

Anesthesia Final MCQs

Notes added by AYA ALAJARMAH



Anesthesia final exam – Nabed 2023

1) Whole blood doesn't contain :

- ✓ a. Blood 350 ml
- ✓ b. anticoagulant 50 ml *Anticoagulant : Blood Ratio 1 : 7*
- ✓ c. hematocrit 35-45 %
- ✓ d. HB 8g/do ?
- ✓ e. (RBC , platelet, WBC) 45%

Whole Blood

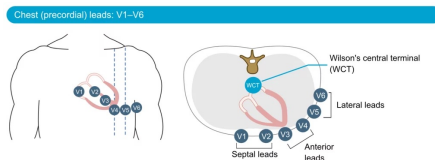
- Volume : 350 / 450ml excluding anticoagulant
- Shelf life 35 days
- HCT : 40 ± 5%
- Plasma volume ~ 200 to 240 ml
- Plasma contain ABO antibodies
- Increment of 1 gm/dl Hb
- No viable PLT, labile coagulation factors after 8 hrs storage



Blood Trans

2) In ECG the leads v1 v2 represent :

- a. Septal ✓
- b. anterior wall
- c. lateral wall
- d. inferior wall



4-15

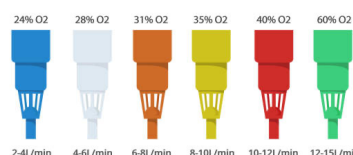
ECG

3) Venturi adaptor , O2 flow rate ?

- a. 4-6
- b. 6-10
- c. 10-15
- ✓ d. Variable ??

Flow rate: Varies with colour give a fixed Fio2 (usually 24%, 28%, 31%, 35%, 40%, and 60%)

Venturi Mask Valves



O2 therapy

4) Which of the following isn't represented in the ECG :

ECG

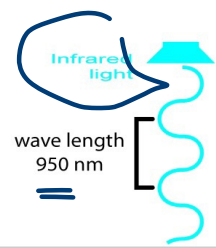
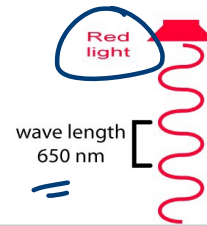
- A. atrial depolarization *P wave*
- b. ventricular repolarization *st segment*
- c. atrial repolarization ✓
- d. hyperkalemia ✓

5) The wavelength of the infrared led in pulse oximetry :

a. 905

B. 950 ✓

O₂ Therapy



how equipment works

6) cryoprecipitate contain the following factors expect :

a. IX

Blood Trans

*→ fibrinogen
factor 8, 13
vWF*

7) what is the fluid used with administration of blood products?

Select one?

✓ a. N/S ✓

b. R/L

c. D5W

d. HES

e. A and B

IV fluid

8) Predictor of difficulty encountering ventilation mask *Except 0-*

✓ 1. Bearded ✓

2. Hyomental distance 2 finger

✓ 3. Large neck ✓

✓ 4. Advanced age ✓

✓ 5. Snorer ✓

O₂ Therapy

The presence of two of the following risk factors indicates a high likelihood of difficult mask ventilation:

Presence of beard
Body mass index > 26 kg/m ²
Lack of teeth
Age > 55 years
History of snoring

9) 55 year old man with **end stage renal failure** with hernia repair:

ASA : 1

ASA : 2

ASA : 3

ASA : 4

ASA : 5

Intro

ASA Classification	Definition	Examples
ASA I	A normal healthy patient	Healthy, non-smoking, no or minimal alcohol use
ASA II	A patient with mild systemic disease	Mild diseases only without substantive functional limitations. Current smoker, social alcohol drinker, pregnancy, obesity (30 < BMI < 40), well-controlled DM/HTN, mild lung disease
ASA III	A patient with severe systemic disease	Substantive functional limitations; One or more moderate to severe diseases. Poorly controlled DM or HTN, COPD, morbid obesity (BMI ≥ 40), active hepatitis, alcohol dependence or abuse, implanted pacemaker, moderate reduction of ejection fraction, ESRD undergoing regularly scheduled dialysis, history (> 3 months) of MI, CVA, TIA, or CAD/stents.
ASA IV	A patient with severe systemic disease that is a constant threat to life	Recent (< 3 months) MI, CVA, TIA or CAD/stents, ongoing cardiac ischemia or severe valve dysfunction, severe reduction of ejection fraction, shock, sepsis, DIC, ARD or ESRD not undergoing regularly scheduled dialysis
ASA V	A moribund patient who is not expected to survive without the operation	Ruptured abdominal/thoracic aneurysm, massive trauma, intracranial bleed with mass effect, ischemic bowel in the face of significant cardiac pathology or multiple organ/system dysfunction
ASA VI	A declared brain-dead patient whose organs are being removed for donor purposes	

10) Larynx?

C3-C6

air way

11) Female come for CS give hyperbaric then suffer from numbness in thumb what the next management?

Head up

Head down

O₂

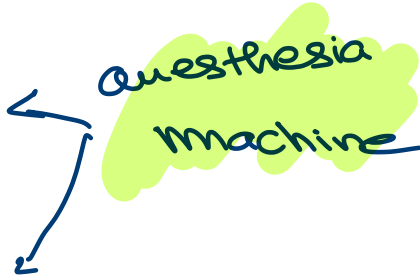
Head up with O₂

Head down with O₂

Regional anesthesia ?

12) Spontaneous breathing for infant (mapleson)

A
C
D
E
F



	F ₅₀ APLV	conventional spontaneous	Adult to Pediatric	Modification
Mapleson A (Magill)	F ₅₀ near AB APLV over face mask	best for spont. breath for cont.	Adult	Ironical! A ₅₀ system provides scavenging
Mapleson B	F ₅₀ in APV over face mask	* risk: A	efficient	
Mapleson C	* similar to B	but shorter breathing tubes not constructed		
Mapleson D	opposite of A	best for controlled	Adult	modified into Bain circuit
Mapleson E (Cayle's T-piece)	F ₅₀ in face mask APLV	Not good for spontaneous	Pediatric	* Jackson-Jee's Modification of Mapleson E, result in Mapleson E
Mapleson F (Jackson-Rees Modification)	same as E + there is AB	also controlled and scavenging	Pediatric	

13) false :

O₂ is green in international

↳ White

14) Inaccuracy in flow meters are due to: (false)

- ✓ - The tube not being vertical.
 - ✓ - Back-pressure, from for example, a ventilator.
 - ✓ - Static electricity causing the float to stick to the tube.
 - ✓ - Dirt causing the float to stick to the tube
- fresh gas rate

▶ Inaccuracy in flow meters are due to: **very important**

- The tube not being vertical.
- Back-pressure, from for example, a ventilator.
- Static electricity causing the float to stick to the tube.
- Dirt causing the float to stick to the tube

15) ALL true about opioid with regional anesthesia except?

- promote sensory block spring and faster recovery

↳ Motor

Opioid

16) True about Anesthesia stages ?

Pupils dilation in stage 2

intro

17) One is false about Morphin ?

- Morphin more potent than Morphin 3 glucuronide???

- adults more sensitive than neonate
- remifentanil safe in renal failure
- morphine is contraindicated in renal failure

Opioid

Opioids

They exert direct analgesic effect.

Prolong the duration of sensory and motor blockade, and increase mean spread of blockade.

Allow for a reduction in the required dose of local anesthetic.

Promote motor block sparing and faster recovery while still producing the same degree of analgesia.

Stages of anesthesia based on Guedel's classification

Stage 1 (Amnesia and analgesia) stage from beginning of the anesthetic to the onset of unconsciousness during this stage, the patient progresses from analgesia without amnesia to analgesia with amnesia Patients can carry on a conversation at this time.

Stage 2 (stage of excitement or delirium): from loss of consciousness to onset of anesthetic induction. In this stage, the patient's reflexes are intact but other reflexes are lost. During this stage, the patient's respiration and heart rate may become irregular. In addition, there may be uncontrolled movements, vomiting, suspension of breathing, and pupillary dilation.

Because the combination of gagging, vomiting, and irregular respiration may compromise the patient's airway, good airway control is used to minimize time in this stage and reach Stage 3 as fast as possible.

Stage 3 (Surgical Anesthesia):

from onset of automatic respiration to respiratory paralysis.

This is the targeted anesthetic level for procedures requiring general anesthesia. Airway manipulation is safe at this level.

Loss of eye movement and respiratory depression are hallmarks of this stage.

Reaction to skin incision disappears.

