

August 2015 MCQs Blank Bank Wiki

15B-1 Consider the following arterial blood gases. (Ref ranges in brackets)

pH 7.28

PaCO₂ 36

Bicarbonate 18 mmol.l-1 (18-25)

Base excess -7 mmol.l-1 (-4- +3)

Na⁺ 142 mmol.l-1 (135-145)

Cl⁻ 112 mmol.l-1 (98-110)

These blood gases are consistent with

- A. acute renal failure
- B. diabetic ketoacidosis (high anion gap)
- C. ethylene glycol overdose (high anion gap)
- D. intraoperative infusion of 6 litres of normal saline
- E. salicylate overdose (high anion gap)

Answer D

Anion Gap (assume K+ 4), $142+4 - 112+18 = 16$

Normal Anion Gap: 12-16

Normal Anion Gap Metabolic Acidosis - (NAGMA) Causes: C.A.G.E :

Chloride Think hyperchloremic met acidosis w excessive NaCl infusion.

Acetazolamide/Addison's

GI losses

Extra: RTA1

High Anion Gap Metabolic Acidosis (HAGMA) Causes - think anions we can't see -> either exogenous source (metformin, methanol, salicylates, ethylene glycol) or endogenous not counted (ketoacidosis, lactate, uremia):

CATMUDPILES:

- Cyanide
- Alcoholic ketoacidosis and starvation ketoacidosis
- Toluene
- Metformin, Methanol
- Uremia
- DKA
- Pyroglutamic acidosis, paracetamol, phenformin, propylene glycol, paraldehyde
- Iron, Isoniazid
- Lactic acidosis
- Ethylene glycol
- Salicylates

<https://lifeinthefastlane.com/ccc/acid-base-interpretation/>

<https://lifeinthefastlane.com/ccc/anion-gap/>

4. What is the most sensitive monitor for detecting a venous air embolus during neuroanaesthesia?

- A transoesophageal electrocardiography (yes - it said electro)
- B precordial Doppler
- C precordial stethoscope
- D capnography
- E something else wrong

Answer B: TOE most sensitive but if the option actually was 'electro' then precordial doppler = next best.

Table 4. Comparison of Methods of Detection of Vascular Air Embolism

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Method of Detection	Sensitivity (ml/kg)	Availability	Invasiveness	Limitations
TEE	High (0.02)	Low	High	Expertise required, expensive, invasive
Precordial Doppler	High (0.05)	Moderate	None	Obese patients
PA catheter	High (0.25)	Moderate	High	Fixed distance, small orifice
TCD	High	Moderate	None	Expertise required
ETN ₂	Moderate (0.5)	Low	None	N ₂ O, hypotension
ETCO ₂	Moderate (0.5)	Moderate	None	Pulmonary disease
Oxygen saturation	Low	High	None	Late changes
Direct visualization	Low	High	None	No physiologic data
Esophageal stethoscope	Low (1.5)	High	Low	Late changes
Electrocardiogram	Low (1.25)	High	Low	Late changes

ETCO₂ = end-tidal carbon dioxide gas; ETN₂ = end-tidal nitrogen gas; N₂O = nitrous oxide; PA = pulmonary artery; TCD = transcranial Doppler; TEE = transesophageal echo.

<http://anesthesiology.pubs.asahq.org/article.aspx?articleid=1923071>

5. A 34 year old primigravida collapses soon after delivery of her baby, the presumptive diagnosis is amniotic fluid embolus. Which ONE of the following supports this diagnosis?

- A markedly raised serum tryptase
- B decreased C3-C4 levels
- C thrombocytosis
- D raised CRP
- E hyperfibrinogenemia

Answer B

Am J Obstet Gynecol. 2009 November ; 201(5): 445

AMNIOTIC FLUID EMBOLISM: AN EVIDENCE-BASED REVIEW

Diagnostic markers for AFE based on peripheral blood sample have also been suggested. These include zinc coproporphyrin, sialyl Tn, tryptase, and complement factors. Kanayama et al¹²¹ found that plasma concentrations of zinc coproporphyrin (a characteristic component of meconium) were increased in all of the 4 women with AFE but in only 1 of 50 control cases with no diagnosis of AFE. Three studies^{57,85,122} have evaluated the diagnostic accuracy of serum sialyl Tn, a fetal antigen present in meconium and amniotic fluid, detected through the use of the TKH-2 monoclonal antibody. Serum concentrations greater than 50 U/mL yielded sensitivities between 78–100% and the specificities between 97–99%. Increased serum levels of tryptase, a marker of mast cell degranulation, in women with AFE have been reported by some authors^{123,124} but not by others.^{83,125} Benson et al⁵⁷ reported that serum tryptase was negative in all of the 6 women with AFE. However, they found that decreased serum levels of C3 and C4 complement had sensitivities between 88–100% and a specificity of 100% for the diagnosis of AFE. It should be noted that all of these laboratory tests are not currently available in the majority of hospitals. In conclusion, at the present time there is no test that can reliably confirm the diagnosis of AFE in suspected cases. Serum diagnostic markers, such as zinc coproporphyrin, sialyl Tn antigen, and C3 and C4 complement, are promising, but larger studies are needed.

RH30 You are performing a peribulbar block for eye surgery. You decide to add hyalase to your local anaesthetic mix. What is the recommended concentration for hyalase?

- A 25 U/ml
- B 50 U/ml
- C 100 U/ml
- D 150 U/ml
- E 1500 U/ml

Answer A

? Actually 30 lindy cass

There are varying concentrations of hyalase used in the real world and nobody knows the optimal dose. The product information states to add 150IU in 6ml (giving 25U/ml concentration)

Pocket regional book states add 75-150U/ml

A 2001 study comparing various doses efficacy showed no real difference b/w 15U/ml and 150U/ml however did mention another study which showed 300U/ml improved onset.

Given the question asks about recommended concentration, go for 25U/ml as the MIMS recommendation

7. (repeat PZ106) A 25 year old male presents for ECT at a free standing facility. He has a life threatening depressive illness that has not responded adequately to medication, however he is still taking tranylcypamine (MAOI). The most appropriate course of action is

A cancel the procedure, cease tranylcypamine and perform the ECT in 2 weeks

B proceed with the ECT, but induce with midazolam and remifentanyl

C proceed with the ECT, but pre treat with esmolol

D proceed with the ECT with caution, but with your usual drugs

E transfer the patient to a tertiary centre for their ECT

Answer D (but avoid: indirect acting sympathomimetics such as ephedrine/metaraminol -> can precipitate adrenergic crisis in pt on MAO-i). Have phenylephrine available as pressor of choice.

Ding et al, "Anesthesia for Electroconvulsive Therapy", Anesthesia & Analgesia, Volume 94(5), May 2002, pp 1351-1364.

8. A patient has suffered a cardiac arrest. They are intubated but there is no IV access. Which drug can be given down the ETT?

A Amiodarone

B Calcium

C Lignocaine

D Magnesium

E Sodium bicarbonate

Answer = C

From resus.org

Remember the mnemonic **NAVAL**:

N-Naloxone

A-Atropine

V-Vasopressin (adults only)

A-Adrenaline

L-Lignocaine

From ANZCOR guidelines: increase doses 3-10x for ETT route.

9. (repeat SO19) A well 65 year old is having a total hip replacement under GA with sevo/nitrous/fentanyl. BP is 130/70 and stable. Before the surgeon commences reaming and cementing, the best thing to do is

A Induce hypotension

B Raise BP with vasopressors

C Turn off nitrous

D Give steroids

E Give heparin 5000u

Answer C - to minimise risk if VAE

10. Pt in ICU in their 20s is diagnosed with brain death. History is that of immunosuppression for a renal transplant but otherwise well (although brain dead, go figure). Patient has expressed a desire to be an organ donor. All these organs can be donated except

- A Bone marrow
- B Heart
- C Lung
- D Liver
- E Transplanted kidney

Answer A

11. What is the IV loading dose of paracetamol for a 16kg child?

- A <15mg/kg
- B 15mg/kg
- C 20mg/kg
- D >20mg/kg

Answer C (RCH guidelines)

28. 15B-28 LAST Intralipid initial dose in mL/kg

- A 0.5
- B 1
- C 1.5
- D 2
- E 5

Answer C.

