

# ***Anesthesia***



**MiniOSCE - Past papers**

***Done by: Malek Abu Rahma***

-The colored question numbers are mentioned more than once so focus on them-

Answer the questions below regarding the following picture:



1. which drugs are analgesics ?

ANSWER : Ketamine

2. pain on injection?

ANSWER : Propofol & etomidate

3. used in IV induction ?

ANSWER : All of above.



4 years old female patient operated to OR , Answer the following questions:

4. what is the type of anesthesia ?

**ANSWER : General Anesthesia**


5. what is the preoperative management to reduce pain ? (not sure about the answer )

**ANSWER :**

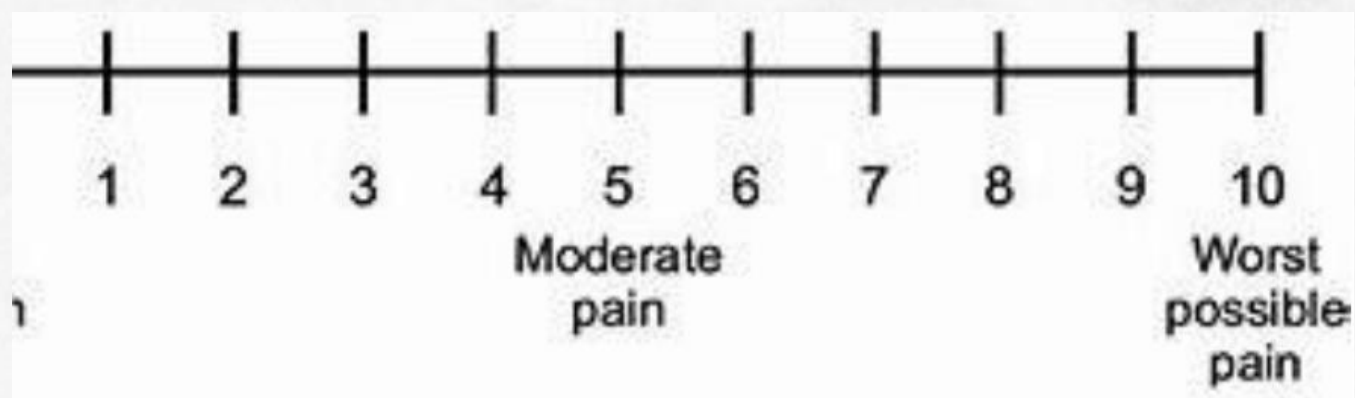
- Ketamine (dose 5-10 mg/kg ) 30 min before induction.
  - OR Regional (Caudal): extradural block for infraumbilical procedures
- Acetaminophen - PO 10-15 mg/kg, PR 40 mg/kg, IV 20mg/kg NSAIDS (diclofenac sodium suppository )

6. what is the appropriate size of endotracheal tube to this pt ?

**ANSWER :**

- Cuffed = 4.5
  - Non cuffed = 5
- 

Answer the questions below regarding the following picture:



7. Name the previous scale .

**ANSWER : Numerical rating scale .**

8. what is the appropriate value to discharge the patient from recovery room ?

**ANSWER : Patients should have a maximum pain score of 4**

Patient in active allergy reaction or she take antibiotics,  
Answer the following questions:



9. what is your diagnose ?

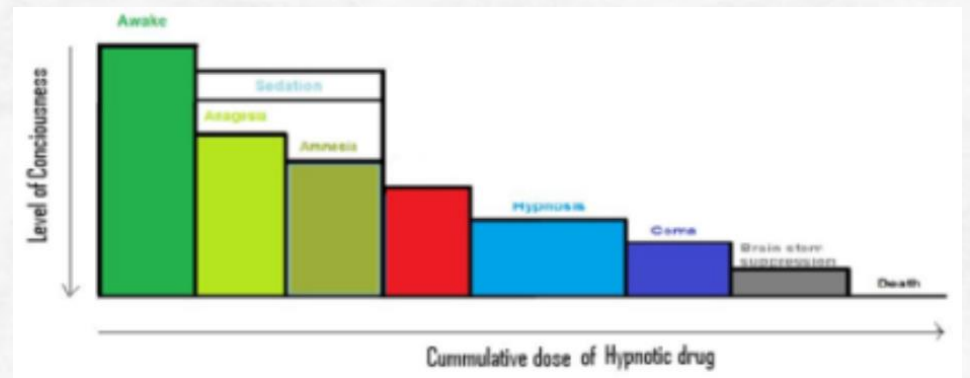
**ANSWER : angioedema - anaphylactic shock**

10. type the first three things that we do in this case .

**ANSWER :**

- stop exposure to the trigger.
- Secure airway + O2 supplement + continuous monitoring .
- Epinephrine injection if necessary.
- IV access +Saline administration

11. the hidden part in the previous chart represent ... ?



ANSWER : Excitement

12. What is the function of the numbered parts on this anesthesia machine ?

ANSWER :

1-vaporizer .

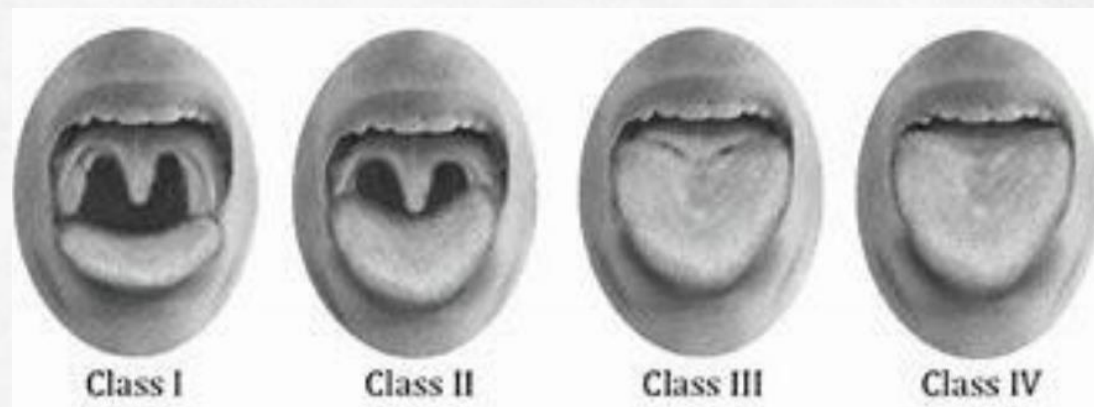
2-gas flowmeter.

3- airway and tubing pressure monitor.

4-adjustable pressure valve .



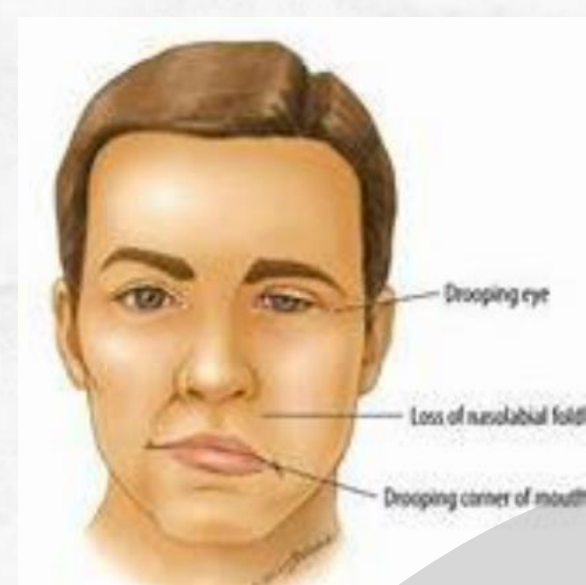
13. this score called ?



ANSWER : Mallampati CLASSIFICATION - pharyngeal view .

14. what is the difficulty in airway management in this patient ?

ANSWER : Facial ASYMMETRY.



Answer the questions below regarding the following picture



15. name the previous picture .

ANSWER : Epidural needle.

16. gauge of it .

ANSWER : 25.

17. length of it

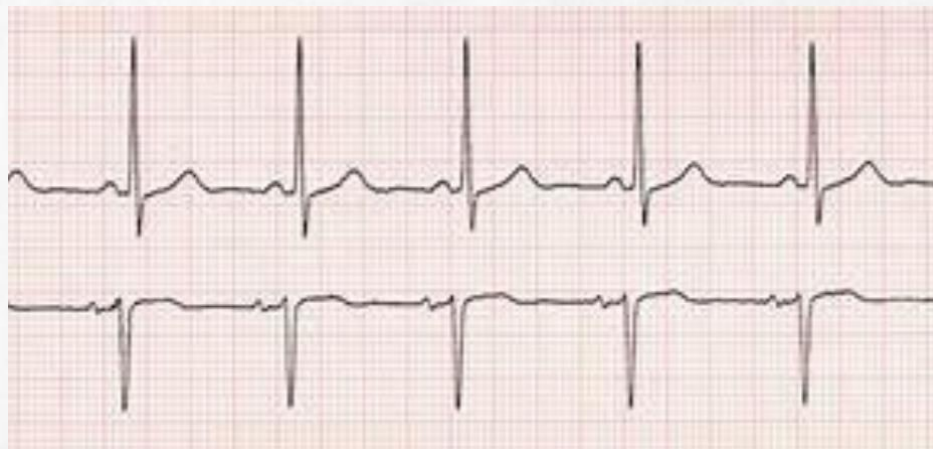
ANSWER : 8 cm.

18. what is your diagnose ?



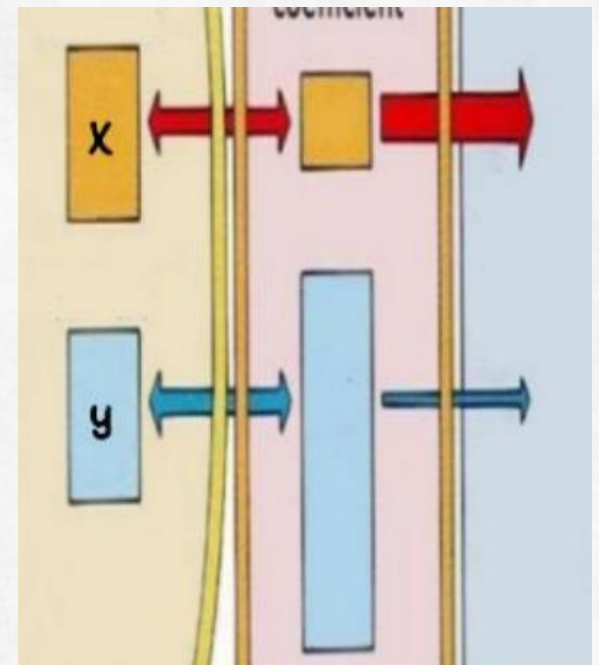
ANSWER : A Fib , irregular irregular rhythm.