Stage 4 (medullary depression) also known as overdose, occurs when too much anesthetic medication is given relative to the amount of surgical stimulation and the patient has **cessation of brainstem or medullary depression**, resulting in a cessation of respiration and potential cardiovascular collapse. This stage is lethal without cardiovascular and respiratory support.

18) Pt under GA, decrease ventilation and O₂ Sat, next step ?

Head up, O₂, lavage

O₂ Therapy

19) Propofol all true except:

- Myoclonic movement
- Carcinogenic effects???

IV anesthetic

use as anti-convulsant for epilepsy

20) pt after local anesthesia suffer from tinnitus, numbness,,,,, ?

- CNS toxicity

Local

21) Methemoglobinemia ass with :

- Procaine, Benzocaine
- Procaine, Bupivacaine
- Procaine, Lidocaine
- Prilocaine, Benzocaine

With Methemoglobinemia	
High Risk	
• Benzocaine	• Nitroglycerin
• Chloroquine	• Nitric oxide
• Ciprofloxacin	• Phenazopyridine
• Dapsone	• Phenethine
• Flutamide	• Phenobarbital
• Isosorbide dinitrate	• Prilocaine
• Metoclopramide	• Primaquine
• Naphthalene	• Quinine sulfate
• Nitrofurantoin	• Sulfonamides
	• Trimethoprim
Moderate Risk	
• Acetaminophen	• Fentanyl
• Aspirin	• Lidocaine
• Bupivacaine	• Mepivacaine
• Etidocaine	• Nitrous oxide
Low Risk	
• Benzodiazepines	• Phenothiazines
• Ibuprofen	• Propofol
• Inhalational anesthetics	• Succinylcholine
• Meperidine	• Thiopental

None

22) Treatment of Anaphylactic shock?

✓ -Adrenaline

Shock

23) Maintenance for 80kg pt (421)?

120-

✓ 40 + 20 + 60

4 ml / kg / H → first 10k
2 ml / kg / H → sec 10k
1 ml / kg / H → باقي

IV fluid

24) Wrong regarding ketamine : it is NMDA receptor antagonist (actually it is antagonist)

antagonist

NMDA → Antagonist → N2O + Ketamine
GABA → Agonist → باقي

IV cases

25) Wrong about LA?

-Hyperkalemia and Hypercalcemia antagonist block

↳ Hypo K⁺

Local

26) all of the following are true about complete airway obstruction except ?

Coughing → Partial obs

airway

↳ Unable to cough
Breathe
Speak

27) child's upper airway Except

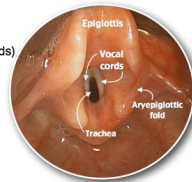
Select one:

- a. tongue is larger
- b. pharynx is smaller
- c. epiglottis is larger
- d. narrowest part thyroid cartilage
- e. larynx is more anterior

Anatomical Differences Between Pediatric and Adult Airways

Pediatric airway

- Proportionally smaller larynx
- Narrowest portion is the cricoid cartilage (below vocal cords)
- Epiglottis is longer and narrower
- Head and occiput are proportionally larger
- Tongue is proportionally larger
- Neck is much shorter
- Larynx is more anterior and cephalad
- Adenoids are larger
- Risk of mainstem intubation is much higher in pediatrics due to short trachea and bronchus



airway

28) about anesthesia machine, which one is true?

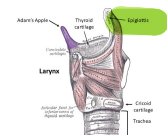
machine

- a. Flowmeter are gas specific and flow rate depend on viscosity or density → صغ حثي بالسلايد
- b. Increase temperature and hydration are disadvantages of humidification system XXX
- c. O2 cylinders colors maybe green or white and black in different countries color coding systems
- d. Inhalational agent itself is not a factor in affecting vaporizer output
- e. Pressure in oxygen cylinder H type 6000-8000 psi and come in form of gas

29) What structure is located more superior in the larynx?

✓ a. the epiglottis

airway



What is the first selective COX-2 inhibitor?

30) First selective cox2 inhibitor in market ? paracetamol جواب الدكتور

31) Wrong about atracurium?

Dose 0.1-0.15

↳ Cisatracurium

↳ 5

↳ Pre medication
↳ Muscle Relaxant

Celecoxib. Celecoxib was the first specific inhibitor of COX-2 approved to treat patients with rheumatism and osteoarthritis. A study showed that the absorption rate, when given orally, is moderate, and peak plasma concentration occurs after about 2-4 hours.

32) administration of a large volume of normal saline(0.9) is likely to produce:

Select one:?

- a. No change in acid base status
- b. Hyperchloraemic metabolic acidosis
- c. Hypochloraemic metabolic acidosis

ACL
K
Met Aciclosyl

IV fluid

- d. Hyperchloraemic metabolic alkalosis
- e. Hypochloraemic metabolic alkalosis

33) pt 68 yo m with HTN and DM presents to the ER with abrupt onset of diffuse abdominal pain with radiation to his low back. The pt is hypotensive, tachycardic, with cool but dry skin. What type of shock is this?

- Select one:
- a. Obstrructive
 - ✓ b. Hypovolemic
 - c. Cardiogenic
 - d. Septic
 - e. Anaphylactic

Shock



34) Which of the following is H2 histamine blocker:

- a. cimetidine
- b. levocetirizine
- c. Diphenhydramine

↳ Tidine

Pre medication

35) Which is true about Ondansetron: → Antiemetic

- ✗ a. can't prolong the QT interval in ECG
- ✓ b. No extrapyramidal sign & Rafe
- ✗ c. no respiratory side effect
- ✓ d. causes sedation

Can ondansetron cause extrapyramidal symptoms?

Ondansetron can rarely induce extrapyramidal reactions in susceptible individuals. Our patient had a history of drug-induced dystonic reaction; therefore, these patients may be susceptible to extrapyramidal adverse reactions after ondansetron.

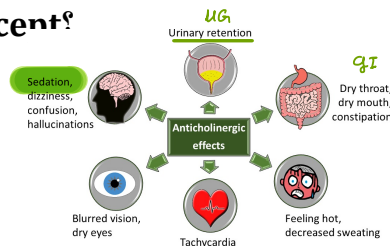
Adverse Effects
The most commonly reported side effects (occurring in more than 10% of adults) include: headache, fatigue, dry mouth, malaise, and constipation. Some less common effects range from central nervous system (CNS) manifestations, such as drowsiness or dizziness, to local injection site reactions and pruritus. [1][12] A transient increase in liver function tests has been reported as well. The pattern of liver enzyme elevation is normally hepatocellular, with rare cases of clinically apparent acute liver injury or jaundice. [23]
Although typically clinically insignificant, EKG interval changes such as QTc prolongation have been seen. These changes typically occur within 1 to 2 hours after administration, returning to baseline within 24 hours. As with any medication that causes QTc prolongation, there is a concern for Torsade de Pointes and other arrhythmias. [21] IV administration has a higher risk for arrhythmias; consequently, the FDA does not recommend a single dose greater than 16 mg IV. [22] Isolated cases of sinus bradycardia and syncope have also been reported. [21] Cases of intestinal obstruction due to impaired gut motility have been reported. [21] Stevens-Johnson syndrome has been reported in patients with multiple comorbidities. [22]
Drug-Drug Interactions
Concurrent administration of pimozide with ondansetron should be avoided due to the risk of QTc prolongation. [22] Amiodarone may also prolong the QTc interval; hence administration with ondansetron requires monitoring. [22] There is a risk of serotonin syndrome when taking ondansetron in conjunction with other serotonergic medications. [21][22]

36) anticholinergic HAS the following effects except?

- ✓ a. No sedative effect
- ✓ b. Parkinson
- ✓ c. effect Muscarinic receptors
- ✓ d. mydriasis → Pupilus Dilatation / Miosis → para
- ✓ e. inhibit secretions

↓ para
↑ symp

Muscle Relaxant



Head injury

37) pt with a head injury is being monitored increased ICP his blood prusser 100/70 , HR 110, icp 30, CVP 10 , therefore his ccp is ? 50mmhg

$$CPP = MAP - ICP \text{ (or CVP)}$$

80 - 30 = 50

38) yore patient open there eye to verbal stimulation but unable to follow commads and displays a localization pain response . they grunt when noxious stimuli are provided but don't produce words . there GCS IS?