29. 15B-29 MELD score includes INR, Creatinine and

- A Albumin
- B Bilirubin
- C AST
- D Fibrin

ANSWER B

MELD (Model for End Stage Liver Disease) score

- Mathematically based score of 3 biochemical markers
- Billirubin, Cr, INR to predict survival
- $MELD = 3.78[\log_e \text{bilirubin (mg/dL)}] + 11.2[\log_e \text{INR}] + 9.57[\log_e \text{creatinine (mg/dL)}] + 6.43$
- On liver Tx list usual score between 11-20
- Originally devised to predict death from liver failure after TIPS
 - ○ Score ≥ 18 median survival of 3 month or less following TIPS

41. Factor V Leiden homozygote. By how much is the risk of post-operative DVT increased?

- A 2x
- B 5x
- C 10x
- D 20x
- E 50x

Answer: E (think factor 5 leiden is 50x risk)

43. 15B-43 Kessel Blade has the blade coming off the handle at a degree of:

- A 80
- B 95

- C 110
- D 135
- E 150

Answer: C

50. Surgery planned under brachial plexus block performed at axilla. Pain is felt on incision at the anterolateral right forearm. Which nerve has been insufficiently blocked?

- A Radial
- B Ulnar
- C Median
- D Musculocutaneous
- E Median brachial cutaneous (also remembered as axillary)

Answer D

<https://www.orthobullets.com/anatomy/10109/lateral-antebrachial-cut-nerve>

65. – a repeat (forget which)- fuck you!

66. 55M ICH, ventilated, paralysed, sedated, ICPs persistently 25mmHg

- A cool to < 35 degrees
- B give hypertonic saline
- C dexamethasone
- D position 45 degrees head up (30degrees ok)
- E Ventilate to PaCO₂ <30

Answer: B 3ml/kg 3% Saline (=210ml) , 1-1.5ml/kg 5% ~ (100ml)

67. – Best method to prolong apnoeic oxygen saturation in obese patient:

- A position head up
- B place in sniffing position
- C prone
- D lateral

Answer = A

BJA: Pre-oxygenation in the obese patient: effects of position on tolerance to apnoea

The head-up position during preoxygenation in the morbidly obese patients has been shown to prolong the mean time of desaturation by about 50 seconds. CPAP only resulted in non-significant increase of the mean time to desaturation to 90%, as the FRC will return to pre-CPAP levels once the patient is anesthetized and the CPAP mask is removed

68. – Neonate (born at 40 weeks, now 7 weeks old) why to reduce morphine infusion rate compared with older child

- A Increased morphine crossing BBB
- B Increased total body water/decreased fat
- C Decreased enzymatic hepatic function
- D Increased morphine-3-glucuronide (definitely M3G)

Answer = C

- **Dose reduce morphine and opioids – due to PK differences (<3 months of age)**
 - Increased plasma concentration
 - 1. Reduced protein binding
 - 2. Reduced clearance

3. Higher ratio of M6G:M3G in neonates than adults = more pharmacologically active metabolite

- ? Also contribution from increased PD sensitivity
 - Immature BBB
 - Immature brainstem
 - ? More diffuse distribution of mu opioid receptors in neonates

85. Motor evoked potentials are used to monitor spinal cord function in scoliosis surgery. Which drugs affect them the LEAST?

- A. Non-depolarising muscle relaxants
- B. Nitrous oxide
- C. Opioids
- D. Propofol
- E. Volatiles

Answer: C

86. At initiation of laparoscopy/pneumoperitoneum which of the following cardiovascular parameters is LEAST likely to increase?

- A. Cardiac Output
- B. Mean Arterial Pressure
- C. Heart rate
- D. Myocardial filling pressures
- E. Systemic Vascular Resistance

Answer = A

SBP (and hence SVR) likely to increase, hypotension relatively uncommon usually signals serious clinical instability

HR: The literature suggests that an increase in heart rate is relatively common and that cardiac dysrhythmias or cardiac arrest may occur, but are unlikely.

Of 42 human investigations providing CDP cardiac output results relative to postanesthesia induction values, 23 demonstrate a decrease, and 19 show an increase or no change. One can conclude that a decrease in cardiac output is likely to occur during CDP.

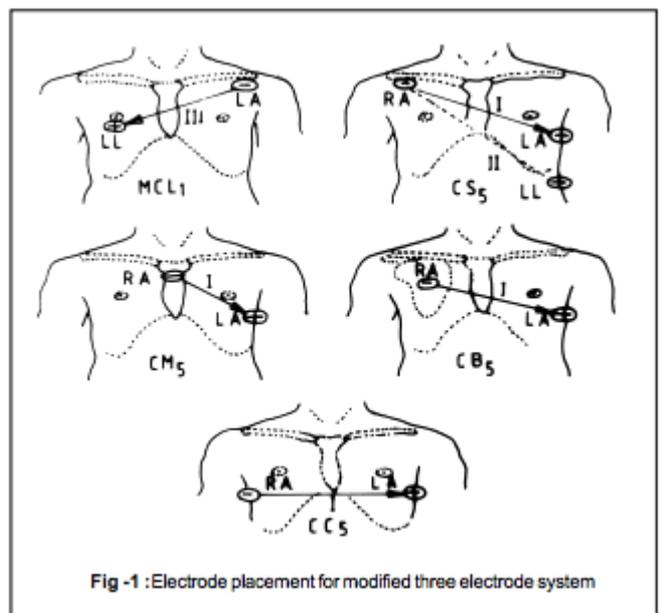
The evidence indicates that an increase in CVP and PAOP usually occurs with CDP. However, cardiac preload volume may increase, decrease, or remain stable during CDP. It is likely that CVP and PAOP values do not reliably indicate cardiac preload volume status.

87. In order to use a 3 lead ECG setup to gain a CS5 view which of the following configurations would you use?

- A. Lead I, RA lead below the clavicle, LA lead in the V5 position, LL at the hip
- B. Lead I RA lead below the clavicle, LA lead at the hip LL in the V5 position
- C. Lead II RA lead below the clavicle, LA lead in the V5 position, LL at the hip
- D. Lead III RA lead below the clavicle, LA lead in the V5 position, LL at the hip
- E. Lead III RA lead below the clavicle, LA lead at the hip LL in the V5 position

Answer = A

CS5 RA = Right Clavicle LA = V5 LL = Ground Lead Select =



I

Good article for ECG monitoring

<http://medind.nic.in/iad/t02/i4/iadt02i4p251.pdf>

110 – According to NAP4 what is the rate of failure for emergency cannula cricothyroidotomy?

- A 10
- B 20
- C 40
- D 60
- E 80

Answer = D

The NAP4 audit in the UK found a ~60% failure rate for emergency cannula cricothyroidotomy, whereas surgical cricothyroidotomy was almost universally successful

111 – Arndt bronchial blocker picture what is the straight port on the multi lumen connector for?

(repeat)

- A Connection of tracheal tube
- B Passage of nylon guide wire
- C Passage of fibreoptic
- D Passage of bronchial blocker
- E Connect circuit

	Cohen Blocker	Arndt Blocker
Size	9 Fr	5 Fr, 7 Fr, 9 Fr
Balloon shape	Spherical	Spherical or elliptical
Guidance mechanism	Wheel device to deflect the tip	Nylon wire loop that is coupled with the fiberoptic bronchoscope
Smallest recommended ETT for coaxial use	9 Fr (8.0 ETT)	5 Fr (4.5 ETT), 7 Fr (7.0 ETT), 9 Fr (8.0 ETT)
Murphy eye	Present	
Center channel	1.6	

Answer C

112. Which would be consistent with deep partial thickness burns?

(various combinations of whether painful or not, whether blanches or not, and how it looks +/- presence of blisters)

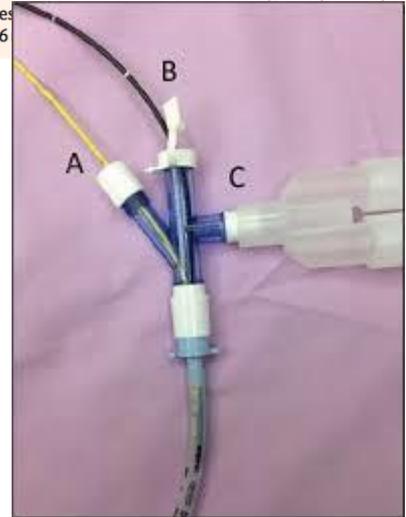
- A Pain to deep pressure only, decreased capillary refill or doesn't blanch?
- B Blanches to pressure, very painful
- C Painful to air, blanches to pressure with blisters?
- D Painful to deep pressure, red and weeping/wet
- E No pain, no CRT

Answer = A (best of available)

Deep dermal burns are characterised by the early (within hours) development of extensive blisters, which usually rupture early to expose deep damaged dermis.

The hallmark of these types of burns is greatly diminished capillary return, with no or sluggish blanching when pressure is applied to the wound bed. This is a result of the extensive destruction of the dermal vascular plexus. The dermal nerve endings are also damaged and so sensation is reduced. These deeper burns tend to be dry, with diminished fluid exudates compared with more superficial burns.