19. calculate HR of this ECG strip .



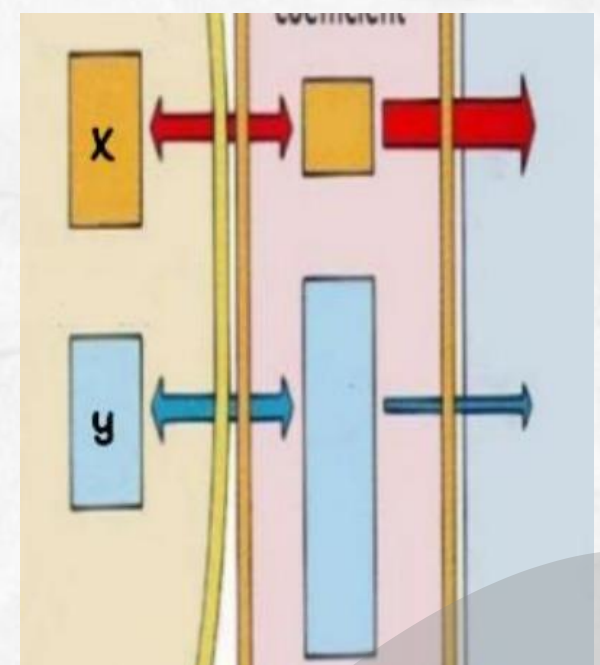
ANSWER :  $1500 / 18 = 83$  or  $300/3.6$

20. Which agent is faster in induction?



ANSWER : X

21. Which agent is faster in recovery?



ANSWER : X



Answer the questions below regarding the following picture that showing syringe of propofol:



22. How much propofol is in the syringe?

ANSWER : 10 mg/cc , we have 4 cc  $\rightarrow 10 \times 4 = 40$  mg

23. What is the induction dose for a 60 kg patient?

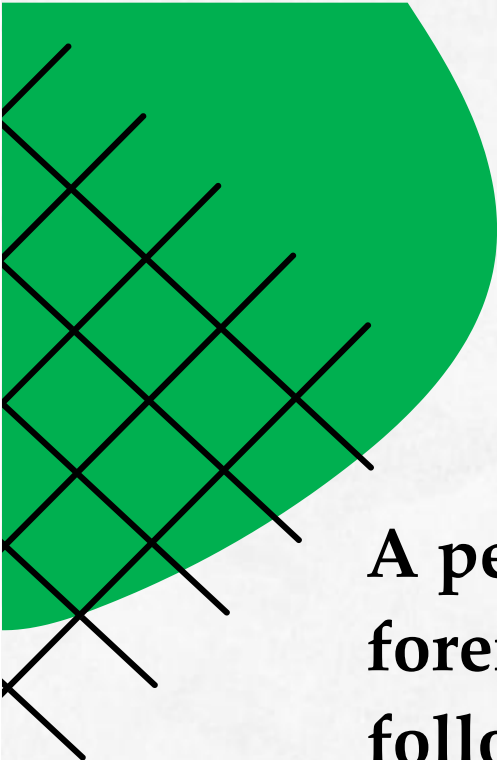
ANSWER :  
Induction dose 1.5 , 10 mg /cc  
 $60 \times 1.5 = 90 \rightarrow 90 / 10 = 9$ cc or 9ml

24. How can we decrease the pain caused by this agent?

ANSWER :  
- Co-administration of 1 cc lidocaine.

25. Mention another uses of propofol other than induction?

ANSWER : Anti-epileptic , antiemetic , antipruritic, prevent PONV



A pediatric patient weighing 14kg entered to the OR, for a foreign body removal from the right ear under GA. Answer the following questions

26. What is the induction agent for this patient?


ANSWER : Sevoflurane.

27. What is the maintenance deficit for this patient?

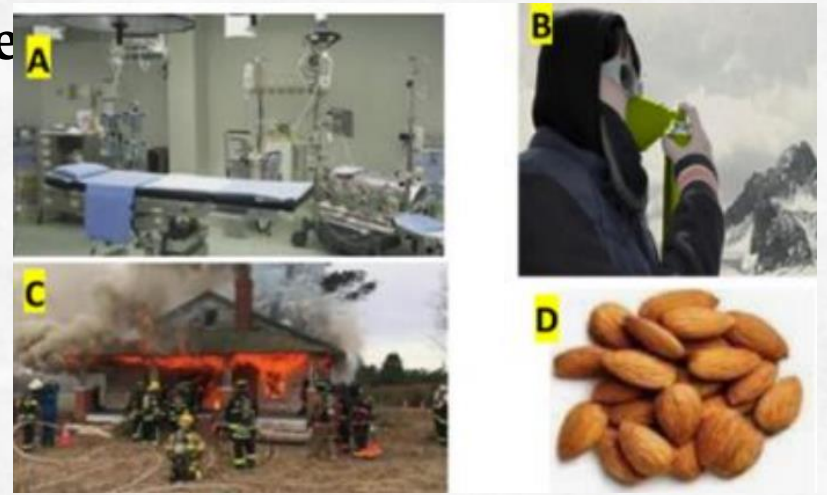
ANSWER : Maintenance  $\rightarrow 10 \times 4 + 4 \times 2 = 40 + 8 = 48$  m  
Deficit = maintenance \* fasting time ( fasting time??)

28. Mention 3 things to do for anesthesia maintenance?

ANSWER :

- 1- continuous inhalation of anesthetic gases ( iso , sevo )
  - 2- Propofol
  - 3- NM blockers agent
- 

29. Which type of hypoxia in each one of these images



ANSWER :

A → Circulatory hypoxia. B → hypoxic hypoxia .

C → Anemic hypoxia. D → histotoxic hypoxia ??

30. What is the function of the numbered parts on this picture



ANSWER :

1 : pipeline pressure control

2: cylinders pressure control

3: suction pressure control

4: airway pressure control

31. Type antidote for each one of these drugs :

(Succinylcholine/Rocuronium/Vecuronium/Cisatracurium)

ANSWER :

- Succinylcholine : none in phase 1 , neostigmine in phase 2

- Rocuronium : neostigmine + sugammadex.

- Vecuronium : neostigmine + sugammadex.

- Cisatracurium : neostigmine only.

32. pic of ketamine

ANSWER :

- Give 2 advantages : appropriate to pediatric patients+ has analgesic effect .

- Give 2 disadvantages : hallucinations + contraindication in patients have CNS lesions.

- Calculate the appropriate dose in millimeter .

Answer the questions below regarding the following pictures



33. What is this equipment?

**ANSWER : PCA**

34. What is the protective mechanism in this equipment that prevent the patient from reaching the toxic dose?

**ANSWER : Programmable computerized pump**

35. What is the route of administration?

**ANSWER : IV Infusion**

Answer the questions below regarding the following picture



36. What is the anesthesiologist doing?

**ANSWER :** Inserting central line guided by ultrasound

37. Give two ways to know if the needle is inserted in the correct vessel?

**ANSWER :**

- U/S
- X-ray

Answer the questions below regarding the following picture



38. What is the hematocrit in these blood bags?

**ANSWER : 70%**

39. What you should do before administration of blood?

**ANSWER : Double check (pt name , pt ID no. , ID no. Of the unit , ABO compatibility, expired date )**



**Female patient operated to C/S spinal anesthesia, after that she complained of severe headache, Answer the following questions**

**40. the cause is ?**

**ANSWER : Post dural punctural headache due to leak of CSF.**

**41. how we can treat her ?**

**ANSWER : Treat with rest , analgesia, caffeine and dural blood patch.**



Answer the questions below regarding the following pictures



42. which one of the previous tubes prevent aspiration ?

ANSWER : Pic 2 + 3 ( anything with cuff)

43. which one of the previous tubes stay for along time ?

ANSWER : Tracheostomy .



Answer the questions below regarding the following picture



44. What is this maneuver (arrow) called?

**ANSWER : Cricothyroid compression**

45. Why is it used?

**ANSWER : Done in RST , to prevent aspiration of regurgitant**



**Female patient diagnosed by septic shock . Her ECG readings shown tachycardia and her MAP less than 65**

**46. the treatment is ?**

**ANSWER : Syc.DC shock up to 3 attempts ( 50→NR→100→NR→max. in biphasic )→ if doesn't work give amiodarone 300 mg/10-20min then 900 mg/24 h**

**47. Why do you give this treatment?**

**ANSWER : patient has unstable tachycardia.**



48. your diagnosis is ?



**ANSWER : pneumothorax .**

49. A patient who had a car accident , was admitted to the OR and underwent an operation . after that he was discharged to the ICU . -why we put the patient in ICU post-op ?

**ANSWER : for further resuscitation and ventilation.**

50. Case and the endotracheal tube used (4 cases / 4 endotracheal tubes pics) :

**ANSWER :**

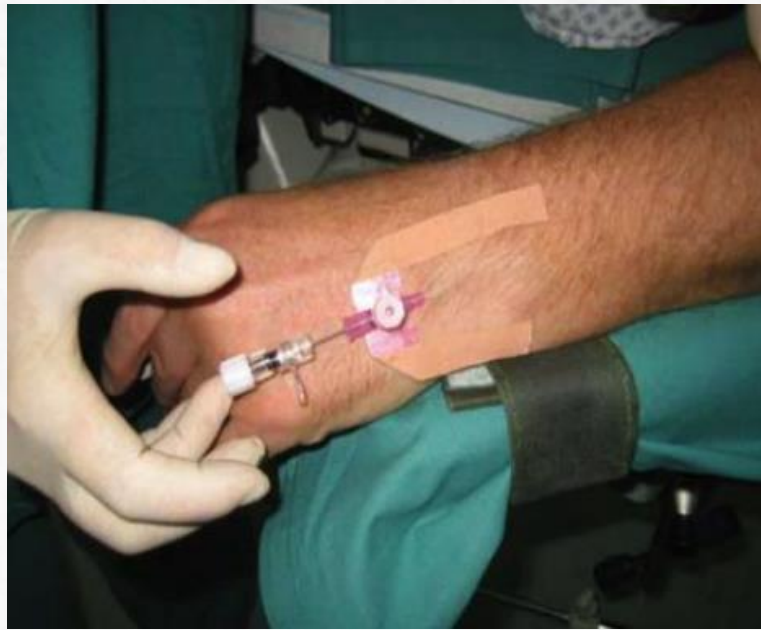
1. Obese / abdominal surgery : regular cuffed endotracheal tube
2. Nose job: C shaped endotracheal tube
3. Female / uterine bleeding: LMA
4. Someone needs a surgery in his lower jaw / teeth area : N shaped endotracheal tube

51. Opioids and match to the applicable one :

**ANSWER :**

- Best for post-op pain management: morphine
- Sublingual administration: we can't remember the regimen but the vile had the phrase " sublingual opioid " or so
- ICU sedation: remifentanyl
- Comes on the second step of the WHO ladder for pain management: dihydrocodeine

Answer the questions below regarding the following picture



52. which part of canuula inside the vein in this picture ?

**ANSWER : plastic part .**

53. the next step after securing the cannula ?

**ANSWER : check resistance with 5 ml normal saline.**

Answer the questions below regarding the following picture



54. Osmolality ?

ANSWER : 279 isotonic

55. PH?

ANSWER : 6.5 slightly acidic

Answer the questions below regarding the following picture



56. What is the machine used to get the EEG?

**ANSWER : bispectral index monitoring system**

57. What is the benefit of using this machine?

**ANSWER : to measure the level of consciousness in patients**

58. What is the normal range in patients under GA?

**ANSWER : 40-60**

Answer the questions below regarding the following picture



59. What is the name of this device ?

**ANSWER : Vaporizer**

60. What is the name of the drug it contains?

**ANSWER : Isoflurane**

61. What is the concentration of it that blunts response to surgical stimulus in 50% of people ?

**ANSWER : 1.2 ( MAC )**

62. What is the maximum volume this container provides ?

**ANSWER : 5**

A pre-op assessment paper with the following findings:

A patient who has hypertension / diabetes ( on medications for both )/ ex smoker / lung crackles / and this pic for his pharyngeal view.

Answer the following questions



63. What is the mallampati score?

ANSWER : 3

64. What is the ASA class ?

ANSWER : 3



An ECG for a bradycardic patient / BP 80/50 / confused  
Answer the following questions

65. What is the diagnosis

ANSWER : Sinus Bradycardia

66. Calculate the rate

ANSWER :  $300/8 = 37.5$  ( regular / 8 large boxes between each two consecutive R waves)

67. Does he require treatment ?

ANSWER : Yes, signs of shock ( hypotensive + altered mental state )

68. What is the 1st line treatment ?

ANSWER : Atropine 500 mcg

An ECG of a pulseless electrical activity.

Answer the questions below regarding the following picture



69. Why did the team leader asked the one doing the compressions to stop ?  
(MAYBE)

**ANSWER :** To connect the defibrillator and assess the rhythm to know whether it's shockable or not

70. What is the type of the cardiac arrest ?

**ANSWER :** PEA ( non-shockable cardiac arrest )

71. What are the two next steps ?

**ANSWER :**

1. After confirmation give 1 mg adrenaline IV
2. Continue compressions 30 / 2 breaths for 2 mins then reassess



**A pic for pipelines vs cylinders ( options : pipelines / cylinders / both / neither ) . Answer the following questions**

**72. Which one can use oxygen in the liquid state :**

**ANSWER : pipelines only**

**73. Using the DISS :**

**ANSWER : pipelines only ( cylinders pin index )**

**74. Both air and oxygen :**

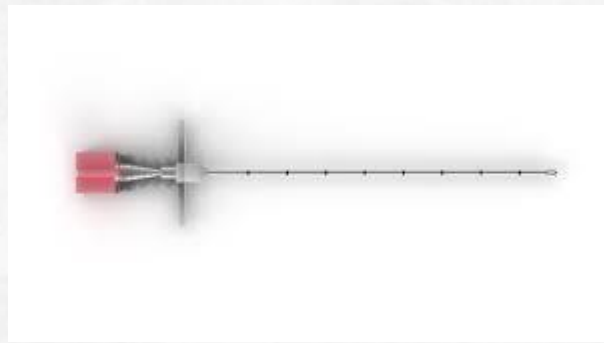
**ANSWER : pipelines pic ( white & black hoses )**

**75. 4 bar pressure :**

**ANSWER : both**



**Epidural needle:**



**76. What is the name of this needle ?**

**ANSWER : Touhy needle ( epidural needle )**

**77. What is the length of this needle ?**

**ANSWER : 8 cm ( each color block 1 cm )**

**black spinal needle:**



**78. What is the gauge of this needle ?**

**ANSWER : 22 ( was black / if it were orange then 25 )**

**79. What are two possible side effects or complications?**

**ANSWER : Back pain / hypotension / post dural puncture headache**



**Patient administered to the ICU**

**HR 130**

**BP 90/50**

**O2 sat 95%**

**Blood loss 1800 ml**

**Answer the following questions**

**80. What is the class of his hypovolemia ?**

**ANSWER : Class 3 ( blood loss between 1500-2000)**

**81. What are two additional monitors other than the essential that can be used ?  
(MAYBE)**

**ANSWER :**

- 1. Invasive blood pressure monitor through an arterial blood line**
- 2. Central venous pressure monitor through a central line**

**82. Best fluid replacement option ?**

**ANSWER : Blood (not crystalloids)**



5-kg infant undergoing a hernia repair surgery.  
Answer the following questions

83. Calculate the fluid maintenance hourly ?

ANSWER :  $5 * 4 = 20$  ml/ hour

84. Two measure for heat loss prevention?

ANSWER :

1. Bair hugger ( heat radiator )
2. Isolation ( covering the patient with warming pieces of materials or so )
3. Warming the administered IV fluids and so

ABGS PH : ~ 7.2

HCO<sub>3</sub> : 29.7

PaCO<sub>2</sub> : ~ 67

Answer the following questions

85. What is the abnormality?

Compensated respiratory acidosis

86. What is the type of respiratory failure ?

Type 2

A patient who : Doesn't response to verbal stimulation And when a painful stimulus was applied:

- 1- He opened his eyes
- 2- Uttering sounds
- 3- Flexed his arms and extended his legs

87. What is his Glasgow coma score ?

**ANSWER :  $2+2+3 = 7$**

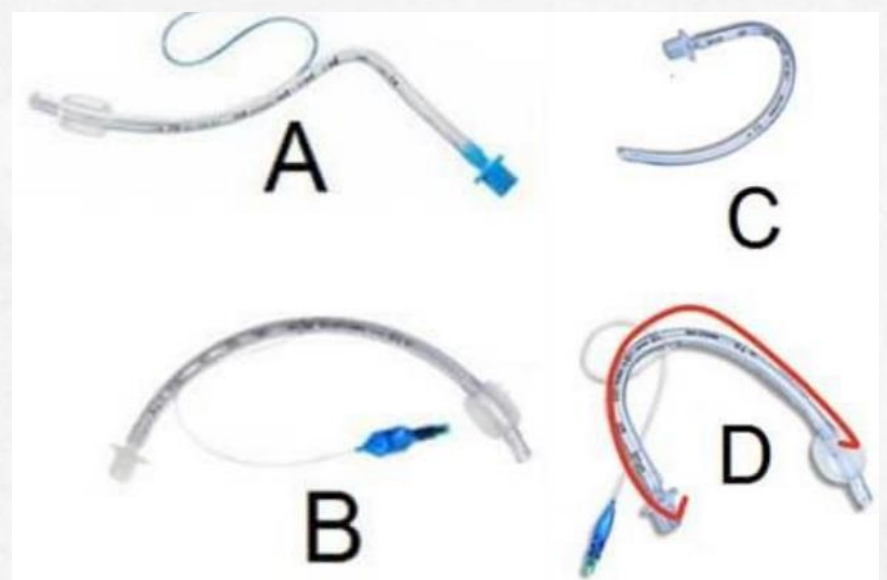
88. What should we do now ?

**ANSWER : GGC score  $8 <$  then we intubate**

89. Match each of the shown endotracheal tubes with the type of surgery they are best used in:

**ANSWER :**

- 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



90. Question about capnography, What is the vital sign?

**ANSWER : End tidal CO<sub>2</sub> (EtCO<sub>2</sub>)**

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

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

## Lidocaine vile (1%)

Answer the following questions

92. What is the family to which this drug belongs ?

**ANSWER :** Amino-amide local anesthetic ( works on Na channels )

93. How much is there in 1 ml of this vile ?

**ANSWER :**  
The percentage was 1%  
 $1 \times 10 = 10 \text{ mg/ml}$

94. Maximum allowed infiltration volume for a 50 kg gentleman?

**ANSWER :**  
**Without epinephrine**  
 $5/10 = 0.5 \text{ ml/kg}$   
 $0.5 * 50 = 25 \text{ ml}$

**With epinephrine**  
 $7/10 = 0.7 \text{ ml / kg}$   
 $0.7 * 50 = 35 \text{ ml}$



## Propofol vs Ketamine

**95. Mechanism of action:**

**ANSWER :**

**Propofol: Increases binding affinity of GABA with GABAA receptor.**

**Ketamine: Mechanism through NMDA (N-Methyl-D-aspartate) receptor antagonism.**

**96. Which one has an analgesic effect ?**

**ANSWER : Ketamine**

**97. Which one causes post-op dreams ?**

**ANSWER : Ketamine**

Answer the questions below regarding the following picture



98. What is the black one?

ANSWER : Air

99. What is the pressure?

ANSWER : 4 Bar

100. What is the safety system?

ANSWER : Diameter index safety system (DISS)

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

ANSWER :

- 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

102. Concentration of contents in ringer lactate

ANSWER :

Na+: 131 mmol/L

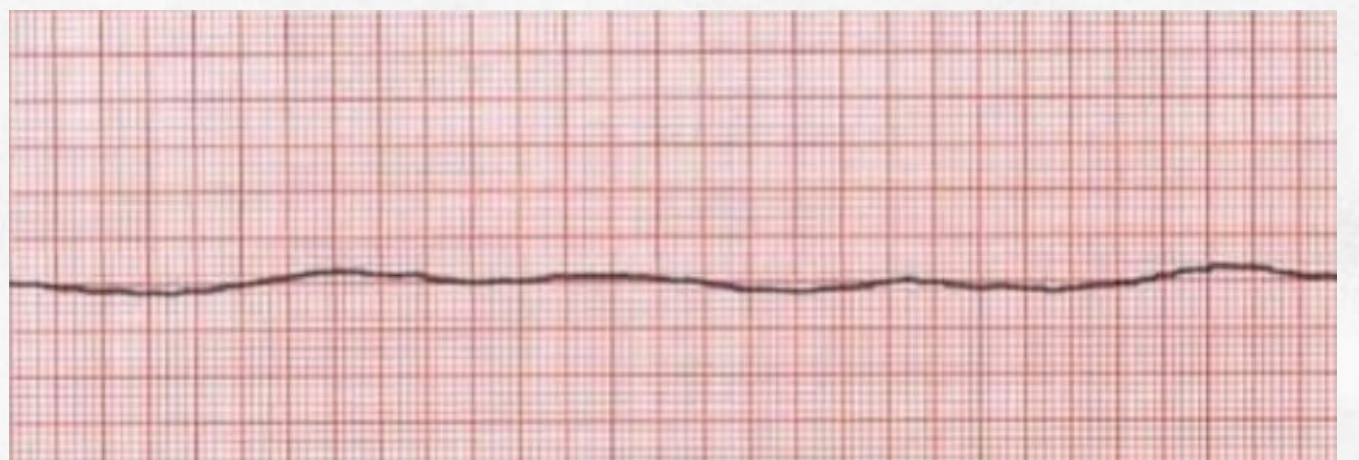
K+: 5 mmol/L

Ca<sup>++</sup>: 2 mmol/L

Cl<sup>-</sup>: 111 mmol/L

Lactate: 29 mmol/L

Answer the questions below regarding the following picture



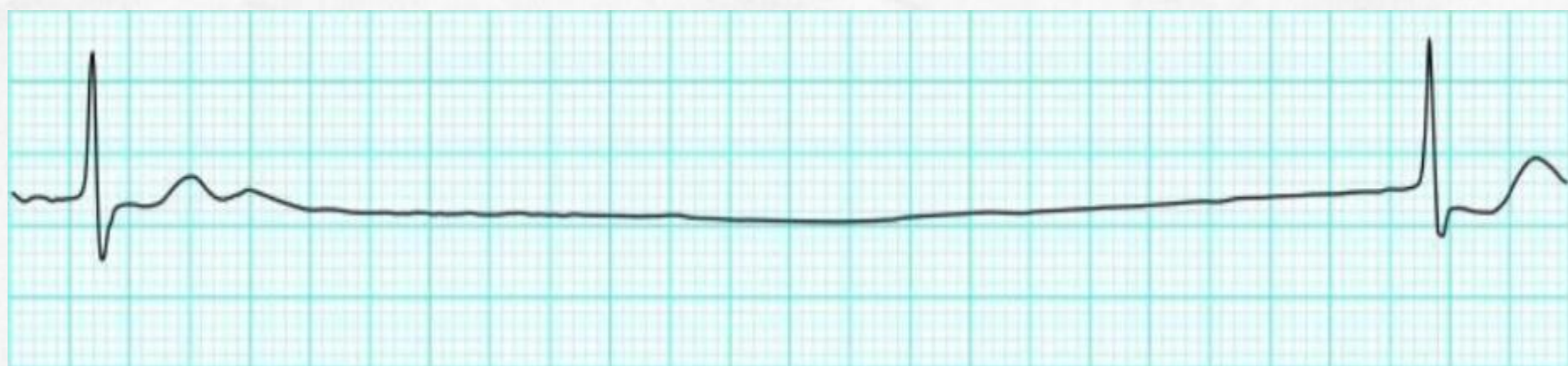
103. Type of cardiac arrest?

ANSWER : asystole

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

ANSWER : Continue CPR; chest compression: breaths 30:2

Answer the questions below regarding the following picture



105. What does this ECG indicate?

ANSWER : bradycardia

106. What is the drug that is used and what is the maximum dose?

ANSWER : Atropine 500mcg with a maximum of 3mg

107. If it didn't work what drug to use?

ANSWER : isoprenaline

108. Which drug for which reversent ?

- A. Succinylcholine (suxemethonium)
- B. Rocronium
- C. Midazolam
- D. Morphin

- 1 .Naloxone
- 2 .Fluzenil
- 3 .Neostigmine
- 4 .None

ANSWER : A→ 4   B→ 3   C→ 2   D→ 1

109. What of these parameters is found in this machine ?

- ANSWER :
- Maximum dose
  - Drug name
  - Lock
  - Syringe
  - Flow rate
  - Drug concentration



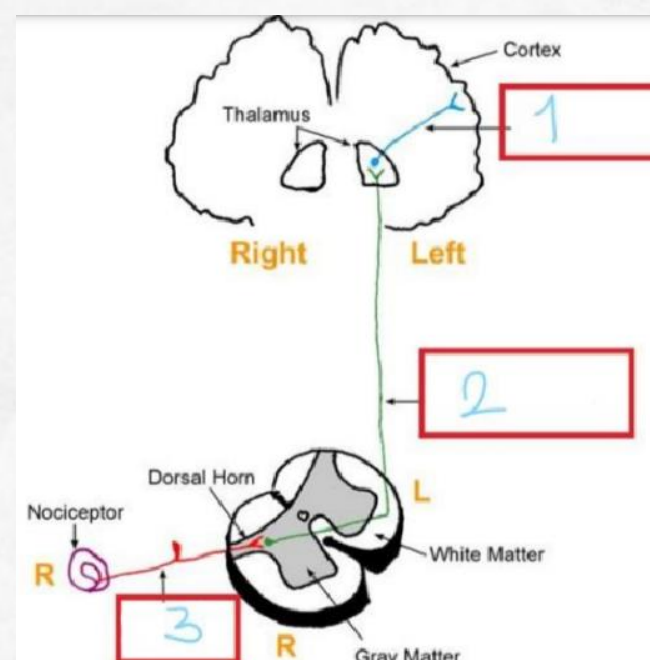
110. Cuffed Endotracheal tube for a 6 year old male patient

- Size of the tube: ?
- Depth of insertion: ?

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

111. identify the labelled parts:

- ANSWER :
- 1-3rd order neuron
  - 2-2nd order neuron
  - 3-1st order neuron



Pediatric patient under GA, bupivacaine injected of the site of the surgery  
Answer the following questions

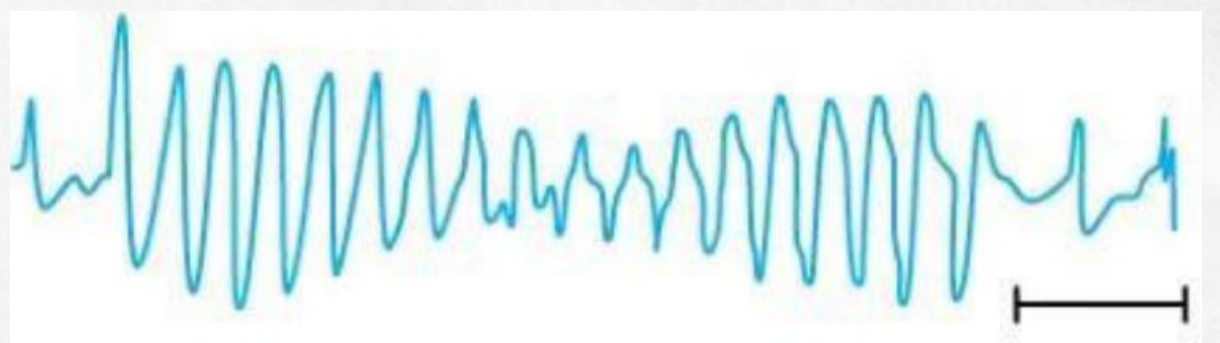
112. What is this procedure called ?

**ANSWER : local infiltration**

113. Why it is performed?

**ANSWER : Reduce stress associated with surgery and reduce post-op pain. (not sure)**

Answer the questions below  
regarding the following picture



114. What type of rhythm is this ?

**ANSWER : torsades des pointe (polymorphic Vtach)**

115. evidence based interventions you can do to this patient ?

**ANSWER : chest compressions and defibrillation**

Answer the questions below regarding the following picture



116. What is the inhalational agent in this photo?

ANSWER : isoflurane

117. What is the function of this machine (mention

ANSWER :

- to give the specific required concentrations of the inhalational drug.
- to vaporize specific liquid drugs to be used as inhalational anesthetics.

Answer the questions below regarding the following picture



118. What type of anesthesia that will be used with this patient ?

ANSWER : GA with RSI

119. What laboratory tests that are mandatory for the patient before the surgery?

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

Answer the questions below regarding the following picture



120. What is inserted in this pic? Specify your answer

**ANSWER :** central venous line in the left internal jugular vein

121. Mention other 2 complications of it

**ANSWER :**

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

Answer the questions below regarding the following picture



122. What are the abnormal findings in this monitor? (Specify your answer)

**ANSWER :**

- tachycardia, HR>100
- shock, SBP
- hypoxemia, SpO2<90

123. The What is missing parameter?

**ANSWER :** The EtCO2



Answer the questions below regarding the following picture



**124.** If the needle reached the red line when inserted in the skin , what does this mean?

**ANSWER :** It's 6 cm inside

**125.** What is the gauge that is usually used in adults?

**ANSWER :** 16-18G

**126.** What is the technique used in the insertion of this needle ?

**ANSWER :** loss or resistance

**Answer the questions below regarding the following picture (Pink cannula not blue)**



**127. What is the gauge of the shown cannula ?**

**ANSWER : 20G**

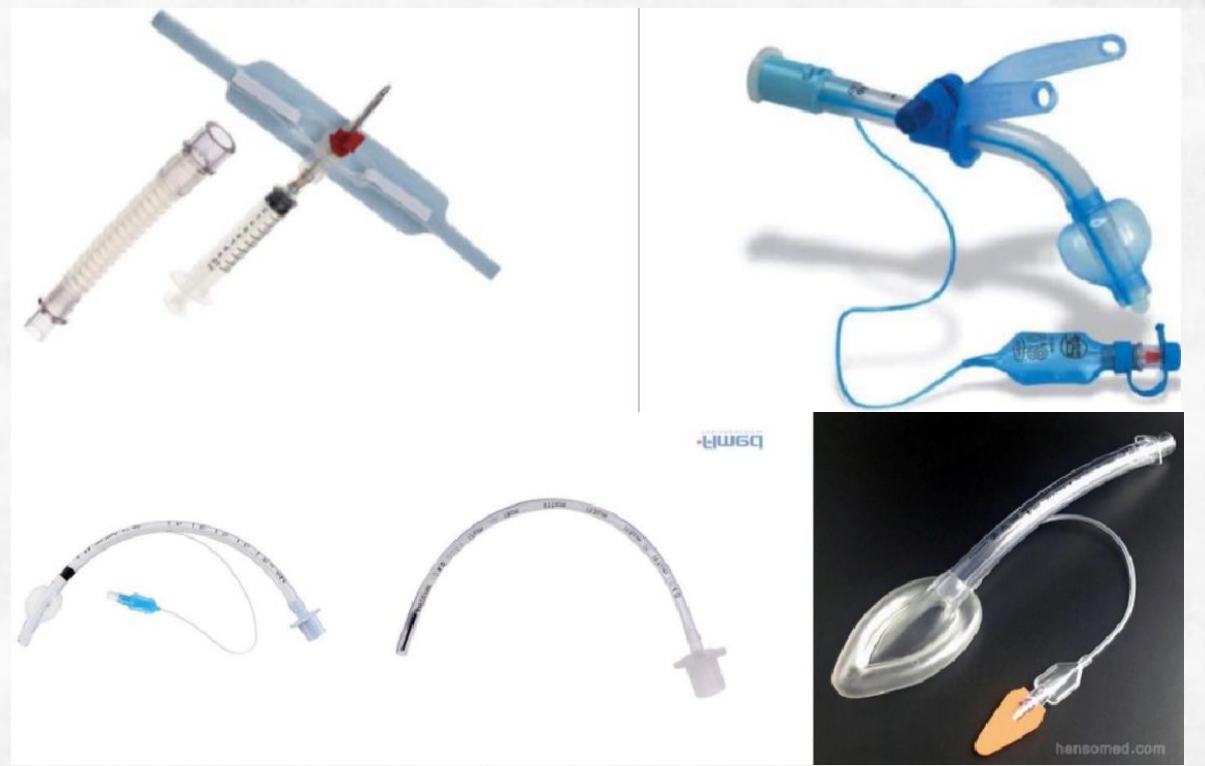
**128. What is the fluid being injected in the photo to check the correct insertion of the cannula ?**

**ANSWER : normal saline**

**129. What signs can indicate wrong cannula insertion using this flush?**

**ANSWER : Swelling and resistance**

Answer the questions below regarding the following picture



130. Which is used the longest time?

ANSWER : tracheostomy tube

131. Which is used in can't ventilate can't intubate in a patient under GA?

ANSWER : Cricothyrotomy needle

132. Female of healthy weight undergoing hysterectomy ?

ANSWER : endotracheal tube

133. 4 year old patient, laporatomy underGA?

ANSWER : The non-cuffed

Answer the questions below regarding the following picture



134. What type of airway management is being used ?

ANSWER : jaw thrust (not sure)

135. Identify the part indicated by the arrow

ANSWER : CO2 sampling line

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

ANSWER : Lithotomy position

a picture with ABG results :

pH: 7.53

paCO<sub>2</sub>: 32.3

HCO<sub>3</sub><sup>-</sup>: 25.9

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

**ANSWER : Respiratory alkalosis**

138. Is it acute or chronic ?

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

Answer the questions below  
regarding the following picture



139. What molecule does this device absorb from the expired gas ?

**ANSWER : CO<sub>2</sub>**

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

**ANSWER : 26L**

Answer the questions below regarding the following picture



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

ANSWER :

1: 1.2

2: 2

142. Mention two factors that increases this concentration

ANSWER : -Hyperthermia -Hypernatremia -Drug induced elevation of CNS catecholamine stores -Increase in ambient pressure (experimental) -Cyclosporine - Excess pheomelanin production (red hair)

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 Answer the following questions

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

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

144. Calculate the patient's fluid deficit

ANSWER : 620 ml

145. Match each procedure with the best tube to be used



ANSWER :

1. Tongue mass removal
2. Cleft palate surgery
3. Adult maxillary sinus surgery
4. Hernia surgery

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

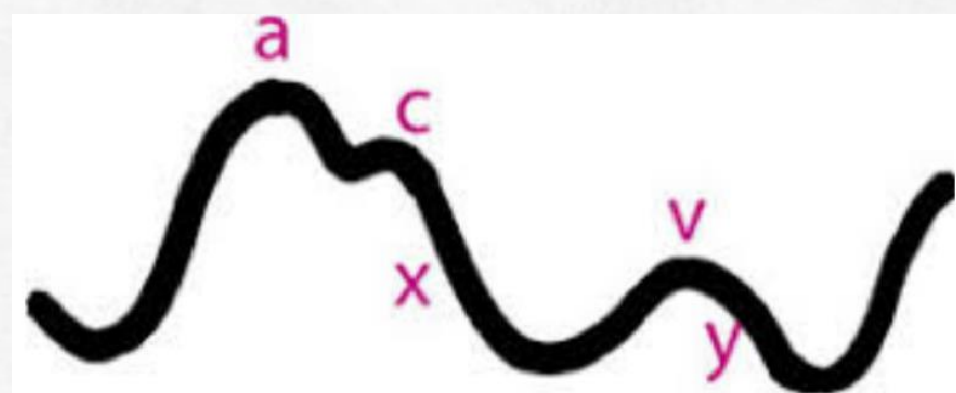
ANSWER :

1. Water → 1 hour
2. Breast milk → 3 hours
3. Formula milk → 4 hours
4. Solid food → 6 hours

147. Write down the mechanical events each of the letters correspond to:

ANSWER :

- A: atrial contraction
- C: ventricular contraction
- X: atrial relaxation
- V: atrial filling
- Y: ventricular filling



148. What's the name of this graph?



ANSWER : Chain of survival

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



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

**ANSWER : Hypovolemic shock, class 3**

150. What will be your management ?

**ANSWER : Control source of bleeding and aggressive blood and volume replacement. (not sure)**

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



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

**ANSWER : 40**

152. Mention two side effects for this agent .

**ANSWER : Cardiac toxicity (arrhythmias, arrest).**



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



153. Calculate the heart rate

ANSWER : 150

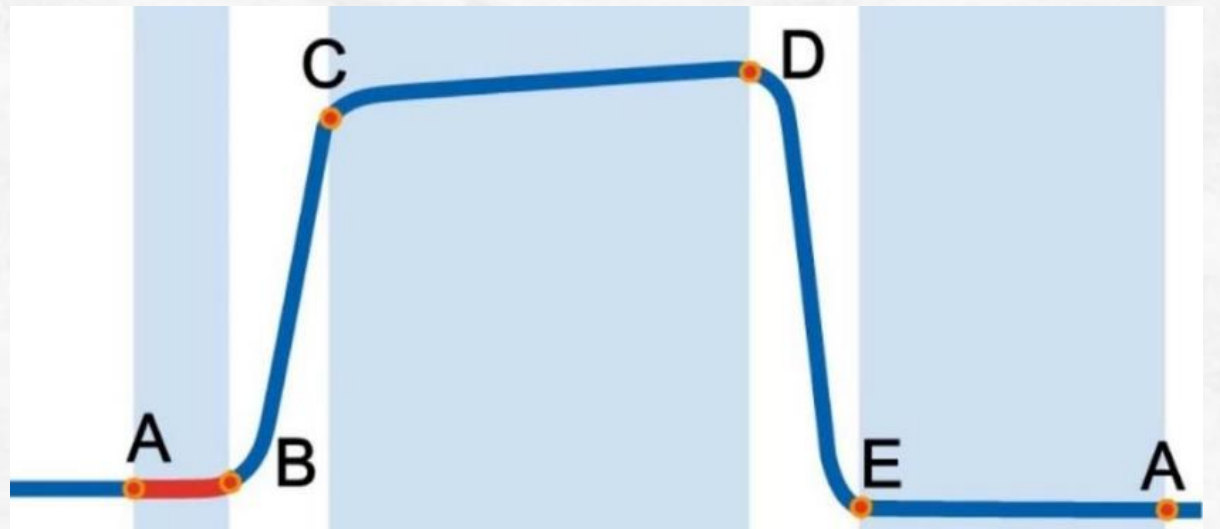
154. What will be your first management ?

ANSWER : Synchronized DC shock, up to three attempts

155. Why did you choose this answer in previous question ?

ANSWER : because she has tachycardia and she's in shock

Answer the questions below regarding the following picture



156. from which point the inspiration and expiration start?

ANSWER :  
Inspiration » D  
Expiration » B

157. At point D what is the value of EtCO<sub>2</sub>?

ANSWER : 35-45 mmHg

158. concentration of contents

ANSWER :

Na 154 mmol/l

Cl 154 mmol/l



159. What's the pharyngeal view in the first picture (Mallampati score)



ANSWER : 2

160. About a patient with signs of cardiac arrest after colectomy surgery, he is unresponsive to nurse, write BLS steps:

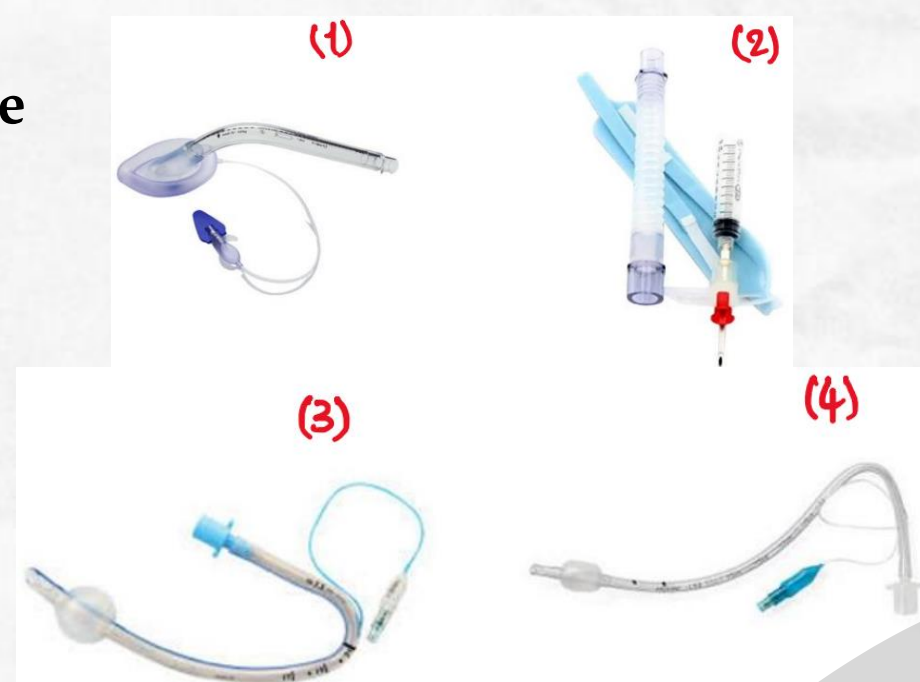
ANSWER :

- Ask for help
- Open or check the airway (head tilt, chin lift and jaw thrust)
- Check circulation and normal breathing sign
- If not breathing start CPR 30:2

161. Match each of the shown tubes with the type of surgery they are best used in:

ANSWER :

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



162. Choose which is synthetic and which is natural opioid.



**ANSWER :**

Codeine phosphate and morphine → natural  
Fentanyl and remifentanyl → synthetic

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

**ANSWER :**

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

164. Match

**ANSWER :**

- 1 → O<sub>2</sub>
- 2 → Nitrous oxide
- 3 → oxygen
- 4 → Air



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

**ANSWER :**

- Propofol: Increases binding affinity of GABA with GABA<sub>A</sub> receptor.
- Ketamine: NMDA receptor antagonist

A question about baby drinking water .



166. When you can do the surgery?

**ANSWER :** After 4 hours of milk fasting

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

**ANSWER :**

Less dehydration

Decrease gastric secretion volume and PH

Less agitation and crying

**Pictures of 4 types of ventilatory masks and a nasal cannula**



168. Which one gives 80-90% fio2?

**ANSWER :** Non rebreather mask

169. Which one don't interfere with concurrent eating?

**ANSWER :** Nasal cannula

Match each drug with the correct answer:



170. Which one is used for induction ?

ANSWER : Propofol

171. Which one causes malignant hyperthermia ?

ANSWER : Halothane

172. Which one causes dissociative analgesia ?

ANSWER : Ketamine

**Answer the questions below regarding the following picture**



**173. The name of the procedure ?**

**ANSWER : Central line insertion**

**174. Which vein is used ?**

**ANSWER : Internal jugular vein**

**175. Advantage of using US?**

**ANSWER : Prevent puncture and malpostion (not the only answer)**

**176. Mention other veins we can use ?**

**ANSWER :**  
**EJV**  
**Femoral V**  
**Subclavian V**

Answer the questions below regarding the following picture



177. In which procedure is used?

ANSWER : Epidural

178. Number of cm in the picture?

ANSWER : 9 cm

179. Mention the ligaments which the needle will enter through?

ANSWER : Supraspinous ligament, interspinous ligament and ligmentum flavum



180. Mention 2 side effects for each of these agents

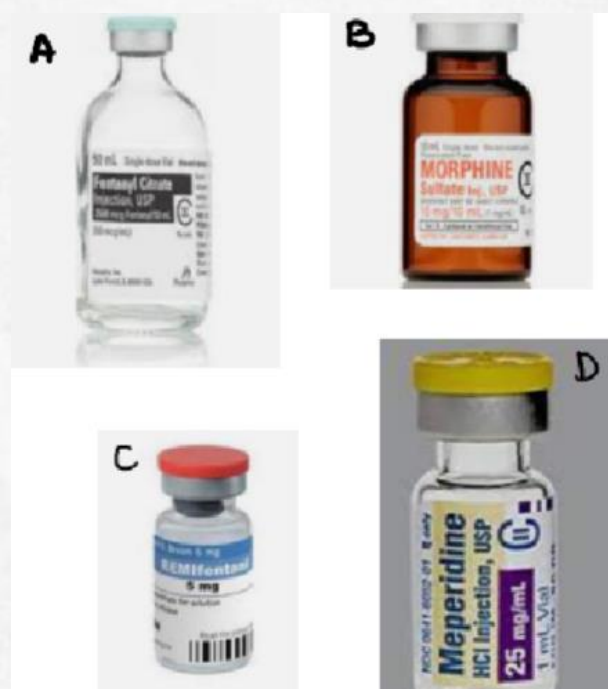
ANSWER :

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

181. Which of the following cause:

ANSWER :

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



182. A patient is mechanically ventilated in the ICU with oxygen given with an  $FiO_2$  of 50% The patient has respiratory alkalosis: Normal  $paO_2$ /  $HCO_3^-$   $\approx 19$  (decreased)/  $CO_2$  decreased (30) .What should we do for: (options were increase/decrease/keep the same)

ANSWER :

- RR: decrease
- $FiO_2$ : decrease
- $HCO_3^-$ : increase

183. Provide the ASA score for the following cases

ANSWER :

1. 70-year-old man with intestinal ischemia and respiratory problems: 5e
2. MI one month ago: 4
3. Unstable angina: 4e
4. Uncontrolled DM: 3



A picture of a trauma patient who weighs 78kgs that has lost 2.5 liters of blood. Answer the following questions

184. Based on the case mentioned above, to which hypovolemic shock class does this patient belong to?

**ANSWER : Class IV**

185. Mention 3 things you'd do to save this patient?

**ANSWER :**

- Identify the source of bleeding (stop, or at least control, blood loss)
- Fluid resuscitation after establishing a large bore IV access
- Maximize O<sub>2</sub> delivery

186. What do we expect the patient's heart/pulse rate to be?

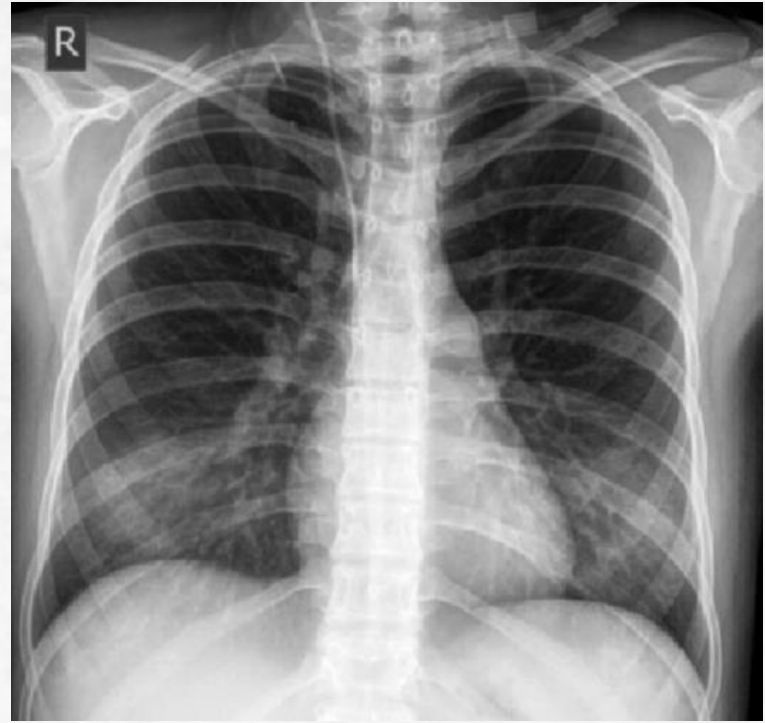
**ANSWER : >140**

187. How much do we expect the patient's Urine output to be?

**ANSWER : Negligible; patient is oliguric**



A CXR showing the insertion of a device/tube. Answer the following questions



188. Based on the CXR besides, what is the catheter indicated?

**ANSWER : Central Venous Catheter**

189. What is the site of insertion (which vein was used to place the catheter)?

**ANSWER : Right internal jugular vein**

190. Mention 2 serious Complications that may result from this procedure

**ANSWER :**

- Pneumothorax
- Arrhythmias

Answer the questions below regarding the following picture



191. Describe the process occurring in this picture?

**ANSWER : -Induction of anesthesia (inhalational route)**

192. Name the class of anesthetic agents to which the drug used belongs to?

**ANSWER : (inhalational anesthetics)**

193. Which drugs can be used for the purpose shown below?

**ANSWER : -Halothane + Sevoflurane**

Answer the questions below  
regarding the following picture



194. What does the picture beside show?

**ANSWER : Oxygen store/ liquid oxygen storage tank**

195. In what form is the oxygen inside it stored?

**ANSWER : Liquid form**

196. What is the purpose of using it/ why is it used?

**ANSWER : Stores large quantities/amounts of oxygen in a small volume/capacity. Reduces cost**

Answer the questions below regarding the following picture



197. What is the function of the equipment indicated by the arrows:

ANSWER :

- Delivery of a specific concentration of inhalational anesthetic agents
- Conversion of these agents from a liquid to a gas state

198. The MAC for each agent?

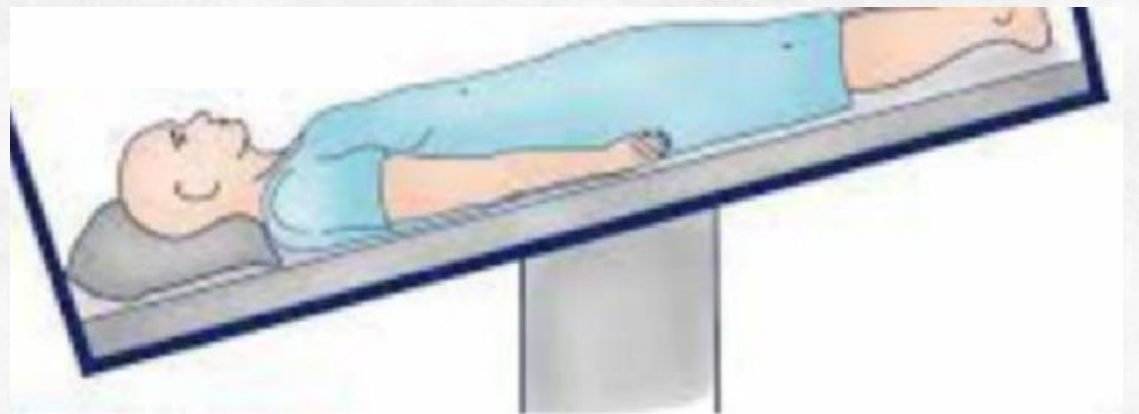
ANSWER :

