialist anaesthetist
- e) Nurse with advanced airway skills

No correct option: PS09 Required for conscious sedation: Proceduralist; Medical or dental practitioner with airway and resuscitation skills, and training in sedation whose primary responsibility is to monitor the patient and administer sedation; Assistant to assist both Conscious sedation in ASA P 1-3 patients Propofol, thiopentone and other intravenous anaesthetic agents may only be used by a medical or dental practitioner trained in their use

47) The characteristic respiratory pattern in a patient with an acute C5 spinal cord injury is

- a) Rapid respiratory rate
- b) Arterial hypoxaemia
- c) Chest wall immobility
- d) Preserved cough
- e) Preserved inspiratory force

A

48) What is the mechanism of central sensitisation?

- a) Increased intracellular magnesium (this would protect against central sensitisation)
- b) Antagonism of the NMDA receptor (agonism of NMDA)
- c) Glycine is the major neurotransmitter involved - (no, glutamate)
- d) Recurrent a-delta fibre activation
- e) Alteration in gene expression

Answer: E - blue pain book

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2750819/>

49) What is the reason infants desaturate faster than adults on induction with rapid sequence intubation?

- a) More difficult to preoxygenate

- b) More rapid detection of hypoxia
- c) FRC decreased more than adults
- d) Drugs work more rapidly
- e) Persistent R to L shunt

Answer: C

[bjaed.oxfordjournals.org/content/bjaed/16/4/120.full.pdf](https://bjaed.oxfordjournals.org/content/bjaed/16/4/120.full.pdf)

During apnoea, it is estimated that CO<sub>2</sub> enters the alveoli at a rate of 0.12–0.25 ml kg<sup>-1</sup> min<sup>-1</sup> whilst O<sub>2</sub> is removed at a rate of 4–8 ml kg<sup>-1</sup> min<sup>-1</sup> in paediatric patients and 2–3 ml kg<sup>-1</sup> min<sup>-1</sup> in the adult population. This net removal of gas volume from the alveoli during periods of apnoea results in a reduction in barometric pressure in the alveoli that facilitates the bulk flow of oxygen from the upper airway to the alveoli. Studies in adults have shown that oxygen administered by nasal prongs and also by facemask, with a patent airway, prolongs the time to desaturation. Owing to the negative pressure gradient that bulk flow causes, it is important to maintain the application of continuous positive airway pressure via a tight fitting mask, in order to reduce atelectasis. This is emphasized in children, as they are more prone to atelectasis and hypoxaemia on induction because of the combination of a **reduced FRC**, increased closing volume, and higher respiratory rate

- 50) A woman complains of paraesthesia in her hands when hanging out the washing. She also has muscle wasting on her hands and a weak radial pulse. What is the most likely diagnosis?
- a) Thoracic outlet syndrome
  - b) Brachial plexus injury
  - c) Paraneoplastic syndrome
  - d) Lupus<sup>2</sup>
  - e) Coarctation of the aorta

Answer: Thoracic outlet syndrome

- 51) A neonate is born floppy and apnoeic. They do not start breathing following stimulation. What FiO<sub>2</sub> should you initially perform bag-mask ventilation with?
- a) 0.21
  - b) 0.3<sup>2</sup>
  - c) 0.5
  - d) 0.7
  - e) 1

Ans: A

[https://cprguidelines.eu/sites/573c777f5e61585a053d7ba5/content\\_entry573c77e35e61585a053d7baf/573c78085e61585a053d7bcb/files/S0300-9572\\_15\\_00341-X\\_main.pdf?](https://cprguidelines.eu/sites/573c777f5e61585a053d7ba5/content_entry573c77e35e61585a053d7baf/573c78085e61585a053d7bcb/files/S0300-9572_15_00341-X_main.pdf?)

- 52) Which would be consistent with deep partial thickness burns?
- a) Pain to deep pressure only, decreased capillary refill
  - b) Blanches to pressure, very painful -
  - c) Painful to air, red and wet, blanches to pressure (superficial dermal)
  - d) Not painful, does not blanch - (Full thickness)

Ans: A

<http://www.vicburns.org.au/wp-content/uploads/2016/06/poster12-different-burn-depth-characteristic.pdf>

53) Background radiation is 2.5mSv per annum. How much ionising radiation in a CTPA?

- a) 0.15mSv
- b) 0.5mSv
- c) 5mSv
- d) 15mSv
- e) 50mSv

ANSWER: D

<http://westjem.com/articles/radiation-dose-from-medical-imaging-a-primer-for-emergency-physicians.html>

54) You assist a junior to do spinal. Instead of gown and gloving, you put on gloves. What category of error is this?

- a) deviation
- b) lapse
- c) mistake
- d) slip
- e) violation

Ans: E

[http://www.anzca.edu.au/documents/05\\_heard.pdf](http://www.anzca.edu.au/documents/05_heard.pdf)

55) Difficult intubation least likely in

- a) Apert syndrome
- b) Down's syndrome
- c) Hurler syndrome
- d) Pierre Robin syndrome
- e) Treacher Collin's syndrome

Answer: A

<http://www.frca.co.uk/Documents/250%20The%20Difficult%20Paediatric%20Airway.pdf>

56) The following have been found to decrease the incidence of spinal cord ischaemia EXCEPT

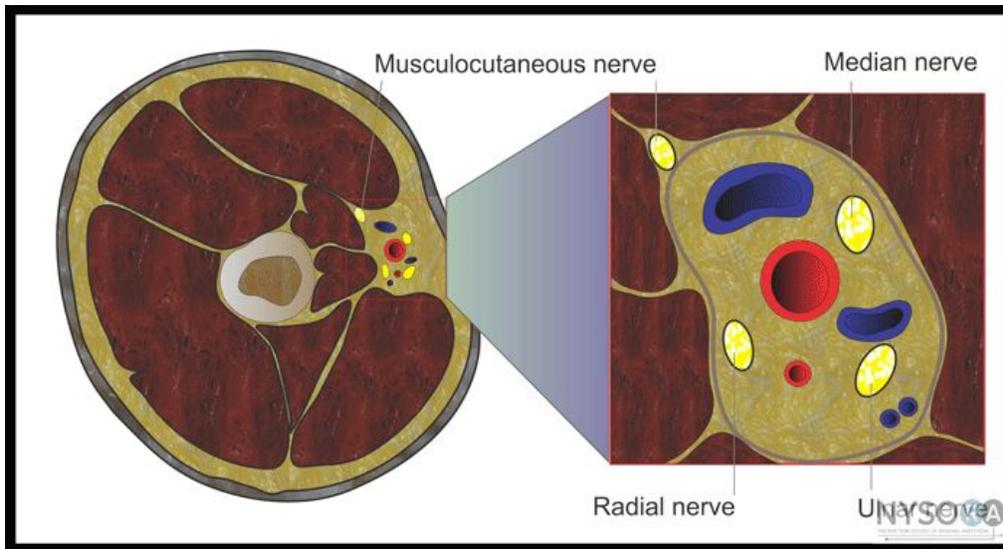
- a) CSF drainage
- b) high dose IV methylprednisolone
- c) maintaining MAP > 80
- d) monitoring motor evoked potentials
- e) preop identification of intercostal lumbar arteries supplying artery of Adamkiewicz

Ans: B

57) The musculocutaneous nerve is difficult to block because

- a) arises from C6
- b) arises from lateral head of median nerve

- c) arises from medial head of median nerve
- d) congenitally absent in 10% of the population
- e) located outside the axillary sheath



Answer: E

- 58) 0.5mg/kg mannitol for kidney transplant
- a) increases survival of graft
  - b) increases renal tubular necrosis
  - c) reduces post-transplant dialysis requirements
  - d) no change in urine output

Answer: C

- 59) According to the ATACAS trial, aspirin causes
- a) increased red blood cell transfusion
  - b) increased platelet transfusion
  - c) increased return to theatre for hemorrhage
  - d) no change in myocardial infarct
  - e) reduced rate of thromboembolic events
  - f) ?no increase in the risk of bleeding

Answer: D and F?

- 60) SAH, delayed ischaemia most common
- a) 24-28 hours
  - b) 4-10 days
  - c) 10-14 days
  - d) 14-21 days

Answer: B

<https://lifeinthefastlane.com/ccc/vasospasm-in-subarachnoid-haemorrhage/>

61) In RBC transfusions in Aus/NZ, the most common infection transmitted:

- a) hep A
- b) hep B
- c) hep C
- d) HIV 1
- e) HIV 2

Answer: B

2nd Hep C.

[https://kirby.unsw.edu.au/sites/default/files/hiv/resources/tti2015\\_20160226.pdf](https://kirby.unsw.edu.au/sites/default/files/hiv/resources/tti2015_20160226.pdf)

62) 52. repeat Aug 15 You suspect your patient just had anaphylactic reaction. The optimal time to take blood for tryptase estimation

- a) within 15min of onset of event
- b) 1-3 hours after event
- c) 3-6 hours after event
- d) 6-12 hours after event
- e) 24 hours after event

Answer: B

<http://www.frca.co.uk/documents/Tryptase.pdf>

Also:

<http://www.anzca.edu.au/documents/bp-anaphylaxis-2016.pdf>

63) 66 year old with moderate AS (AV area 1.1cm<sup>2</sup>). You see him in preadmission clinic for elective THR. Aside from mild dyspnoea on exertion, he is asymptomatic. What is appropriate management?