The extent and speed of capillary refill is the most useful clinical method to assess burn depth. Bear in mind however the presence of capillary refill at the time of initial assessment does not mean that the burn will remain superficial. In practice, burn wound evolution frequently results in increased depth of burn injury tissue damage.



See vicburns.org – looks like options were taken from there

	Superficial Epidermal eg sunburn '1 st degree'	Superficial Dermal Thickness (partial) '2 nd degree'	Mid Dermal Thickness (partial) '2 nd degree'	Deep Dermal Thickness (partial) '2 nd degree'	Full Thickness '3 rd degree'
					
PATHOLOGY	Involves epidermis only	Involves epidermis and upper dermis, most adnexal structures intact	↔	Involves epidermis and significant part of dermis, only deeper adnexal structures intact	Epidermis, dermis and cell adnexal structures destroyed
APPEARANCE	Dry and red, blanches to pressure. No blisters.	Pale pink. Smaller blisters. Wound base blanches with pressure.	↔	Blotchy red or pale deeper dermis where blisters have ruptured	White waxy charred. No blisters. No capillary refill
SENSATION	Maybe painful	Increased sensation Very painful and tender	↔	Decreased sensation	No sensation
CIRCULATION	Normal, increased	Hyperaemic Rapid capillary refill.	↔	Sluggish capillary refill	Nil
COLOUR	Red, warm	Pink	↔	White/Pale pink/ Blotchy red	White/Charred/ Black
BLISTERS	None or (days) later or desquamation	Yes (within hours of injury)	↔	Early—usually large blisters which rupture rapidly and slough	Epidermis & dermis destroyed, no blistering
HEALING TIME	Within seven days	7-14 days	↔	Over 21 days	Does not heal spontaneously
SCARRING	No scar	Colour match defect. Low risk of hypertrophic scarring	↔	High risk (up to 80%) hypertrophic scarring	Wound contraction Heals by secondary intention

124. AM51 How many vials of dantrolene should (according to guidelines from MH society) be kept at a remote hospital which has general anaesthesia services?

- A 2
- B 6
- C 12
- D 24
- E 36

Answer = E 36

MH Resouce Kit revised 2012:

The mhanz group recommends that a minimum of **24 (20mg)** vials of dantrolene are held in any anaesthetising location where triggering anaesthesia is performed. **Larger or remote hospitals should**

carry 36 vials. This stock level represents 2-3 x 2.5mg/kg doses for an average sized adult and is a reasonable compromise between clinical need and economy.

126. Pregnant patient, progressive dyspnoea. Which would most strongly warrant further investigation?

- A soft 2/6 systolic ejection murmur
- B elevated JVP
- C third heart sound
- D orthopnoea
- E peripheral oedema at ankles

Answer: B

A: Overall, there's a 30 to 50% rise in total cardiac output above the woman's baseline leading to a benign flow systolic ejection murmur that's early peaking, soft in over 90% of women.

B: Jugular venous pressure (JVP) is often normal or mildly increased. Persistent distention of neck veins indicator of heart disease

C: An S3 can be a normal finding in children, pregnant females, and well trained athletes, however an S4 heart sound is almost always abnormal.

D: Orthopnoea common in pregnancy with aortocaval compression

E: Also common in pregnancy

140. How long before return to normal platelet function in chronic diclofenac use.

- A 12hrs
- B 1-2d
- C 4d
- D 7d
- E 10d

Answer B

UpToDate - For most NSAIDs, platelet function normalizes within three days of discontinuation [102], suggesting that NSAIDs should generally be discontinued at least three days before surgery.

Although some experts recommend discontinuing NSAIDs based upon drug-specific elimination half-lives [98], the elimination half-life correlates poorly with cyclooxygenase inhibition and effects on platelet aggregation [99,100]. In healthy individuals receiving **ibuprofen** for one week, platelet function appears to return to normal within 24 hours after the last dose [101]. However, the relationship between time of discontinuation of NSAIDs with intra- and post-operative clinical bleeding is not well-defined.

Novartis Voltaren drug info:

The terminal half-life in plasma is 1 to 2 hours. After administration of diclofenac for 15 days in an oral dose of 25 mg three times daily, there was no evidence of drug accumulation in plasma

<http://bj.a.oxfordjournals.org/content/107/3/302.full>

Ex vivo tests of platelet aggregation, such as second-wave aggregation to ADP or epinephrine after a single dose of drug, show prolongation for 3 days after piroxicam, 2 days after naproxen, diclofenac, and indomethacin, and about 1 day after ibuprofen. With chronic administration, the time taken for return of normal platelet function may be considerably longer, due to accumulation of products such as the S(+) enantiomer of ibuprofen in adipose tissue.

141. How long after starting a unit of FFP does it have to be completed

- A 2hrs
- B 4
- C 6
- D 8

E 10hrs

Answer B

Fresh frozen plasma must be given within 4 hours at room temp.

142. You arrive to a code blue for a 5 year old child 16kg in a shockable rhythm. CPR has commenced, he has had TWO shocks already. What is the next step:

- A Adrenaline
- B Amiodarone
- C Iv fluid bolus
- D Shock 50j
- E Shock 100j

Answer A

143. FAST scan includes

- A Pelvis, pericardium, perihepatic, perisplenic
- B Pelvis, pericardium, perihepatic, paracolic
- C Lung, pericardium, perihepatic, perisplenic
- D More combinations of above

Answer A

144. You arrive in the emergency department to treat a man with an attempted hanging. He has a LMA in situ, it is easy to ventilate (or something like that) Sa 98% HR 120, BP 130/80 GCS 5 initially. What is the next single most important thing to do.

- A Apply rigid collar with manual inline stabilisation
- B Check subcutaneous emphysema
- C Fibre optic examination of airway
- D Lateral c-spine xray
- E Remove LMA and intubate

Answer: A

145. You are supplying oxygen from the variable flow meter on the wall at 6L/min. The tubing becomes obstructed. What is the pressure reached in the tubing

- A 100kpa
- B 200kpa
- C 300
- D 400
- E 600

Answer: D (pipeline pressure)

146. What is the most common cause of claims against anaesthetists?

- A Dental damage
- B Eye damage
- C Non-obstetric nerve damage
- D Obstetric epidural related
- E Non-obstetric epidural related

Answer: A

CCEAP 2006: Dental injury occurs during 1% of general anaesthetics and is the commonest cause for litigation against anaesthetists.

A) dental damage - about 50% of claims.

MDAV audit over 20 years of anaesthetic claims.

http://www.researchgate.net/publication/8643451_Medicolegal_claims_against_anaesthetists_A_20_year_study

147. 75 year old lady 2 weeks pre-op TKR patient, anaemic (Hb 105, Fer <30), recent TKR 6 months ago, what to do? [no option to defer surgery or identify and treat cause]

A Oral iron

B IV iron

C Check Hb on day of surgery and cancel if still low

D Multivitamin with iron

E Packed cells preoperatively

Answer: B

148. What is the expected rise in platelets from one unit of pooled leucodepleted plates in a 70kg patient?

A 10-20

B 21-40

C 40-60

D 60-80

E 80-100

Answer = B) 20-40 - direct quote from Transfusion.com.au – use of platelets site.

149. [Repeat] You are assessing a patient for intubation. MP3 and thyromental distance 6cm.

Compared with MP, TMD is? (repeat)

Various combinations of mallampatti being more/less sensitive and specific compared to thyromental distance

MP sensitivity = 50%, specificity = 90%. TMD specificity = 15-70% (depending what cm is cutoff score) but generally considered lower than MP score.

Specificity (a negative result will be negative test) is the most important in eliminating unexpected difficult airway. ??is it

Best bedside test is combo of MP and TMD with 6cm as cut off.

Sensitivity would seem to be more important ie. the percentage of people with a difficult airway that have a bad MP class

150. You are about to anaesthetise a patient BMI 38 for bariatric surgery. Plan to give 1mg/kg of sux. Compared with Ideal body weight, total body weight dosing results in:

A shorter onset, shorter duration

B shorter onset, similar duration

C shorter onset, longer duration

D similar onset, shorter duration

E similar onset, longer duration

Answer = E) similar onset, longer duration.

SUX should be TBW dosing.

<http://www.ncbi.nlm.nih.gov/pubmed/16428539>

looks like direct question from this study - 3 groups of obese given 1mg/kg based on ideal/lean or total BW.

all same onset time, TBW longer duration but IBW group had inadequate block

SUX in Obese in general has shorter duration due to > pseudocholinesterase levels and > ECF/kg to

diffuse into.

Un-Numbered MCQs

Add your remembered but un-numbered MCQs below. If you know the number, please write the question next to the number in the section above.

Please number with X then some order to make it easier for people to use the page to compare (e.g. X1, X2, X3 etc.)