Sevoflurane: 2  
Isoflurane 1.2

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

ANSWER : 3.2 as it is additive between different agents

Answer the questions below regarding the following picture



200. What is the name of this surgical position:

**ANSWER : Trendelenburg**

201. Indications?

**ANSWER : lower abdominal surgeries including colorectal, gynecological, and genitourinary procedures**

Answer the questions below regarding the following picture



202. What do we call this chain? Define it

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

203. Write the titles and descriptions of the second and third circles.

**ANSWER :**

**Second circle: Early CPR - To buy time**

**Third circle: Early defibrillation - To restart the heart**

Answer the questions below regarding the following picture



204. What do we call this type of anesthesia?

**ANSWER : Epidural anesthesia**

205. What is the function of the syringe?

**ANSWER : It is a low resistance syringe**

206. Where do we insert this type of anesthesia?

**ANSWER : At any level**

207. mention 2 serious complications:

**ANSWER : CNS infection and spinal hematoma**



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



208. The maximum dose of the following drug? (the image in the exam showed the vial also had epinephrine)

**ANSWER : 7mg/kg with epinephrine**

209. Mention two site contraindications of this drug.

**ANSWER :**

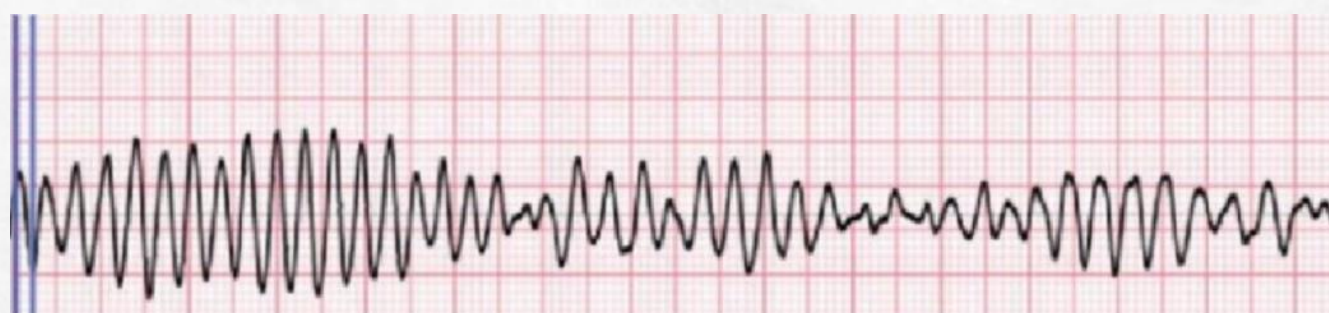
**1-ear lobes**

**2-nose**

**3-fingers/toes**

**4-penis**

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



210. What is the type of cardiac arrest?

**ANSWER : Shockable rhythm, torsade de pointes (polymorphic VT)**

211. give two evidence-based interventions:

**ANSWER :**

**1-CPR**

**2-DC shock**

Answer the questions below regarding the following picture



212. Identify the part with the black arrow:

**ANSWER : CO2 line**

213. What is the name and function of the equipment indicated by the yellow arrow?

**ANSWER : Bair hugger. Prevents hypothermia during surgery**

214. What are two other ways to do the same function of this equipment?

**ANSWER :**  
**Fluid warmer**  
**Cloths wrapped around the patient**  
**Mattress placed under the patient with heated water**

**Answer the questions below  
regarding the following picture**



**215. What does this picture indicate? (The actual picture was a patient on the surgical table holding the mask to their face)**

**ANSWER :**

**The patient is conscious**

**The patient is able to move his hands**

**(Emergence from general anesthesia)**

**216. Mention two surgeries that require rapid emergence?**

**ANSWER : Minor surgeries**

**Answer the questions below  
regarding the following picture**



**217. Mention four clinical parameters this device provides:**

**ANSWER :**

**1-SaO<sub>2</sub>**

**2-HR**

**3-rhythm**

**4-presence of cardiac arrest**

**218. False readings and artifacts can occur due to: (mention 2)**

**ANSWER :**

**1-nail polish**

**2-cautery**

A patient was placed under general anesthesia, given vancomycin, and then his vitals became as shown



219. What occurred?

ANSWER : 1- Redmann syndrome

220. How would you manage this patient

ANSWER :

1- Discontinue Vancomycin

2- 2- Management: IV fluids, antihistames, vasopressors

Answer the questions below regarding the following picture



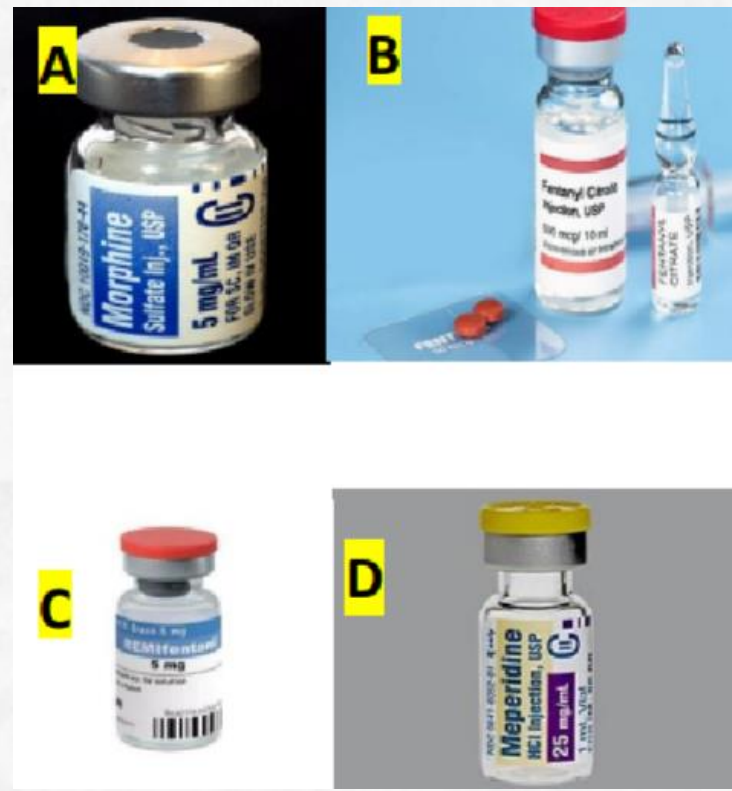
221. What is the maximum pressure that can be set on the red-arrowed part?

ANSWER : 70cmH2O

222. What is the function of the green-arrowed part?

ANSWER : The bellows physically separate the driving-gas circuit from the patient gas circuit. (From slides, but you can explain it in your own way)

Answer the questions below regarding the following picture



223. Which of the following undergoes ester hydrolysis?

ANSWER : C

224. Which of the following causes mydriasis?

ANSWER : D

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

Order	File	Patient	Age	Diagnosis	Operation	Room	Time
5		سالم	6	constipation	rectal biopsy	9	تحت إشراف

225. Calculate his fluid deficit

ANSWER : 640ml

226. What is the size of his cuffed endotracheal tube?

ANSWER : 5mm

227. Which of the following can be used for:



ANSWER :

1-long term: tracheostomy

2-the least invasive definitive option: endotracheal

3-from the first attempt: combitube

4-spontaneous ventilation: tracheostomy +LMA+combitube

228. match

ANSWER :

Oxygen: 1

Air: 3

Vacuum: 4

Nitrous oxide: 2



229. A patient on ventilation ( $FiO_2 = 50\%$ ) has his lab results as follows  $pH = 7.29$ .

$CO_2 = 41\text{mmHG}$ .  $HCO_3 = 19\text{mEq/L}$ .  $SpO_2 = 99.3\%$

Acid-base status?

What would you do to the respiratory rate?

What would you do to the  $FiO_2$ ?

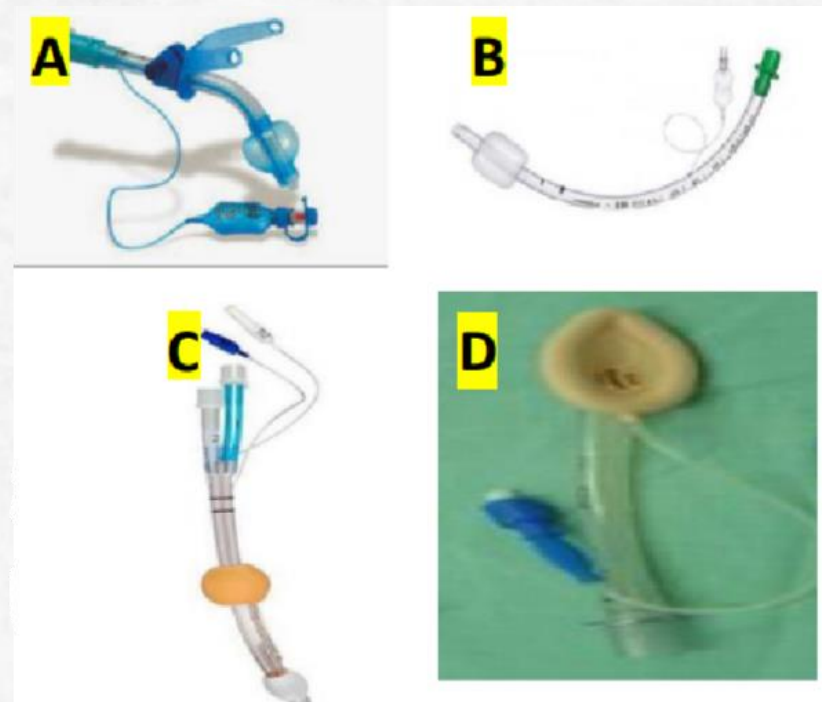
ANSWER :

Metabolic acidosis

Increase

Keep it the same

Answer the questions below regarding the following picture



230. Which of the following lasts the longest?

ANSWER : A

231. Which of the following cannot be used in children?

ANSWER : C

232. Which of the following is the least invasive?

ANSWER : D

233. Which of the following is the best at sealing airways?

ANSWER : B&C

Answer the questions below regarding the following picture



234. What is the name of the machine in the 1st picture?

ANSWER : Cell saver

235. What is it used for?

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

236. What is the equipment in the second picture?

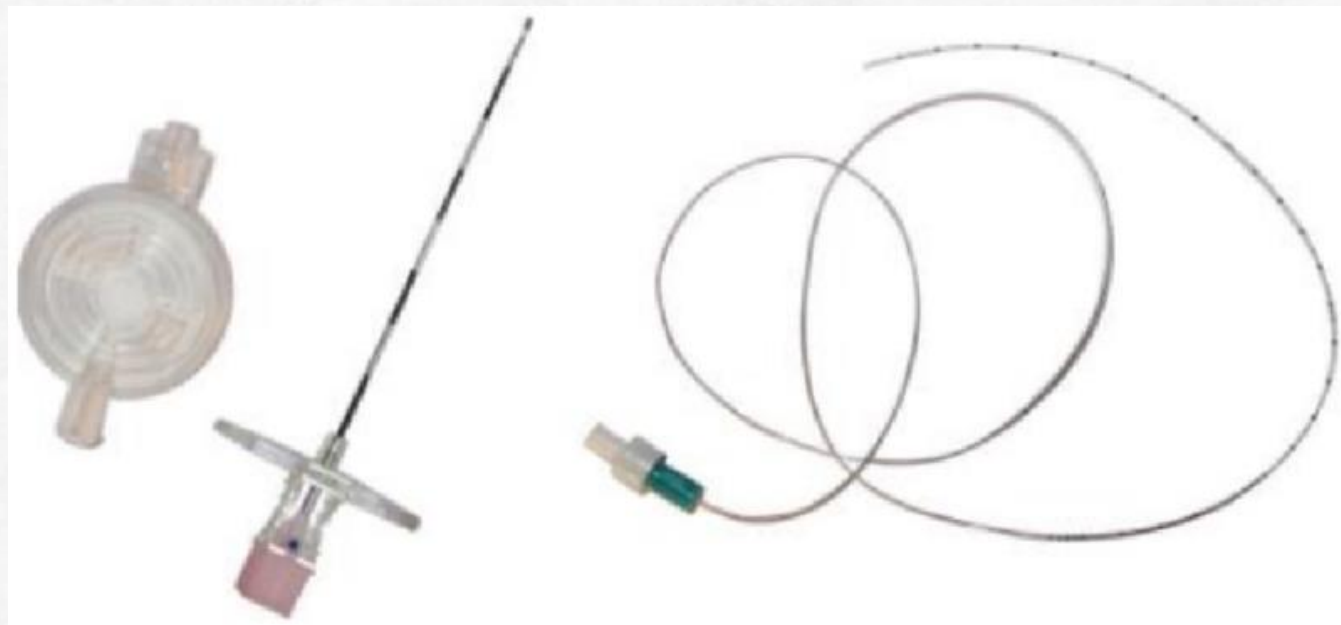
ANSWER : Spinal needle

237. What is its size?

ANSWER : 22G



Answer the questions below regarding the following picture



238. What is the name of the part on the left?

**ANSWER : Filter**

239. What is it used for?

**ANSWER : Anti-microbial**

240. What is the size of the needle in the middle?

**ANSWER : 8cm**

241. What is the part on the left?

**ANSWER : Epidural catheter**

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



242. What is the surgery classification regarding the need to use antibiotics?

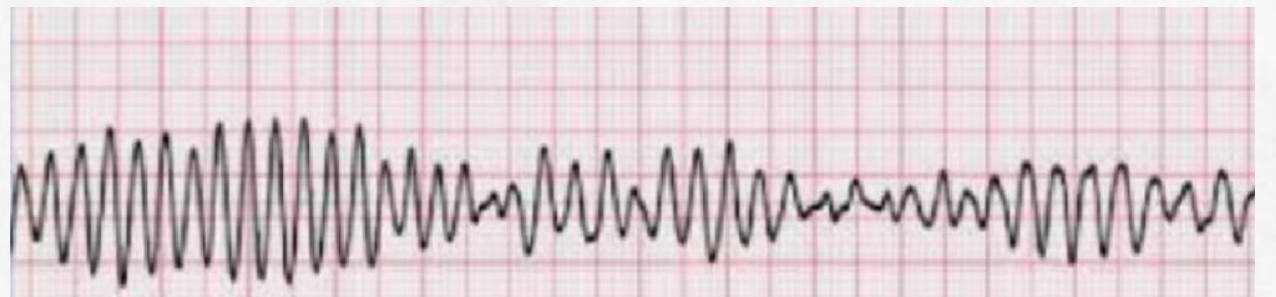
**ANSWER : Dirty**

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

**ANSWER :**

- 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

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



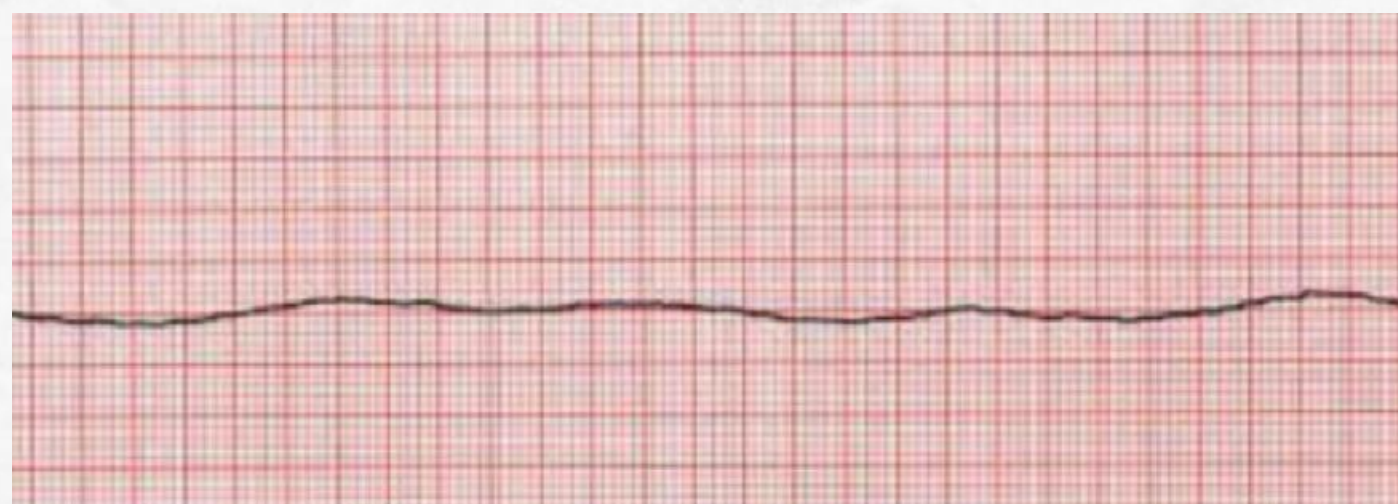
244. What is the best initial management?

**ANSWER : Synchronized DC shock**

245. What the second line treatment of the 1st failed?

**ANSWER : Amiodarone**

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



246. What type of arrhythmia is this?

ANSWER : Non-shockable (asystole)

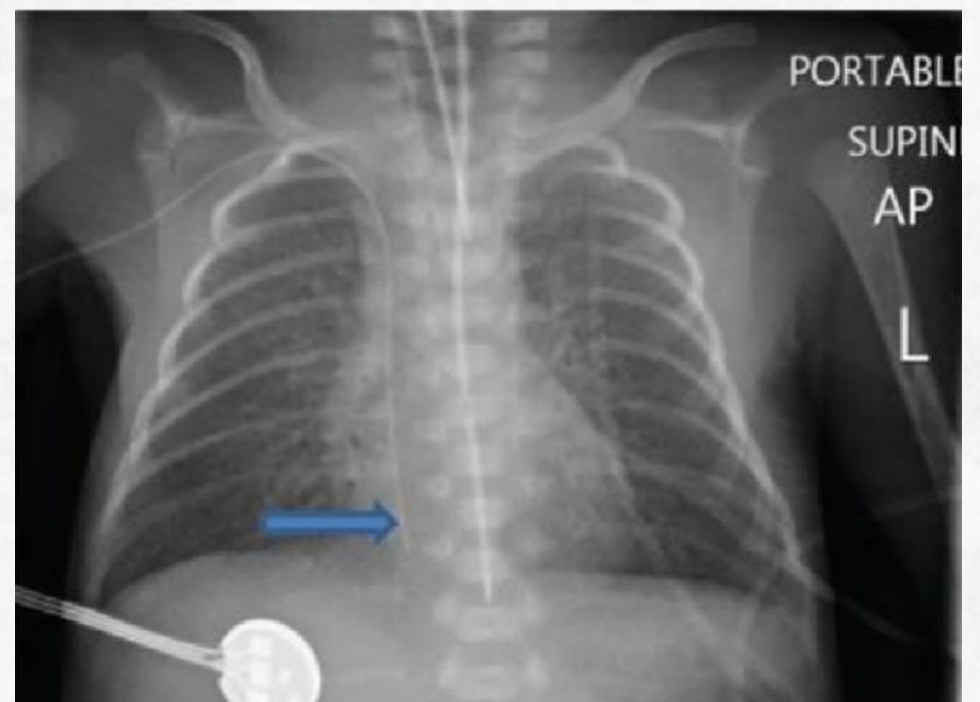
247. Mention 2 reversible pulmonary causes.

ANSWER : Tension pneumothorax - Thromboembolism

248. What are the next 2 steps to do?

ANSWER :  
Giving epinephrine 1mg  
Continue chest compressions

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



249. It is positioned correctly?

ANSWER : No

250. Why?

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

251. What should you do?

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

A patient got desaturated perioperatively with SpO<sub>2</sub>=59% and blood pressure 75/49. A procedure was done



252. What is this procedure?

ANSWER : Pericardiocentesis

253. Where is it located?

ANSWER : At 2nd (or 3rd) intercostal space mid-clavicular line

254. What did the patient develop?

ANSWER : Cardiac tamponade

Answer the questions below regarding the following picture



255. Which of the following is the most potent?

ANSWER : C

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

ANSWER : D

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

ANSWER : A

اللهم سلم غزوة وأهلها من كل سوء وشر، اللهم انصرهم وثبت أقدامهم وكن لهم ناصرًا ومعينًا

لا تنسوني من صالح دعائكم

**Malek Abu Rahma**

**The End**  
**Good Luck シ**