- a) accept for surgery
- b) beta block and accept for surgery
- c) organise myocardial perfusion scan
- d) postpone until AV replacement
- e) postpone until percutaneous aortic valvotomy

Ans: ? A

<http://www.onlinejacc.org/content/64/22/e77>

Elevated-risk elective noncardiac surgery with appropriate intraoperative and postoperative hemodynamic monitoring is reasonable to perform in patients with asymptomatic severe aortic stenosis

64) Glycine irrigation is required for TURP if the resection is performed with

- a) greenlight laser
- b) helium laser
- c) monopolar laser

- d) Nd:Yag laser
- e) plasma kinetic diathermy

Answer: C Monopolar DIATHERMY

- 65) 56yo male with chronic T6 injury undergoes cystoscopy and TURBT under GA. In PACU, he is hypertensive, bradycardic has chest tightness and is sweating. Most likely cause:
- a) blocked catheter
  - b) fluid overload
  - c) myocardial ischaemia
  - d) perforated bladder
  - e) serotonin syndrome

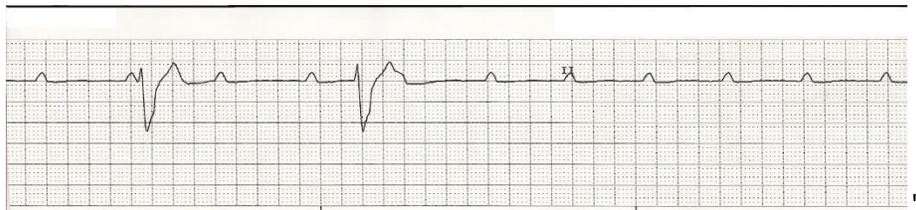
Ans: A

- 66) You see your trainee self-injecting propofol while at work. What is the best immediate action?
- a) notify trainee's next of kin
  - b) notify medical board
  - c) notify trainee's supervisor of training
  - d) relieve trainee of clinical duties
  - e) terminate trainee's employment

Answer: D

[http://www.anzca.edu.au/documents/fa-wel-sig-rd-20-substance-abuse-2016\\_20161107.pdf](http://www.anzca.edu.au/documents/fa-wel-sig-rd-20-substance-abuse-2016_20161107.pdf)

- 67) Man undergoing transcatheter aortic valve replacement, ECG shown with two broad complex beats (LBBB pattern) and clear p waves approx. Rate of 100 but no ventricular beats. What is the best way of managing this (I think it was [this ECG](#), but correct me please if I am wrong. complete heart block --> p-wave systole (aka ventricular standstill -- CPR was NOT an option)



- a) atropine
- b) external pacing
- c) adrenaline
- d) isoprenaline
- e) transvenous pacing

Ans: E

[http://www.medscape.com/viewarticle/775534\\_8](http://www.medscape.com/viewarticle/775534_8)

- 68) Risk of anaphylaxis recurring post-rocuronium anaphylaxis is greatest with
- a) atracurium
  - b) cisatracurium
  - c) pancuronium

- d) vecuronium
- e) none, as cross sensitivity is unpredictable

Answer: D

Or Sux if it was an option.

Ref:

[https://oup.silverchair-cdn.com/oup/backfile/Content\\_public/Journal/bja/110/6/10.1093/bja/aes506/2/aes506.pdf?Expires=1491533771&Signature=bha1wV5~laQgVIXbj36MVC1ePSWa~SpM~HvGncLuRczTjaYi8TOtXXtx4myo99KdS6ulLzO-7hEUQYQQ-la-29cfieAFQ2vP6dhhG4Tmn7CsmYqHbok~QYDHG1uToqFTLZehc-osMenoBehQd16qntIz4z~fQGngcH-KxSVaVy5z9beETimDGf0dHfsw1tx~NhkaX5QK98g~2yXCD-~vJ-1bUTkse00canAcZPnfvt9pdWneKOnnTZJxwRIEpzTVbGc46mRjJr12~Ci97cmGkw8W4IR1CnnDK7C72J4Wafu-sL5A6T5kAwZiyWyX~ad9-eV31JzjOhj-r7x7olog\\_\\_&Key-Pair-Id=APKAIUCZBIA4LVPVW3Q](https://oup.silverchair-cdn.com/oup/backfile/Content_public/Journal/bja/110/6/10.1093/bja/aes506/2/aes506.pdf?Expires=1491533771&Signature=bha1wV5~laQgVIXbj36MVC1ePSWa~SpM~HvGncLuRczTjaYi8TOtXXtx4myo99KdS6ulLzO-7hEUQYQQ-la-29cfieAFQ2vP6dhhG4Tmn7CsmYqHbok~QYDHG1uToqFTLZehc-osMenoBehQd16qntIz4z~fQGngcH-KxSVaVy5z9beETimDGf0dHfsw1tx~NhkaX5QK98g~2yXCD-~vJ-1bUTkse00canAcZPnfvt9pdWneKOnnTZJxwRIEpzTVbGc46mRjJr12~Ci97cmGkw8W4IR1CnnDK7C72J4Wafu-sL5A6T5kAwZiyWyX~ad9-eV31JzjOhj-r7x7olog__&Key-Pair-Id=APKAIUCZBIA4LVPVW3Q)

- 69) 60. elderly undergoing orthopaedic surgery for acute hip fracture requires thromboprophylaxis in the perioperative period. Best pharmacological option:
- a) LMWH or aspirin
  - b) LMWH or unfractionated heparin
  - c) LMWH or fondaparinux
  - d) UFH or fondaparinux
  - e) unfractionated heparin or warfarin

Fondaparinux sodium **is not recommended** for use preoperatively for patients undergoing hip fracture surgery. (2015 guidelines)

<https://pathways.nice.org.uk/pathways/venous-thromboembolism#path=view%3A/pathways/venous-thromboembolism/reducing-venous-thromboembolism-risk-orthopaedic-surgery.xml&content=view-node%3Anodes-hip-fracture>

Whilst low molecular weight heparin,<sup>122</sup> unfractionated heparin,<sup>122</sup> warfarin<sup>117-120</sup> or fondaparinux<sup>111</sup> were all effective in preventing VTE, only low molecular weight heparin and fondaparinux are recommended for thromboprophylaxis following hip fracture surgery.

[https://www.nhmrc.gov.au/files\\_nhmrc/publications/attachments/cp115\\_guideline\\_prevention\\_venous\\_thromboembolism.pdf](https://www.nhmrc.gov.au/files_nhmrc/publications/attachments/cp115_guideline_prevention_venous_thromboembolism.pdf)

<https://www.nice.org.uk/guidance/cg92/chapter/1-recommendations#using-vte-prophylaxis>

-> Ans: B

70) Spirometry can measure

- a) TLV
- b) RV
- c) FRC
- d) TLC
- e) VC

Answer: E

71) Pulmonary function tests:

FEV1 82% predicted  
FVC 86% predicted  
FEV1/FVC 81% predicted  
FEV25-75 80% predicted  
TLC 81% predicted  
RV 94% predicted  
DLCO 102% predicted  
MVV 42% predicted (maximum voluntary ventilation)

What is the diagnosis?

- a) asthma
- b) emphysema
- c) interstitial fibrosis
- d) myasthenia gravis
- e) pulmonary hypertension

Refs: Pulmonary HTN <http://www.sciencedirect.com/science/article/pii/S0954611109000705>

Ans: D

<https://www.hindawi.com/journals/ad/2011/808607/#B3>

Despite normal spirometric values, patients with generalized MG often present a characteristic “myasthenic pattern” with decreasing respiratory volumes during MVV [3] and reduced respiratory muscle endurance

72) 27 weeks gestation. BP 165/105. Best treatment:

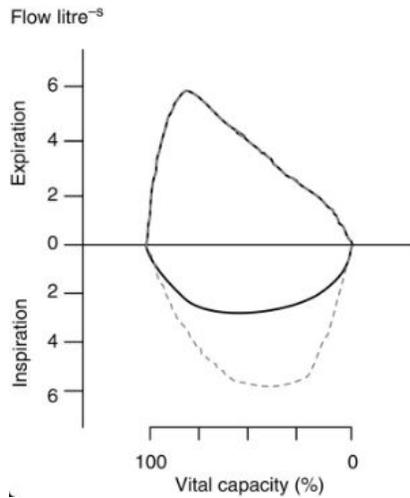
- a) atenolol
- b) candesartan
- c) labetalol
- d) magnesium sulphate
- e) Nifedipine