X1 – 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 Transcutaneous pacing
- C Adrenaline
- D Isoprenaline
- E Transvenous pacing

Answer E

X2 - A patient presents for THR with a febrile illness, but wishes to proceed despite the risks. You can justify your decision to defer the case based on:

- A Autonomy
- B Beneficence
- C Non-maleficence
- D Paternalism
- E Utilitarianism

Answer C

X3 - You collect ropivacaine levels post-operatively. This type of data is:

- A Continuous
- B Numerical
- C Ordinal
- D Nominal
- E Categorical

Answer A

X4 - Randomised controlled trial means:

- A Patients randomly allocated to treatment groups
- B Patients randomly allocated to treatment or placebo
- C Patients allocated systematically
- D Neither the patient nor the investigator knows which group the patient is in
- E ?

Answer A

X5 - Clinical phase III trial means:

- A dose finding
- B In patients WITHOUT the disease
- C Randomised controlled trial in patients
- D Post marketing study
- E ?

Answer C

Phase 0	Exploratory	<ul style="list-style-type: none"> • Animal studies • Pilot studies <ul style="list-style-type: none"> ○ Small doses of drug to a limited number of people
Phase 1	Safety and tolerability	<ul style="list-style-type: none"> • Small samples of healthy volunteers (20-80 volunteers) • <i>In specialised settings, phase I studies may take place on patients</i> <ul style="list-style-type: none"> ○ <i>E.g. chemotherapeutic agents</i> • Take place at inpatient clinics
Phase 2	Dose finding 2b = efficacy	<ul style="list-style-type: none"> • Larger groups of volunteers (20-200) • Observational
Phase 3	Efficacy	<ul style="list-style-type: none"> • Large patient RCT • 300->3000 • Usually required before public access to the drug
Phase 4	Effectiveness Safety	<ul style="list-style-type: none"> • <i>Not all Phase IV studies are post-marketing surveillance (PMS) studies but every PMS study is a phase IV study</i> • Post-marketing surveillance studies: <ul style="list-style-type: none"> ○ Rare AE – safety monitoring ○ Data on drug use in populations outside those included in the phase 3 studies ○ Effectiveness data • Non-interventional studies: <ul style="list-style-type: none"> ○ Conducted to assess the safety, tolerability, and effectiveness in clinical practice ○ No additional study protocol apart from routine clinical care ○ No randomisation • Large simple trials <ul style="list-style-type: none"> ○ Randomized ○ Little interference in routine clinical care • Case-control studies • Drug utilisation studies • Registry studies
Phase 5	Comparative effectiveness	<ul style="list-style-type: none"> •

X6 - Cancer patient on subcutaneous morphine, 70mg in 24 hours. Converting this to an oral dose of long acting morphine. What is a reasonable starting dose?

- A 25mg bd
- B 70mg bd
- C 100mg bd
- D 150mg bd
- E 200mg bd

Answer ?C

ANZCA opioid conversion chart.

1mg parental morphine = 3mg oral morphine.

so 70mg = 210mg.

BUT - clinically we would reduce the dose by 1/3 or so???
No dose reduction as same drug

X7 - Neurosurgery in the sitting position. What is the most sensitive way to detect venous air embolism?

- A Praecordial doppler
- B PA Catheter
- C TOE
- D ET CO₂
- E ?

Answer C

Sensitivity of modalities for VAE Detection (most to least sensitive, see Miller Figure 63-11)

TOE (most sensitive)

Doppler (left or right parasternal, between 2nd and 3rd rib, mill wheel murmur)

ETCO₂ and/or PA pressure

Cardiac output and/or CVP

Blood pressure, EKG (RV strain pattern, ST depression), stethoscope (least sensitive)

X8 (repeat) - Bowel surgery. What is the best way to assess fluid status. Options included arterial pressure variation. I don't recall the rest.

X9 RFTs – No clinical stem, just RFTs with FEV normal, FVC normal, FEV/FVC ratio 89%, DLCO 44%, RV and TLC both 80-90%

i remember this not mentioning pulmonary haemorrhage, and TLC or RV were 98%.

- A Asthma
- B COPD
- C Pulmonary haemorrhage
- D Pulmonary fibrosis
- E Pulmonary arterial hypertension

Answer = E) pulmonary arterial hypertension.

NOT asthma/COPD/fibrosis as FEV and FVC are normal.

Pulmonary haemorrhage INCREASES DLCO - anything that increases pulmonary blood/amount of HB will increase DLCO as more CO uptake - CCF, L to R shunt, polycythemia, pulm haemorrhage.

things that decrease DLCO:

pulmonary hypertension. fibrosis.

COPD (as less lung tissue) interstitial lung disease.

PE (this would fit these RFTs perfectly)

X10 Modified from previous - CS5 – what are the lead arrangements and lead examined. No information about what you are looking for (ie region or rhythm vs. ischaemia)

A RA at R subclavian, LA at V5, LL at L hip, lead I

B RA at R subclavian, LA at hip, LL at V5, lead I

C RA at R subclavian, LA at V5, LL at L hip lead II

D RA at R subclavian, LA at left hip, LL at V5 lead III

E RA at R subclavian, LA at V5, LL at L hip, lead III

See above

X11 Modified from previous – 70kg man, burns to 50% of body, according to parkland, how much fluid in first 8 hours

A 2.4

- B 3.6
- C 4.6
- D 7L
- E 14L

Answer D: $4 \times \text{BSA} \times \text{wt} = 14\text{Lt} : \frac{1}{2}$ (7lt 1st 8hours)

X12 You arrive at the delivery of a term neonate with resuscitation in progress. At 2 minutes, saturations are 70%, child is breathing, has been dried and is warm. A HR was also given which was more than 60. What do you do?

- A Observe
- B Mask ventilation
- C 100% oxygen
- D ?

?mask ventilate

X13 65 male patient in ICU with severe, overwhelming sepsis, Hb 75, INR 1.5, CvSO₂ 70%. What product do you give?

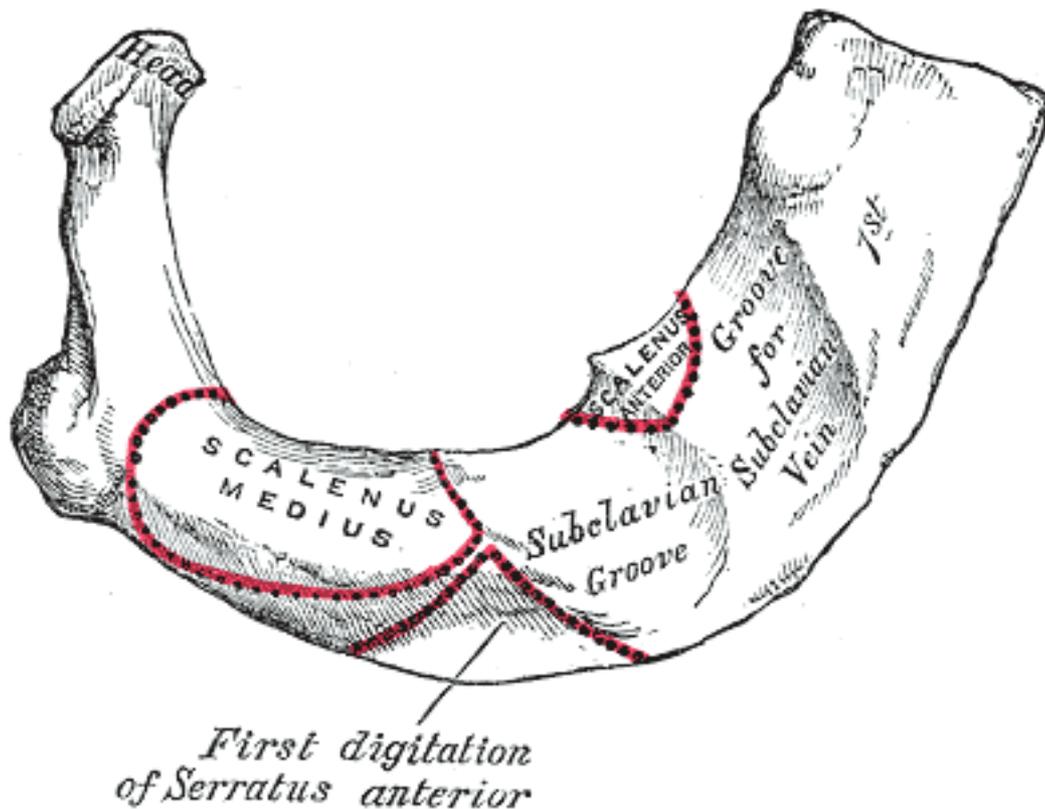
- A Nothing
- B 1 unit red cells
- C 1 unit red cells and PTx
- D 1 unit red cells and FFP
- E 2 bags FFP