- a. 7
- b. 8
- c. 9
- ✓ d. 10
- e. none of the above

Eye → 3
moter → 5
Verbal → 2

Head injury

GLASGOW COMA SCALE		
EYE OPENING	VERBAL RESPONSE	MOTOR RESPONSE
Spontaneous > 4	Orientated > 5	Obey commands > 6
To sound > 3	Confused > 4	Localising > 5
To pressure > 2	Words > 3	Normal flexion > 4
None > 1	Sounds > 2	Abnormal flexion > 3
	None > 1	Extension > 2
		None > 1
GLASGOW COMA SCALE SCORE		
Mild 13-15	Moderate 9-12	Severe 3-8

b. Anesthesia final exam - wareed 2022

Done by: Mothana Al-takhanieh

12 Q

(كثير كان في أسئلة برا من المادة)

من امتحان بنفسي

1) Which of the following is H2 histamine blocker:

صطر بنفسي

- a. cimetidine
- b. levocetirizine
- c. Diphenhydramine

2) Which is true about Ondansetron:

مكرر بنفسي

- a. can't prolong the QT interval in ECG
- b. **No extrapyramidal sign**
- c. no respiratory side effect
- d. causes sedation

3) Which is wrong about Metoclopramide:

- a. It increases lower esophageal sphincter tone
- b. **the adult dosage is 30mg** (10-20 mg)
- c. It prevents nausea and vomiting
- d. Causes rapid gastric emptying
- e. is contraindicated in people with intestinal obstruction

Pre medication

4) Which of the following is Wrong about desflurane:

- a. closely related to isoflurane
- b. uses special electronic vaporizer
- c. **can produce compound A**
- d. highly fluorinated agent
- e. **has B:G CO of 2.6**

Both C + E → Wrong

Inhalation

5) Which of the following is wrong about Isoflurane:

- ✓ a. causes muscle relaxation
- ✓ b. decreases liver and renal blood flow
- ✓ c. metabolized by trifluoroacetic acid
- ✓ d. used for maintenance of anesthesia

psy cypr2E1

عق قوس

Inhalation

Isoflurane

- **Kidney**
 - Reduced renal blood flow and glomerular filtration rate
 - Small volume of concentrated urine
 - Rapidly reversed
 - ⊖ No long-term renal sequelae or toxicities
- **Liver and Gastrointestinal Tract**
 - Concentration dependent splanchnic and hepatic blood flow reduction
 - LFTs minimally affected by isoflurane
 - ⊖ No reported incidence of hepatic toxicity

↳ Halothane

6) What's mac for isoflurane in awake patient :

- a. 1.2
- b. **0.3**
- c. 2.4
- d. 0.6

MAC = 1.2

awake = 0.36

Inhalation

-1MAC AWAKE (100% awake awareness) = 0.3 *
NORMAL MAC

%100 - 2unconscious = 1.3 * normal MAC

7) What is the minimum O2 pressure in emergency stores:

- a. 500 psi
- b. 1000 psi
- c. 1500
- d. **2000**
- e. 2500

O2 therapy

3. Oxygen cylinders can store gas at pressures ranging from 2000 psi to 3000 psi depending on the specific design and intended use.

سؤال
لنفسه

940 or 950

8- The wavelength of the infrared led in pulse oximetry:

- a. 660
- b. 1000
- c. 940 ✓✓

O2 Therapy

9- Which is incorrect with regards to hypocalcemia:

- ✓ a. it causes QT prolongation
- ✓ b. treatment with calcium may not work if magnesium is not given as well
- ✓ c. iv administration of calcium requires cardiac monitoring
- ✓ d. it is seen in pancreatitis

IV fluid

e. hyperventilation produces tetany by causes a id in the total body calcium

↳ Allsclabig → ↓ free ionized Ca²⁺

10- What does not cause impaired accuracy of the pulse swimmer:

- a. ambient light
- b. caboxyhaemoglobin
- c. methaemoglobin
- d. hypothermia → VC → Impair pulse oximetry.
- e. xray beams

ICU ?

Pulse Oximetry

Causes of false readings:

- | | |
|----------------------|-------------------------|
| 1. Carboxyhemoglobin | 6. Ambient light |
| 2. Methaemoglobin | 7. False alarms |
| 3. Anaemia | 8. Motion artefact |
| 4. Dyes | 9. Skin pigmentation |
| 5. Nail polish | 10. Low perfusion state |

11- What from the following predict difficult intubation in bariatric surgery?

سؤال
لنفسه

- ✓ a. BMI > 40
- ✓ b. snoring
- c. increased neck circumference only
- d. increased neck circumference + mallpatite 3

airway

The presence of two of the following risk factors indicates a high likelihood of difficult mask ventilation:

Presence of beard
Body mass index > 26 kg/m ²
Lack of teeth
Age > 55 years
History of snoring

+ in obese → Ratio [Neck's circumference / height]

12- Hypoxemia is:

- a. low oxygen levels in your blood
- b. low levels of oxygen in the tissues of your body and low oxygen levels in your blood
- c. low levels of oxygen in the tissues of your body → Hypoxia.

airway

✓ 13- What mixture of gases are used in anesthesia?

- a. O2 and N2O
- b. O2 and CO2
- c. CO2 and N2O
- d. O2, CO2 and N2O
- e. O2 and He

inhalation

14- Which of the following isn't represented in the ECG:

سؤال
لنفسه

- a. atrial depolarization
- b. ventricular repolarization
- c. atrial repolarization
- d. hyperkalemia

ECG

15- A central line can be used for all of the following EXCEPT which one :

- a. Administer fluids
- b. Administer medications
- c. Obtain blood for labs
- d. Obtain blood for ABGs
- e. CVP monitoring → art

ICU

16- In ECG the leads v1 v2 represent:

- a. Septal
- b. anterior wall
- c. lateral wall
- d. inferior wall

ECG

17- a 22 year old male presents following a motor vehicle accident he withdraws to pain, opens his eyes only to pain and uses Inappropriate words. What IS his GCS:?

- a. 8
- b. 9
- c. 10
- d. 11
- e. 12

Head injury

اختناق
ICU

18- A cigarette vendor was brought to the emergency department of a hospital after she fell into the ground and hurt her left leg. She is noted to be tachycardic and tachypneic. Painkillers were carried out to lessen her pain. Suddenly, she started complaining that she is still in pain and now experiencing muscle cramps, tingling, and paraesthesia. Measurement of arterial blood gas reveals pH 7.6, PaO2 120 mm Hg, PaCO2 31 mm Hg, and HCO3 25 mmol/L. What does this mean?

- Select one:
- a. Respiratory Alkalosis, Uncompensated
 - b. Respiratory Acidosis, Partially Compensated
 - c. Metabolic Alkalosis, Uncompensated
 - d. Metabolic Alkalosis, Partially Compensated
 - e. Respiratory Alkalosis, Compensated

تدهور

O2 Therapy

19- nasal canula 2L/MIN F1o2 is:

- a. 24%-25%
- b. 32%-33%
- c. 28%-29%
- d. 36%-37%
- e. 40%

O2 Therapy

24% to 1 L/min
28% to 2 L/min

20- If you want to give a patient O2 with a flow of 40% which of the following to use:

- a. simple mask
- b. Venturi
- c. non rebreather mask
- d. nasal cannula
- e. rebreather mask

O2 Therapy

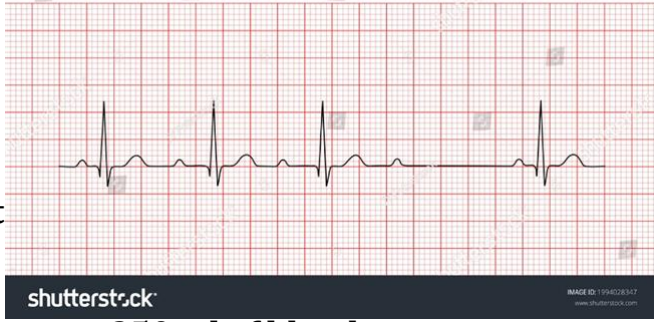
O ₂ device	Flow rate	FiO ₂
Low Flow		
1 nasal cannula	1-6 L/min	24-44%
2 simple mask	6-10 L/min	35-68%
3 partial rebreather	minimum 6 L/min	50%
4 non rebreather	8-15 L/min	95-100%
High Flow		
5 Venturi mask	4-15 L/min	24-50%

21- COPD patient what will you use to give O2 therapy:

- a. nasal cannula
- b. simple mask
- c. non rebreather mask
- d. Venturi
- e. rebreather mask

O2 Therapy

22- Second degree AV block (Mobitz I)



ECG

23- unit

- c. 350 ml of blood
- d. 46% platelets ,RBC and WBC
- e. **hct 35-45**

سؤال
لنفسه

24- cryoprecipitate contain the following factors expect:

a. **IX**

Blood Trans

25- anticholinergic HAS the following effects except:

- a. **No sedative effect**
- b. Parkinson
- c. effect Muscarinic receptors
- d. mydriasis
- e. inhibit secretions

muscle Relaxant

26- What structure is located more superior in the larynx?

a. **the epiglottis**

airway

27- The important anatomical hall mark for intrathecal anesthesia in children:

- a. **Spinal cord to L3** , Adult L1 .
- b. the dural sac extends to the 3rd sacral in infants

Regional

28) Wrong about benzodiazepines?

decrease the mac

True its ↓MAC

IV anesthetic / Inhalation

29) First selective cox2 inhibitor in market ? **paracetamol** جواب الدكتور

30- Wrong about atracurium?