Ans: C

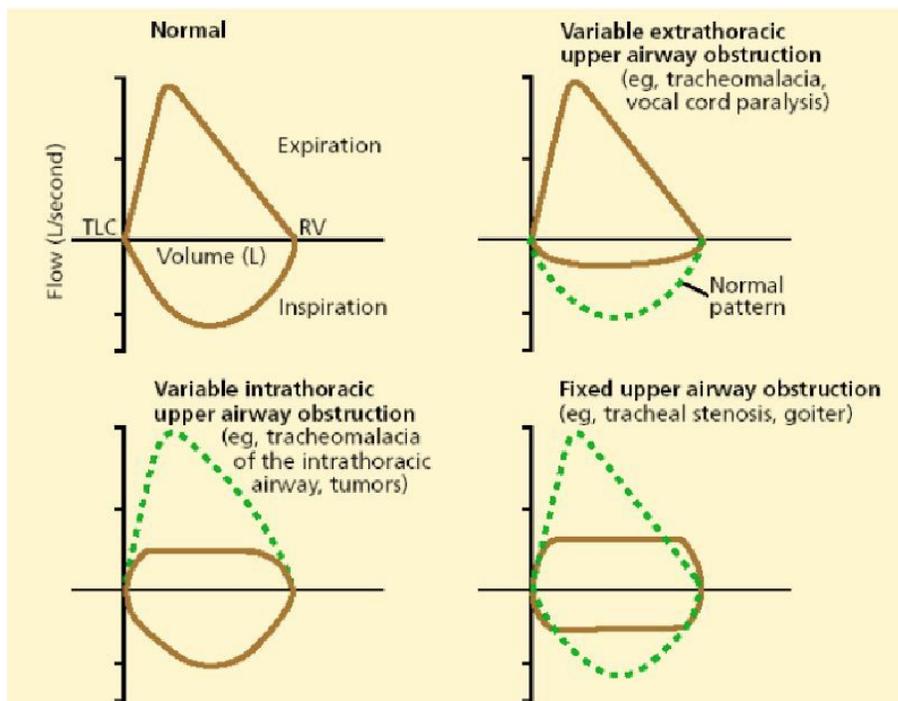
[https://www.ranzcog.edu.au/RANZCOG\\_SITE/media/DOCMAN-ARCHIVE/SOMANZ%20-%20Hypertension%20Pregnancy%20Guideline%20April%202014.pdf](https://www.ranzcog.edu.au/RANZCOG_SITE/media/DOCMAN-ARCHIVE/SOMANZ%20-%20Hypertension%20Pregnancy%20Guideline%20April%202014.pdf)

First line drugs include methyldopa, labetalol and oxprenolol (55-57). Second line agents are hydralazine, nifedipine and prazosin

73) 40year old short of breath (flow-volume loop shown)



- a) artefact of equipment failure
- b) fixed intra and extra thoracic obstruction
- c) normal
- d) variable extrathoracic obstruction
- e) variable intrathoracic obstruction



-> D

74) Post dental surgery, resident prescribes 1L 0.9% saline + 5% dextrose. Registrar asks if he should amend the order?

- a) no, maintain oncotic activity
- b) no, prevent hyponatraemia
- c) only if child >2 years old

- d) yes, will cause hyperglycaemia
- e) yes, fluid is hypertonic

[http://www.rch.org.au/clinicalguide/guideline\\_index/Intravenous\\_fluids/](http://www.rch.org.au/clinicalguide/guideline_index/Intravenous_fluids/)  
Hyperosmotic (560mOsm)

? Fully remembered? If it said "amend to eg. 4% and 1/5 or 1/2 N/Saline" then answer is B

- 75) 87yo for selective neck dissection for laryngeal cancer with musculocutaneous flap repair. He is awake and sitting up. BP 120/70. Flap capillary refill time <1sec. What is best management?
- a) IV fluid bolus
  - b) intra-arterial streptokinase
  - c) IV dextran 40
  - d) IV heparin
  - e) Re-explore flap surgically

Stem implies venous congestion.

OHB and housemate recommends re-exploration (MATT)

<https://books.google.com.au/books?id=Avns3Penh0kC&pg=PA324&lpg=PA324&dq=flap+capillary+refill+time+1+second+re-exploration&source=bl&ots=ePuaal9SPN&sig=iwFnquygh7F9xvURifOAFUnkNk&hl=en&sa=X&ved=0ahUKEwil7rifworTAhWqwVQKHVwADCAQ6AEIMjAF#v=onepage&q=flap%20capillary%20refill%20time%201%20second%20re-exploration&f=false>

- 76) 120kg lady needs DVT prophylaxis. What dose?
- a) 40mg daily
  - b) 60mg daily
  - c) 80mg daily
  - d) 100mg daily
  - e) 120mg daily

Ans: B

<http://www.uptodate.com/contents/heparin-and-lmw-heparin-dosing-and-adverse-effects/abstract/47>

UTD: Low molecular weight heparins, such as enoxaparin, should also be adjusted according to TBW. Variable absorption of LMWH by subcutaneous injection in severe obesity is a concern and anti-Xa monitoring, if available, is suggested for obese patients receiving LMWH. Enoxaparin 40 mg every 12 hours subcutaneously provides effective prophylaxis against venous thromboembolism in bariatric surgery patients up to a body mass index (BMI) 50 kg/m<sup>2</sup> and 60 mg every 12 hours for a BMI exceeding 50 kg/m<sup>2</sup>.

[https://www.uptodate.com/contents/bariatric-surgery-intensive-care-unit-management-of-the-complicated-postoperative-patient?source=see\\_link&sectionName=Anticoagulant%20dosing&anchor=H14#H14](https://www.uptodate.com/contents/bariatric-surgery-intensive-care-unit-management-of-the-complicated-postoperative-patient?source=see_link&sectionName=Anticoagulant%20dosing&anchor=H14#H14)

- 77) 75. During CPR, What percentage of pre-arrest cardiac output is achieved by effective external cardiac compression?
- a) <20
  - b) 20-30
  - c) 40-50
  - d) 60-70

e) >70

Ans: B

ANZCOR 2016: [https://resus.org.au/download/section\\_11/anzcor-guideline-11-1-introducation-jan16.pdf](https://resus.org.au/download/section_11/anzcor-guideline-11-1-introducation-jan16.pdf) (20-30%)

Cardiac output during CPR with effective, uninter- rupted chest compression is 25% to 30% of the normal spontaneous circulation. Miller pg 3184

78) Patient is nil by mouth. 2L Hartmann's, 1L NS over 24 hours. How much Na in mmol did he receive?

- a) 390
- b) 410
- c) 430
- d) 440
- e) 460

Ans: B (2 x 130 + 150)

79) What characteristic of local anaesthetic influences or increases duration of nerve block?

- a) lipid solubility
- b) molecular weight
- c) pKa
- d) presence of amide bond
- e) protein binding

ANS: (Thinking it should be A - Cousins quote MATT) (some other refs say E.... but A is a better answer)

[https://books.google.com.au/books?id=UoHb8iUgvfsC&pg=PA96&lpg=PA96&dq=cousins+neural+blockade+chapter+4+lipid+solubility&source=bl&ots=IRQlyl9xzL&sig=4wtOu4b9njMTEVfGjfrsPE-s6h0&hl=en&a=X&ved=0ahUKEwi6kJq44aDTAhXGy7wKHe1kA\\_YQ6AEIjAA#v=onepage&q=cousins%20neural%20blockade%20chapter%204%20lipid%20solubility&f=false](https://books.google.com.au/books?id=UoHb8iUgvfsC&pg=PA96&lpg=PA96&dq=cousins+neural+blockade+chapter+4+lipid+solubility&source=bl&ots=IRQlyl9xzL&sig=4wtOu4b9njMTEVfGjfrsPE-s6h0&hl=en&a=X&ved=0ahUKEwi6kJq44aDTAhXGy7wKHe1kA_YQ6AEIjAA#v=onepage&q=cousins%20neural%20blockade%20chapter%204%20lipid%20solubility&f=false)

Page 99

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1693664/>

80) Latest guidelines regarding Breast milk:

- a) Discard 12 hours post procedure
- b) discard 24 hours post procedure
- c) discard 1st feed
- d) discard first 2 feeds
- e) discarding not required

Ans: E

<http://www.aaic.net.au.ezproxy.anzca.edu.au/Document/?D=20110853>

**Breastfeeding after anaesthesia: a review of the pharmacological impact on children**

In Anaesthesia and Intensive Care from 2013

? discarding not required

2015: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4582419/>

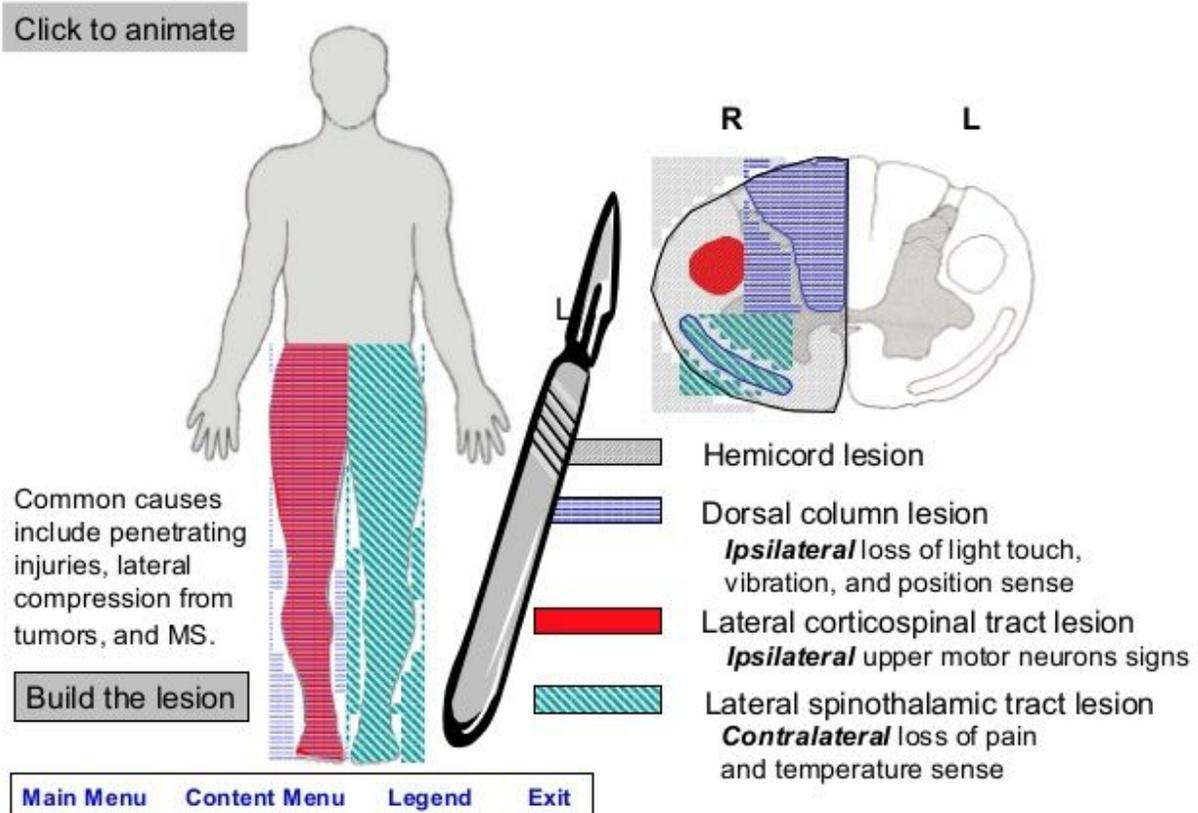
81) Stabbing injury to lateral half of spinal cord. What are the classical signs 3 segments below lesion?

