



ANESTHESIA

MINI-OSCE

Doctor 2020

Special thank to 

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Anesthesia mini-OSCE

1st semester/ 1st month

Question 1:

A picture of anesthetic machine

1. بانيسون سيركت:اللي برا بتنفخ هوا
2. The part that gives you the concentration of the anesthetic agent?

Ans: Vaporizer

3. مين بتحكم في الأوكسجين يدويا؟
ال switch الأخضر

Question 2 and 3:

2 ECG questions

Question 4 :

Match the drug with its use:

Ans:

Non depolarizer — **Atracurium**

Releases histamine — **Atracurium**

Reverses succinylcholine — **None**

Non competitive inhibitor — **Succinylcholine**

Question 6:

Hypovolemic shock grade 3

Amount of blood lost: **1500-2000 ml**

Give blood IV and stop bleeding

Question 7:

Monitor screen:

Heart rate

Blood pressure (systolic, diastolic, MAP)

Temperature

Missing:

Capnograph

Question 8:

About Soda lime

- Oxidized by reaction with CO₂
- Benefit: to remove CO₂ (from the breathing circuit)
- Closed circuit

Question 9:

Picture about preoperative assessment

- ASA 2
- Hard palate
- More than 6 (thyromental distance:easy assessment)

Question 10:

Ketamine and propofol

- Mechanism of action

Propofol: GABA A receptor agonist

Ketamine: NMDA receptor antagonist

- Give 2 side effects of each drug

Propofol:

Hypotension, bradycardia, pain on injection, green urine

Ketamine:

**Dissociative amnesia, unpleasant emergence reactions with hallucination and fear
(+ increases heart rate, blood pressure and pulmonary arterial pressure)**

Question 11:

Ringer Lactate composition?

131 Na

111 Cl

29 lactate

279 mosm/L

6.5 pH

Question 12:

A question about a child (preoperative)

- How to calm him down:

Ans: Bring his mother to him and give him sedatives

- What agent is used in anesthesia induction:

Ans: Sevoflurane

Question 13:

Two pictures about laryngeal view classification and mallampati score

Anesthesia mini-OSCE

1st semester/ 2nd month

1. Picture of ABGs of a patient with acute on top of chronic renal failure

A. Acid base status of the patient:

Ans: Metabolic acidosis

B. Mention two steps of management

Ans:

1. Adequate fluid resuscitation
2. Correction of electrolyte abnormalities (and administration of sodium bicarbonate)

2. Patient presenting with a bee sting

A. Diagnosis?

Ans: Anaphylaxis

B. Why is it difficult to intubate?

Ans: Lip and tongue swelling, called angioedema, as well as pharyngeal and glottic swelling may compromise the airway.

C. Best drug?

Ans: Epinephrine

3. A question about pink and green cannula

A. Pink cannula what are the two labeled parts?

Ans: injection port, needle grip

B. what is the maximum flow of the green cannula?

Ans: 90 ml/min



4. 4-year child

A. size of ETT?

Ans: Size of ETT= $4+(Age/4)=4+(4/4)=5$ mm

B. Deficit?

Ans: Two things that should be asked about in the preoperative assessment

5. 50-year-old adult male with controlled HTN

A. ASA?

Ans: 2

B. Cuff size?

Ans: 8

C. Laryngeal view?

Ans: 4

D. Pharyngeal view?

Ans: 3

6. Patient with torsade de pointes Shockable rhythm

Management?

Ans: DC shock + chest compressions

7. Match each of the following with its use:

- Diagnostic cystectomy
- Hernia repair
- Left eye orbital op
- Submental abscess

8. Epidural procedure:

A. Characteristics of the needle?

Ans: Low resistance needle

B. Gauge?

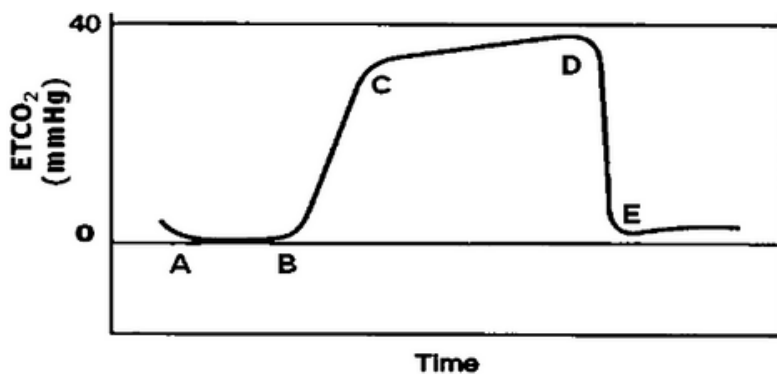
Ans: 16-18G

C. Mention two complications?

Ans:

1. Hypotension
2. Post dural puncture headache

9) Capnograph



A. At what point does inspiration and expiration start?

Ans:

Inspiration starts at D

Expiration starts at A

B. Normal range?

Ans: ETCO₂: 30-35 mmHg

10. 4 pictures of types of pain

Muscle pain, abdominal pain: nociceptive

Herpes zoster, diabetic foot: neuropathic

Anesthesia mini-OSCE

1st semester/ 3rd month

Question 1



A. What is the name of this chain? give a definition

Ans: Chain of survival.

It is a group of sequential procedures that are done to maintain adequate blood flow containing O₂ and nutrients to the cells of the vital organs to try to maintain their function and prevent permanent damage

B. What does loop 2 indicate?

Ans: Early CPR, to buy time

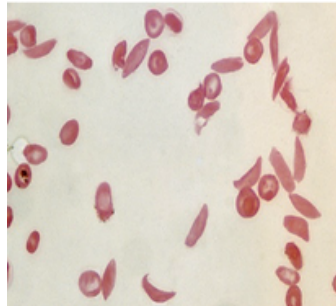
C. What does loop 3 indicate?

Ans: Early defibrillation, to restart the heart

Question 2: Match type of hypoxia with each picture (hypoxic hypoxia, anemic hypoxia, circulatory hypoxia, histotoxic hypoxia)



Hypotoxic + Anemia



Anemia



Circulatory



Danger
Cyanide

Histotoxic

Question 3

A. What is the name of the procedure?

Ans: Spinal anesthesia

B. At any level is it inserted?

Ans: Below the level of cauda equine (L1-L2) in adults at L4-L5 or L3-L4

C. Mention the characteristics of the needle

Ans: Low resistance needle

D. Mention two complications of this procedure?

Ans:

1. Hypotension
2. Post dural puncture headache



Question 4

Patient comes with this pain measurement, what would you give him? (more than one choice is applicable)



- A. Morphine
- B. Tramadol
- C. NSAIDS
- D. Paracetamol
- E. +- cold pressors

Question 5

A. Question about the dose.

B. To which family does this drug belong?

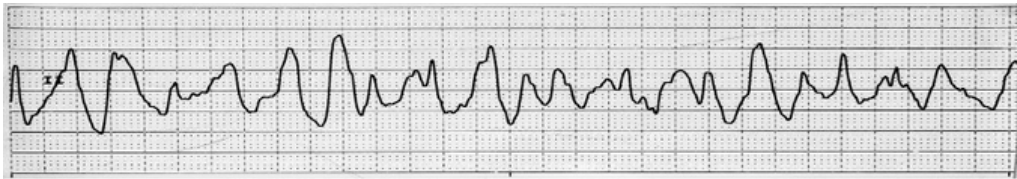
Ans: Local anesthetics

C. What is the mechanism of action?

Ans: Inhibition of sodium channels to prevent depolarization



Question 6



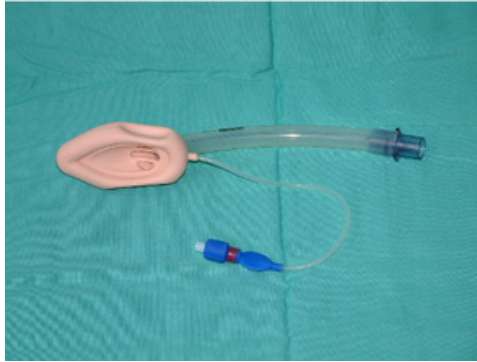
A. What is the diagnosis?

Ans: Ventricular fibrillation

B. What do you do next?

Ans: Shockable rhythm-resume CPR for 2 min until the defibrillator is charged then give the first shock and resume CPR for 2 min, then give the second shock and continue CPR for another 2 min, after that give the third shock administering epinephrine or amiodarone, give epinephrine every 3-5 min

Question 7

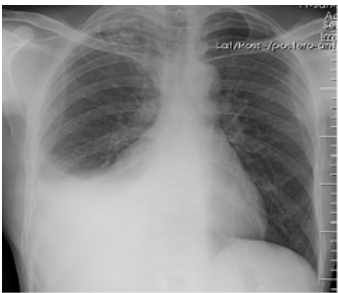


Match each with its use:

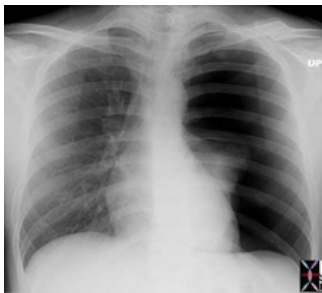
1. Sublingual surgery — Preformed N shaped tube
2. Nasal septum surgery — Preformed S shaped tube
3. Hysteroscopy — Laryngeal mask
4. Liver procedure — Regular endotracheal tube

Question 8

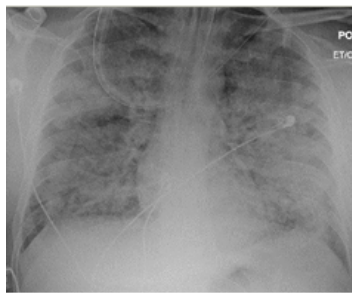
Match each of the following x rays with the diagnosis:



Pleural effusion



Pneumothorax



ARDS



Pneumonia

Question 9



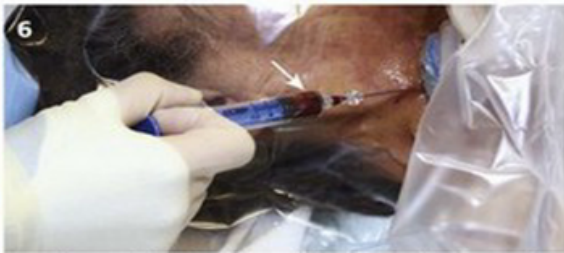
A. Which of the following is contraindicated in pneumothorax?

Ans: N₂O

B. Which of the following is used in anesthesia induction?

Ans: Sevoflurane

Question 10



A. What are the next two steps?

Ans:

1. Hold needle still and remove syringe, feed the wire through the needle
2. Hold wire still and remove the needle over the wire
3. Use a scalpel to make a small incision
4. Feed the dilator over the guidewire (twisting motion)

B. mention 2 IMMEDIATE complications of this procedure

Ans: Pneumothorax, arrhythmia

Question 11

A. What is the indication of using this device?

Ans: To measure oxygen saturation, HR and rhythm of arterial waveform



B. What does SpO₂ mean?

Ans: Arterial oxygen saturation

C. Mention 2 things that can make this device give inaccurate readings

Ans:

1. Misplaced on the pts finger, slipped
2. Pt movement, shivering.
3. Poor tissue perfusion (cold extremities)

Question 12

Pediatric case admitted for surgery

A. suitable fluid

Ans: Crystalloid

B. suitable muscle relaxant

Ans: Cistracurium

Question 13

60 year old male, 80 kg admitted for surgery

A. What airway management technique can be used in this case?

Ans: Endotracheal tube

B. Estimated blood volume

Ans: 75 ml/kg

C. How much blood loss is allowed?

Ans: 15% of his blood volume

Question 14

Question with a monitor picture

A. Mention two invasive monitoring procedures

Ans:

ABP

CVP

Anesthesia mini-OSCE

1st semester/ 4th month

Question 1:

4 CXRs

Pneumothorax: acute dyspnea

Cardiomegaly: leg swelling

Foreign body aspiration: cough and choking

Pneumonia: fever

Question 2:

2 year old 12kg with hypospadias- general anesthesia

1. Induction agent?

Sevoflurane

2. Maintenance?

Sevoflurane / Desflurane

Question 3:

IHD patient lost consciousness and hypotensive, he was given 3 cardioversion attempts with no benefit

Next steps?

Amiodarone 300 mg IV over 10-20 min

Repeat synchronized DC shock(x3, at max voltage)

If still, give Amiodarone 900 mg over 24 hours

Question 4:

ECG – normal HR

Question 5:

Patient doing knee surgery under GA

1. Most (serious or common) post anesthesia complication?

Aspiration (not sure)

2. 3 other modalities of anesthesia?

Spinal, caudal and epidural

Question 6:

Preoperative assessment of a patient

CVS: moderate exercise, no other symptoms

Fasting for 3 hours

ASA risk score: 3

Most feared complication for this specific patient?

Aspiration (not sure)

Question 7:

ECG of cardiac arrest

- Diagnosis:

Monomorphic ventricular tachycardia

- Next steps CPR team leader is going to do:

Stop, feel the pulse, check respiration, continue CPR for 2 minutes until the defibrillator is charged, clear, deliver the first shock, continue CPR

Question 8:

4 pics of venturi mask, nasal cannula, rebreather, (non or partial rebreather)

1. Which is fixed performance:

Venturi mask

2. Which follows Bernoulli's principle:

Venturi mask

3. Which one shows increase in FiO₂ with every 1L increase in flow:

Nasal cannula

4. Which one does not increase dead space of the patient:

Venturi mask

Question 9:

Picture of bleeding in the OR with urine output 13ml/hr

1. Shock class:

3e

2. Predict percentage of blood loss:

30-40%

Question 10:

Picture of central pipeline (black, yellow and white)

1. Which pressure is 139:

None

2. Which one has negative pressure:

Yellow

Question 11:

Picture of central line inserted in left subclavian vein with pneumothorax on the left side

1. Where is the catheter inserted

2. What complication did it cause

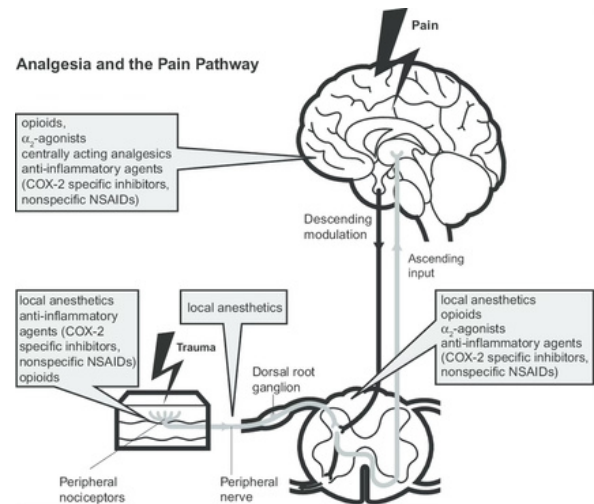
Question 12:

3 pics of waveform from pulse oximetry

Diagnosis?

Question 13:

Site of action of each category



Question 14:

Picture of this needle attached to a catheter

1. Name

2. Function

3. Two modes of insertion

4. Four common complications

Question 15:

Similar picture to this picture (not sure)

Device name:

Vision Bipap

2. Function:

Non invasive mechanical ventilation (fixed performance)

3. Advantage over other modalities:

FiO₂ 100%



Anesthesia mini-OSCE

2nd semester/ 5th month

Question 1:

A-What is the gauge and flow rate of this cannula?

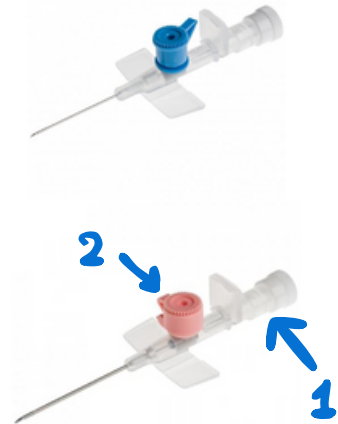
Gauge:22

Flow: 36ml/min

B-The name of the highlighted parts?

1-Flashback Chamber

2-Injection port cap



Question 2:

2 year old 12kg with hypospadias- general anesthesia

ECG of A fib/PEA with a hex of arrested of patient

A-What's his cause of arrest?

B-What 3 things you will do once you recognized that he's arrested?

-الدكتور معتمد الجواب PEA فالجواب يعتمد على ECG

Question 3:

Old woman with 2 days Hx of Loin pain, started to be hemodynamically unstable and confused, 80/40 Bp, Tachycardic, Fever;

A-What's probably happened?

Urosepsis (septic shock)

B-How would you maintain her Bp?

IV Fluid

Vasopressin

Question 4:

A patient is having spinal anaesthesia in his surgery;

A-Is done at which at which level?

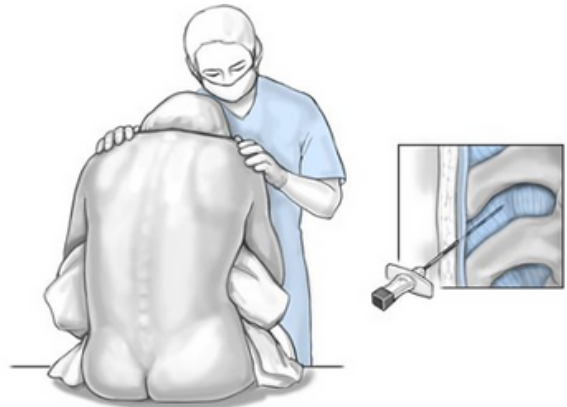
between L3-4 below L1-2

B-Why?

To avoid spinal nerve injury (cauda equina)

C-2 Possible Complications?

Hypotension, post dural headache



Question 5:

Machine questions;

A-What's in the figure?

Vaporizer

B-What is the agent?

Sevoflurane



Question 6:

About Epidural anaesthesia , If you want to use Bupivacaine,

A-What will be the dose for epidural anaesthesia?

175mg

B-Which level does this line indicate?

L4/L5



Question 7:

ECG with Bradycardia for unstable patient who had MI, had cardiac arrest;

A-What's the HR?

52

B-What other 4 adverse causes of Atropine?

Shock, Syncope, HF, MI

Question 8:

(صورة ورقة جدول العمليات غرفة الأطفال المريض للدكتورة عبير دياب وموجود فيها نفس المعلومات يلي بالسؤال)

2 years old boy is about to have a surgery for undescended testicles,

A-Calculate the deficit?

40kg * Fasting 6 hours = 240

B-Suitable ETT size?

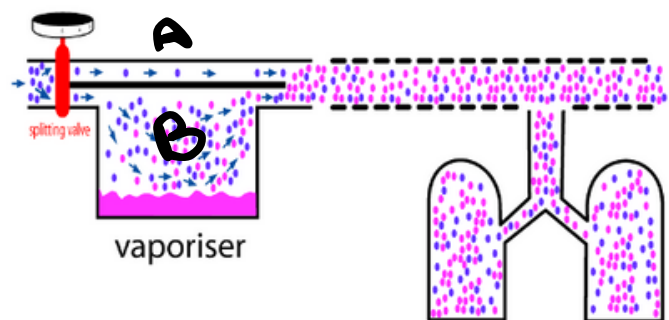
4.5

Question 9:

A- What's A and B?

A: Bypass chamber (only medical gas)

B: Vaporizer chamber (medical gas + inhalational anesthesia)



Question 10:

Match the type of RF in these cases?

(كان مكتوب عند كل صورة اسم المرض والسؤال بس توصيل)



Asthma Attack

RF . 1



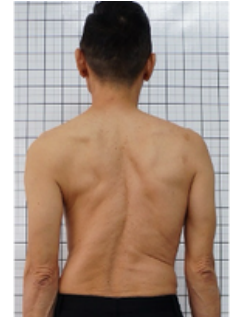
Pneumothorax

RF . 1



Pneumonia

RF . 1



Scoliosis

RF . 2

Question 11:

Pain (صور الأدوية المذكورة بالسؤال كان بالسؤال أكثر من 4 صور)

Pethidine antidote - **naloxone**

Hydrolysis by tissue non specific esterases- **Remifentanyl**

More potent than fentanyl - **Sufentanil (fentanyl citrate)** NOT SURE OF THE NAME

Question 12:

السؤال كان مرقمهم بأحرف ومعطي خيارات

A+B مثلا

Match the fluid type with the correct statement;



A



B



C

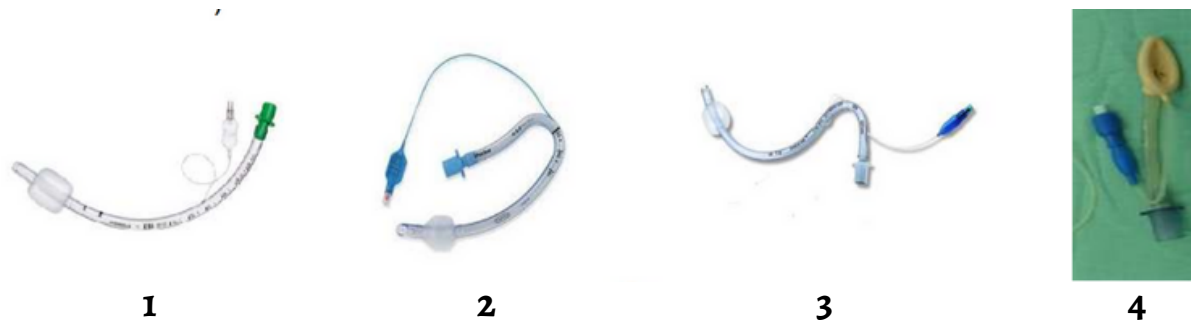


D

ABO is mandatory in? **PRBCs+FFP**
200ml? **Plasma**
From Buffy coat? **platelets**
Fibrinogen and factor 8? **Cryoprecipitate**

Question 13:

Choose the best ETT type indicated for these surgeries;

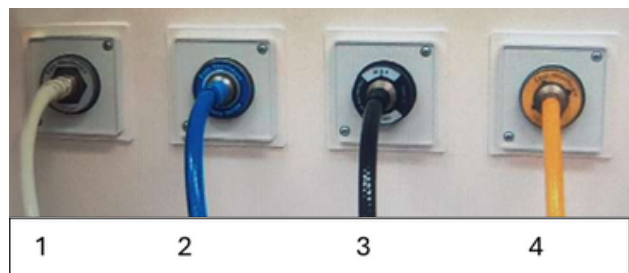


Urology Surgery- **4** Cholecystectomy- **1**
Left Eye Surgery- **2** Mandibular Surgery- **3**

Question 14:

What is the pressure of the following Central line outlet:

- 1- **4 bar**
- 2- **4 bar**
- 3- **4 bar**
- 4- **negative**



Question 15:

Liver and spleen rupture, order your priorities in managing the case?
Interfere surgically to stop bleeding (damage control surgery)- **Priority 2**
Secure airways- **Priority 1**
Arterial line- **Priority 3**
Blood Transfusion- **Priority 4**

Anesthesia mini-OSCE 2nd semester/ 6th month

Question 1:

2 years child will have a cleft palate surgery

A. What is the type of endotracheal tube?

Non-cuffed?

B. The size of endotracheal tube?

4.5

C. The most serious complication post-anesthetic?

Question 2:

According to this picture:

A. Malampati score?

4



B. In a previous anesthesia the patient had a fever, what is the most serious complication that may have postoperatively?

Question 3:

True or false?

A. Anesthetic management care involve endoscopy and hemodialysis units

B. You can take consent from a patient in conscious sedation before he goes into deep sedation

C. Surgery starts at 2nd stage of anesthesia

D. Cystoscopy need muscle relaxant

All are false

Question 4+5:

Match (may be more than one answer for any part):



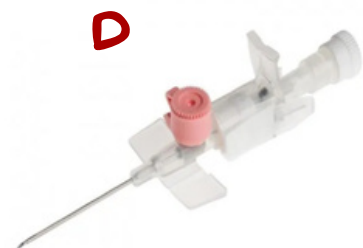
- A. Elimination by Hoffman —
- B. Its effect reversed by neostigmine —
- C. Its effect reversed by Sugammadex —
- D. Metabolized by pseudocholinesterase (not sure) —
- E. Cause bradycardia —
- F. Associated with egg allergy —
- G. Used for hemodynamically unstable patient —

Question 6:

Picture of monitor, mention all abnormalities with their normal ranges.

Question 7:

The name of each equipment?



- A. Spinal needle
- B. Epidural needle
- C. Nerve stimulator
- D. IV cannula

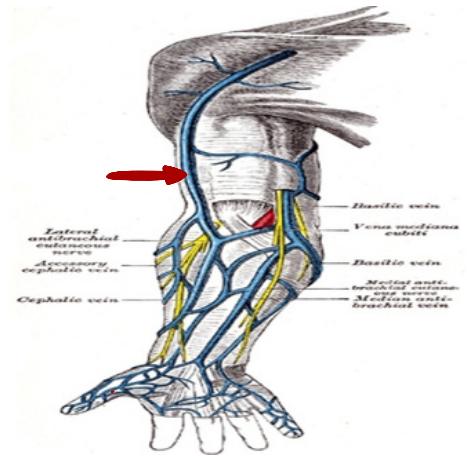
Question 8:

A. The name of this vein:

Cephalic vein

B. Continuation of?

Axillary vein



Question 9:

Case of respiratory failure list your priorities in the management

- 1. Primary objective is to reverse and prevent hypoxemia**
- 2. Secondary objective is to control PaCO₂ and respiratory acidosis**
- 3. Treat the underlying disease**

Question 10:



A. What is the type of this cardiac arrest?

Asystole

B. Mention what you should do?

Question 11:

A case of pneumothorax

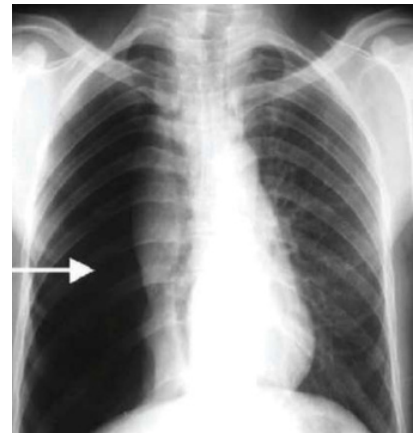
A. What is the hemodynamic status?

Respiratory failure type 1

B. Management?

Needle decompression

C. Your further management?



Question 12:

According to each of the following mention what will happen to oxygen dissociation curve: (pics of monitors and someone do exercise)

Exercise — **Right**

Hypercapnia — **Right**

Hypothermia — **Left**

Alkalosis — **Left**

Question 13:



A. What is the size of this tube?

8mm

B. What is the function of that part (red arrow)?

Prevent the Aspiration and air leaking

Question 14:

Question about this ... I forgot it :)

Scoring Guideline

Post Anesthesia Recovery Score (Aldrete Score)	
Activity	2 Able to move 4 extremities voluntarily or on command 1 Able to move 2 extremities voluntarily or on command 0 Able to move 0 extremities voluntarily or on command
Respiration	2 Able to deep breathe and cough freely 1 Dyspnea or limited breathing 0 Apneic
Circulation	2 B/P \pm 20 of Pre-anesthetic Level 1 B/P \pm 20 to 50 of Pre-anesthetic Level 0 B/P \pm >50 of Pre-anesthetic Level
Consciousness	2 Fully Awake 1 Appropriate on Calling 0 Not Responding
Color	2 Pink 1 Pale, Dusky, Blotchy, Jaundiced, Other 0 Cyanotic

1- Adult VAS Pain Scoring Scale

2- Pediatric FACES Scoring Scale

Guidelines for discharging Patients from PACU

** The Following are required for Discharging patients from PACU, unless indicated otherwise by discharging physician:

1. Vital signs should be stable and within acceptable limits	7. Outpatients Should be discharged in the presence of a reasonable adult to escort them home and report any complications.
2. Patient should have a minimum Total Recovery Score (Aldrete) of 6	8. Outpatients should be provided with written instructions regarding post-procedure diet, medications, & activities as well as a phone number to use in case of emergency.
3. Patient with pre-operative mental state abnormality should return to baseline state before discharge.	9. Outpatients should be tested for ability to stand unaided to exclude Postural Hypotension or gait instability before discharge.
4. Patients should have a maximum Pain Score of 4	
5. Patients should be adequately hydrated.	
6. Sufficient time (up to 2 hours) should elapse after use of reversal agents (Oxycodone inhibitors, Naloxone, Flumazenil) to ensure no recurrence of original agent action.	

Discharge Order

Question 15:

Question about cannula gauges

Anesthesia mini-OSCE

2nd semester/ 7th month

Question 1:

1 - What is the name of this device?

Oropharyngeal airway

2 - How do you make sure the size of it suits the patient?

Put one end near the mouth and the other has to be in the area between the ear lobe and the angle of mandible.

3 - Explain what you do while inserting it?

Enter the mouth with the piece directed upward and rotate it down when reaching the soft palate



Question 2:

True or False:

1 - Anesthetic management care involve endoscopy and hemodialysis units

2 - You can take consent from a patient in conscious sedation before he goes into deep sedation

3 - Surgery can start at 2nd stage of anesthesia

4 - A muscle relaxant is needed to perform a cystoscopy

All are false

Question 3:

1 - One of these devices delivers 28% FiO₂ at 2L/min? Nasal, (+Venturi?)

2 - Which device delivers the highest FiO₂? Rebreather

3 - Causes mucosal membrane damage at higher flow?

Nasal cannula

4 - Is a variable performance device?

Nasal, rebreather, simple face mask

1



2



3

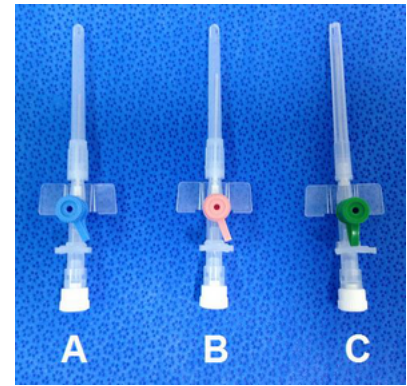


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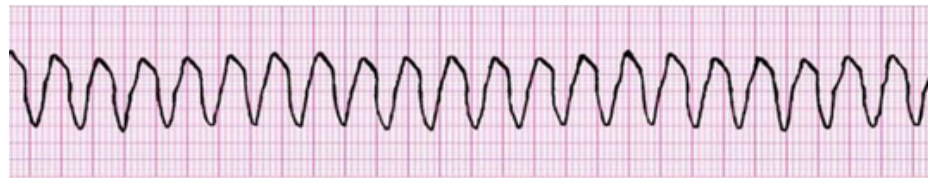
Question 4:

- 1 - Which is a pediatric cannula? **Blue**
- 2 - Which one is suitable for blood transfusions? **Green**
- 3 - Which one has a gauge of 20? **Pink**
- 4 - Which one has the highest flow? **Green**



Question 5:

A very long case about a patient with this rhythm and no pulse something like this (PAST: You were summoned as an ICU doctor to resuscitate Mrs. Layla, a 65 years old patient, who was admitted earlier in the morning for management of acute respiratory failure, and put on mechanical ventilator an hour ago with central venous line inserted. She suddenly showed the attached rhythm on her monitor and had no pulse. The nursing staff had already started the Basic Life Support protocol)

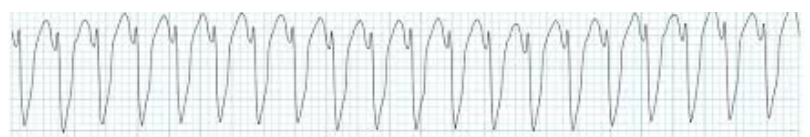


- 1- What is the type of cardiac arrest? **Shockable cardiac arrest**
- 2 - Mention the steps that you'll perform as a CPR team leader after confirming this rhythm.

CPR cycle for 2 min, pause to do DC shock then continue another CPR cycle for 2 min, after the third shock we give Adrenaline 1mg IV and Amiodarone IV 300mg.

Question 6:

A long case about a patient showing this ECG, they mentioned his BP which was low and the patient was confused



- 1 - What is the rhythm abnormality shown in the ECG?
- 2 - This patient underwent 3 DC shocks, why was that? **Because he was unstable (hypotensive and showed decreased level of consciousness)**
- 3 - Write down the next steps if management in Q2 fails.
 1. **IV amiodarone 300mg over 10-20 minutes, and re shock again.**
 2. **If that didn't work, amiodarone 900mg IV over 24 hours.**

Question 7:

They showed a closer pic about anesthesia machine, had other parts numbered but use this for reference;

Which of the following parts:

- 1 - Allows deliver of 35L/min flow of oxygen at a 4-bar pressure? **4**
- 2 - Needs to be opened all the way when spontaneously breathing? **1**
- 3 - Inspiratory port for a closed circuit? **3**
- 4 - Shows measured flow of medical gases? **2**



Question 8:

They showed a similar pic (Level of insertion was definitely high, thus obviously epidural):

- 1 - What is this type of anesthesia? **Epidural anesthesia**
- 2 - Mention the layers that the needle will go through. **Skin-subcutaneous fat- ligaments (supraspinous, interspinous, ligamentum flavum)-epidural space**
- 3 - Mention two contraindications for this type. **Hypotension, headache**



Question 9:

1 - What is the procedure shown in:

Figure A: **Subclavian central venous line insertion**

Figure B: **Internal jugular central venous line insertion**



2 - Mention one of the immediate complications in:

Figure A: **Pneumothorax**

Figure B: **Arrhythmias**



Question 10:

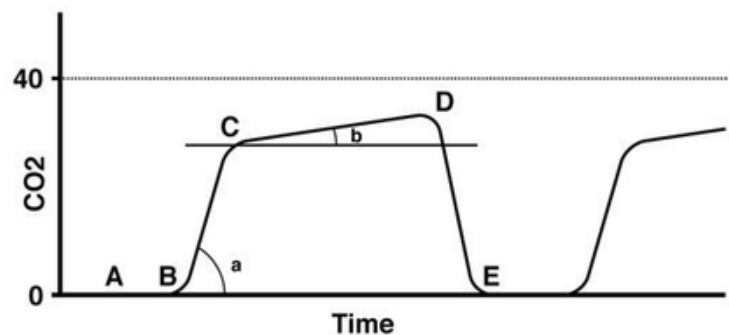
1 - At what point is inspiration initiated? **D**

2 - What is the normal range at point D? **etco2 (30-35 mmHg)**

3 - What is the level of CO₂ at point E? **Zero**

4 - Mention two things that will cause increased CO₂ on this graph.

Hypoventilation



Question 11:

1 - Complete with ranges and values of easy laryngoscopy:

Mouth opening: 3 fingers (4.5 cm).

H&N: head extension >35 degree & neck flexion (sniffing position).

mallampati score: class I & II

Thyromental distance: >6 cm

<u>Airway:</u>	H&N movement:
Mouth Opening:	
Mallampati class:	Thyromental Distance:

Question 12:

Pics of 4 drugs; Morphine, Remifentanyl, Fentanyl, Naloxone

1 - Has a more potent metabolite? **Morphine**

2 - Has anticholinergic activity? **Neostigmine**

3 - Causes bradycardia and hypotension? **Morphine (not sure)**

4 - Metabolized by non-specific tissue esterase? **Remifentanyl**

Question 13:

Insert image (Endotracheal tubes)

1 - a squint surgery for a 3 year o

S-shaped preformed tube (its non-cuffed and 4mm in the image)

2 - a patient undergoing laryngectomy

Regular cuffed ETY

3 - a thyroglossal cyst surgery

N-shaped preformed tube

4 - a patient undergoing an eye surgery

S-shaped preformed tube

Question 14:

A doctor explaining to an 8 year old kid and his family (He's undergoing a hypospadias surgery)

- 1 - Mention 4 things you'll talk to his parents about :)
- 2 - Mention one way of comforting the child before anesthesia

Letting his mom in to the OR with him || Oral midazolam

- 3 - Mention 2 modalities for perioperative pain management in him
Local anesthesia, oral paracetamol..

Question 15:

A 20 year-old was gun-shot in a wedding party comes to the emergency with blood pressure of 78/45 and a HR of 140bpm

1. What is his hemodynamic state? **Hypovolemic shock**
2. What is the expected blood volume lost? **>2000ml (>40%)**
3. Mention one invasive procedure you need to do to monitor his status? **arterial line insertion for invasive blood pressure monitoring**

What is the first thing to go in management? **(Stop bleeding)**