Test Bank

Subject: Anaesthesia 018 miniOSCEs-1st Semester

Collected by:

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1-What is the black one?

Air

2-What is the pressure?

4 Bar

3-What is the safety system?

Diameter index safety system (DISS)

Match each of the shown endotracheal tubes with the type of surgery they are best used in: 1-Gastric Sleeve Surgery:.....B..... 2-Adult Nasal Septal Surgery:.....D..... 3-Lower Jaw Wisdom Teeth Extraction:.....A..... 4-Tonsillectomy in a 3 year old:.....C....

Question about capnography, What is the vital sign?

End tidal CO2 (EtCO2)

Patient with septic shock, What is the treatment and why?

Infection source control with broad spectrum antibiotics, fluid replacement with crystalloids, and vasopressors administration.

Question: describe Mallampati type 3, And thyromental distance less than 6 cm

Mallampati class 3: hard palate, soft palate, and uvula

Thyromental distance: distance between the mentum and thyroid notch is less than 6cm

Both these measures can indicate difficulty for intubation

Concentration of contents in ringer lactate

Na+: 131 mmol/L

K+: 5 mmol/L

Ca++: 2 mmol/L

Cl-: 111 mmol/L

Lactate: 29 mmol/L

1-Type of cardiac arrest?

n ECG

asystole

2-What will you do in the next 2 minute after the epinephrine shot?

Continue CPR; chest compression:breaths 30:2



2 nd Month
1-What does this ECG indicate?
bradycardia
2-Does this bradycardia need treatment? (The clinical scenario indicates unstable bradycardia)
3-What is the drug that is used and what is the maximum dose? Atropine 500mcg with a maximum of 3mg
4-If it didn't work what drug to use?
isoprenaline
-
MMMMMM
1-What type of rhythm is this?
torsades des pointe (polymorphic Vtach)
2-2 evidence based interventions you can do to this patient ?
chest compressions and defibrillation

Which drug for which reversent ?				
A.Succinylcholine (suxemethonium)				
B. Rocronium				
C. Midazolam				
D. Morphin				
		1		
1 .Naloxone	A→4			
2.Fluzenil	$B \rightarrow 3$			
3.Neostigmine	$D \rightarrow 1$			
4.None				

Pediatric patient under GA, bupivacaine injected of the site of the surgery

1-What is this procedure called ?

local infiltration

2-Why it is performed?

Reduce stress associated with surgery and reduce post-op pain. (not sure of answer)

A question about ABGs and you need to know if it's Metabolic acidosis Metabolic alkalosis Respiratory acidosis Respiratory alkalosis Mixed meta and resp acidosis Mixed meta and resp alkalosis Normal



What of these parameters is found in this machine?

Maximum dose

Drug name

Lock

Syringe

Flow rate

Drug concentration

A question about Aldrete score + the guideline for discharging patients from PACU

1-Pain maximum of ? 4

2-Aldrete minimum of? 8

Guidelines for discharging Pati	ents from PACU	
** The Followung are required for Dis	charging patients from	n PACU, unless indicated otherwise by discharging physician;
1- Vital signs should be stable and withen acceptal	ble limits	7- Outpatients Should be discharged in the presence of a
2- Patient should have a minimun Total Recovery Score (Aldrete) of 8.		reasonable adult to escort them home and report any
3- Patient with pre-operative mental stae abnormality should return		complications.
to baseline state before discharge.		8- Outpatients should be provided with written instructions
4- Patients should have a maximum Pain Score of 4.		regarding post-procedure diet, medications, & activities as
5- Patients should be adequately hydrated.		well as a phone number to use in case of emergency.
6-Sufficient time (up to 2 hours) should elapse after use of reversal		9- Outpatients should be tested for ability to stand unaided to
agents (cholinesterase inhibitors, Naloxone, Flumazenil) to ensure		exclude Postural Hyponension or gait instability before
no recurrence of origional agonist action		discharge.