- a) ipsilateral loss of light touch sensation, contralateral loss of temperature sensation
- b) ipsilateral loss of motor, contralateral loss of light touch sensation
- c) ipsilateral loss of pain sensation, contralateral loss of light touch sensation
- d) ipsilateral loss of pain sensation, contralateral loss of motor
- e) ipsilateral loss of temperature sensation, contralateral loss of pain sensation

Ans: A

(would also be ipsilateral loss of motor, contralateral loss of pain)

### Hemicord Lesion (Brown-Sequard Syndrome)



82) Dental extraction of right lower 3rd molar (48). Patient complains of paraesthesia to the chin. This is most likely neuropraxia to

- a) glossopharyngeal n
- b) inferior alveolar n
- c) lingual n
- d) long buccal nerve
- e) mental nerve

Ans: B

[https://en.wikipedia.org/wiki/Inferior\\_alveolar\\_nerve](https://en.wikipedia.org/wiki/Inferior_alveolar_nerve)

83) 85 yo for ORIF NOF. No medical past history. Exam normal. FBE, Electrolytes, ECG yesterday normal.

Now in rapid AF with ventricular rate 110-145. BP 130/80. Best management:

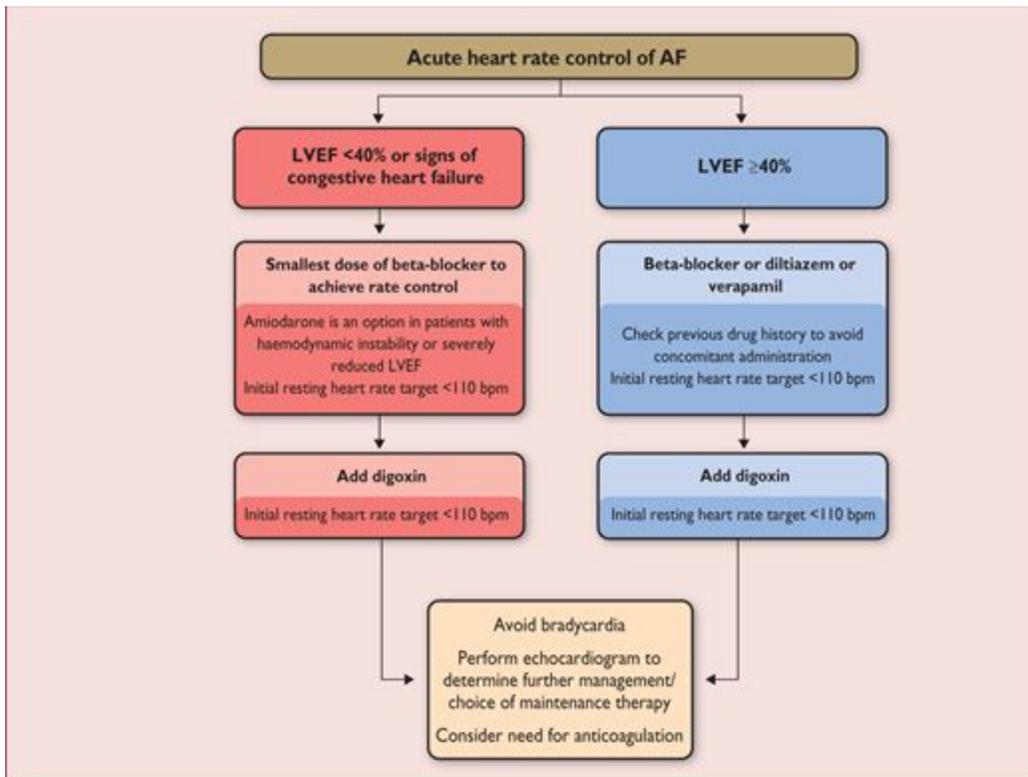
- a) amiodarone
- b) direct current cardioversion after induction
- c) digoxin
- d) heparin
- e) Metoprolol

E

[www.onlinejacc.org/content/64/21/2246](http://www.onlinejacc.org/content/64/21/2246)

<https://academic.oup.com/eurheartj/article/37/38/2893/2334964/2016-ESC-Guidelines-for-the-management-of-atrial#43486436>

ESC 2016:



See Table 15 for medication dosage. Digoxin is a suitable alternative to digoxin, where available.  
AF = atrial fibrillation; bpm = beats per minute; LVEF = left ventricular ejection fraction.

84) Sub-Tenon block. Which muscle is most likely to be missed

- a) internal oblique
- b) lateral rectus
- c) medial rectus
- d) superior oblique
- e) superior rectus

Ans: D

[http://e-safe-anaesthesia.org/e\\_library/09/Sub-Tenons\\_block\\_Update\\_2007.pdf](http://e-safe-anaesthesia.org/e_library/09/Sub-Tenons_block_Update_2007.pdf)

Akinesia is volume dependent and if 4-5ml of local anaesthetic is injected, a large proportion of patients

develop akinesia. Superior oblique muscle and lid movements may remain active in a significant number of patients.

85) Adenosine can be used to terminate an arrhythmia due to:

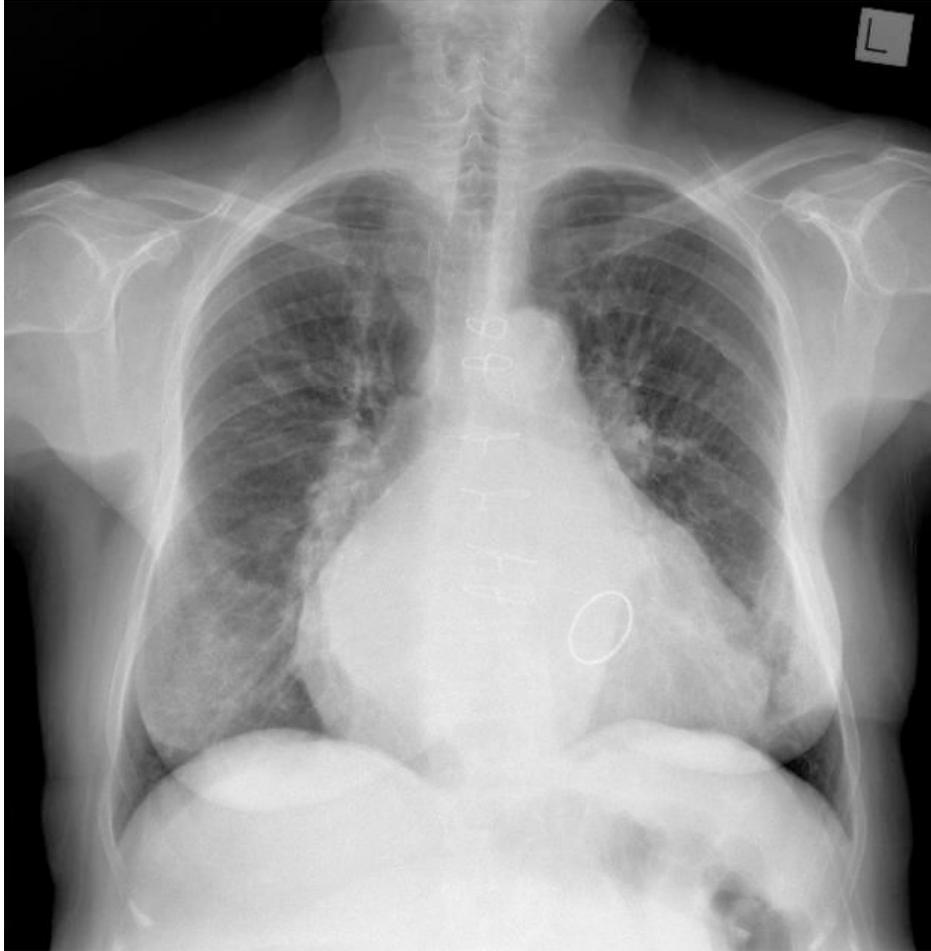
- a) Atrial fibrillation
- b) Atrial flutter
- c) WPW
- d) VT
- e) Torsades