Dose 0.1-0.15

muscle Relaxant

Pre medication

31- Wrong about dysflurane ?

Mac 1.2

Isoflurane

Dysflurane
MAC = 6.6

inhalation

Anesthesia final exam - Serotonin 2021

1. Anesthetic plan should include the following except one:

Select one:

- ✓ a. Patient premedication
- ✓ b. perioperative monitoring
- ✓ c. Anesthetic procedure
- d. Preoperative fluid and blood therapy are a surgeon responsibility
- ✓ e. Postoperative pain control

Intro

Anesthetic plan

- The plan should include the following:
 - A premedication.
 - Need standard ASA monitors. However, if the patient may experience large hemodynamic fluctuations, invasive monitoring should be considered (e.g., central venous pressure for volume monitoring, arterial line for potential hemodynamic instability).
 - A review of anesthetic options; general anesthesia, regional anesthesia, and combinations thereof should be reviewed and options appropriate for the patient listed in the final assessment.
 - Plan for postoperative pain control.

2. The epidural space is located between the

Select one:

- ✓ a. arachnoid and pia mater.
- b. dura and arachnoid mater.
- c. dura mater and the ligamentum flavum.
- d. arachnoid mater and the vertebral muscle layer.
- e. arachnoid and the ligamentum flavum

Regional

3. Urinary osmolality

Select one:

- a. in the presence of oliguria is a good indicator of renal function
- b. will increase more than specific gravity with an osmotic diuresis due to glucose
- c. is measured by elevation of the freezing point
- d. is expressed in milliosmol.l-1
- e. in severely ill patients gives an indication of the effectiveness of frusemide

1 = 0

4. what is the fluid used with administration of blood products?

Select one:

- a. N/S
- b. R/L
- c. D5W
- d. HES
- e. A and B

IV fluid

5. Halothane effects in CNS except one

Select one:

- ✓ a. Increases cerebral blood flow
- b. Maintain organ stores lation
- ✓ c. Decreases cerebral O2 consumption
- ✓ d. Decreases cerebral metabolism
- ✓ e. Increases ICP

✓ CNS Depression.

Inhalation

6. Minute ventilation is equal to...

Select one:

- a. $F_iO_2 \times PEEP$
- b. $F_iO_2/PEEP$
- c. $PEEP/F_iO_2$
- d. Tidal Volume X Respiratory Rate ✓✓
- e. Tidal Volume/Respiratory Rate

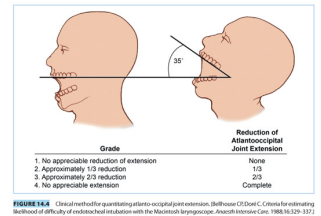
O2 Therapy

7. Preoperative physical examination:

airway ?

Select one:

- a. mouth opening at least 2 fingers φ 3 fingers.
- b. malampati score 2, 3 difficult intubation φ 3, 4
- c. thyromental distance 5 cm at least > 6 cm
- d. atlanto-occipital joint extension should be approximately 35 degree
- e. Cormack score 4 only epiglottis visible $\text{score } 3$



8. The followings are body core temperature monitoring sites except

Select one:

- a. Tympanic membrane
- b. Nasopharynx \leftarrow
- c. Carotid artery site
- d. oesophagus
- e. Sigmoid

ICU

Therefore, the nasopharynx is a frequently used temperature monitoring location during surgical procedures. The optimal site for nasopharyngeal temperature measurement is near the internal carotid artery. Oct 10, 2021

9. The followings are blood richly supplied organs except:

Select one:

- a. Brain
- b. Fatty tissues \checkmark
- c. Kidneys
- d. Liver.
- e. heart and lungs

CPR

10. What is not a cause of hypercalcemia?

Select one:

- a. post prandial measurement
- b. tuberculosis
- c. lung Ca
- d. hypomagnesemia \rightarrow hypo Ca^{2+}
- e. renal failure

IV fluid

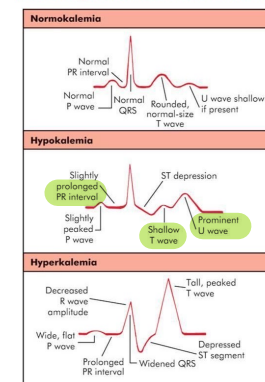
11. Which is not a possibility in the ECG of a pt with hypokalemia?

Select one:

- a. prolong PR interval \checkmark
- b. prominent U waves \checkmark
- c. T wave flattening or inverted.
- d. Prolonged QT interval \rightarrow Normal
- e. T wave inversion in praecordial leads \checkmark

ECG

ECG Changes with Potassium Imbalance



ECG EKG Changes in Hypokalemia and Hyperkalemia

12. One of the following device provides fixed performance oxygen therapy?

Select one:

- a. Nasal cannula
- b. Simple mask
- c. Partial rebreather mask
- d. Venti mask \checkmark
- e. O2 by T-piece

venti

O2 Therapy

- ✓ 13. Regarding middle airway anatomy "(larynx), the largest cartilage;
Select one:
- a. thyroid cartilage
 - b. cricoid cartilage
 - c. tracheal cartilage
 - d. corniculate cartilage
 - e. arytenoid cartilage

air way

14. The followings aims of premedications except one: مش اكيد
Select one:

- a. Minimizing anxiety ✓
- b. preoperative pain relief ✓
- c. To prevent allergic reactions under anesthesia ✓
- d. reduces aspiration pneumonitis ✓
- e. Valium as preemptive analgesic

Pre medication

Goals for Pharmacologic Premedication

Primary Goals for Pharmacologic Premedication

2. Anxiety relief (anxiolysis)
3. Sedation
4. Analgesia
5. Amnesia
6. Antisialogogue effect
7. Increase in gastric fluid pH
8. Decreased in gastric fluid volume
9. Attenuation of sympathetic nervous system reflex responses
10. Decrease in anesthetic requirements
11. Prophylaxis against allergic reactions

15. What's the first thing you should do before beginning CPR if you see an adult collapse and the person is unresponsive?

Select one:

- a. Remove the victim's belt
- b. Check the victim's mouth
- c. Call 911
- d. Call the victim's doctor
- e. Chest compression

CPR

16. A cigarette vendor was brought to the emergency department of a hospital after she fell into the ground and hurt her left leg. She is noted to be tachycardic and tachypneic. Painkillers were carried out to lessen her pain. Suddenly, she started complaining that she is still in pain and experiencing now muscle cramps, tingling, and paraesthesia. Measurement of arterial blood gas reveals pH 7.6, PaO₂ 120 mm Hg, PaCO₂ 31 mm Hg, and HCO₃ 25 mmol/L. What does this mean? PE Alkalosis
Select one: → normal → uncom

- a. Respiratory Alkalosis, Uncompensated ✓✓
- b. Respiratory Acidosis, Partially Compensated
- c. Metabolic Alkalosis, Uncompensated
- d. Metabolic Alkalosis, Partially Compensated
- e. Respiratory Alkalosis, Compensated

low → respiratory alkalosis

O₂ Therapy

ICU

17. child's upper airway

Select one:

- a. tongue is larger
- b. pharynx is smaller
- c. epiglottis is larger
- d. narrowest part thyroid cartilage
- e. larynx is more anterior

air way

18. The followings predispose to delay recovery from general anesthesia except

Select one:

- ✓ a. Chronic hypertension
- ✓ b. Hepatic insufficiency
- c. Hyperthyroidism** ↗ clearance
- ✓ d. Renal insufficiency
- ✓ e. Hyper or hypoglycemia

Certain underlying metabolic disorders such as hypoglycemia, severe hyperglycemia, and electrolyte imbalance, especially hypernatremia, hypoxia, hypercapnia, central anticholinergic syndrome, chronic hypertension, liver disease, hypoalbuminemia, uremia, and severe hypothyroidism may also be responsible for delayed

Complication

19. All of the followings are contraindications for epidural analgesia, EXCEPT:

Select one:

- a. Systemic infection ✓
- b. Abnormal hemostasis ✓
- c. Increased intracranial pressure ✓
- d. History of laminectomy 15 years ago**
- e. Patient refuse ✓

Regional

Contraindications very important

- Patient refusal.
- Unstable patients (sepsis, hypovolemia)
- Inadequate resuscitative drugs and equipment.
- Uncooperative patients. (Psychiatry, pediatrics).
- Anatomical deformities, spine surgeries
- Neurological disease: Any worsening of the disease postoperatively may be blamed erroneously on the spinal anesthetic.
- Raised intracranial pressure.
- Severe aortic stenosis.
- Clotting disorders.

20. A central line can be used for all of the following EXCEPT which one?

Select one:

- a. Administer fluids
- b. Administer medications
- c. Obtain blood for labs
- d. Obtain blood for ABGs** → art.
- e. CVP monitoring

ICU

21. A man is found on the ground outside a homeless shelter. When you give him a sternal rub, he opens his eyes, tells you to go away, and pushes your hand away. What is his Glasgow

Coma score

Select one:

- a. 8
- b. 9
- c. 10
- d. 11
- e. 12**

Head injury

22. What is seen earliest in an ECG of hyperkalemia?

Select one:

- a. Sine wave
- b. Peak T wave**
- c. Flattened p wave
- d. QRS widening
- e. AV dissociation

ECG

23. What is not a cause of hypercalcemia?

Select one:

- a. post prandial measurement
- b. tuberculosis
- c. lung Ca
- d. hypomagnesemia** → Hypo
- e. renal failure

IV fluid

24. The followings increases susebility to scoline induced hyperkalemia except.

Select one:

- a. Spinal cord transection
- b. Severe burn
- c. Severe sepsis
- d. Severe metabic alkalosis** *Acidosis*
- e. Near drawing syndrome

Complication

TABLE 11-5 Conditions causing susceptibility to succinylcholine-induced hyperkalemia.

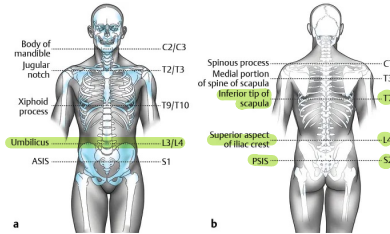
Burn injury
Massive trauma
Severe intraabdominal infection
Spinal cord injury
Encephalitis
Stroke
Guillain-Barré syndrome
Severe Parkinson's disease
Tetanus
Prolonged total body immobilization
Ruptured cerebral aneurysm
Polynuropathy
Closed head injury
Hemorrhagic shock with metabolic acidosis
Myopathies (eg. Duchenne's dystrophy)

25. at anatomical level is T10?

Select one:

T10 → Dermatomes

- a. Level of the umbilicus** *X*
- b. Level of inferior angle of scapula
- c. Level of the nipple
- d. Level of the illiac crest
- e. Level of PSIS



Regional

26. In cap organic monitoring s all are true except one

Select one:

- a. To confirm adequate ventilation
- b. Ventilatory control in high intracranial pressure
- c. Air embolism
- d. Major complication after neurosurgery
- e. Severe anemia**

Complication

27. What is the oxygen flow rate of this device?

Simple 35 - 60 l.



face masks

Select one:

- a. 24-44 ml per min
- b. 30-40 ml per min
- c. 35-60 ml per min** *✓*
- d. 60-80 ml per min
- e. 80-100 ml per min

O2 therapy

28. The most frequently reported narcotic-related side effect of epidural analgesia is

Select one:

- * a. pruritus**
- b. hypotension
- c. urinary retention
- * d. nausea and vomiting**
- e. Bradycardia

Regional

Complication	Incidence
Respiratory Depression	Frequent (up to 7%)
Pruritus	Very common (5.1 - 37%)
Urinary Retention	Likely increased but incidence is unreliable as many patients were catheterised perioperatively
Nausea and Vomiting	Very common (≥25%)

29. The followings are color coding of anesthetic gases except one

Select one:

- a. White for O2
- b. Blue. Nitrous oxide
- c. Grey for CO2
- d. Yellow for air** *X*
- e. Black for nitrogen

O2 Therapy

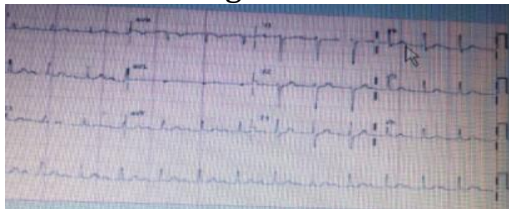
For suction

COLOUR CODING	
Oxygen	White shoulder/Black body
Nitrous oxide	Light blue
Medical air	Black and white
Suction	Yellow
Nitrogen	Black
Carbon dioxide	Grey
Helium	Brown

machine



30. What is the diagnosis?

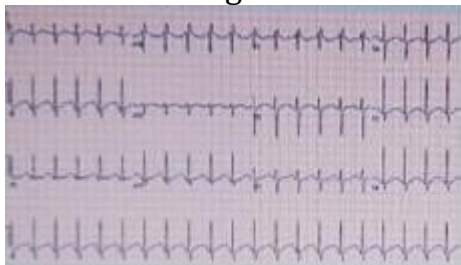


ECG

Select one:

- a. atrial fibrillation
- b. First degree heart block**
- c. Mobitz 1
- d. anterolateral myocardial infarction
- e. Normal sinus rhythm

31. What is the diagnosis? Select one:



ECG

- a. atrial fibrillation
- b. lateral myocardial infarction
- c. anterior myocardial infarction
- d. anterolateral myocardial infarction
- e. Supraventricular tachycardia**

32. The following may contradict premedications except:

Select one:

- a. Lengthy surgery**
- b. Severe lung diseases
- c. Severe hypovolemia
- d. High ICP intracranial **X** use premed
- e. Depressed mental status

Fentanyl has been used in premedication to blunt increases in ICP related to laryngotracheal stimulation in rapid sequence intubation (RSI) [23, 24]. In a

Etomidate and propofol may be the preferred agents to facilitate intubation in hypertensive patients with elevated ICP. It is crucial to avoiding post-intubation hypotension and to maintain adequate sedation and analgesia. Aug 1, 2017

Relative contraindications to sedative premedication :

- New born < 1 year, elderly
- **Decreased level of consciousness**, intracranial pathology
- **Severe pulmonary pathology**
- **Hypovolemia**
- Airway obstruction or airway surgery, sleep apnea
- Severe hepatic and renal disease
- **Rapid sequence induction**
- Obstetric anesthesia

Premedication

33. The followings are related to benzodiazepine use in anesthesia except one

Select one:

- a. Increases hallucinations after ketamine X**
- b. As premedicant ✓✓
- c. As IV. Inductive agent ✓✓
- d. As Anticonvulsant ✓✓
- e. Sympatholytic agent ✓

IV anesthesia

TABLE 9.2 Uses and doses of commonly used benzodiazepines.

Agent	Use	Route ¹	Dose (mg/kg)
Diazepam	Premedication	Oral	0.2–0.5 ²
	Sedation	IV	0.04–0.2
Midazolam	Premedication	IM	0.07–0.15
	Sedation	IV	0.01–0.1
	Induction	IV	0.1–0.4
Lorazepam	Premedication	Oral	0.05

¹IV, intravenous; IM, intramuscular.

²Maximum dose is 15 mg.

34. administration of a large volume of normal saline(0.9) is likely to produce:

Select one:

- a. No change in acid base status
- b. Hyperchloraemic metabolic acidosis**
- c. Hypochloraemic metabolic acidosis
- d. Hyperchloraemic metabolic alkalosis
- e. Hypochloraemic metabolic alkalosis

IV fluid

حجرات
لنفسها

35. A man is found on the ground outside a homeless shelter. When you give him a sternal rub, he opens his eyes, tells you to go away, and pushes your hand away. What is his Glasgow Coma score? Select one:

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

Head Trauma



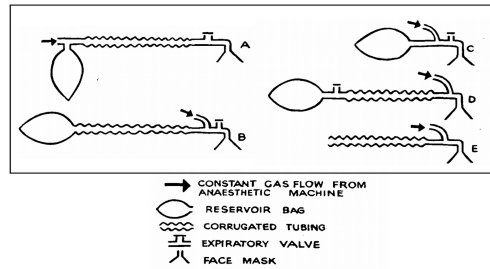
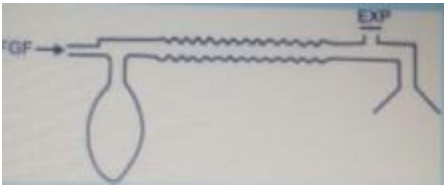
36. pt 68 yo m with HTN and DM presents to the ER with abrupt onset of diffuse abdominal pain with radiation to his low back. The pt is hypotensive, tachycardic, with cool but dry skin. What type of shock is this? Select one:

- a. Obstructive
- b. Hypovolemic
- c. Cardiogenic
- d. Septic
- e. Anaphylactic

مكرر
نفسه

Shock

37. what is the name of this device?



- a. Mapleson A
- b. Mapleson C
- c. Mapleson D
- d. Mapleson E
- e. Mapleson F

machine

38. what is gauge of this cannula?



IV CANNULA GAUGE SIZES AND COLOR CODE (VISUAL MNEMONIC)

COLOR	GAUGE
VIOLET	26
YELLOW	24
BLUE	22
PINK	20
GREEN	18
GREY	16
ORANGE	14

- Select one:
- a. 24
 - b. 22
 - c. 20
 - d. 18
 - e. 16

IV fluid

39. Which is the most important physiological parameter monitored in the intensive care unit?

- a. Temperature
- b. Heart rate
- c. Blood pressure
- d. Skin color
- e. Urine output

ICU

1. Which is the most important physiological parameter monitored in the intensive care unit?
 a) temperature
 b) heart rate
 c) blood pressure
 d) skin color
 View Answer
 Answer: b
 Explanation: The most important physiological parameters monitored in the intensive care unit are the heart rate and the morphology or shape of the electrical waveform produced by the heart. This is done to observe the presence of arrhythmias or to detect changes in the heart rate that might be indicative of a serious condition.



Anesthesia final exam - watan 2020

Done by : Mohammad rabai & Abdelrahman bdeir

Q1- Which of the following is known as laughing gas?

- a. CO2
- b. N2O XXX
- c. NO2
- d. B2O
- e. He

Inhalation

Q2- regarding obstetric anesthesia, which one is true? على الهيد طبعا

- a. Second stage of labour originates from pudendal nerve and it is only somatic pain XXX
- b. Transcutaneous electrical nerve stimulation could cover first and second stage of labour
- c. Fentanyl is the drug of choice for labour analgesia
- d. Spinal anesthesia with hyperbaric bupivacaine is the best option for second stage of labour
- e. Intralipid 20% is the drug of choice for managing intravascular injection

Q3- all of the following have an antiemetic action except?

- a. Promethazine
- b. Propofol ✓
- c. Etomidate XXX
- d. Haloperidol
- e. Sevoflurane

Nausea + Vomiting.

↳ Cause nausea & vomiting

inhalation?

+ IV?

Q4- pt 68 yo m with HTN and DM presents to the ER with abrupt onset of diffuse abdominal pain with radiation to his low back. The pt is hypotensive, tachycardic, with cool but dry skin. What type of shock is this?

- a. Obstructive
- b. Hypovolemic XXX
- c. Cardiogenic
- d. Septic

Shock

Q5- which one of the following device provides fixed performance oxygen therapy?

- a. Nasal cannula
- b. Simple mask
- c. Partial rebreather mask
- d. Venturi mask XXX ✓✓
- e. O2 by T-piece

Venturi
O2 Therapy

Q6- Which one is true?

- a. Moderate hypothermia is characterized by pale skin and temperature between 28-32 XXX
- b. Anuria defined as urine output less than 150ml/day
- c. Normally urine is slightly acidic and with pale color
- d. Increase in urine specific gravity is due to high water intake, absence of ADH and acute nephritis
- e. slurred speech occurs in severe hypothermia

ICU

staging, physiology, and typical therapies of hypothermia

Severity	Neurologic	Cardiac	Pulmonary	Renal	Typical therapy*
Mild (HT1)* 32-35C 90-95F	Alert, shivering* Ataxia Impaired judgement	Tachycardia Hypertension	Tachypnea Bronchorrhea	Cold diuresis	- Exposure-related: Passive external rewarming (e.g. blankets) - Spontaneous: Warming blanket
Moderate (HT2)* 28-32C 82-90F	Drowsy, non-shivering* Delirium Paradoxical undressing Dilated pupils	Bradycardia Hypotension Atrial fibrillation	Hypoventilation	Cold diuresis	- Active external rewarming - Warming blanket - Warmed/humidified air (If possible, fluid being administered should be warmed)
Severe (HT3)* 24-28C 75-82F	Unconscious with pulse* Coma Fixed dilated pupils Areflexia	Heart block Cardiogenic shock	Pulmonary edema Agonal respirations	Oliguria	- Active external rewarming (see above). - If refractory shock or hypothermia, also consider active internal warming (e.g. thoracic/bladder lavage).
Pulseless (HT4)* <24C <75F	Appears dead	Pulseless* - Ventricular arrhythmia - Asystole	Apnea		Active external rewarming plus Active internal rewarming - Ideally: ECMO or cardiopulmonary bypass - Alternative: thoracic lavage

- ✓ Q7- according to hypoxia classification a correct example of histo-toxic hypoxia is:
- a. Status asthmatics
 - b. Thyrotoxicosis
 - c. Heart failure
 - d. **Cyanide poisoning XXX**
 - e. Seizure

ICU

- ✍ Q8- Minute ventilation is equal to? = $TV \times RR$

O₂ Therapy

- a. FiO₂ X PEEP
- b. FiO₂/PEEP
- c. **Tidal Volume X Respiratory Rate XXX**
- d. Tidal Volume/Respiratory Rate
- e. FiO₂ X PaO₂

Q9- all of the following opioid are pure agonist and partial agonists except?

- a. Sufentanil
- b. Buprenorphine
- c. **Nalbuphine XXX** → Antagonist
- d. Remifentanil → Agonist
- e. Morphine

Table. Opioids and their actions

Opioid category	Examples	Action at mu receptor	Action at kappa receptor
Pure agonist	Morphine, codeine, meperidine, fentanyl, remifentanil, hydromorphone, oxycodone, methadone	Agonist	Agonist
Agonist-antagonist	Butorphanol	Antagonist	Agonist
Pure antagonist	Naloxone, naltrexone	Antagonist	Antagonist
Partial agonist	Buprenorphine	Partial agonist	Partial agonist/weak antagonist

Opioid

✍ Q10- what is the fluid used with administration of blood products ?

- a. **N/S XXX**
- b. R/L
- c. D5W
- d. HES
- e. A and B

Blood Trans

Q11- all of the following are signs of dehydration except?

- ✓ a. Progressive metabolic acidosis
- b. Urine specific gravity > 1.010
- c. **Urine osmolality < 300 mOsm/kg**
- d. Urine sodium < 10mEq/l
- e. **Normal heart rate XXX**

ICU/ Shock

1. All of the following are signs of dehydration except:
- A. Progressive metabolic acidosis.
 - B. Urinary specific gravity >1.010
 - C. Urine osmolality <300mOsm/kg
 - D. Urine sodium <10 meq/l

C. When dehydrated, patients with normal renal function will retain sodium and produce a concentrated urine. Urine osmolality is typically greater than 450 mOsm/kg in this setting. Urine sodium will be low, and specific gravity will be high.

Q12- about malignant hyperthermia, which one is true?

- a. Mostly autosomal recessive
- ✓ b. **The earliest sign is hypercarbia XXX** -masseter rigidity
- c. More common in adults than pediatric
- d. Triggering agent include halothane, nitrous oxide and sevoflurane
- e. Hyperthermia usually occur early in the event of malignant hyperthermia

muscle Relaxant ?

✓ Q13- Which of the following are not considered as predictors of difficult intubation in pre-anaesthetic examination?

- a. Mallampati test
- b. Thyromental distance
- c. **Protrusion of mandible XXX**
- d. Cormack-Lehane grade
- e. Trachea centralization

Air way ?

✍ Q14- a 22 year old male presents following a motor vehicle accident. he withdraws to pain, opens his eyes only to pain and uses inappropriate words. what is his GCS?

- a. 6
- b. 7
- c. 8
- d. **9 XXX**
- e. 10

Head injury

Q15- the main reason Desflurane is not used for inhalational induction in clinical practice is because of?

- a. Its low blood/gas partition coefficient
- b. Its propensity to produce hypertension in high concentration
- ✓ c. **Its propensity to produce airway irritability XXX**
- d. Its propensity to produce tachyarrhythmias
- e. Its lipid solubility

airway

Q16- according to criteria of admission to intensive care unit one correct:

- a. Patient needs FIO2 less than 60%
- b. Pao2 less than 70mmhg
- c. **PaCo2 more than 55mmhg XXX**
- d. GCS less than 14 score
- e. PH is 7.4

• Admitted to ICU criteria in general **very important**

- compromised airway
- GCS <= 12
- Unstable vital sign
- pH <=7.2 or >7.5
- PaCO2 >45-55
- PaO2 <60 HYPOXIA
- FIO2 > 60% needed

ICU

Q17- all of the following are true about nasal airway except?

- a. May cause bleeding ✓
- b. Does not protect from aspiration ✓
- c. May precipitate laryngospasm and vomiting ✓
- d. **Contraindicated in head injuries and awake patient XXX**
- e. Easier to insert than oral airway ✓

airway

Nasopharyngeal (Nasal) Airway

- Indications
 - Unresponsive
 - Altered mental status with an intact gag reflex
- Contraindications
 - Patient intolerance
 - Facial fracture or skull fracture
- Advantages
 - Suctioned through
 - Patent airway
 - Tolerated by responsive patients
 - Can be placed "blindly"
 - No requirement for the mouth to be open
- Disadvantages
 - **ingripes technique may result in severe bleeding.**
 - **Does not protect from aspiration**

✍ Q18- administration of a large volume of normal saline(0.9) is likely to produce:

- a. No change in acid base status
- b. **Hyperchloraemic metabolic acidosis XXX**
- c. Hypochloraemic metabolic acidosis
- d. Hyperchloraemic metabolic alkalosis
- e. Hypochloraemic metabolic alkalosis

IV fluid

Q19- succinylcholine is contraindicated in a patient with?

- ✓ a. **Chronic renal failure XXX**
- ✓ b. Duchene muscular dystrophy
- ✓ c. Myasthenia gravis ✗
- ✓ d. Patient with full stomach
- ✓ e. Patient with potassium 5.0 mEq/L ✗ **ClI when K**

muscle Relaxant

When you can use Succinylcholine

NEVER USE	GIVE LESS
<ul style="list-style-type: none"> • Open to infection • Malignant hyperthermia • Major Neurological Disease 	<ul style="list-style-type: none"> • Organophosphates • Liver disease • Sarcoidosis • Myasthenia
<ul style="list-style-type: none"> • Glucose 6-phosphate dehydrogenase deficiency • Myotonic Dystrophy • Guillain-Barre Syndrome • Sore Throat (Pharyngitis) • Spinal cord laceration (T10-L1) • Old Cxk with residual Paralysis 	<ul style="list-style-type: none"> • NO PROBLEMS • Freshwound Ulcers • Rabies • Asthma Cxk
<ul style="list-style-type: none"> • GIVE MORE • Myasthenia Gravis • Glucose 6-phosphate dehydrogenase deficiency • Old Cxk with residual Paralysis 	

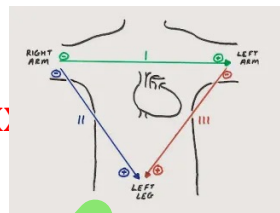
Adapted from CIV's Log

Contraindications: hyperkalemia, bedridden patients, rhabdomyolysis, muscle trauma, burns, infusion of neuromuscular blocking agents, acute renal failure, **chronic renal failure**, intraocular hypertension, intracranial hypertension, statin use, malignant hyperthermia, neuromuscular disease, spinal cord sectioning, bradycardia < 50 bpm, succinylcholine allergy, and pseudo-cholinesterase deficiency.

?

Q20- lead 2 of an ECG is represented by placing?

- a. Positive electrode on the right arm and the negative electrode on the left leg
- b. **Negative electrode on the right arm and the positive electrode on the left leg X**
- c. Positive electrode on the right arm and the negative electrode on the left arm
- d. Negative electrode on the right arm and the positive electrode on the left arm
- e. Positive electrode on the left arm and positive electrode on the right leg



ECG

Q21- A patient with cerebral edema would most likely be order what type of solution?

- a. 0.45% Normal Saline
- b. 0.9% Normal Saline
- c. Lactated Ringer's
- d. 0.225% Normal Saline
- ✓ e. **3% Saline XXX** → **Hypertonic**

IV fluid

Q22- regarding early complications of head injury except one:

- a. Cerebral edema
- b. Herniation
- ✓ c. Hydrocephalus XXX *late*
- d. Meningitis
- e. Epilepsy

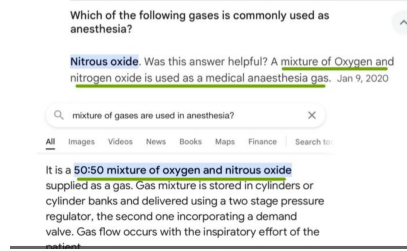
Head injury

→ ICU or machine

Q23- What mixture of gases are used in anesthesia?

- ✓ a. O2 and N2O XXX ✓
- b. O2 and CO2
- c. CO2 and N2O
- d. O2, CO2 and N2O XXX
- e. O2 and He

O2 Therapy



Q24- pt with a head injury is being monitored increased intracranial pressure(ICP)his blood pressure is 90/60mmhg ,heart rate 110 beat/minute ,ICP is 20,CVP is 10;therefoe his cerebral perfusion pressure(CPP)is:

- a. 70mmhg
- b. 80mmhg XXX مو متأكد
- c. 85mmhg
- d. 90mmhg

Head injury

$$CPP = MAP - (ICP \text{ or } CVP)$$

$$= \frac{90+5}{3} - 20$$

$$= 70 - 20 = 50 ?$$

Q25- about anesthesia machine, which one is true?

- ✓ a. Flowmeter are gas specific and flow rate depend on viscosity or density True . machine
- b. Increase temperature and hydration are disadvantages of humidification system XXX
- c. O2 cylinders colors maybe green or white and black in different countries color coding systems
- d. Inhalational agent itself is not a factor in affecting vaporizer output
- e. Pressure in oxygen cylinder H type 6000-8000 psi and come in form of gas

Q26- regarding absolute contraindications of arterial line insertion, all are true except one:

- a. Atherosclerosis XXX *Relative*
- b. Raynaud syndrome ✓
- c. Full thickness burns over the cannulation site ✓
- d. Absent pulse ✓
- e. Thromboangitis obliterans → Buerger Disease .

ICU

- Contraindication of Arterial line :
- Contraindications
- Absolute
 - Absent pulse
 - Full thickness burn at cannulation site
 - Inadequate circulation
 - Raynaud's syndrome
 - Buerger disease
 - Relative
 - Anticoagulation
 - Atherosclerosis
 - Coagulopathy
 - Inadequate collateral flow
 - Infection at cannulation site
 - Partial thickness burn at cannulation site
 - Previous surgery in the area
 - Synthetic vascular graft

Q27- according to SIRS criteria one is not correct:

- ✓ a. Temperature more than 38c or less than 36c
- ✓ b. Heart rate more than 90 beat/minute
- ✓ c. Respiratory rate more than 20 breaths/minute
- d. Systolic blood pressure less than 90 mmhg XXX
- ✓ e. WBC more than 12,000 cell/mm3 or less 4,000

Systemic Inflammatory Response Syndrome
Temperature >38.3°C, or <36°C
Heart Rate >90 bpm
Respiratory rate >20 breaths/min
White cell count <4 or >12 g/L
Blood glucose >7.7 mmol/L not diabetic
New altered mental state

Shock

Q28- The normal blood volume of a 70kg adult male :

- a. 7% of body weight XXX
- b. 10% of body weight
- c. 5% of body weight
- d. 12% of body weight

What is the blood volume of a 70kg man?
The average blood volume of adults is about 7% of body weight, or about 5 liters.

Blood Trans

Q29- about malignant hyperthermia, which one is true?

- a. First step of treatment is giving dantrolene
- b. It is acquired hypermetabolic muscle disease
- c. The severe hyperthermia is usually the cause of death
- d. Prophylactic dantrolene is mandatory in diagnosed cases before induction of general anesthesia ✗

muscle Relaxant

✓ e. **Dantrolene should be given for at least 24 hours after the event XXX**

Q30- severe neurotrauma is not associated with:

- a. Focal neurological deficit
- b. Post traumatic seizure
- c. Palpable depressed fracture
- d. **GCS of 14 XXX** 13-15 → mild | sever < 9
- e. None of the above XXX

Head injury

Q31- the most common complication of inserting a central venous catheter is?

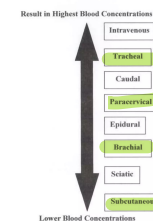
- a. Carotid artery puncture
- b. Thrombosis
- ✓ c. **Cardiac arrhythmias**
- d. Air embolism
- e. Infection

ICU

Q32- What is the correct order for absorption of local anesthesia according to the site of injection?

- a. Brachial>sciatic>subcutaneous>epidural
- b. Tracheal>paracervical>intercostal>brachial
- c. Epidural>brachial>intercostals>paracervical
- d. **Tracheal>paracervical>brachial>subcutaneous XXX**
- e. Intravenous>intercostals>brachial>epidural

Uptake of Local Anesthetics Based on Regional Anesthesia Technique



Local

Q33- you are performing epidural injection on awake 40 years old patient who is healthy with no significant medical history. Soon after injecting 20ml of 0.25% bupivacaine the patient become agitated, has a seizure and loses consciousness. your first step in management is?

- a. Administer lipid
- b. **Administer midazolam or propofol to control seizure XXX**
- c. Establish airway and give 100% oxygen via face mask
- d. Administer epinephrine
- e. Administer amiodarone to prevent arrhythmias

Regional

Q34- all of the following are synthetic opioid except?

- a. Pentazocine
- b. remifentanil
- c. Methadone
- d. **Pethidine**
- e. Levorphanol

Now

opioid

Q35- in order for a brain death not to be considered valid, the following criteria must be met:

- a. Date, time and signature
- b. Patient's name, diagnosis and events surrounding admission
- c. Date and time
- d. Date, time, diagnosis and time
- ✓ e. **None of the above XXX**

Brain death

Types Of Nerve Fibres (Erlanger- Gasser Classification)

Fibre Type	Functions
Type I- Aα (myelinated)	Somatomotor, Proprioception
Type II- Aβ (myelinated)	Touch, Pressure
Aγ (myelinated)	Muscle Spindle
Type III- Aδ (myelinated)	Pain & Temperature
B (Myelinated)	Preganglionic autonomic
Type IV- C (non myelinated)	Post ganglionic autonomic, Pain, Temperature

Q36- About function of the nerve fibers, which one is true?

- a. A alpha > proprioception, pressure
- b. A delta > temperature, pain, pressure
- c. C > pain, preganglionic sympathetic, reflexes *post*
- d. **B > preganglionic, sympathetic XXX**

Local

Q37- which of the following is not part of the clinical brain death exam?

- a. Facial reflex
- b. Doll's eyes
- c. Cold calorics
- d. Trigeminal reflex
- e. **None of the above**

Brain Death

Brain stem reflexes		
	Afferent	Efferent
Corneal reflex	ophthalmic	facial
Papillary reflex	optic	oculomotor
Gag reflex	glossopharyngeal	vagus
Tracheal reflex	vagus	vagus

Important note: vestibulo-ocular/oculocephalic reflex; the most clinically important reflex to diagnose brain death

Q38- Pt 55 yo m with hx of HTN, DM presents crushing substernal cp, diaphoresis, hypotension, tachycardia and cool, clammy extremities. What type of shock is this?

- a. Obstructive
- b. Hypovolemic
- c. **Cardiogenic XXX**
- d. Septic
- e. Anaphylactic

Shock

Q39- what type of maplesone circuit is an Ayre's T piece?

- a. D
- b. B
- c. A
- d. **E XXX**
- e. F

machine

	F1/F2 APV	compared to other circuits	Adult/ Pediatric	Modification
Mapleson A (Magill)	F1 over A8 APV over A10	best for spontaneous breathing	Adult	Modified Magill circuit provides scavenging
Mapleson B	F1 over A10 APV over A8	not for spontaneous breathing	Adult	efficient
Mapleson C	A10 over F1	best for spontaneous breathing	Adult	modified into Bain circuit
Mapleson D	A8 over F1	best for controlled breathing	Adult	modified into Bain circuit
Mapleson E (Ayre's T-piece)	F1 over A10 APV	Not good for spontaneous breathing	Pediatric	* Jackson-Rees's Modification of Mapleson E results in Mapleson E
Mapleson F (Jackson-Rees's Modification)	same as E + HCO ₂ in PB	allows controlled and scavenging	Pediatric	

Q40- all of the following are true about esophageal tracheal combitube except?

- a. Can be used in patient with neck injury
- b. No risk of aspiration
- c. Cannot be used in patient who ingested a caustic material
- d. Can be used by any health care provider
- e. **Proximal part occlusion is one of the advantages XXX**

هو بالعادة

Airway

Anesthesia final exam - 21/5/2018

لدى
الرجل
اليد

- 1- All the following regarding PEEP are true except: Function residual volume is decreased
O₂ Therapy
- 2- Wrong regarding ketamine: it is NMDA receptor agonist (actually it is antagonist)
IV anaesthetic
- 3- Wrong regarding epidural hematoma: crescent shape Subdural Regional
- 4- Wrong regarding basal skull fracture: There is frontal bone fracture ?????!!
(not sure)
Head injury
- 5- IV anesthetic agent which Increase intracranial pressure: Ketamine
- 6- all the following is steroidal non depolarizing muscle relaxant except: doxacorium
muscle Relaxant
- 7- wrong regarding oxygen therapy devices: normal inspiratory flow is 40-50 X
l/min 24%
O₂ therapy N=25-30
- 8- Wrong regarding criteria of SIRS: systolic blood pressure less than 90 (BP is not part of criteria)
Shock
- 9- Wrong regarding malignant hyperthermia: CPK is normal
muscle Relaxant
- 10- Wrong regarding changes that occurs at core temperature of 30 c: vasodilation
ICU
- 11- Not used for obtaining of CVP: external jugular
ICU
- 12- Not a side effect of nitrous oxide: hepatitis
Inhalation
- 13- Wrong regarding management of High intracranial pressure: head should be downward elevation up to 30°
Head injury
- 14- wrong regarding thiopental it is oxybarbiturate & other choice إنحذف السؤال
IV anaesthetic
- 15- wrong regarding LA: sensory is more sensitive than autonomic Local
Autonomic > sensory < motor.
- 16- Ambu bag with reservoir how much O₂ saturation: 90-100%
O₂ therapy

17-wrong regarding subdural hematoma : due to middle meningeal artery laceration

Regional

Epidural

18-Wrong regarding components of ringer lactate : 2 mEq/L of magnesium

2000 psi - 2200

IV Fluid

Ringer lactate solution	
Composition	Concentration (mg/100 mL)
NaCl	600
KCl	40
CaCl ₂ ·2H ₂ O	27
NaC ₂ H ₃ O ₂	312
Osmolarity (mOsm/L)	277
pH	5.0-7

19-Pressure at full O₂ cylinder : 1800-2200

O₂ Therapy

✓ 20-wrong regarding Morphine side effect : respiratory stimulation

Depression

Opioid

21-An example of hypoxic hypoxia : Status asthmaticus

ICU

? 22-Wrong regarding Locked in syndrome : normal sleep awake cycle

23-All of the following increase susceptibility to postoperative nausea and vomiting except : smoking

Remedication

✓ 24-Best drug for postoperative nausea and vomiting : Antiserotonin ondansetron.

25-One thing we should consider in FFP transfusion : Blood matching

Blood Trans

FFP transfusions must be ABO compatible, but Rh compatibility and cross-matching are not required

✓ 26-Wrong regarding apnea test at brain death criteria : one doctor should perform this test

2

Brain Death

✓ 27-Not a part of classical management of ICU Patient (FAST HUG): empirical antibiotic in every patient

ICU

28-All the following will increase susceptibility of laryngospasm except

Propofol → cause bronchodilation

IV anesthesia

29-Wrong regarding benzodiazepines: Used as premedication in symptomless patient ??? (not sure)

30-Decrease dose of propofol at elderly due to : Brain atrophy ??

IV anesthesia

31-all of the following increase MAC except : hypernatremia ! (it could be HTN also !!)

Inhalation

✓ 32- Wrong regarding arterial line : ABG can't be obtained from arterial line مش اكيد

ICU

33- Wrong regarding albumin colloid solution : it is synthetic Albumin

IV fluid

34- The relationship between dose given and tissue concentration of drug and elapsing time is : pharmacokinetic

2.2.

Intra

الطبيب الجراحة
لجنة

35- All of the following are contraindications of premedication except : severe thyrotoxicosis

✓ 36- FiO₂ is affected by one of the following : Fresh gas flow **O₂ therapy**

37- one of the following is an indication for ICU admission : GCS less than 12

Head injury

38- wrong regarding succinylcholine : metabolized by acetyl cholinesterase **pseudo**

muscle Relaxant

39- Not a change that occur during 100% oxygenation for 48 hours : bleeding tendency due to coagulation defects

O₂ Therapy

40- Wrong regarding ARDS criteria: it is a chronic syndrome more than 2 weeks

ARDS – The Berlin Criteria

Symptom begin within 1 week of insult, or new/worsening symptoms in last 1 week
Bilateral opacities on chest imaging*
PaO₂/FiO₂ ≤ 300 while on PEEP ≥ 5 cm H₂O
Not fully attributed to cardiac failure and/or volume overload

ممكن لو كان
في ضيق

O₂
Toxicity