Activity	
2	Able to move spontaneously or on command four extremities
1	Able to move voluntarily or on command two extremities
0	Unable to move any extremities
Respiration	
2	Able to deep breath and cough freely
1	Dyspnea, shallow or limited breathing
0	Apneic
Circulation	
2	BP + 20 mm Hg of pre-sedation level
1	BP + 20 - 50 mm Hg of pre-sedation level
0	BP + 50 mm Hg of pre-sedation level
Consciousness	
2	Fully awake
1	Arousable on calling
0	Not responding
Skin color	
2	Normal
1	Pale, dusky, blotchy, jaundiced, other
0	Cyanotic



1-What type of anesthesia that will be used with this patient? GA with RSI

2-What laboratory tests that are mandatory for the patient before the surgery?

CBC, ABGs, blood typing and crossmatching, electrolytes, BUN, creatinine, PT, PTT (not sure either)

Cuffed Endotracheal tube for a 6 year old male patient

- 1.Size of the tube: 5
- 2. Depth of insertion: 15

1. What is the inhalational agent in this photo? isoflurane

2. What is the function of this machine (mention a. to give the specific required concentrations of the inhalational drug.



b. to vaporize specific liquid drugs to be used as inhalational anesthetics.

3. Dose Vaporizers works in different mechanism? explain your answer



1-What is inserted in this pic? Specify your answer central venous line in the left internal jugular vein

2-Mention other 2 complications of it

- **1** Infection
- 2 Bleeding
- 3 pneumothorax
- 4 arrythmias



1-What are the abnormal findings in this monitor? (Specify your answer)

- a. tachycardia, HR>100
- b. shock, SBP<90
- c. hypoxemia, SpO2<90

2-The What is missing parameter?

The EtCO2



1-If the needle reached the red line when inserted in the skin , what does this mean? It's 6 cm inside

2-What is the gauge that is usually used in adults? 16-18G

3-What is the technique used in the insertion of this needle ? loss or resistance



(Pink cannula not blue)

1-What is the gauge of the shown cannula ? 20G

2-What is the fluid being injected in the photo to check the correct insertion of the cannula ? normal saline

3-What signs can indicate wrong cannula insertion using this flush? Swelling and resistance









1-Which is used the longest time?

tracheostomy tube

2-Which is used in can't ventilate can't intubate in a patient under GA? Cricothyrotomy needle

3-Female of healthy weight undergoing hysterectomy ?

endotracheal tube

4-4 year old patient, laporatomy underGA?

The non-cuffed

3rd Month

Q1) A picture with a male patient, being prepared for a fissurectomy surgery



a. What type of airway management is being used?

jaw thrust (not sure of answer)

b.Identify the part indicated by the arrow

CO2 sampling line

c. What's the type of circuit is used?

d.What will be the position the patient during surgery?

Lithotomy position

Q2)

a.What molecule does this device absorb form the expired gas?

*CO*2

b. How many liters is absorbed by a 100g of the absorbent material?



26L

Q3) identify the labelled parts:

1-3rd order neuron

2-2nd order neuron

3-1st order neuron



Q4) a picture with ABG results :

pH: 7.53

paCO2: 32.3

HCO3-: 25.9

a. What's the acid-base status of this patient?

Respiratory alkalosis

b.Is it acute or chronic?

Acute (no signs of compensation by pH or bicarb levels)

Q5)

a. What is the name of this procedure?

Arterial line insertion

b. Which vessel is being used?

Radial artery

c.Mention another common vessel that can be used for the same procedure.



Brachial artery

0	6	١
Q	U	J

a.What is the concentration that induces anesthesia in 50% of patients for each of these agents?

1

1: 1.2

2: 2

b.Mention two factors that increases this concentration

-Hyperthermia

-Hypernatremia

-Drug induced elevation of CNS catecholamine stores

-Increase in ambient pressure (experimental)

-Cyclosporine

-Excess pheomelanin production (red hair)

Q7)A picture of surgery schedule, there was a 5-year old girl scheduled for surgery by Dr.Raed. she's 22kg and has been fasting for 10 hours.

a. What type of endotracheal tube would you use and what size?

Uncuffed tube with a size of 5.5 (you can use a cuffed tube with a size of 5)

b.Calculate the patient's fluid deficit

620 ml

Q8)Match each procedure with the best tube to be used



3



1



4



2



1. Tongue mass removal

2.Cleft palate surgery

3. Adult maxillary sinus surgery

4.Hernia surgery

Q9) What is the fasting time for each of these food categories according to the 2021 guidelines?