Answer A

X14 - Picture of 1st rib – what is the structure that attaches to the shaded area:

- A Scalenus medius
- B Scalenus anterior
- C SCM
- D Parietal pleura
- E Articular surface with clavicle

(it was scalenus medius - it was a picture lifted from Gray's/wikipedia)



X15 The Australian Resuscitation Council guidelines indicate praecordial thump may be appropriate for

- a monitored pulseless VF
- b monitored pulseless VT
- c witness onset asystole due to AV conductance
- d unwitnessed cardiac arrest

Alt version X15 - Praecordial thump indicated when

- A Witnessed, monitored: VT
- B Witnessed monitored VF
- C Witnessed but unmonitored arrest
- D Witnessed monitored asystole

(see also X102)

Answer A

X16 - 85 F for fracture hip, otherwise well, normal ECG day prior, electrolytes normal. Otherwise well other than now in AF with HR 110-145, BP 130/80 what do you do:

- A Amiodarone
- B DC Cardioversion post induction GA
- C Digoxin
- D Metoprolol
- E Anticoagulate

Answer D

X17 How many weeks of anticoagulation prior to elective DCR per AHA/ACC

- A 1 week
- B 2 weeks
- C 3 weeks
- D 4 weeks
- E 5 weeks

Answer C (INR above 2.0 for 3/52)

X18 Child for elective procedure, maternal GREAT-grandfather had MH. What is the most reassuring that he doesn't have MH

- A Exposure to halothane age 2 without incident
- B Maternal grandfather negative IVCT
- C Mother negative genetic test
- D No other reports in family despite multiple exposure
- E Normal serum CK

Answer B

X19 Child with periodic breathing, fever, rash

A Various combinations of metabolic and respiratory acidosis and alkalosis

X20 Ankle block what supplies plantar foot

- A deep peroneal
- B posterior tibial
- C superficial peroneal
- D sural
- E saphenous

answer b

X21 Interscalene block – what is most likely to be missed

- A Medial cutaneous nerve of forearm
- B Radial nerve
- C Median nerve
- D Axillary nerve

answer A

X22 Pregnant woman, 33 weeks, thyroid storm for an urgent caesarean section, already been treated with steroid. What next?

- A Carbimazole
- B Esmolol
- C IV magnesium
- D Propothiouracil
- E Potassium Iodide

Answer B

X23 65 year old, 3 days postop, hypoxia, VQ scan shows non-segmental, matched perfusion and ventilation defects.

- A Asthma
- B Emphysema

C PE
D Atelectasis
E Pulmonary infarction
(I remember pneumonia being an option)

answer D

Non-segmental perfusion abnormalities – PPV =8% ('very low probability')

- DDX nonsegmental defects - small effusion, blunting costophrenic angle, [cardiomegaly](#), [elevated diaphragm](#), ectatic aorta
- Nonsegmental perfusion abnormalities; these were enlargement of the heart or hilum, elevated hemidiaphragm, costophrenic angle effusion, and linear atelectasis with no other perfusion defect in either lung

EANM guidelines

- Pneumonia is characterized by a matched ventilation/ perfusion pattern [115]. Ventilation defects usually exceed perfusion defects, causing reverse mismatch
- COPD is characterized on V/PSCAN by matched ventilation and perfusion defects. Frequently, ventilation defects are more pronounced than perfusion defects. This is known as reverse mismatch

X24 TTE with apical 5 chamber view with marker on valve in LVOT. What is this?

- A Aortic valve
- B
- C
- D
- E

X25 TOE transgastric short axis view of LV. Label on anterior wall. What coronary territory is it?

- A LCx
- B LAD
- C
- D RCA
- E ?

Answer B

X26 45 year old man with left lung cancer. Otherwise well and CT shows no metastasis. FEV1 2.3 L and FVC 3.4 L. Do you?

- A Proceed with either pneumonectomy or lobectomy
- B Lobectomy only
- C Assess split function (Refer for V/Q scanning)
- D Formal cardiopulmonary exercise testing
- E ?TTE -- (I do not recall TTE as an option but I do remember an option to decline both).

Answer A

FEV1>2.0
Ratio >50%

X27: You are called to the cardiac catheter lab to assist when a 55-year-old man with unstable angina becomes restless during difficult placement of a right coronary artery stent. When you arrive he is conscious and responding to voice. He is sweating with a pulse of 60 beats per minute in sinus rhythm, blood pressure measured from arterial catheter of 80/50 mmHg and SpO2 of 97%. The arterial pressure wave has an exaggerated fall with inspiration. The most appropriate next clinical

intervention would be to

Not sure about all these options below, but some (definitely echo) were there and stem was the same

- A. administer atropine
- B. commence an adrenaline infusion
- C. perform a quick transthoracic echocardiograph
- D. sedate and intubate
- E. transfer to operating theatre immediately

Answer c

X28 Innervation of the hard palate. Pretty sure this was a repeat.

A: Nasopalatine and greater palatine

B: Labial and ...

Answer A

x A random website, seems reputable. <http://ozradonc.wikidot.com/anatomy:focused-hard-palate>

The hard palate is innervated by branches of the maxillary nerve, both of which initially pass through the pterygopalatine ganglion. The greater palatine nerve descends through the greater palatine foramen with its companion artery, and runs anteromedially to supply the mucosa of the posterior hard palate. The nasopalatine nerve descends through the incisive foramen to supply the most anterior parts of the hard palate. Afferent fibres from taste buds are thought to travel with the greater palatine nerve to the pterygopalatine ganglion, where they leave with the nerve of the pterygoid canal and continue with the greater petrosal nerve to the facial ganglion. Secretomotor fibres to the salivary glands on the posterior hard palate have their cell bodies in the pterygopalatine ganglion and travel to the hard palate with the greater palatine nerve.

X29 Lithotomy position for laparoscopy. What is not a risk factor for compartment syndrome lower leg?

- A) obesity
- B) male gender
- C) lithotomy stirrups
- D) pmh hypertension
- E) intraoperative hypotension

Answer: B (no comment on sex, D possible but altered autoregulation curve)

Risk factors for lower limb compartment syndrome

- Lengthy procedure (>5 hours)
- Decreased perfusion of the lower leg because of Trendelenburg positioning combined with the lithotomy position
- External compression of the lower legs (because of positioning, stirrups, or antiembolism stockings)
- Systemic hypotension
- Internal compression of iliac vessels by retractors
- PVD
- Obesity
- Blood loss/hypovolaemia

X30: You are called to review a patient in recovery who is short of breath after resection of a lung SCLC. He is weak, cannot flex hips or lift arms. He was given atracurium (35mg) which was reversed 90 minutes ago. This is most consistent with:

- A Eaton lambert
- B Myasthenia gravis
- C Steroid induced myopathy
- D Limb girdle muscular dystrophy
- E Myotonic dystrophy

A - Eaton Lambert syndrome (weakness tends to affect solely axial muscles, girdle muscles, and less often the limb muscles). Associated with SCLC. Sensitive to NDMR.

Not B - MG Manifest as weakness with fatigability commonly affecting ocular/facial/bulbar and limb muscles

Not C - would be present preoperatively and unlikely to affect chest wall muscles

Not D - diagnosis should be evident preop?

Not E - myotonic dystrophy presents in 20s-30s - patient having lung Ca resected would be middle aged to elderly.

X31: According to ANZCA professional standards, a LEVEL 2 machine check includes:

A: Ensuring that there are no leaks both when the vaporisers are being used and when they are not being used.

B: Checking the breathing circuit if it has been changed

C: Checking the inspiratory and expiratory valves

D: Checking the (?external) scavenging system

E: Checking the reserve oxygen cylinder is adequately filled for its intended purpose

? Question remembered correctly - A, C, D, E are all correct

PS-31 - Machine check

Level one check is a detailed check, performed by trained service personnel, of all systems before being placed into use. This applies to all new systems, as well as all systems after servicing or repair.

Level 2 check - at start of each list. Includes

(A) 'Test for circuit leaks with a cassette installed or for each vapouriser in the "on" and "off" state.'

(C) 'Observe inflation and deflation of the attached breathing bag, associated movement of visible unidirectional valves and feel the system has normal resistance and compliance.'

(D) 'Check the scavenging system is properly connected, the scavenging flow is adjusted appropriately and external ports or mechanical valves are not blocked.'

(E) Ensuring that the reserve O2 cylinder has 'content sufficient for its intended purpose'.

Level 3 check - before each case

X36: [Repeat]. Obese patient day 1 post-op. On morphine PCA. Febrile. "Slightly" drowsy. SpO2 88%. In addition to increasing oxygen what do you do?

X37: [Repeat]. Rate of CO2 rise with apnoea in normal adult. BUT there was an option for 3.5mmHg/min (and NO OPTION for 3mmHg/min of 4mmHg/min)

CO2 rise is 12mmHg for first minute then 3.4mmHg rise per minute

J Clin Anesth. 1989;1(5):328-32: 'Piecewise linear approximation yielded a PaCO2 increase of 12 mmHg during the first minute of apnea, and 3.4 mmHg/minute thereafter.' Measurement of ABG samples from patients undergoing GA up to 300 seconds after ETT clamped.

Neurology. 1978 Jul;28(7):661-6: 'the mean rate of rise of PaCO2 was 3.2 mm Hg per minute' - Patients undergoing apnoea testing in brain death.

X38: Which is least likely to have a difficult airway?

A: Apert syndrome

B: Downs syndrome

C: Treacher Collins syndrome

D: Hurler
E: ?

Answer B (Sandy & CEACCP), A (everyone else)

f15B-x40 An ICU patient is intubated and ventilated *post some kind of abdominal surgery*. NGT in situ with ongoing high output. Currently on CSL 60mL/hr. ABG: pH 7.66, HCO₃ 35 mmol/l, Cl⁻ 78, pCO₂ 32. What to do to improve acid base status? (*I can't remember the specific options but they were various combinations of the following:*)

- A. minute ventilation -?keep same/?reduce
- B. keep current IV fluids/ keep CSL but increase rate/ change to NS
- C. Start PPI
- D. Start acetazolamide

Answer: Change to NS. ? Add PPI to lower H⁺ and Cl⁻ loss?

f15B-x41: When to send **tryptase** after suspected anaphylaxis:

- A. 1 hr
- B. 4 hrs
- C. ?
- D. ?
- E. 24 hrs

ANZAAG guidelines: 'Tryptase at 1 hour, 4 hours and > 24 hours'

'The peak level is usually reached 15-120 minutes after onset of the reaction. The tryptase level declines slowly within the following 3-6 hours. The biological half-life for tryptase is approximately two hours. The return to baseline level can generally be verified 24 hours after the reaction²⁸. On this basis, the guidelines recommend timing for the sampling of tryptase to detect the peak level and also the recovery to normal baseline. Care must be taken to send the specimens immediately after collection to the laboratory for urgent processing to ensure accurate results'

X42: [Repeat] Patient unstable with PE after joint replacement (tachycardiac and hypotensive), already heparinised.

- A: Thrombolysis
- B: Referral for thrombectomy
- C: Supportive care including fluids and inotropes
- D:
- E:

Answer B.

Perioperative PE. Journal of Clinical Anesthesia (2011) 23, 153–165

'The indication for surgical embolectomy remains limited to patients with hemodynamic compromise who have failed thrombolysis or have contraindications to thrombolysis'

'Patients who may benefit from thrombolysis are those who present with hemodynamic compromise and are judged not to be at high risk of bleeding [81].'

X43: [Repeat] What does this TEG show? (hyperfibrinolysis)

X44: [Repeat] Prothrombinex is relatively contraindicated in a bleeding patient with:

- A: A past history of HITS
- B:
- C:

D:

E:

Prothrombin complex concentrates contain heparin!

Contraindications include - Hypersensitivity to the active substances or to any of the excipients including known allergy to heparin or history of heparin-induced thrombocytopenia (HIT).

X45: Subtenon is relatively contraindicated in:

A: Long axial length

B: Previous scleral band which remains in situ

C: Inferonasal pterygium

D:

E:

Answer = B

British Journal of Anaesthesia 90 (6): 787±93 (2003)

'The technique is relatively contraindicated where there is a history of scleral disease with possible scarring and friability of the sclera. Previous retinal detachment surgery can be associated with scleral buckles [AKA BAND] and adhesions, which may hinder dissection or spread of anaesthetic solution, and increase the risk of globe perforation in the quadrant dissected.'

X50: [repeat] On CPB. MAP drops very low after first dose cardioplegia. Mixed venous sats 80%. What to do?

A: Metaraminol

B: Start an adrenaline infusion

C: Give fluid

D: Change pump flow rates

E:

Answer A

X51: According to the current (2010) ARC ALS guidelines, what is the correct dose for the first three shocks of a shockable rhythm?

A: Biphasic 50, 100, 150

B: Biphasic 100, 150, 200

C: Biphasic 100, 200, 200

D: Monophasic 120, 240, 360

E: Monophasic 360, 360, 360.

Answer E

AL2 (ARC) 2017 Biphasic 200J first shock, then can consider increase to to 360J but not essential

X52: What is not a sign of damage to a part of the sympathetic system? [In the context of surgery where something sympathetic related could be damaged]

A: Blepharoptosis

B: Exophthalmos

C: Facial flushing

D: Miosis

E:

??

Answer B

X53: Providing sedation for endoscopy. What must you have?

- A: Anaesthetic machine
- B: Suxamethonium
- C: Mechanical ventilator
- D: Defibrillator
- E: Laryngoscope

Answer D (probably) but also need laryngoscope.

PS-09MUST have - 'A means of inflating the lungs with oxygen (for example, a self-inflating bag and mask) together with ready access to a range of equipment for advanced airway management (for example, masks, oropharyngeal airways, laryngeal mask airways, laryngoscopes, endotracheal tubes)' 'Ready access to an electrocardiograph (ECG) and a defibrillator.'

X54: [repeat] Suspected AFE. What would be supportive [various lab tests provided, which I believe were the same as in the past].

A. ?

AMNIOTIC FLUID EMBOLISM: AN EVIDENCE-BASED REVIEW. Am J Obstet Gynecol . 2009 November
'at the present time there is notest that can reliably confirm the diagnosis of AFE in suspected cases. Serumiagnostic markers, such as zinc coproporphyrin, sialyl Tn antigen, and C3 and C4 complement, are promising, but larger studies are needed.'

f15B-x55: Abdominal compartment syndrome is diagnosed (in an appropriate context for it) when intra-abdominal pressures are consistently greater than

- A: 12mmHg
- B: 20mmHg
- C: 24mmHg
- D:
- E:

Alt: Abdominal compartment syndrome is when pressure greater than mmHg

- A: ?
- B: ?
- C: 12
- D: ?
- E: 20

Answer = B 20mmHg

UpToDate: 'For research purposes, ACS is defined as a sustained intraabdominal pressure >20 mmHg (with or without APP <60 mmHg) that is associated with new organ dysfunction [1,7,8]. For clinical purposes, ACS is better defined as IAH-induced new organ dysfunction without a strict intraabdominal pressure threshold, since no intraabdominal pressure can predictably diagnose ACS in all patients'

X66: [repeat] Patient with respiratory failure, low PaO₂/FiO₂ 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:

Answer B (changed from A by Jack on 1/3/18 as CI 1.7 "adequate")

X67: [repeat] When to stop dabigatran (for non valvular AF) in a patient with normal renal function prior to THR planned to be done under spinal?

- A: 7 days

- B: 3 days
- C: 3 days, bridge with clexane
- D:
- E: Continue until day of surgery

Answer b

X67: [repeat] AAI pacing post CABG. Looked like second degree (wenckebach) block

X68: What do you expect to happen if you put a magnet over an AICD?

- A: Turn off antitachycardia feature, no change to pacing
- B: Turn defib off, asynchronous pacing
- C: Turn defib off, no change to pacing (or, continue synchronous pacing)
- D: No change to defib, asynchronous pacing
- E:

Answer c

X69: Young patient, recently diagnosed with phaeochromocytoma. Not on any medications. Presents to ED tachycardic (~140) with SBP 220. Best initial treatment:

- A: Phenoxybenzamine
- B: Phentolamine
- C: Esmolol
- D: GTN
- E:

Answer B

X70: Pathognomonic for post dural puncture headache:

- A: Worse on standing
- B: Occipital area only
- C:
- D:
- E:

Answer a

X71: Technique to minimise absorption of irrigation fluid during TURP:

- A: Fluid no more than 60cm above the patient
- B: Use NS rather than glycine
- C: Use laser
- D: Limited resection of gland only if gland <200g
- E:

All of above are correct

Preventing TURP syndrome

- Limit resection to <60mins
- Experienced operator
- Limit height and volume of irrigation fluids
 - (<60cm above patient and <1-1.5L)
- Avoid Glycine solutions
- Anticipate if prostate >50g
- Some centres add ethanol to bag and measure in patients breath

X72: What is the GCS. Opens eyes to voice. Responds "purposefully" to pain (not specified if localises or withdraws) Speaks, but confused.