Ans: C

86) PA CXR. What is enlarged (CXR with enlarged LA)

- a) aorta
- b) LA
- c) LV
- d) RA
- e) RV

<https://radiopaedia.org/articles/left-atrial-enlargement>



87) The following are consistent with acute systemic inflammatory response except

- a) hypotension
- b) hypothermia
- c) leukopenia
- d) tachycardia
- e) tachypnoea

Ans: A

Oxford Handbook Anaesthesia 4thED: pg 875

SIRS - 2 of the following 4

- Temp  $>38$  or  $<36$
- HR  $> 90$
- RR  $> 20$  or PaCO<sub>2</sub>  $< 32$ mmHg
- WCC  $> 12$  or  $<4$  or  $> 10\%$  immature cells (band forms)

88) A patient undergoing elective coiling of cerebral aneurysm has an abrupt rise in MAP. This is most likely due to

- a) acute hydrocephalus
- b) contrast reaction
- c) embolic complication

- d) vascular rupture
- e) vessel thrombosis

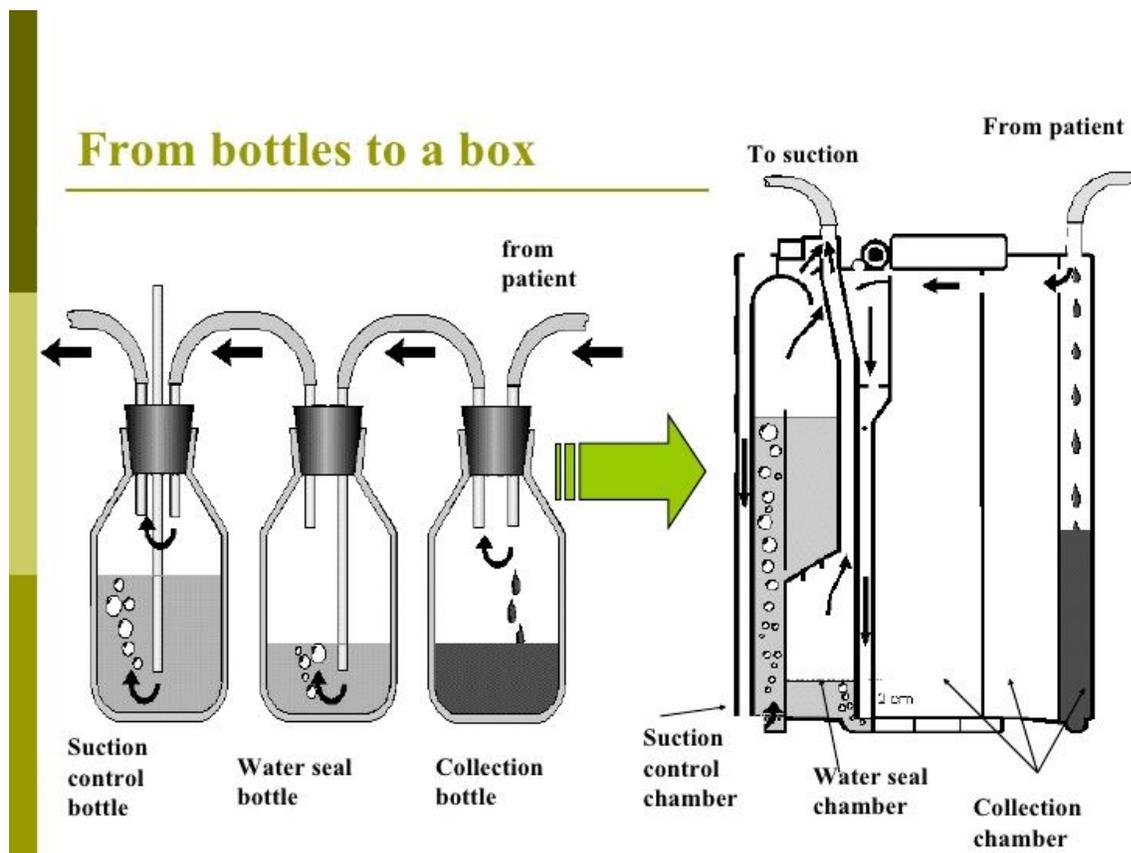
Ans: D

Oxford Handbook Anaesthesia 4thED: pg 411

Rupture of the aneurysm or haemorrhage is identified by extravasation of contrast. The intracranial haemorrhage may increase ICP and MAP, with or without bradycardia.

- 89) A patient with a haemopneumothorax has a chest drain in situ. The chest drain is attached to a 3 bottle underwater seal drain apparatus, and the system is attached to the wall suction at -80cmH2O. Omission of water from the wet suction bottle of this apparatus will cause
- a) excessive negative pressure in the water seal bottle, resulting in loss of the water seal
  - b) failure of the water seal chamber to oscillate
  - c) inability to apply negative pressure to the pleural cavity
  - d) possible return of drain contents into the pleural space
  - e) re-expansion pulmonary oedema

Ans: C



- 90) A multicentre trial reports that using N2O as part of general anaesthesia has a relative risk of morbidity of 0.96 (95% confidence interval 0.82-1.13). This means
- a) there is 95% confidence that N2O is assoc with an increased risk of morbidity
  - b) the result is significant as the confidence interval range is very small
  - c) the sample mean has a 95% chance of being between 0.82 to 1.13

- d) the study size was not large enough to find a difference
- e) the true relative risk has a 95% chance of being between 0.82 to 1.13

[http://sphweb.bumc.bu.edu/otlt/mph-modules/bs/bs704\\_confidence\\_intervals/bs704\\_confidence\\_intervals8.html](http://sphweb.bumc.bu.edu/otlt/mph-modules/bs/bs704_confidence_intervals/bs704_confidence_intervals8.html)

Note that the **null value** of the confidence interval for the relative risk is one. If a 95% CI for the relative risk includes the null value of 1, then there is insufficient evidence to conclude that the groups are statistically significantly different.

Ans: E (Matt, jez, Az)

- 91) 125. Following donation after cardiac death, the maximum warm ischaemic time acceptable for procuring the lungs is
- a) 30min
  - b) 45 min
  - c) 60min
  - d) 90min
  - e) 120min

Ans: D (Matt)

<http://www.donatelife.gov.au/sites/default/files/files/DCD%20protocol%20020311-0e4e2c3d-2ef5-4dff-b7ef-af63d0bf6a8a-1.PDF>

[http://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2014\\_008.pdf](http://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2014_008.pdf)

30min liver, heart and pancreas, 60 min kidneys, 90 min lung

- 92) R) lower lip 10mm cancer. Surgeon doesn't want to infiltrate the area with local anaesthetic. Patient refuses general anaesthetic. Which block do you need to do?
- a) facial n
  - b) hypoglossal n
  - c) infraorbital n
  - d) lingual n
  - e) mental n

E (Matt)

- 93) 63 yo right pneumonectomy for malignancy. 12 hours post op, profound hypotensive and shock. Raised CVP. Immediately:
- a) clamp any open chest drains to minimise leak
  - b) insert new chest drain on operative side
  - c) perform urgent pericardiocentesis
  - d) place patient in L) lateral position
  - e) urgently transfuse 2 units of packed blood cells

(D)

- 94) Open AAA repair, best method to reduce risk of renal impairment?
- a) Sodium bicarbonate
  - b) N-acetylcysteine
  - c) Maintaining intravascular volume

- d) Minimise cross clamp time
- e) ?mannitol

Jez:

? D (<https://www.ncbi.nlm.nih.gov/pubmed/20502411>) , or maybe C... - D Matt

CEACCP 2013:

Several drugs (dopamine, *N*-acetyl cysteine, mannitol, furosemide) have been used in an attempt to protect against AKI, although none has been shown consistently to be beneficial, and all diuretics should be used only after adequate fluid replacement and volume loading

<https://academic.oup.com/bjaed/article/13/6/208/246828/Anaesthesia-for-elective-open-abdominal-aortic>

- 95) You give a transfusion of 1u PRBC. What is the maximum duration of time in which it must be completed?
- a) 2 hours
  - b) 4 hours
  - c) 6 hours
  - d) 8 hours
  - e) 10 hours

Answer: B (Aslam)(Matt agrees)

- 96) Patient with chronic liver failure. Coagulation factor least likely to be affected:
- a) I
  - b) VII
  - c) VIII
  - d) XII
  - e)

Jez: ? C (as it has extra-hepatic production, however note that it is usually normal or **elevated** in CLD...)

Matt: C agree, extrahep production

<http://www.aniara.com/Blog/Coagulation-Corner/archives/2010/11/LIVER-DISEASE-AND-COAGULATION-OUTCOMES.aspx>

Factor VII: shortest biologic half life, often affected earliest with largest decrease in plasma level. Factor VII also decreases earliest with warfarin treatment. Factor VIII: may be normal or elevated due to acute phase reactants (VIII made in endothelial cells). Factors XI and XII: have long biologic half lives, and may be normal until liver disease is advanced

Fibrinogen is synthesized in a large capacity in the liver, and the level is maintained until late in the disease stage.

- 97) An 80 year old man undergoes a unilateral lumbar sympathetic blockade. The most likely side effect that he experiences is:
- a) Genitofemoral neuralgia
  - b) Haematuria
  - c) Postural hypotension
  - d) Lumbar radiculopathy
  - e) Psoas haematoma

Jez+Matt: A

The most common complication associated with lumbar sympathectomy is neuralgia of the genitofemoral nerve, particularly for the lateral approach.

[Pain Management](#), Chapter 164, 1230-1236

98) Patient having a craniotomy, MAP 80, CVP 5. Both transducers are at the level of the heart, 13cm below the level of the tragus. What is the CPP?

- a) 60mmHg
- b) 65mmHg
- c) 70mmHg
- d) 75mmHg
- e) 80mmHg

Jez+Matt: B

Given the above considerations, we propose generalizing the CPP formula to account for the effect of atmospheric pressure on the jugular veins. In a sitting position the atmospheric pressure ( $P_{atm} = 0$ ) will become an effective outflow pressure whenever it exceeds venous pressure.

Thus,

- $CPP = MAP - ICP$ , if  $ICP > CVP$  and  $ICP > P_{atm}$  (1)
- $CPP = MAP - CVP$ , if  $CVP > ICP$  and  $CVP > P_{atm}$  (2)
- $CPP = MAP - P_{atm}$ , if  $P_{atm} > CVP$  and  $P_{atm} > ICP$  (3)

(whichever results in the smallest difference).

[http://www.apsf.org/newsletters/html/2008/summer/11\\_modified\\_calculation.htm](http://www.apsf.org/newsletters/html/2008/summer/11_modified_calculation.htm)

13cm H<sub>2</sub>O = 9.6 mmHg  $\approx$  10 mmHg

MAP(tragus) = 70 mmHg

CVP(tragus) = -5 mmHg (ie.  $< P_{atm}$ )

Therefore CPP = MAP(tragus) -  $P_{atm}$  = 70 mmHg (assuming cranium open, or no raised ICP if closed)

99) Urosurgical procedure. Surgeon wants to give methylene blue. This is contraindicated if patient is taking:

- a) Fluoxetine
- b) Droperidol
- c) Risperidone
- d) Oxybutinin
- e) Prazosin

Answer: A (repeat)

100) You are the anaesthetist at a Caesarean Section for a 36/40 gestation pregnancy. The baby at birth is floppy and apnoea. You decide that positive pressure ventilation via mask is necessary. The recommended FiO<sub>2</sub> is:

- a) 0.21
- b) 0.4
- c) 0.6

- d) 0.8
- e) 1.0

Ans: A (repeat)

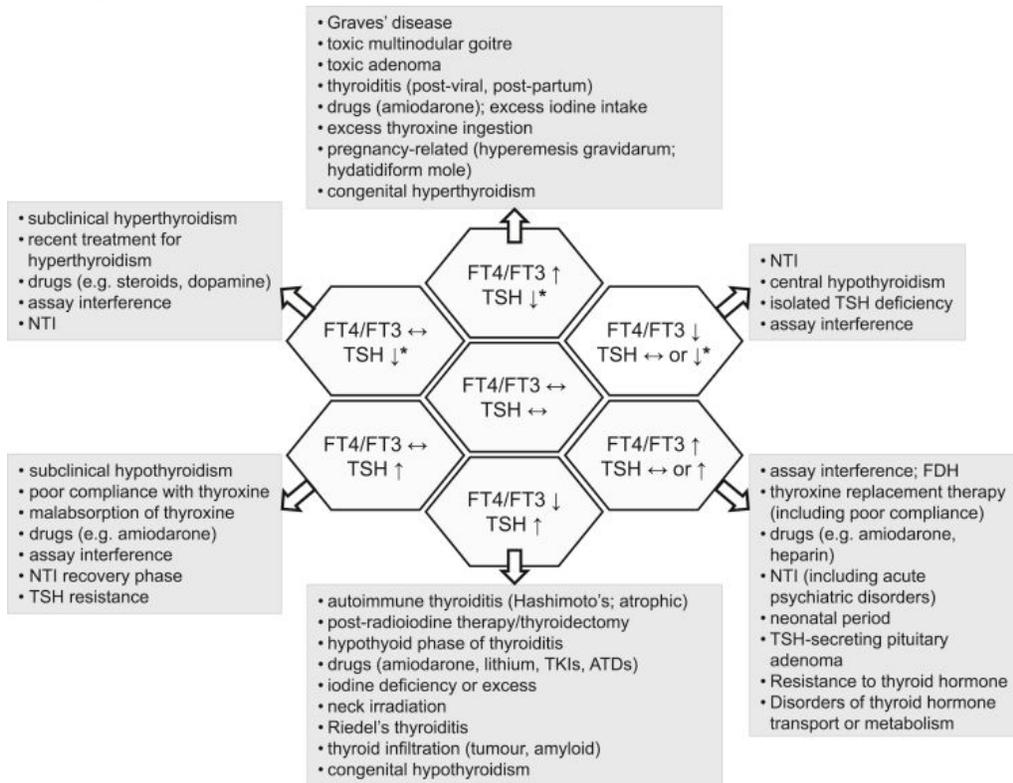
101) 64 year old male in preoperative clinic. HR 60. Free T4 is normal. TSH high. This is consistent with:

- a) non compliance with thyroxine treatment
- b) autoimmune thyroiditis
- c) sick euthyroid
- d) previous hypophysectomy
- e) subclinical hyperthyroidism

Ans: A (Jez) (Matt)

(Would also be subclinical HYPOTHYROIDISM)

Best diagram of thyroid disease I have ever seen. Thanks Jez!



102) Patient receives 1 unit packed red blood cells. 1 hour later becomes hypoxic, febrile, higher airway pressure and copious frothy sputum.

- a) ABO incompatibility
- b) Sepsis
- c) Transfusion related overload
- d) Transfusion related acute lung injury
- e) Transfusion related sepsis

Ans: D

Acute onset of fever, chills, dyspnoea, tachypnoea, tachycardia, hypotension, hypoxaemia and noncardiogenic bilateral pulmonary oedema leading to respiratory failure during or within 6 hours of transfusion. TRALI has been implicated in transfusion of unfractionated plasma-containing components (red cells, platelets and plasma). The true incidence is unknown, estimates around 1:10 000 most commonly reported. TRALI is thought to be the most common cause of transfusion-associated fatalities

[https://transfusion.com.au/adverse\\_transfusion\\_reactions/TRALI](https://transfusion.com.au/adverse_transfusion_reactions/TRALI)

103) What is the maximum Intralipid 20% dose?

- a) 6ml/kg
- b) 8ml/kg
- c) 10ml/kg
- d) 12ml/kg
- e) 14ml/kg

Answer: D

[https://www.aagbi.org/sites/default/files/la\\_toxicity\\_2010\\_0.pdf](https://www.aagbi.org/sites/default/files/la_toxicity_2010_0.pdf)

104) How many vials of dantrolene should be kept at a remote hospital which has general anaesthesia services?

- a) 2
- b) 6
- c) 12
- d) 24
- e) 36

Answer: E.

105) Which volatile agent has the longest time to environmental degradation

- a) Desflurane
- b) Sevoflurane
- c) Isoflurane
- d) Enflurane
- e) Xenon

Answer: A? Yep, Des

.... Xenon is not a volatile? If the Q said "inhalational agent" then xenon would be answer (stable gas).

BJA 1999 volatile lifetimes (in years): en 8, iso 6, des 21, sevo 4.

<https://academic.oup.com/bja/article/82/1/66/332010/Volatile-anaesthetics-and-the-atmosphere>

106) 20 yr old male 80 kg in a house fire sustained 25% burns. Using the Parkland formula, what is his fluid resuscitation requirement for the first 8 hours?

- a) 3L of 0.9% Normal Saline
- b) 3L of Hartmann's solution
- c) 3L of colloid

- d) 4L of 0.9% Normal Saline
- e) 4L of Hartmann's solution

Answer: E

Parkland formula: 4ml/kg/%BSA.

Fluid recommend is hartmann's as isotonic.

½ solution in 1st 8hrs

¼ in next 8

¼ in next 8

Here:

4x 80x 25= 8000ml.

½ in 1st 8hrs= 4000ml or 4L

- 107) 3 yr old child with # forearm, best way to valid pain assessment
- a) the reported severity from the child
  - b) the reported severity from the parent
  - c) the reported severity from the nursing staff
  - d) using the FLACC scale
  - e) the Wong-Baker Faces scale

Ans: E (Jez)

[http://www.rch.org.au/rchcpg/hospital\\_clinical\\_guideline\\_index/Pain\\_Assessment\\_and\\_Measurement/](http://www.rch.org.au/rchcpg/hospital_clinical_guideline_index/Pain_Assessment_and_Measurement/)

- 108) Female singer underwent GA with LMA. Next day complains of voice/singing impairment. Nasendoscopy shows one vocal cord in the paramedian position. What nerve is affected?
- a) lingual
  - b) hypoglossal
  - c) glossopharyngeal
  - d) recurrent laryngeal
  - e) superior laryngeal

Ans: D (Jez)

<https://academic.oup.com/bja/article/101/6/882/250682/ls-laryngeal-mask-airway-related-vocal-chord-palsy>

- 109) According to NAP4 what is the rate of failure for emergency cannula cricothyroidotomy?
- a) 10%
  - b) 20%
  - c) 40%
  - d) 60%
  - e) 80%

Ans: D (repeat)

- 110) Blalock-Taussig shunt inserts into the right pulmonary artery, originating from the:
- a) Right subclavian artery
  - b) IVC
  - c) SVC

- d) Aorta
- e) Axillary artery

Ans: A (Jez)

<https://lifeinthefastlane.com/cardiovascular-curveball-009/>

(most commonly from subclavian)

- 111) A patient has come in with TCA overdose. Wide QRS on ECG (Torsades). How do you treat them?
- a) calcium gluconate
  - b) amiodarone
  - c) lignocaine
  - d) magnesium
  - e) atropine

Ans: D (Jez)

<http://bestpractice.bmj.com/best-practice/monograph/342/treatment/step-by-step.html>

- 112) What protective mask to wear in laparoscopy for patient with disseminated TB
- a) N95
  - b) P99
  - c) R95
  - d) None
  - e) Surgical mask

Ans: A (Jez)

If the patient is suspected of having extra pulmonary tuberculosis such as pelvic tuberculosis and is undergoing abdominal surgery or laparoscopy ALL staff must wear an N95/ P2 (duck billed mask) for the duration of the procedure. This includes anaesthetic staff.

[http://www.kemh.health.wa.gov.au/development/manuals/O&G\\_guidelines/sectionf/f\\_perioperative\\_suite\\_guidelines.pdf](http://www.kemh.health.wa.gov.au/development/manuals/O&G_guidelines/sectionf/f_perioperative_suite_guidelines.pdf)

- 113) According to the ARC, precordial thump is only indicated for:
- a) monitored pulseless VF if defibrillator not immediately available
  - b) monitored pulseless VT if defibrillator not immediately available
  - c) unwitnessed cardiac arrest
  - d) witnessed onset of asystole caused by AV conduction disturbance
  - e) unwitnessed unmonitored cardiac arrest

Ans: B

[https://resus.org.au/download/section\\_11/guideline-11-3-july11.pdf](https://resus.org.au/download/section_11/guideline-11-3-july11.pdf)

- 114) Patient with a history of smoking. patient with stridor, waking him up from sleep. What investigations to do next?
- a)
  - b) CT neck
  - c)
  - d)

e)

115) 4month old Term neonate, noted to have intermittent stridor a few days after birth, then parents also notice stridor during feeding and sleep. Otherwise normal and healthy. Most likely condition is:

- a) Cri-du-chat syndrome
- b) Laryngomalacia
- c) Tracheomalacia
- d) Laryngocoele
- e) ? something to do with cord paralysis

Ans: B (Jez)

In children, laryngomalacia is the most common cause of stridor during infancy, and it typically improves with time.

<http://www.stanfordchildrens.org/en/service/ear-nose-throat/conditions/laryngomalacia>

116) You notice a fire from the anaesthetic machine. Which is the most useful extinguisher?

- a) CO2
- b) blanket
- c) fire hose
- d) foam extinguisher
- e) wet chemical extinguisher

Ans: A (Jez)

<https://www.qfes.qld.gov.au/community-safety/home/documents/QFES-InfoSheet-Extinguishers.pdf>

(Dry chemical would also be OK)

117) Randomised controlled trial means:

- a) Patients randomly allocated to treatment groups
- b) Patients randomly allocated to treatment or placebo
- c) Patients allocated randomly to groups before treatment arms decided
- d) Neither the patient nor the investigator knows which group the patient is in

Ans: A (Matt)

<http://www.bmj.com/content/317/7168/1301.full>

118) Young man in the emergency department. Opens his eyes to voice, removes his tie when instructed to and is speaking, but confused. What is his GCS?

- a) 10
- b) 11
- c) 12
- d) 13
- e) 14

Ans: D (Jez)

119) Patient with respiratory failure, low PaO<sub>2</sub>/FiO<sub>2</sub> ratio, cardiac index of 1.7, PCWP of 25. Which

mode of ECMO would be most appropriate?

- a) VA
- b) VV
- c) AV
- d)
- e)

Ans: A (Jez)

<http://www.alfredicu.org.au/assets/Documents/ICU-Guidelines/ECMO/ECMOGuideline.pdf> (page 5-6 for modes)

High PCWP (normal = 6-12) suggests co-existing LV failure - probably needs VA?

120) What is the largest size suction catheter that can fit through a size 4.0 ETT?

- a) 6F
- b) 8F
- c) 10F
- d) 12F
- e)

Ans: C (Jez)

Fr/3 = diameter in mm. So 10Fr = 3.33 mm diam

[https://www.acrrm.org.au/misc\\_files/acrrm/pda\\_guidelines/AAA%20Current%20ACRRM%20Clinical%20Guidelines/Web%20ChildAdolescent%20Health/INTUBATION%20and%20DRAIN%20SIZES.htm](https://www.acrrm.org.au/misc_files/acrrm/pda_guidelines/AAA%20Current%20ACRRM%20Clinical%20Guidelines/Web%20ChildAdolescent%20Health/INTUBATION%20and%20DRAIN%20SIZES.htm)

121) In an infant, the intercrystal line corresponds to

- a) L1-2
- b) L2-3
- c) L3-4
- d) L4-5
- e) L5-S1

Ans: E (Jez)

<https://academic.oup.com/bjaed/article/4/5/148/291011/Local-and-regional-anaesthesia-in-infants>

122) You are trialling a new drug for hypertension in one group of patients and comparing it to placebo (given to another group). In three months time you will measure the blood pressure and want to compare the two groups. Knowing that the sample is non-parametric, Which test would be most appropriate?

- a) Chi squared
- b) Fishers exact test
- c) Student's t-test
- d) Mann-whitney U test
- e) Bland Altman test

Ans: D (Jez)

[https://en.wikipedia.org/wiki/Nonparametric\\_statistics](https://en.wikipedia.org/wiki/Nonparametric_statistics)

[http://sphweb.bumc.bu.edu/otlt/mph-modules/bs/bs704\\_nonparametric/bs704\\_nonparametric\\_print.html](http://sphweb.bumc.bu.edu/otlt/mph-modules/bs/bs704_nonparametric/bs704_nonparametric_print.html)

- 123) What is the best indication of fluid responsiveness
- a)
  - b) BP change when legs are raised
  - c)
  - d)
  - e)
- 124) What is the timing of peak respiratory depression post 300 mcg morphine intrathecally?
- a) < 3.5 hours
  - b) 3.5 – 7.5 hours
  - c) 7 - 12.5 hours
  - d) 12.5 -18 hours
  - e) > 18 hours

Ans: B (Jez)

<https://academic.oup.com/bjaed/article/8/3/81/293391/Intrathecal-opioids-in-the-management-of-acute#3739949>

the more hydrophilic opioids may cause early or late (up to 24 h) respiratory depression. Morphine-induced late onset respiratory depression occurs between 3.5 and 12 h after injection with a peak at 6 h

- 125) Pregnant patient with BP 140/. What is indication for MgSO<sub>4</sub>?
- a) seizure prophylaxis
  - b) anti-hypertensive
  - c) foetal neuroprotection
  - d)
  - e)

Ans: A or C? Depends on rest of clinical scenario? (gestation, and if evidence of PET) (Jez)

ACOG (2016) indications for MgSO<sub>4</sub>:

- Prevention and treatment of seizures in women with preeclampsia or eclampsia.
- Fetal neuroprotection before anticipated early preterm (less than 32 weeks of gestation) delivery.
- Short-term prolongation of pregnancy (up to 48 hours) to allow for the administration of antenatal corticosteroids in pregnant women who are at risk of preterm delivery within 7 days.

<http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Magnesium-Sulfate-Use-in-Obstetrics>

- 126) Maximum level of serum Mg after administration of MgSO<sub>4</sub>?
- a) 1 mmol/l
  - b) 2 mmol/l
  - c) 3 mmol/l
  - d) 4 mmol/l
  - e) 5 mmol/l

Answer: D (Matt)

[https://www.ranzcog.edu.au/RANZCOG\\_SITE/media/DOCMAN-ARCHIVE/Pre-eclampsia.pdf](https://www.ranzcog.edu.au/RANZCOG_SITE/media/DOCMAN-ARCHIVE/Pre-eclampsia.pdf)

Magnesium sulphate is renally excreted and its use in patients impaired renal function should be undertaken with caution, with monitoring of serum magnesium concentrations, aiming for levels

between 2 and 4mmol/L.1

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3726845/>

If the plasma concentration of magnesium reaches 4-5 mmol/L, toxic symptoms such as loss of deep tendon reflex and dizziness can occur. At higher concentrations, respiratory arrest (> 6 mmol/L) or cardiac arrest (> 8 mmol/L) can develop.

- 127) Patient with traumatic brain injury patient. Cerebral angiogram shows Cerebral perfusion = 15mL/100g/min, cerebral oxygen consumption 3.5mL/100g/min. This is consistent with:
- Cerebral hyperperfusion
  - Reperfusion injury
  - Cerebral ischaemia
  - Appropriate autoregulation
  - Cerebral vasoconstriction

Cerebral blood flow usually 55-60ml/100g/min and O<sub>2</sub> consumption 3.3ml/100g/min

Ans: E (Jez)

- 128) What is the mechanism of Trauma induced coagulopathy
- acidosis
  - hypothermia
  - endothelial damage from ischaemia
  - dilution of coagulation factors from resuscitation fluids

Ans: ? C may be best answer

<http://www.anzca.edu.au/documents/mechanisms-of-trauma-coagulopathy-dr-barry-schyma.pdf>

[https://academic.oup.com/bja/article-abstract/117/suppl\\_3/iii31/2664398/Acute-traumatic-coagulopathy-pathophysiology-and?redirectedFrom=fulltext](https://academic.oup.com/bja/article-abstract/117/suppl_3/iii31/2664398/Acute-traumatic-coagulopathy-pathophysiology-and?redirectedFrom=fulltext)

- 129) You are inserting a right internal jugular vein CVL. Why is it important to avoid turning the patient's head extremely to the left?
- Uncomfortable for the patient
  - Increases risk of internal carotid artery puncture
  - Compresses internal jugular vein and makes it more difficult to puncture
  - Distorts the anatomy, making the vein more difficult to correctly identify
  - Increases risk of external jugular vein puncture

Ans: C (Matt)

<http://www.frca.co.uk/Documents/138%20Central%20Venous%20Cannulation.pdf>

“excessive turning should be avoided as it changes the relationship of the vein and artery and can collapse the vein”

- 130) What happens with oxygen flush is pressed?
- oxygen 20-30L/min
  - oxygen 50-70L/min
  - oxygen and volatile at 20-30L/min

d) oxygen and volatile at 50-70L/min

Ans B (Matt)

35-75L as per Miller, bypassing vapouriser

131) Intubation view: Little space between epiglottis and posterior pharyngeal wall. What is the modified C&L classification?

- a) 2A
- b) 2B
- c) 3A
- d) 3B
- e) 4

Answer: D (Matt) - depends on how much space

<http://www.adair.at/ijam/volume05/historicalnote02/classification.htm>

3a, visualization of only the epiglottis, and 3b, visualization of only the epiglottis adherent to the posterior pharyngeal wall.

132) Relative contraindications to mediastinoscopy include

- a) Cervical spondylosis
- b) Emphysema
- c) Mediastinal lymphadenopathy
- d) Poor left ventricular function
- e) Superior vena cava syndrome

Ans: E (Matt)

<https://academic.oup.com/bjaed/article/7/1/6/509175/Anaesthesia-for-mediastinoscopy>

133) Asystolic arrest adrenaline just given, how often do you give adrenaline?

- a) 2 min
- b) 3 min
- c) after 1 loop of ACLS algorithm
- d) after 2 loops of ACLS algorithm

Ans: D (Matt)

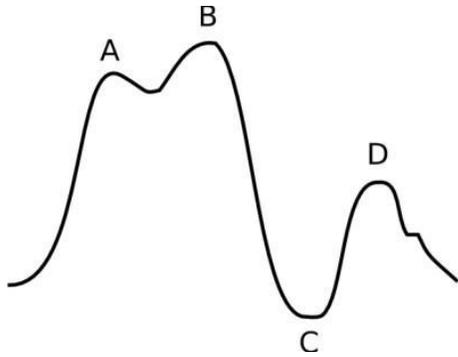
134) Tumour lysis syndrome causes all of the following biochemical abnormalities EXCEPT:

- a) Hyperkalaemia
- b) Hyponatraemia
- c) Hyperphosphataemia
- d) Hyperuricaemia
- e) Hypocalcaemia

Ans: B (Matt)

<https://lifeinthefastlane.com/ccp/tumour-lysis-syndrome/>

135) Balloon pump trace 1:2



- a) Early inflation
- b) Late inflation
- c) Early deflation
- d) Late deflation
- e) No problem

Ans: A (Matt)

<https://lifeinthefastlane.com/cardiovascular-curveball-007/>

136) Healthy mother undergoing surgery 4 months post-partum. What are current recommendations regarding when to resume breast feeding post-surgery?

- a) 12 hours after procedure
- b) 24 hours after procedure
- c) Discard first feed post procedure
- d) Discard first two feeds post procedure
- e) No need to discard

Rpt: No need

137) Complications of patient with anorexia nervosa include all except

- a) Cardiomyopathy
- b) Delayed gastric emptying
- c) Hypokalemia
- d) Hyperclacemia
- e) Prolonged QT

Ans: D

<https://academic.oup.com/bjaed/article/9/2/61/299563/Anorexia-nervosa-perioperative-implications>

138) 8 year old boy under general anaesthetic, BP about 85/40. ECG trace given showing SVT. What is the appropriate treatment?

- a) IV Adenosine 100ug/kg
- b) IV Amiodarone 5mg/kgpaed
- c) IV Esmolol 0.5mg/kg
- d) Sync DC Shock 1J/kg
- e) IV verapimil

Ans: A

[http://www.rch.org.au/clinicalguide/guideline\\_index/Supraventricular\\_Tachycardia\\_SVT/](http://www.rch.org.au/clinicalguide/guideline_index/Supraventricular_Tachycardia_SVT/)

- 139) 22. Propofol is a Category (...) drug in pregnancy: (gave the full definition of each category)
- a) A
  - b) B1
  - c) B2
  - d) B3
  - e) C

Ans: C

<https://www.tga.gov.au/prescribing-medicines-pregnancy-database#searchname>

- 140) In a patient with severe hepatic fibrosis. An increased risk of life threatening haemorrhage is best indicated by:
- a) dysfibrinogenaemia
  - b) hypoalbuminaemia
  - c) portal HTN
  - d) increased PT time
  - e) Thrombocytopenia

Ans: ? A (Matt) C? (Aslam, Jez)

[https://academic.oup.com/bja/article/111/suppl\\_1/i50/228962/Monitoring-and-managing-hepatic-disease-in](https://academic.oup.com/bja/article/111/suppl_1/i50/228962/Monitoring-and-managing-hepatic-disease-in)

- 141) The Swan Ganz catheter is unreliable for measurements of Pulmonary Artery SBP and DBP due to length and compliance of tubing. This affects the measuring system by:
- a) decreasing resonant frequency
  - b) decreasing frequency response
  - c) decreasing damping coefficient
  - d) inducing zero error
  - e) inducing baseline drift

Ans: C (Jez)

- 142) Woman for LUSCS. Allergic to Amoxicillin. Reaction is limited to a rash. For surgical antibiotic prophylaxis consider: (definitely said "consider")
- a) Cefazolin
  - b) Cefoxitine
  - c) Clindamycin
  - d) Gentamicin
  - e) Vancomycin

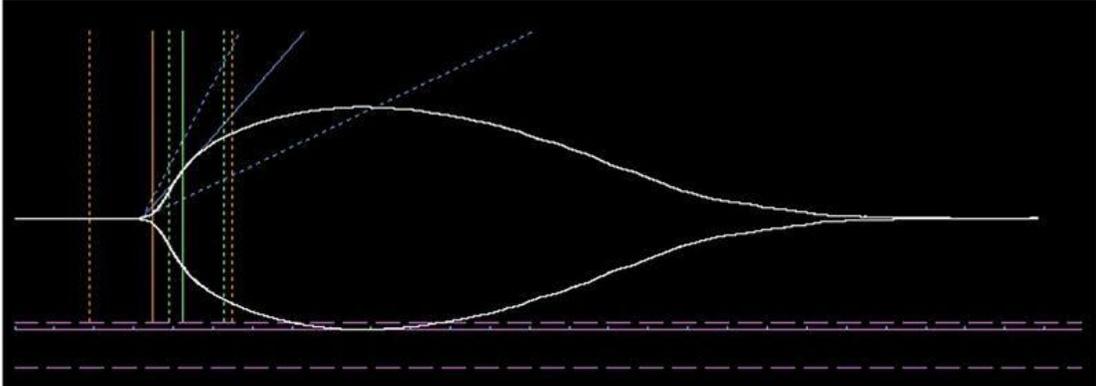
Ans: C (Matt) Maybe A (Jez)

UTD: The patient is at lower risk for reacting to a cephalosporin if the reaction to penicillin occurred more than 10 years ago, and the symptoms involved were not suggestive of an IgE-mediated allergy. Such patients can simply be given the cephalosporin normally, provided the penicillin and cephalosporin in question do not share identical side chains (they don't)

<http://www.uptodate.com/contents/penicillin-allergic-patients-use-of-cephalosporins-carbapenems-an>

d-monobactams

143) ROTEM picture asking what is the problem.



- a) Hyperfibrinolysis
- b)
- c)
- d)
- e)

144) In a patient taking dabigatran prior to surgery:

- a) Stop 7 days in advance
- b) Stop 3 days in advance
- c) Stop 3 days in advance and bridge with clexane
- d) Continue until day of surgery
- e) Check INR on day of surgery

ANS: B (Matt, Jez)

<https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/medicines?a=165590>

145) In patients with an opioid PCA, adding a NSAID will reduce the rate of PONV by

- a) 5%
- b) 10%
- c) 15%
- d) 20%
- e) 25%

Ans: B (Matt, Jez)

<http://anesthesiology.pubs.asahq.org/article.aspx?articleid=1942245>

NSAIDs reduced the risk of PONV from 30% to 22% (RR, 0.704; 95% CI, 0.590–0.841;  $P < 0.001$ ; fig. 1). The NNT to prevent one episode of PONV was 12 (95% CI, 9–22).

<https://academic.oup.com/bja/article/106/3/292/323157/Paracetamol-and-selective-and-non-selective-non>