1.Water \rightarrow 1 hour

2.Breast milk \rightarrow 3 hours

3.Formula milk \rightarrow 4 hours

4. Solid food \rightarrow 6 hours

Q10)

a.What is the ASA risk class for this patient? 3

b.What is the mortality rate?



Q11)Write down the

mechanical events each of the letters correspond to:

- A: atrial contraction
- C: ventricular contraction

X: atrial relaxation

V: atrial filling







Q13) clinical scenario of a patient, post-op in the ICU, having a septic shock (and yes, the ECG picture was this bad)



a.Calculate the heart rate

150

b.What will be your first management?

Synchronized DC shock, up to three attempts

c.Why did you choose this answer in b?

because she has tachycardia and she's in shock

Q14) RTA patient undergoing emergent surgery, with 1700 ml of blood loss, and no recorded blood pressure

a. What type of shock is this, and which class?

Hypovolemic shock, class 3

b.What will be your management?

Control source of bleeding and aggressive blood and volume replacement. (not sure of the answer)



Q15) One of these agents is used for a day-case procedure of an arm lipoma excision in a 100 kg patient.







10C 8501 2136 80	20 mL
Propofol Injectable Emulsi	Use Or ion, USP
(10 mg per mL) For Intravenous Ad DIAXE WELL, BEFO	Errireitati RE USING
_ 11	Ð

a.What is the maximum dose in milliliters that can be used?

40

b.Mention two side effects for this agent.

Cardiac toxicity (arrythmias, arrest).

4 th Month
Q1) a. concentration of contents?
Na 154 mmol/l
Cl 154 mmol/l
b.The Osmolality = 308 mosm/L C. <mark>9mg/kg</mark>
Q2) Choose the correct answer What's the pharyngeal view in the first picture (Mallampati score); 2 What's the laryngeal view in the second picture; 2
ords GRADE II *Not the same picture



Bradycardia What are the causes suspected (give 2) ? Shock (not sure) **not the same picture

Q6) Match each of the shown tubes with the type of surgery they are best used in:



- 1. laparoscopic surgery
- 2.can't intubation can't ventilation
- 3.maxillary sinus surgery
- 4. mandible surgery

Q7) A question about baby drinking water...

When you can do the surgery?

After 4 hours of milk fasting



Why doctors recommend the mothers to give their babies water before the surgery?

Less dehydration

Decrease gastric secretion volume and PH

Less agitation and crying

Q8) Choose which is synthetic and which is natural opioid.









Codeine phosphate and morphine → natural Fentanyl and remifentanil → synthetic

Q9) Match each drug with the correct answer:



Which one is used for induction? Propofol Which one causes malignant hyperthermia? Halothane Which one causes dissociative analgesia ? Ketamine

Q10) Patient with bradycardia and failed to be treated with the maximum dose of atropine, What action will you take?

- 1. Use isoprenaline, adrenaline or alternative drugs
- 2. Transcutaneous pacing
- 3. Seek expert help to use transvenous pacing

Q11) According to this picture:



The name of the procedure? Central line insertion Which vein is used? Internal jugular vein Advantage of using US? Prevent puncture and malpostion (not the only answer) Mention other veins we can use ? EJV Femoral V Subclavian V

Q12) Match

1→ 02

2→ Nitrous oxide

3→ oxygen





Which one gives 80-90% fio2? Non rebreather mask Which one gives 100% fio2 ? Non rebreather mask (not sure answer) Which one don't interfere with concurrent eating? Nasal cannula

Q15) ABGs q Ph Co2 Hco3 (I can't remember the values) What is the type of disease? Respiratory alkalosis What to do for the pt to correct the state? Mention 2 things



Subject: Anaesthesia 018 miniOSCEs-2nd Semester

Test Bank

Collected by:

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Question (1)

a. What is the mechanism of action for each of the anesthetic agents shown beside

- Propofol: Increases binding affinity of GABA with GABAA receptor.
- Ketamine: NMDA receptor antagonist

b. Mention 2 side effects for each of these agents

- Propofol: hypotension, respiratory depression, pain at injection site
- Ketamine: dissociative amnesia, unpleasant emergence reactions with hallucination and fear.