E3

V4

M5

Eye response (E)

1. No eye opening
2. Eye opening in response to pain stimulus (a peripheral pain stimulus, such as squeezing the lunula area of the patient's fingernail is more effective than a central stimulus such as a trapezius squeeze, due to a grimacing effect)
3. Eye opening to speech (not to be confused with the awakening of a sleeping person; such patients receive a score of 4, not 3)
4. Eyes opening spontaneously

Verbal response (V)

1. No verbal response
2. Incomprehensible sounds (moaning but no words)
3. Inappropriate words (random or exclamatory articulated speech, but no conversational exchange)
4. Confused (the patient responds to questions coherently but there is some disorientation and confusion)
5. Oriented (patient responds coherently and appropriately to questions such as the patient's name and age, where they are and why, the year, month)

Motor response (M)

1. No motor response
2. Extension to pain (extensor posturing: abduction of arm, external rotation of shoulder, supination of forearm, extension of wrist, decerebrate response)
3. Abnormal flexion to pain (flexor posturing: adduction of arm, internal rotation of shoulder, pronation of forearm, flexion of wrist, decorticate response)
4. Flexion/Withdrawal to pain (flexion of elbow, supination of forearm, flexion of wrist when supra-orbital pressure applied ; pulls part of body away when nailed/pinched)
5. Localizes to pain (Purposeful movements towards painful stimuli; e.g., hand crosses mid-line and gets above clavicle when supra-orbital pressure applied)
6. Obeys commands (the patient does simple things as asked, e.g. stick out tongue or move toes)

X73: Recent case with LMA. Now has hoarse voice. Nasendoscopy shows one vocal cord in the paramedian position. What is the site of injury?

A: Lingual n.;

B: Vagus n.;

C: Superior laryngeal n.;

D: Recurrent laryngeal n.

E:

Answer D

Complications of LMA insertion

- *Most harm results from inappropriate selection and use*
- Sore throat
 - Up to 20%
- Neuropraxia
 - Lingual nerve (pressure from tube) → loss of taste and sensation to tip of tongue
 - Hypoglossal and recurrent laryngeal nerve (cuff)

Recurrent laryngeal nerve palsy

- *Partial injury = only Abductors nerve fibres damaged (VC in midline position) → More dangerous*

- *as adductor tone is unopposed*
- *Complete injury = VC in paramedian position*
- Symptoms
 - Postoperative dyspnoea
 - Hoarse voice
 - At first, the vocal fold usually remains in the paramedian position, creating a fairly normal voice
 - Then the VC atrophies = hoarse voice
 - Dysphagia
 - Aspiration

X73: What is the smallest ETT that can be railroaded over an aintree catheter?

- A: 5.5
- B: 6.0
- C: 6.5
- D: 7.0
- E:

Intubation via cLMA using Aintree Intubating Catheter and Fiberoptic Scope

- AIC = 56cm long, 4.7mm ID
 - Fits on paediatric bronchoscope
- **Need ETT size 7.0 or larger**

Cook product info

Global Product Number	Order Number	Catheter Fr	Catheter Length cm	Catheter ID mm	For Placement of ET Tubes ¹ with ID mm
For Use with Laryngeal Mask Airways/Supraglottic Airway Devices					
G10789	C-CAE-19.0-56-AIC	19.0	56	4.7	7 or larger
¹ Endotracheal tube not included.					

X74: SAH, all associated with poor prognosis except:

- A: Pulmonary oedema
- B: Stunned myocardium
- C: Fever
- D: Delayed ischaemia
- E:

Answer b. Approximately 10 percent of patients with aneurysmal SAH die prior to reaching the hospital, 25 percent die within 24 hours of SAH onset, and about 45 percent die within 30 days

X75: Most common cause of foot drop after prolonged labour:

- A: Lumbosacral plexus compression by fetal head/forceps
- B: Common peroneal nerve injury due to lithotomy position
- C:
- D:
- E:

Answer a. CCEAP: Postpartum foot drop is caused by damage to the lumbosacral nerve trunk or, less frequently, the common peroneal nerve. The lumbosacral trunk (L4 and L5) is compressed between the ala of the sacrum and the descending fetal head. It may also occur during a forceps delivery. Typically, it occurs in a mother of short stature with a large baby. The result is a unilateral foot drop with loss of sensation and/or paraesthesia along the lateral calf and foot

X76: In an adult, the spinal cord ends at the caudal end of which vertebral body?

- A: L1
- B: L2
- C: T12
- D: S2
- E:

NYSORA: The conus medullaris ends at approximately L1 in adults and at the L2 or L3 level in neonates and infants.

X77: 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. 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

Answer c

	<i>Continuous, normally distributed</i>	<i>Rank, score or non-normal continuous</i>	<i>Binary</i>	<i>Survival time</i>
Descriptive	Mean, SD	Median, IQR	Proportion	Kaplan Meier s
Compare one group to a hypothetical value	One sample t-test	Wilcoxon test	Chi squared or Binomial test	
Compare two unpaired groups	Unpaired t-test	Mann-Whitney test (AKA Wilcoxon rank-sum test)	Chi squared (large samples) Fisher's exact test (small samples)	Log-rank test Mentel-Haensz
Compare two paired groups	Paired t-test	Wilcoxon signed rank test (WMPSR) – <i>use when the differences are quantitative, but the distribution of the differences is non-normal</i> Sign test – <i>use when the outcome is a rank</i>	McNemar's test (comparing two proportions) Sign test – <i>see paired studies.doc</i>	Conditional pro hazards regres
Compare three or more unmatched groups	One-way ANOVA	Kruskal-Wallis ANOVA test	Chi squared	Cox proportion regression
Compare three or more matched groups	Repeated-measures ANOVA	Friedman two-way ANOVA	Cochrane Q	Conditional pro hazards regres
Quantify association between two variables <i>Strength of the straight line</i>	Pearson correlation	Spearman correlation	Contingency coefficients	

<i>association between variables</i>				
Predict one value from another measured variable <i>Numerical relationship between two variables</i>	Simple linear regression or non-linear regression	Non-parametric regression	Simple logistic regression	Cox proportion regression
Predict value from several measured or binomial variables <i>Numerical relationship between a dependent variable and multiple predictor variable</i>	Multiple linear regression Multiple non-linear regression		Multiple logistic regression	Cox proportion regression
Agreement	Bland-Altman plot	Kappa statistic		

X78: In tetralogy of fallot, the degree of cyanosis is associated with:

- A: The size of the VSD
- B: The position of the VSD
- C: The degree of RV outflow obstruction
- D:
- E:

Answer c. ATOTW 2011: 'The clinical features of TOF are due to reduced pulmonary blood flow and cyanosis and are variable in severity, depending on the degree of obstruction at the RVOT'

X79 Best method (or most accurate) assessment of fluid status

- A: Arterial pulse contour analysis
- B: BP + HR
- C:?
- D: EJECTION fraction of ventricle via TOE
- E: Pulmonary capillary wedge pressure

Answer a

X80 Best way to reduce chance of auto-PEEP occurring is to increase

- A: Expiratory time
- B: Inspiratory time
- C; Respiratory rate

D: ?
E: Amount of positive pressure ventilation

Answer a

X81 One bag of pooled platelets will increase platelet count by
A: 10-20
B: 20-40
C: etc
D: ?
E: ?

Answer b

X82 Patient given prophylactic 8mg Ondansetron + 4mg Dexamethasone and feeling nauseated in recovery. Best next treatment is
A: Cyclizine 50mg
B: ?
C: Metoclopramide 10mg
D: Droperidol 0.625mg
E: ?

Answer d

X83 Patient extremely unwell in ICU. PaO₂:FiO₂ 200, Cardiac Index 1.7. Going to start on ECMO. Best choice
A: v-v
B: a-v
C: v-a
D: ?
E: ?

Answer a

X84 When monitoring motor evoked potentials. Which drug is likely to have least effect?
A: ?
B: Nitrous
C: Propofol
D: Opioids
E: ?

Answer d

X85 Only indication for bowel prep in colorectal surgery
A: To assist with intra-op colonoscopy
B: Reduced wound infection
C: Reduced anastomotic leak
D: ?
E: ?

Answer a. UpToDate: Bowel preparation — In patients undergoing elective colon resection, we suggest the use of a mechanical bowel preparation combined with oral antibiotics. Mechanical bowel preparation is usually accomplished with polyethylene glycol solution, and is followed by oral antibiotics such as [neomycin](#) and [erythromycin](#) base.

Traditionally, mechanical bowel preparation was used with oral antibiotics to prepare for all elective colon surgeries. Subsequently, several randomized trials reported no benefit from mechanical bowel preparation [3-5], and therefore colon resection without preoperative bowel preparation (and without oral antibiotics) became widespread.

However, results from several studies suggest that the use of mechanical bowel preparation combined with oral antibiotics is associated with more favorable outcomes [6-10], despite a potential increase in the rate of *Clostridium difficile* infection [7]. The best data come from a large retrospective cohort study (American College of Surgeons National Surgical Quality Improvement Program [ACS-NSQIP] targeted colectomy data) [8]. Of 8442 elective colorectal operations performed since 2012, 28 percent received both mechanical bowel preparation and oral antibiotics, 45 percent had mechanical bowel preparation only, and 27 percent had no bowel preparation. Patients who received both mechanical bowel preparation and oral antibiotics had significantly lower rates of surgical site infection (6.2 versus 12.1 percent with mechanical bowel preparation only and 14.7 percent with no preparation), postoperative ileus (9.2 versus 12.3 and 15.1 percent), anastomotic leak (2.1 versus 3.5 and 4.6 percent), and 30-day mortality (0.3 versus 0.6 and 1.6 percent). In multivariable analyses, mechanical bowel preparation combined with oral antibiotics, but not without antibiotics, was independently associated with reduced surgical site infection (odds ratio [OR] 0.40, 95% CI 0.31-0.53), anastomotic leak (OR 0.57, 95% CI 0.35-0.94), and postoperative ileus (OR 0.77, 95% CI 0.59-0.99).

Administering oral antibiotics independently of mechanical bowel preparation is of unproven benefit. In most studies, oral antibiotics were coadministered with mechanical bowel preparation to a majority of patients. Given the existing data, oral antibiotics are best administered in conjunction with mechanical bowel preparation for bowel preparation before elective colorectal surgery.

[Ann Surg.](#) 2015 Jun;261(6):1034-40. doi: 10.1097/SLA.0000000000001125.

Oral Antibiotic Bowel Preparation Significantly Reduces Surgical Site Infection Rates and Readmission Rates in Elective Colorectal Surgery.

[Morris MS](#)¹, [Graham LA](#), [Chu DJ](#), [Cannon JA](#), [Hawn MT](#).

Cochrane 2011 review - Analysis of these 18 trials showed no statistically significant differences in how well the three groups of patients (mechanical bowel preparation group, no preparation group and rectal enemas) did after surgery in terms of leakage at the surgical seam of the bowel ends, mortality rates, peritonitis, need for reoperation, wound infection, and other non-abdominal complications. Consequently, there is no evidence that mechanical bowel preparation improves the outcome for patients. Further research on mechanical bowel preparation or enemas versus no preparation in patients submitted for elective rectal surgery and laparoscopic colorectal surgery is warranted.

X86 Not associated with difficult intubation

- A: APerts
- B: Hurlers
- C: Treacher Collins
- D: Piere Robin Sequence
- E: ? - Downs

Answer E downs

X87 100mg of subcutaneous morphine per day and wish to switch to oral morphine SR twice daily.

- A: 35mg BD
- B: 70mg BD
- C: 100mg BD
- D: 200mg BD
- E: 300mg BD

Answer c

X88 Risk of blood transfusion reaction with group specific ABO + Rh matching, but not cross matched

A:

B:

C:

D: 98.?

E: 99.8

Answer e

Openanaesthesia

X89 Sux left out of fridge for 1 week. How much has its efficacy reduced

A: 2%

B: 5%

C:10%

D: ?

E: ?

Emerg Med J. 2007 Mar; 24(3): 168–169.

doi: [10.1136/emj.2006.041053](https://doi.org/10.1136/emj.2006.041053)

PMCID: PMC2660020

Stability of succinylcholine solutions stored at room temperature studied by nuclear magnetic resonance spectroscopy

- At **room temperature**, the degradation rate constant was 1.2%/month for the 20 mg/ml solution and **2.1%/month** for the 50 mg/ml solution

X90 Patient tried to hang himself. LMA in situ, ventilating well, sats 98% on 100% oxygen.

Haemodynamically stable. Most immediate course of action.

A: C spine collar whilst maintaining manual in line stabilisation

B: Intubate

C: Airway exchange

D: ?

E: ?

Answer a

X91 Propofol infusion syndrome does not cause

A: Hepatomegally

B: Splenomegally

C: Rhabdomyolysis

D: Acidosis

E: ST Elevation

Answer b. CCEAP - common presenting features of PRIS are new-onset metabolic acidosis (86%) and cardiac dysfunction (88%). Other features include rhabdomyolysis (cardiac and skeletal muscle) (45%), renal failure (37%), and hypertriglyceridaemia (15%).⁴ Other significant features include hepatomegaly, hyperkalemia, and lipaemia.

Cardiac dysfunction manifesting itself as ECG changes is the first sign of impending cardiac instability. Brugada-like ECG changes (Coved type ST elevations in V1–V3) are characteristic in PRIS.²

X92 Which features are associated with chronic pain, except

A: Increasing patient age

- B: Low level of anxiety about surgery
- C: Minor pain post-op
- D: Care not to damage intercostal nerves
- E: Performance of a paravertebral block

Risk factors for PSPS

Category	RF
Surgical factors	<ul style="list-style-type: none"> • Amputation <ul style="list-style-type: none"> ○ Phantom limb pain (PLP) - up to 70% experience phantom pain at some stage • Thoracotomy • Mastectomy • Inguinal hernia repair • LUSCS • Knee arthroscopy – damage to infrapatellar branches of saphenous nerve • Triple pelvic osteotomy – lat cutaneous nerve of thigh
Patient factors	<ul style="list-style-type: none"> • Pre-existing chronic pain • Age • Gender • Psychosocial factors • Genetic factors
Acute pain experience	<ul style="list-style-type: none"> • Severity

X93 FEV1 3.3, (predicted 4.3), Left lower lobectomy

- A: Proceed with pneumonectomy and lobectomy
- B: Proceed with lobectomy only, not for pneumonectomy
- C: Not for surgery
- D: Send for cardio-pulmonary testing
- E: Send for VQ scan.

Answer a

X94 Absorption of irrigation fluid during TURP is reduced by

- A: Limiting the height to 60cm
- B: Limiting resection only if >200g
- C: Using only normal saline
- D: Limiting the amount of fluid to only 1L
- E: Use of laser

Answer a

X95 Young patient with Phaeo. Symptomatic hypertension – sweaty, blurred vision, headache. BP over 200mmHg, P140bpm. Most appropriate immediate management

- A: ?
- B: Labetalol
- C: Metoprolol
- D: Phenoxybenzamine
- E: Phentolamine

Answer e

X96 According to ANZCA guidelines when giving conscious sedation for a colonoscopy there should be available

- A: A defibrillator
- B: Anaesthetic machine
- C: Mechanical ventilation
- D: Dantrolene
- E: Suxamethonium

Answer a

X97 Part of a level II machine check is

- A: Checking for a leak of vaporisers in the on and off position
- B: Checking valves are patent
- C: Checking the breathing circuit if it has been changed
- D: ?
- E: Checking scavenging is on and working

I think this question must be a level II check is the following EXCEPT as A/B/E are correct in this instance. Checking the breathing circuit if it has been changed is part of the Level 3 test.

x98 Class I equipment, active wire touching casing. What happens when electricity / power supply is switched on

- A: Nothing
- B: Fuse will blow
- C: ?
- D: ?
- E: RCD will go off immediately

Answer E

RCD is much faster than a fuse

Any conducting part of class I eqpmt accessible to user is connected to earth by earth wire. If fault occ allowing live wire to contact accessible part current flows down earth wire. This new circuit has low resistance resulting in increased current which melts protective fuses and breaks circuit removing source of potential electrocution

x99 Risk of bone cement implantation syndrome increased with

- A: Increasing age
- B: Male gender
- C: ?
- D: ?
- E: Previous exposure to cement

Answer A

BJA article

x100 Risk of compartment syndrome

- A: ?
- B: Hypotension
- C: Lithotomy position
- D: Pre-op hypertension
- E: ?

x101 Risk of anaphylaxis recurring post rocuronium anaphylaxis greatest with

- A: Cisatracurium

- B: Atracurium
- C: Vecuronium
- D: Pancuronium
- E: Unknown due to variable cross-sensitivity

x

Answer C vecuronium

Patients with Roc anaphylaxis skin test positive for sux(44%) vec (40%) panc (19%) atrac (20%) cisatrac (5%)

Bja anaphylaxis to nmbd : incidence and cross reactivity 2013

X102 The Australian Resuscitation guidelines advise administering three shocks with defibrillator at which joules

- A. monophasic 360 360 360
- B. monophasic 150 200 360
- C. biphasic 100 150 200
- D. biphasic 100 100 100
- E. biphasic 100 200 360

(see also X15)

X103 You have a fire emanating from your anaesthetic machine. The most appropriate treatment is:

- A. fire blanket
- B. CO₂ extinguisher
- C. wet chemical extinguisher
- D. ?
- E. ?

B co2 extinguisher used on liquid and electrical fires

Wet chemical extinguisher not for fires involving flammable gases