Question (2) A picture of a trauma patient who weighs 78kgs that has lost 2.5 liters of blood

- a. Based on the case mentioned above, to which hypovolemic shock class does this patient belong to?
 - Class IV
- b. Mention 3 things you'd do to save this patient?
 - Identify the source of bleeding (stop, or at least control, blood loss)
 - Fluid resuscitation after establishing a large bore IV access
 - Maximize O2 delivery
- c. What do we expect the patient's heart/pulse rate to be?
 - >140
- d. How much do we expect the patient's Urine output to be?
 - Negligible; patient is oliguric

Question (3) A CXR showing the insertion of a device/tube

- a. Based on the CXR besides, what is the catheter indicated?
 - Central Venous Catheter
- b. What is the site of insertion (which vein was used to place the catheter)?
 - Right internal jugular vein
- c. Mention 2 serious Complications that may result from this procedure
 - Pneumothorax
 - Arrhythmias



Question (4) Which Endotracheal tube is used in each of the following cases:

Mention the number of airway device that best matches airway management in each of the following Scenarios



Question(5) Inspect the drugs shown below and match them with the following statements

- 1. Which of the following has a duration of action of 30 mins? C. Naloxone
- 2. Which of the following cause Tachycardia? C+D (naloxone + meperidine), which unfortunately wasn't a choice
- 3. Which of the following cause Bradycardia? A+B+E (wasn't a choice)
- 4. Which of the following is associated with histamine release?

The answers looked something like what is shown below (there was no C+D & no A+B+E)

- A
- B
- C
- E
- A+B
- B+C
- A+B+C
- D+E



Question (6) Describe the process occurring in this picture? -Induction of anesthesia (inhalational route) Name the class of anesthetic agents to which the drug used belongs to? -(inhalational anesthetics) Which drugs can be used for the purpose shown below? -Halothane + Sevoflurane



Question (7)

Match each of the following with the type of corresponding hypoxia (4 options for each pictures) Anemic hypoxia, hypoxia hypoxia, diffusion hypoxia, ischemic hypoxia.



Ischemic Hypoxia



Question (8) early warning score (memorize it)

A. Calculate score

Hypoxic hypoxia



Hypoxic Hypoxia



B. Intervention/action

Recognition of the deteriorating patient -Early Warning Scoring Systems

Score							
Pulse (min ⁻¹)		≤ 40	41-50	51-90	91-110	111-130	≥ 131
Respiratory rate (min ⁻¹)	s 8		9-11	12-20		21-24	≥ 25
Temperature (°C)	≤ 35.0		35.1 - 36.0	36.1 - 38.0	38.1-39.0	≥ 39.1	
Systolic BP (mmHg)	≤ 90	91-100	101-110	111-249	≥ 250		
Oxygen saturation (%)	≤91	92-93	94-95	≥ 96			
Inspired oxygen				Air			Any oxygen therapy
AVPU				Alert (A)			Voice (V) Pain (P) Unresponsive (U)

Example of early warning scoring (EWS) system

From Prytherch et al. ViEWS—Towards a national early warning score for detecting adult in-patient deterioration. Resuscitation. 2010;81(8):932-7



Recognition of the deteriorating patient -Early Warning Scoring Systems

EWS	Minimal	Minimal Escalation		
	frequency	Recorder's action	Doctor's action	
3-5	4 hourly	Inform nurse in charge		
6	4 hourly	Inform doctor	Doctor to see within 1 h	
7-8	1 hourly	Inform doctor Consider continuous monitoring	Doctor to see within 30 min and discuss with senior doctor and/or outreach team	
29	30 min	Inform doctor Start continuous monitoring	Doctor to see within 15 min and discuss with senior doctor and ICU team	

Example escalation protocol based on early warning score (EWS)



Question (9)

What does the picture beside show? Oxygen store/ liquid oxygen storage tank

In what form is the oxygen inside it stored? Liquid form

What is the purpose of using it/ why is it used? Stores large

quantities/amounts of oxygen in a small volume/capacity. Reduces cost



2nd Month

Question (1):

Choose the correct answer regarding the performance of each (fixed, variable, or mixed):

1-Fixed



2-variable



3-Fixed



4-variable



Q(2):

1-What is the function of the equipment indicated by the arrows:

- Delivery of a specific concentration of inhalational anesthetic agents

- Conversion of these agents from a liquid to a gas state

2-The MAC for each agent?

Sevoflurane:2

Isoflurane1.2

3-If we turn on both machines at the same time what will the MAC be? Why?

3.2 as it is additive between different agents

Q(3) :

1-What is the name of this surgical position: Trendelenburg

2-Indications?

lower abdominal surgeries including colorectal, gynecological, and genitourinary procedures

Q(4):

Which of the following cause:

- 1-bradycardia A +B
- 2-hypotension A+B
- 3- CNS excitation (D)
- 4- metabolized by plasma cholinesterases (C)





D





A patient is mechanically ventilated in the ICU with oxygen given with an FiO2 of 50% The patient has respiratory alkalosis: Normal paO2 HCO3- ≈19 (decreased) CO2 decreased (30)

What should we do for: (options were increase/decrease/keep the same) RR: decrease FiO2: decrease HCO3: increase





CO2 line 2- What is the name and function of the equipment indicated by the yellow arrow? Bair hugger. Prevents hypothermia during surgery 3-What are two other ways to do the same function of this equipment?

Fluid warmer

Cloths wrapped around the patient

Q(6) 1-Identify the part with the black arrow:

Mattress placed under the patient with heated water





Q(7)

1- What does this picture indicate? (The actual picture was a patient on the surgical table holding the mask to their face) The patient is conscious

The patient is able to move his hands

(Emergence from general anesthesia)

2-Mention two surgeries that require rapid emergence?

Minor surgeries

Q8:

1- What do we call this chain? Define it.

The chain of survival: a sequence of interventions taken by any medical professional to rescue the patient from his critical condition.

2- Write the titles and descriptions of the second and third circles.

Second circle: Early CPR - To buy time

Third circle: Early defibrillation - To restart the heart





1- What do we call this type of anesthesia?
Epidural anesthesia
2- What is the function of the syringe?
It is a low resistance syringe
3- Where do we insert this type of anesthesia?
At any level
4-mention 2 serious complications:
CNS infection and spinal hematoma

 4-mention 2 serious complications:

 CNS infection and spinal hematoma

 Q10: An elderly male patient has a pulseless cardiac arrest and his ECG is shown.

 1-What is the type of cardiac arrest? Shockable rhythm, torsade de pointes (polymorphic VT)

1-What is the type of cardiac arrest? Shockable rhythm, torsade de pointes (polymorphic VT)
2-give two evidence-based interventions:
1-CPR
2-DC shock

Q11:

1- The maximum dose of the following drug? (the image in the exam showed the vial also had epinephrine) 7mg/kg with epinephrine

2- Mention two site contraindications of this drug.

1-ear lobes 2-nose 3-fingers/toes 4-penis

Q12:

1- Mention four clinical parameters this device provides:
1-SaO2
2-HR
3-rhythm
4-presence of cardiac arrest

2- False readings and artifacts can occur due to: (mention 2)

1-nail polish 2-cautery

Q13: Provide the ASA score for the following cases

1–70-year-old man with intestinal ischemia and respiratory problems: 5e2-MI one month ago: 43-Unstable angina: 4e4-Uncontrolled DM: 3







AMAMAA

Q9:

Q14:

A patient was placed under general anesthesia, given vancomycin, and then his vitals became as shown 1. What occurred?

- 1- Redmann syndrome
- 2. How would you manage this patient
 - 1- Discontinue Vancomycin
 - 2- Management: IV fluids, antihistames, vasopressors



Q15: Which of the following can be used for:

1-long term: tracheostomy

2-the least invasive definitive option: endotracheal3-from the first attempt: combitube4-spontaneous ventilation: tracheostomy

+LMA+combitube









3rd Month

Q1:

What is the maximum pressure that can be set on the red-arrowed part?

70cmH2O

What is the best pressure set on the blue-arrowed part when applying a face mask to the patient?

What is the function of the green-arrowed part? The bellows physically separate the driving-gas circuit from the patient gas circuit. (From slides, but you can explain it in your own way)



Q2:

Which of the following undergoes ester hydrolysis?

Which of the following has a 20-30 minutes duration of action? B (not sure)

Which of the following causes mydriasis? D

Options: A – B – C – D – All - None







Q3: Examine the O/R list below. Saleh weighs 40 kg and has been fasting for 8 hours



Calculate his fluid deficit 640ml

What is the size of his cuffed endotracheal tube? 5mm

Q4: Match







Bitter Almonds

Anemic Hypoxia: Histotoxic hypoxia: Circulatory hypoxia: Hypoxic hypoxia:

Options: A - B - C - D - C & D - B & C - B & D - A & C

Q5

Which of the following lasts the longest?

Α

Which of the following cannot be used in children?

С

Which of the following is the least invasive? D

Which of the following is the best at sealing airways? B&C

A





Options: A - C - D - A & D - B & C - All

Q6:





What is the name of the machine in the 1st picture? Cell saver

What is it used for?

Autologous blood transfusion-Taking lost blood, cleaning and reinfusing it

What is the equipment in the second picture? Spinal needle

What is its size? 22G





What is the name of the part on the left? Filter

What is it used for? Anti-microbial

What is the size of the needle in the middle? 8cm

What is the part on the left? Epidural catheter

Q8: a 73-year-old patient presented with perforated small bowel after prolonged intestinal obstruction and was planned for laparotomy.

What is the surgery classification regarding the need to use antibiotics? Dirty

Mention 4 things you need to check before you start antibiotic preparation.

- 1- Most likely pathogens and their sensitivity
- 2- What allergies the patient has
- 3- Renal and liver function

4- Other comorbidities, cardiopulmonary status, common resistance in the region,



etc

Q9: A patient in having tachycardia with low blood pressure (82/56). When monitors were connected this was his ECG



What is the best initial management? Synchronized DC shock

What the second line treatment of the 1st failed? Amiodarone

Q10: A patient in the ward has collapsed and the nurses have already started basic life support. Upon your arrival, this was his ECG.



What type of arrhythmia is this? Non-shockable (asystole)

Mention 2 reversible pulmonary causes. Tension pneumothorax — Thromboembolism

What are the next 2 steps to do? Giving epinephrine 1mg Continue chest compressions

Q11: match Oxygen: 1 Air: 3 Vacuum: 4 Nitrous oxide: 2



Q12: A central venous line was inserted, and an X-ray was obtained to confirm its position

It is positioned correctly? No

Why?

It is over inserted as its tip should be almost at the level of the carina

What should you do?

Pull it up to the level of the carina +- 2cm



Q13: A patient on ventilation (FiO2= 50%) has his lab results as follows pH=7.29. CO2 = 41mmHG. HCO3= 19mEq/L. SpO2=99.3%

Acid-base status: Metabolic acidosis

What would you do to the respiratory rate? Increase

What would you do to the FiO2? Keep it the same

Q14: A patient got desaturated perioperatively with SpO2=59% and blood pressure 75/49. A procedure was done (not sure about answers)

What is this procedure? Pericardiocentesis

Where is it located? At 2nd (or 3rd) intercostal space mid-clavicular line

What did the patient develop? Cardiac tamponade



Q15: Match

Which of the following is the most potent? C

Which of the following can be used in cases of malignant hyperthermia? D

When using which of the following 50% of patients will still respond to stimuli if it is given in 2% concentration? A









4th Month

Q1:

What is the content of this solution (Ringer's lactate)?

What metabolic disorder it can cause?



Q2: A case with intestinal obstruction

What is the type of anesthesia should be used?

What are the steps of this type of anesthesia?

Q3:

Mention the name of each needle shown

Mention two differences between these two needles





Mention the maneuvers to make the vein more visible



Q5: There was a picture of Sevoflurane, Isoflurane, Nitrous oxide, Halothane

The strongest inhalational anesthetic agent :

The agent that doesn't cause malignant hyperthermia :

Q6: A picture of an esophageal manometry

Q7: Question about chain of survival



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Q4: