

Test Bank

Subject:
Surgery- General

Rotation
Collected by:

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Corrected by:

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جالت

Questions with * are mentioned more than once so focus on them & their topics in general

1- Regarding abdominal wall hernias:

- A. Are 2nd to adhesions as a cause of strangulated intestinal obstruction
- B. 20% of inguinal hernias are indirect
- C. In women inguinal hernias are less common than femoral hernias
- D. The mortality associated with bowel strangulation is over 10%**
- E. Trial reduction of pediatric inguinal hernias is not recommended

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Answer: D

2- Regarding the femoral canal, all of the following statements are true EXCEPT:

- A. Lies medial to the femoral vein
- B. Has the inguinal ligament as its anterior border
- C. Has the lacunar ligament as its lateral border**
- D. Has the pectineal ligament as its posterior border
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Answer: C

3- Which of the following organisms is not a gastrointestinal source of peritonitis?*

- A. bacteroids
- B. chlamydia**
- C. escherichia coli
- D. clostridium
- E. streptococci

غیر گوارشی

4- All of the following is a risk factor for developing Clostridium Difficile Colitis EXCEPT:

- A. Prolonged intravenous antibiotics
- B. Contraceptive pills** → For Hepatic adenoma
- C. Mal-nutrition
- D. Steroids
- E. Proton pump inhibitor

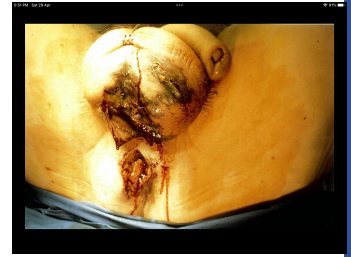
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5- All of the following are true about Fournier gangrene EXCEPT:

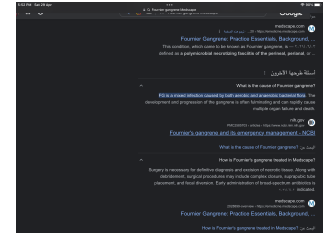
- A. More in elderly patient
- B. Affect patient with significant comorbidity
- C. Caused by mixed organisms

D. If it affects the scrotum in males, debridement and orchidectomy is essential

E. Carries a high risk of mortality



- **Fournier gangrene:** Necrotizing fasciitis of the external genitalia that can spread rapidly to the anterior abdominal wall and gluteal muscles.
- Clostridial myonecrosis: a rapidly spreading necrotizing infection caused by Clostridium perfringens or Clostridium septicum (see "Gas gangrene" for details)



6- A 23-year-old male patient, presented with right forearm pain for one day duration after aggressive scratching, exam showed an area at the forearm with hotness, redness and tenderness. All of the following is true about the above condition EXCEPT:

- A. Elevation of the patient's arm is part of the treatment
- B. Antibiotics need to be started
- C. The cause of this pathology is most likely gram-positive organism

D. Underlying osteomyelitis is a common predisposing factor :

↳ not common

ال osteomyelitis يكون اخطر

E. Axillary lymph node might be palpable

7- Which statement regarding the management of hypernatremia is INCORRECT:

- A. Hypernatremia, if not corrected, has a high mortality rate ✓
- B. It may exist in the presence of low, normal or high effective circulating volume ✓
- C. Hypotonic fluid therapy may be given by mouth, by tap water enema or parenterally ✓

D. The aim of fluid replacement is to decrease serum osmolality gradually by about 10 mOsm/hour ✓

E. May be associated with major burn

Correction of free water deficit [2][4]

- **Acute hypernatremia** (onset within < 48 hours)
 - Decrease Na^+ concentration by **1-2 mEq/L/hour** (i.e., replace entire free water deficit in < 24 hours). [4]
- **Chronic hypernatremia** (onset within > 48 hours)
 - **Gradually** restore a normal Na^+ level by decreasing Na^+ concentration by **0.5 mEq/L/hour** (max. 10-12 mEq/L per 24 hours). [4][12][14]
 - Oral rehydration with free access to water may be sufficient in stable and alert patients.

8- A 70 kg man with pyloric obstruction resulting from ulcer disease is admitted to the hospital for resuscitation after 1 week of prolonged vomiting. What metabolic disturbance is expected to occur?*

- A. Hypokalemic hyperchloremic metabolic acidosis
- B. Hyperkalemic hypochloremic metabolic alkalosis
- C. Hyperkalemic hyperchloremic metabolic acidosis
- D. Hypokalemic hypochloremic metabolic alkalosis**
- E. Hypokalemic hypernatremic hypochloremic metabolic acidosis

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9- The majority of the blood volume at rest is contained within the:

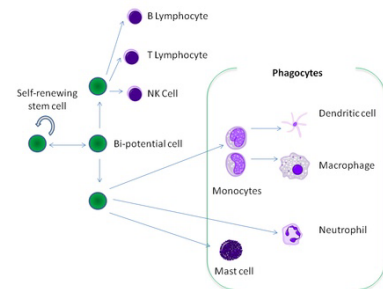
- A. Arterial system.
- B. Capillary bed.
- C. Portal circulation.
- D. Pulmonary circulation.

حفظ

E. Venous system.

10- Which group of the following cells is NOT phagocytic in nature?

- A. Neutrophil polymorphonuclear leucocytes.
- B. Lymphocytes.**
- C. Microglial cells.
- D. Macrophages.
- E. Kupffer cells.



11- All of the following are associated with increased likelihood of surgical site infection after major elective surgery, EXCEPT**

- A. Age over 70 years.
- B. Chronic malnutrition.
- C. Controlled diabetes mellitus.**

حفظ

**SSI – Risk Factors
Patient Characteristics**

- Age
- Diabetes
 - HbA_{1c} and SSI
 - Glucose > 200 mg/dL postoperative period (<48 hours)
- Nicotine use: delays primary wound healing
- Steroid use: controversial
- Malnutrition: no epidemiological association
- Obesity: 20% over ideal body weight
- Prolonged preoperative stay: surrogate of the severity of illness and comorbid conditions
- Preoperative nares colonization with *Staphylococcus aureus*: significant association
- Perioperative transfusion: controversial
- Coexistent infections at a remote body site
- Altered immune response

- D. Long-term steroid use.
- E. Infection at a remote body site.

12- All the following can explain lower limb edema EXCEPT:

- A. Congestive heart failure
- B. Hepatic failure
- C. Deep venous thrombosis
- D. Acute lower limb ischemia**
- E. Nephrotic syndrome

13- Blood transfusions may cause all of the following EXCEPT:

- A. Microcirculation thrombosis
- B. Transmission of Cytomegalovirus
- C. Allergic reaction
- D. Bronchospasm
- E. Increased platelets count**

Blood transfusion risks include **infection transmission (low)**, **transfusion reactions**, **transfusion-associated circulatory overload (TACO)**; volume overload → pulmonary edema, hypertension), **transfusion-related acute lung injury (TRALI)**; hypoxia and inflammation → noncardiogenic pulmonary edema, hypotension), **iron overload (may lead to 2° hemochromatosis)**, **hypocalcemia (citrate is a Ca²⁺ chelator)**, and **hyperkalemia (RBCs may lyse in old blood units)**.

14- The first step in treating Ludwig's angina*

- A. IV antibiotics
- B. Incision and drainage
- C. Treat underlying cause
- D. Secure airway**
- E. IV fluids

Ludwig angina	<ul style="list-style-type: none"> Mixed infection (<i>Viridans streptococci</i> and anaerobes) [20] Usually arising from an infected mandibular molar, an infection of the upper airways, or acute lingual tonsillitis Predisposing factors: diabetes mellitus, alcohol use disorder, and other immunocompromising conditions [21] 	<ul style="list-style-type: none"> Submandibular space infection <input type="checkbox"/> Fever, mouth pain, stiff neck, difficulty swallowing, trismus Airway obstruction may occur! [20]
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15- All of the following types of shock are distributive EXCEPT:

- A. Septic shock
- B. Hemorrhagic shock**
- C. Addisonian shock
- D. Neurogenic shock

Adrenal insufficiency
Adrenal crisis (Addisonian crisis)
 Adrenal crisis is an acute, severe glucocorticoid deficiency that requires immediate emergency treatment.
Precipitating factors for adrenal crisis
 • Stress in patients with underlying adrenal insufficiency e.g. [25]
 • Gastrointestinal illness (vomiting)
 • Other infections
 • Dehydration
 • Physical stress or pain
 • Psychological stress
 • **Sudden discontinuation of glucocorticoids after prolonged glucocorticoid therapy**
 • Status of adrenal reserve high or infarction (e.g., Waterhouse-Friderichsen syndrome)
 • Pituitary apoplexy [21,26]
 In order to prevent the development of secondary and tertiary adrenal insufficiency, prolonged steroid therapy should be tapered slowly rather than stopped abruptly.
Signs and symptoms [19]
 • Hypotension, shock
 • Inequal pupil diameters, coma
 • Fever
 • Vomiting, diarrhea
 • Severe **abdominal pain** (which can resemble peritonitis)

Shock
 Inadequate organ perfusion and delivery of nutrients necessary for normal tissue and cellular function. Initially may be reversible but life threatening if not treated promptly.

TYPE	CAUSED BY	MECHANISM	SKIN	CP (RIGHT HEART) PRELOAD	PCWP (LEFT HEART) PRELOAD	CO (AFTERLOAD)	SVR	SVOL (MIXED VENOUS CONTENT)
Hypovolemic shock	Hemorrhage, dehydration, burns	Volume depletion		↓	↓	↓	↑	↓
Cardiogenic shock	MI, HF, vascular dysfunction, arrhythmia	Left heart dysfunction	Cold, clammy	↑	↑	↓	↑	↑
Obstructive shock	Cardiac tamponade, PE, tension, pneumothorax	Right heart dysfunction		↑	↑	↓	↑	↑
Distributive shock	Sepsis (early), anaphylaxis, CNS injury	Systemic vasodilation	Warm, dry	↓	↓	↓	↓	normal/↑

Double arrow = primary physiologic disorder driving the shock.
 *! in cardiac tamponade.




Handwritten notes:
 - Hypovolemic: IV fluids
 - Cardiogenic: Inotropes, diuretics
 - Obstructive: Relieve obstruction
 - Distributive: pressors, epinephrine

E. Anaphylaxis

16- The GCS (Glasgow Coma Scale) of a patient who responds with inappropriate words, opens eye to painful stimuli, and flexing in response to pain is*

- A. 6
- B. 8**
- C. 7
- D. 10
- E. 9**

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Behaviour	Response
 Eye Opening Response	4. Spontaneously 3. To speech 2. To pain 1. No response
 Verbal Response	5. Oriented to time, person and place 4. Confused 3. Inappropriate words 2. Incomprehensible sounds 1. No response
 Motor Response	6. Obeys command 5. Moves to localised pain 4. Flex to withdraw from pain 3. Abnormal flexion 2. Abnormal extension 1. No response

17- Regarding sepsis and septic shock, all of the following are true EXCEPT*

- A. Sepsis is a clinical syndrome of life-threatening organ dysfunction caused by a dysregulated response to infection.
- B. IV fluids challenge with 20-30 ml/kg is the first method used to restore perfusion.
- C. Intra-venous antibiotics could be delayed up to 6 hours until specimens of blood, have been taken for Gram stain and culture.**
- D. The source of infection should be controlled as early as possible.
- E. Estimates of successful reperfusion include ScvO₂ (Central Venous saturation) and lactate clearance.

1-3 hours

Approach [2]

- Initial evaluation**
 - Perform a clinical evaluation using the ABCDE approach.
 - Establish airway.
 - Obtain the following initial studies immediately:
 - Serum lactate: (biochemical parameters used severity and help guide resuscitation)
 - Two sets of blood cultures (aerobic and anaerobic) prior to antibiotics (if possible)
- Initial management**
 - **Fluid resuscitation:** Infuse 30 mL/kg of crystalloid fluid in 3 hours.
 - **Vasopressors for septic shock:** Administer if hypotension persists (during or after fluid resuscitation); target MAP > 65 mm Hg. [2]
 - **Antibiotics for sepsis:** Obtain empiric broad-spectrum or directed antibiotics within 1-3 hours.
- Next steps**
 - Continuous assessment of hemodynamic parameters
 - Supportive care for sepsis
 - High-sensitivity central for sepsis

Sepsis management is an iterative process requiring frequent reassessments. Favorable outcomes depend on early detection, effective resuscitation, and early administration of antibiotics. [17][2]

18- One of the following does NOT fit the definition of Massive Blood transfusion:

- A. Replacement of one entire blood volume within 24 h.
- B. Transfusion of >10 units of packed red blood cells (PRBCs) in 24 h.
- C. Transfusion of >4 units of PRBCs in 1 h when on-going need is foreseeable.
- D. Replacement of 50% of total blood volume (TBV) within 3 h.
- E. The need to transfuse fresh frozen plasma to correct the Coagulopathy of blood transfusion.**

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Massive transfusion

Definition

- The replacement of a large volume of blood in response to massive hemorrhage
- There is no universal threshold for a massive transfusion; proposed values include: [54][55]
 - Complete replacement of a patient's blood volume (~ 10 units of RBCs) within 24 hours
 - Replacement of ≥ 50% of a patient's blood volume (~ 5 units of RBCs) within 3 hours
 - Blood loss replacement at a rate of > 150 mL/minute
 - Transfusion of ≥ 3 units of pRBCs within 1 hour

ROUTES OF NUTRITIONAL SUPPORT

Enteral:
 - Simple, physiologic, and relatively inexpensive.
 - Enteral feeding maintains the GI tract cytoarchitecture and mucosal integrity (via trophic effects), absorptive function, and normal microbial flora.
 - This results in less bacterial translocation and endotoxin release from the intestinal lumen into the bloodstream.

- Enteral feeding is indicated for patients who have a functional GI tract but are unable to sustain an adequate oral diet.
 - Contraindicated in patients with an:
 • intestinal obstruction, upper GI bleeding, severe diarrhea, intractable vomiting, enterocolitis, a high-output enterocutaneous fistula, and severe ascites.

Feeding tubes.

- Nasogastric, nasoduodenal or jejunal, gastrostomy, and jejunostomy tubes are available for the administration of enteral feeds.

Enteral feeding products:
 - Various enteral formulas are commercially available. Standard solutions provide 1 to 2 kcal/mL.
 - The available dietary formulations for enteral feedings can be classified as standard, elemental, or semi-elemental.

Conversion to oral feeding:
 - When supplementation is no longer needed, an oral diet is resumed gradually.
 - If an effort to provide adequate enteral feeding can be modified by the following measures:
 - **Providing lower feedings:**
 - **Increasing feeding frequency:**
 - **Decreasing the volume of feedings:**
 - When oral intake provides approximately 40% of the patient's energy requirements and 50% of the patient's fluid requirements, the physician should consider discontinuing tube feeding.

Metabolic derangements:
 - Abnormalities in serum electrolytes, calcium, magnesium, and phosphorus can be identified through regular monitoring.
 - Hypernatremia may lead to the development of cerebral lethargy or obtundation.
 - Hyponatremia may occur in patients receiving tube feeds and is particularly common in **preexisting diabetes** or in the **setting of sepsis**.

Refueling syndrome:
 - A potentially lethal complication that occurs in severely malnourished individuals. It is characterized by hypotension, hypothermia, and hypoglycemia, and is thought to be due to the rapid repletion of glycogen stores.
 - **Clamping** can usually be prevented by careful routine flushing of the feeding tube.

Tracheobronchial aspiration of tube feeds:
 - may occur with patients who are fed into the stomach or proximal small intestine and can lead to major morbidity.
 - Precautions include frequent assessment of gastric residuals as well as head of bed elevation.

Aspiration:
 - occurs in 10% to 20% of patients.
 - Aspiration can result in severe lung injury because of the high oxygen concentration in the feeding formula, as well as the presence of bacteria.
 - If the cause of aspiration can be identified, the underlying cause can be corrected.
 - Aspiration should be reported to the physician and the patient's care should be adjusted accordingly.

High gastric residuals:
 - As a result of gastric obstruction, dysmotility, intestinal ileus, or bowel obstruction may limit the usefulness of nasogastric or gastrostomy feeding tubes.
 - Treatment of this problem should be directed at the underlying cause.
 - If gastric retention prevents the administration of sufficient calories and intestinal ileus or obstruction can be excluded, a nasogastric or jejunostomy feeding tube may be necessary.

19- Regarding Enteral Nasogastric tube feeding, one of the following is CORRECT*

- A. Highly thrombogenic.
- B. Used in patients with the short gut syndrome.
- C. A potential cause of abdominal cramps and diarrhea.
- D. More likely to cause septic complications than parenteral nutrition.
- E. Contraindicated in patients after a cerebrovascular accident.

What are the complications or side effects of having a nasogastric tube?

- Discomfort.
- Sinus infection.
- Nosebleeds.
- Sore throat.
- Pressure ulcers.
- Irritation to your stomach lining.
- The tube becoming entangled or dislodged.
- Electrolyte imbalances, such as hypokalemia (low potassium).

20- All the following are contraindications to major elective surgery requiring general anesthesia, EXCEPT:

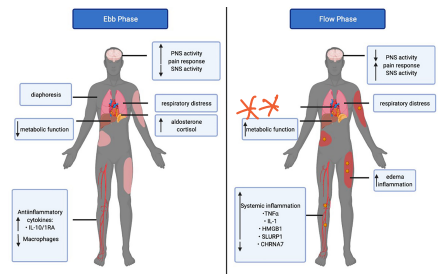
- A. Myocardial infarction 2 months ago.
- B. Preoperative serum potassium of 2.5 mmol/liter in a patient on diuretic therapy.
- C. Previous mitral valve replacement.
- D. A resolving upper respiratory tract infection.
- E. Stroke within 4 months before surgery.

21- Potential sites of hemorrhage leading to hypotensive shock in children and adolescents include all the following EXCEPT:

- A. Thorax
- B. Abdomen
- C. Intracranial : الفترة ايه النزف خون صحت كبريت
- D. Pelvis
- E. Femur

22- Which phase of hypermetabolic state can last for an extended period of time leading to adverse nutritional status?

- A. Ebb phase
- B. Flow phase



- C. Cycling phase
- D. Imbalance phase
- E. Healing phase

23- All of the following is an obligatory glucose user EXCEPT:

- A. Red Blood Cells
- B. Cardiac Muscles**
- C. Renal Medulla
- D. Bone Marrow
- E. Brain

Healthy myocardium uses mainly fatty acids as its major energy source, with little contribution of glucose. However, lactate, ketone bodies, amino acids or even acetate can be oxidized under certain circumstances.

24- To prevent gluconeogenesis, glucose administration must be carefully monitored, the protein sparing effect of glucose administration begins to be manifested after administration of how much glucose?*

- A. 100 gm
- B. 200 gm
- C. 75 gm
- D. 300 gm
- E. 500 gm

NUTRITIONAL SUPPORT

- ▶ The need for nutritional support should be assessed continually in patients both preoperatively and postoperatively. Most elective surgical patients have adequate fuel reserves to withstand common catabolic stresses and partial starvation for up to 7 days and do not benefit from perioperative nutritional support

* (Nutrition, 2000;16:7236-7281)
- ▶ For these patients, IV fluids with appropriate electrolytes and a minimum of 100 g glucose daily (to minimize protein catabolism) is adequate.

25-Regarding abdominal surface anatomy, all of the following are true EXCEPT*

- A. The abdomen can be divided into 4 quadrants.
- B. The trans pyloric plane is at the level of L1
- C. The deep inguinal ring is 1.25cm ^{above} below the mid inguinal point**
- D. McBurney's point is located one third distance between anterior superior iliac spine and the umbilicus
- E. The umbilicus is normally situated mid-way between the xyphoid process and the symphysis pubis

GI 1/2

26- Surgical wounds are classified based on the presumed magnitude of the bacterial load at the time of surgery. The best to represent a clean/contaminated (class II) wound is*

- A. Penetrating abdominal trauma
- B. Large tissue injury
- C. Elective upper GI surgery
- D. Enterotomy during bowel obstruction
- E. Perforated diverticulitis

Clean	Hernia repair breast biopsy	1.5%
Clean-Contaminated	Cholecystectomy Elective bowel resection	2-5%
Contaminated	Emergency bowel resection	5-30%
Dirty/infected	Perforation, abscess	5-30%

27- A 68-year-old woman underwent tracheostomy for prolonged intubation, 2 weeks later she developed brisk bright red bleeding from the tracheostomy site that resolved without intervention. Her Hb is 10.2 g/dL, and coagulation studies are normal. What is the most likely diagnosis? *Anemia*

- A. Pneumonia
- B. Tracheitis
- C. Bleeding of granulation tissue in the stoma
- D. Tracheoinnominate fistula
- E. Bleeding from the anterior jugular vein : *early complication, not after 2 weeks*

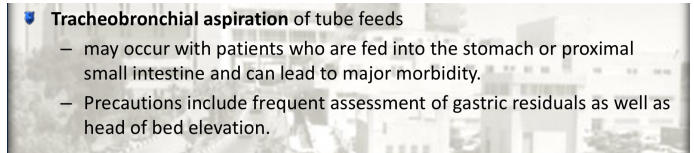
28- 45-year-old male, non-diabetic scheduled for laparoscopic cholecystectomy, the best antimicrobial prophylaxis that have significantly lower overall infectious complications is:

- A. Cephazolin
- B. Cefuroxime sodium
- C. Ceftriaxone
- D. Gentamycin
- E. Metronidazole

- Cefazolin for perioperative wound infection prophylaxis (covers S. aureus)

29- For a feeding gastrostomy all are true EXCEPT:

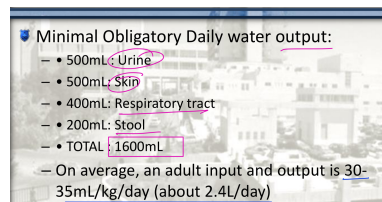
- A. It can be either a temporary or a permanent method of feeding.
- B. Is safer than intravenous feeding.
- C. It is usually created endoscopically.
- D. The risk of aspiration is less than jejunostomy feeding.**
- E. Does not require surgical closure after cessation of feeding.



30- For a 70 kg man, the minimum acceptable urine output is:

- A. 7 ml/ hour.
- B. 70 ml/ hour.
- C. 35 ml/ hour.**
- D. 100 ml/ hour.
- E. 105 ml/ hour.

Normal urine output in a healthy individual should be between 0.5-1.5 mL/kg/hour, and patients should generally be urinating at least every 6 hours. Oliguria is defined as the production of inadequate volumes of urine (<500 ml/day in adults, <0.5 mL/kg/hour in children, and <1.0 mL/kg/hour in infants).



31- Sequence of return of gastrointestinal motility after abdominal surgery is*

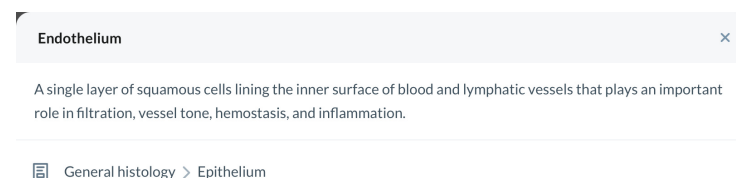
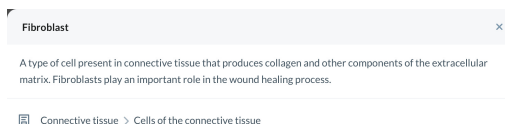
- A. intestine, stomach, colon**
- B. stomach, intestine, colon
- C. colon, intestine, stomach
- D. colon, stomach, intestine
- E. stomach, colon, intestine

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GI 1st

32- The principal types of proliferating cells in granulation tissue are:

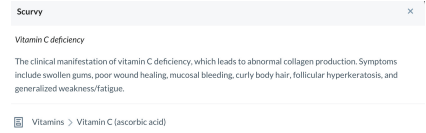
- A. Fibroblasts and macrophages
- B. Fibroblasts and endothelial cells**
- C. Leukocytes and endothelial cells
- D. Lymphocytes and fibroblasts
- E. Macrophages and leukocytes



33- Deficiency of which of the following vitamins influence wound healing?*

- A. Vitamin A
- B. Vitamin B6
- C. Vitamin B12
- D. Vitamin C**
- E. Vitamin D

GI كى



Delayed wound healing or chronic wound formation

- Usually occurs in patients with multiple risk factors that cause slowing or failure to progress through one or more stages of wound healing
- The proliferative wound healing phase is delayed in individuals with copper and vitamin C deficiency.
- Zinc deficiency can delay wound healing because the collagenases responsible for collagen remodeling require zinc to function properly.

34- For a 70 kg healthy patient the postoperative maintenance fluids should be around*

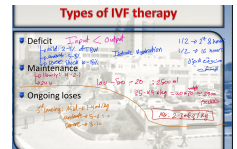
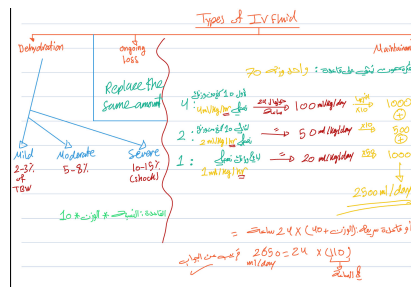
- a. 1800 ml per 24 hours.
- b. 2800 ml per 24 hours.**
- c. 3800 ml per 24 hours.
- d. 4800 ml per 24 hours.
- e. 5800 ml per 24 hours

	Fluid deficit	Ongoing losses	Maintenance fluids
Definition	% of dehydration	Vomiting, drains, urine output, NGT	Insensible losses via skin, breathing and in food
Ideal fluid type	0.9% NaCl	0.9% NaCl with 20mmol KCl	0.9% NaCl with 5% glucose
Calculation	% dehydration x weight in kg x 10	Add all the fluids lost in drains, vomiting etc	4-2 formula

Source: dehydration is 10-15% of body weight in infants < 6% of body weight in adults

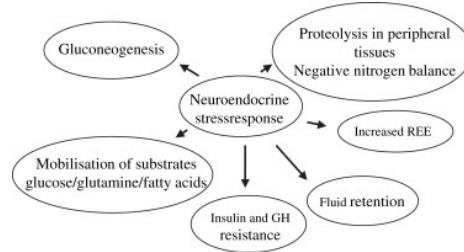
MAINTENANCE FLUID

- For first 10 kg of bodyweight, replace 100ml/kg/day (range 80-120) or 10/100
- For next 10 kg (bodyweight between 10-20kg), replace 50ml/kg/day (range 40-60) or 50/100
- For next 40 kg (bodyweight between 20-60kg), replace 20ml/kg/day (range 10-30) or 20/100
- Rule of thumb for adult fluid: weight in kg x 40
- For 70 kg man, it will be 1120ml/hr or 2688 ml/day



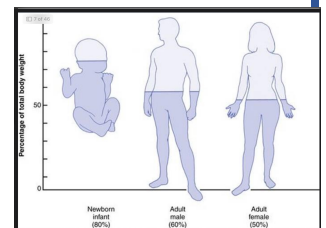
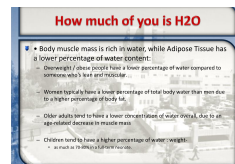
35- All the following are metabolic effects of injury and sepsis EXCEPT:

- a. fluid retention
- b. insulin resistance and glucose intolerance
- c. positive nitrogen balance**
- d. hypoalbuminemia
- e. increased gluconeogenesis and protein catabolism



36- Which of the following statements about total body water composition is correct?

- a. Females and obese persons have an increased percentage of body water. : ↑ Fat 1/2 water
- b. Increased muscle mass is associated with decreased total body water. : ↑ Made muscle سعة سعة
- c. Newborn infants have the lowest proportion of total body water. : خطأ
- d. Total body water increases steadily with age. : مع العمر الجسم ينشف
- e. Any person's percentage of body water is subject to wide physiologic variation. ✓**



37- Absorption of the majority of nutrients takes place in which part of the gastrointestinal tract?

- a. Stomach
- b. Duodenum
- c. Jejunum
- d. Ileum
- e. Colon

GI 36

The infographic covers several aspects of Parenteral Nutrition (PN):

- Cholestasis:** Common metabolic complication of long-term parenteral nutrition due to lack of enteral stimulation for gallbladder contraction.
- Complications Associated with TPN:**
 - Catheter-related complications:** Can be minimized by strict aseptic technique and routine catheter care.
 - Metabolic complications:** Can include electrolyte abnormalities and liver dysfunction. Amino acid metabolism can lead to hyperammonemia, especially in neonates. Electrolyte imbalances (hypokalemia, hypomagnesemia, hypophosphatemia) are common. Blood glucose levels should be kept below 180 mg/dL.
- Discontinuation of TPN:** Should be planned when the patient can consistently ingest 60% of their caloric and protein needs with oral intake as enteral feeding and 100% of the daily fluid needs.
- Administration of TPN:**
 - Most commonly a continuous infusion. A few three-in-one admixtures of TPNs administered over a constant infusion rate over 24 hours.
 - Cyclic administration of PN:** Administered for 8 to 16 hours, most commonly at night. This should not be done until metabolic stability has been demonstrated for several consecutive, continuous TPN infusions.
- TPN solutions:** are generally administered as a three-in-one admixture of:
 - Protein, as amino acids (10%, 4 kcal/g);
 - Carbohydrate, as dextrose (70%, 3.4 kcal/g);
 - Fat, as a lipid emulsion of soybean, safflower, or olive oil (9 kcal/g).
- Additives:**
 - Electrolytes (sodium, potassium, chloride, acetate, calcium, magnesium, phosphate)
 - Medications such as H2-receptor antagonists and insulin can be administered in TPN solutions.
 - Vitamins and trace elements: added daily using a commercially prepared mixture that includes copper, chromium, selenium, manganese, and zinc.
- Total parenteral nutrition (TPN):** provides complete nutritional support. The solution, volume of administration, and additives are individualized on the basis of an assessment of the nutritional requirements.
- Access:**
 - Central venous catheter, CVP
 - Subclavian or internal jugular vein
- Peripheral parenteral nutrition (PPN):** administered through a peripheral IV catheter. The osmolality of PPN solutions generally is limited to 900 mOsm to avoid phlebitis. Temporary nutritional supplementation with PPN may be useful in selected patients but is not typically indicated.
- Parenteral nutrition:** Indicated for patients who require nutritional support but cannot meet their needs through oral intake and for whom enteral feeding is contraindicated or not tolerated. Includes extensive small bowel resection, performed small bowel, high output enterocutaneous fistula, severe emesis or diarrhea, bowel obstruction.

38- Compared to enteral nutrition, parenteral nutrition (PN):

- a. Is less expensive
- b. Has less infectious complications
- c. Preserves immunologic function of gut
- d. Is not associated with metabolic bone dysfunction
- e. Is less likely to cause diarrhea

The diagram shows enteral nutrition (gastric, nasoduodenal, nasojejunal) and parenteral nutrition (gastrostomy, jejunostomy) routes. The table below compares the two:

Characteristics	Enteral Nutrition	Parenteral Nutrition
Definition	Delivery of nutrients through the gastrointestinal tract. Includes oral, nasogastric, nasoduodenal, and nasojejunal feeding.	Delivery of nutrients through the intravenous route. Includes total parenteral nutrition (TPN) and peripheral parenteral nutrition (PPN).
Types	Oral, nasogastric, nasoduodenal, and nasojejunal.	Total parenteral nutrition (TPN) and peripheral parenteral nutrition (PPN).
Site/Route/Complications	Site: Gastrointestinal tract. Route: Oral, nasogastric, nasoduodenal, nasojejunal. Complications: Aspiration, tube displacement, tube blockage, diarrhea, constipation, tube leakage.	Site: Intravenous. Route: Central venous catheter, peripheral venous catheter. Complications: Infection, thrombosis, electrolyte imbalance, liver dysfunction, metabolic bone disease, phlebitis.

39- A 16-year-old boy presented to emergency room with a tender red and fluctuant swelling in the right forearm of 2 days duration. He reported a pencil-stick injury at the site of swelling one week ago. The most likely diagnosis is*

- a. Abscess
- b. Lymphangitis
- c. Cellulitis
- d. Clostridium tetani
- e. Gas gangrene

deep abscess

40- Which of the following statements regarding cellulitis is TRUE?

- a. This is non-suppurative spreading infection of the skin.
- b. It is rarely caused by wounds. *commonly*
- c. It is commonly caused by staphylococci.
- d. Gram negative organisms do not cause cellulitis.

suppurative = pus

Etiology [3][4]

- Beta-hemolytic streptococci: mostly group A Streptococcus (*S. pyogenes*)
- Less common pathogens for cellulitis
 - *S. aureus*
 - *Pasteurella multocida* (gram-negative, encapsulated coccobacillus): secondary to dog and cat bites

- **Treatment:** penicillin; in pediatric patients: amoxicillin (oral emulsion is tolerated better)

e. Penicillin is an effective treatment

41- Which of the following statements is FALSE of gastrointestinal (GI) secretions?

- a. Pancreatic fluid is alkaline.
- b. The chloride content of gastric fluid is around 110 mmol/L.
- c. Gastric fluid has a high concentration of potassium.
- d. Bile has a pH of 7.2.
- e. Most losses can be replaced with normal saline with or without potassium NOT SURE 😞

فكر في اختلاف الجواب
فكر في GI

42- Which of the following statements regarding direct inguinal hernias is TRUE?

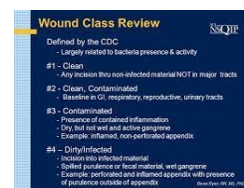
- a. They protrude medially to the inferior epigastric vessels
- b. They are common in women femoral
- c. They commonly reach the scrotal sac in men α
- d. They obstruct more commonly than indirect hernias α
- e. They are more common than indirect inguinal hernias in men α

فكر في GI

43- In which of the following surgeries preoperative antibiotic administration is not indicated? **

- a. Inguinal hernioplasty
- b. Breast surgery for duct ectasia \rightarrow Inflammation
- c. Thyroid surgery for multinodular goitre : Clean
- d. Laparoscopic cholecystectomy for symptomatic gall stones
- e. Coronary bypass surgery

لن يكون فتح الـ GI



44- The use of vasopressors is crucial in which of the following types of shock?

- a. Hypovolemic shock
- b. Neurogenic shock
- c. Cardiogenic shock
- d. Septic shock
- e. Hemorrhagic shock

Neurogenic shock

Diagnosis

Neurogenic shock is a clinical diagnosis.

- Classic presentation: hypotension, bradycardia, vasodilation [2][3]
- Exclude other causes for shock (e.g., other injuries).
- Other neurological deficits may be present.

Management [64][69][70]

Treatment

- **Fluid resuscitation**
 - First-line therapy
 - Avoid aggressive fluid boluses in patients with poor fluid responsiveness, because of the risk of fluid overload.
- **Vasopressors:** commonly required as shock is often refractory to fluids.
- Consider **atropine** or cardiac pacing to treat bradycardia (see "Unstable bradycardia" for details). [71]
- Consult a spine surgeon early to evaluate whether the patient is a candidate for urgent spinal decompression.

Vasopressors for septic shock [23][12]

- **Indication:** persistent hypotension during or after fluid resuscitation
- **Target:** MAP \geq 65 mm Hg
- **First line:** norepinephrine [2]
- **Second line:** Consider adding vasopressin if hypotension persists.

*actually this applies to any distributive shock, so septic is a correct answer as well

septic: start fluids then vasopressors
Neurogenic: \Rightarrow vasopressors

45- One is true in regarding trauma of the spleen:

- a. This organ is rarely involved in blunt trauma. *✗ Most common*
- b. Splenic preservation should be the rule when there are associated significant injuries. *✗*
- c. Vaccine should be given 1-2 weeks after splenectomy. *✓*
- d. Overwhelming postsplenectomy sepsis (OPSS) is more than 10%.
- e. Non-operative management is limited to grades 1&2 *Regardless of the grade*

عادي نقرر نستغني
عنه ونضحي فيه

46-The most common cause of secondary bleeding that happens several days postoperatively is*

- a. Infection
- b. Bleeding disorder
- c. Slipped ligature
- d. Improper surgical technique
- e. Hypothermia

Haemorrhage

Immediate:
Inadequate haemostasis , unrecognized damage to blood vessels

Early postoperative:
defective vascular anastomosis , clotting factor deficiency ,
intraoperative anticoagulants
surgical re-exploring is usually required

Secondary hemorrhage:
Related to infection which erodes blood vessel Several days
postoperative
treatment of infection

47- Which is false regarding antibiotic prophylaxis in surgery?***

- a. Decrease bacterial counts at surgical site
- b. Given for 72 hrs
- c. Started one hour prior to incision
- d. Chosen according to the expected pathogen
- e. Repeat dose is given in long surgeries

Operative Antibiotic Prophylaxis

- Decreases bacterial counts at surgical site
- Given within 60 minutes prior to starting surgery (knife to skin)
- Repeat dose for longer surgery (T 1/2)
- Do not continue beyond 24 hours
- Determinants – prevailing pathogens, antibiotic resistance, type of surgery
- Not a substitute for aseptic surgery or good technique

48- If appropriately utilized, supervised exercise programs for patients with peripheral vascular disease can help achieve which of the following?

- a. Gradual improvement in ankle brachial index.
- b. Improve collateral circulation.
- c. Increased walking distance.
- d. Clinical benefit in patients with claudication and rest pain but not in patients presenting with tissue loss.

تقل
في وقت تقم اكثر وتصبح
walking
distance
تبدأ على

e. Reduces the need for long term antiplatelet therapy.

49- All of the following are true regarding lymphedema EXCEPT:

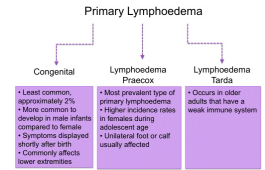
a. Lymphedema praecox denotes primary lymphedema, while secondary lymphedema is also termed lymphedema tarda.

b. Primary lymphedema has a marked female predominance. ✓

c. The most common world-wide cause of secondary lymphedema is filariasis. ✓

d. Lymphoscintigraphy is a reliable diagnostic tool for lymphedema. ✓

e. Methods of treatment include manual lymphatic drainage, compression devices, and surgery. ✓



50- Which of the following Blood transfusion complication is most likely to result in the death of a patient?

a. Circulatory overload

b. Allergic reaction

c. Febrile reaction

d. ABO incompatibility

e. Transfusion related Acute lung injury

Uncrossmatched blood transfusion

The provision of red blood cell units for emergency transfusion without performing pretransfusion crossmatching. Usually performed in life-threatening situations when the benefits of transfusion outweigh the risks of potential transfusion reactions.

51- A 25-year-old lady loses 15 % of her blood during surgery, the best immediate management is*

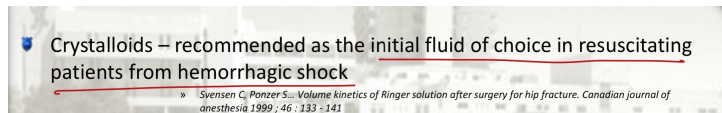
a. Colloids

b. Crystalloids

c. Crystalloids and packed Red cells

d. Fresh Frozen P and PRC

e. Fresh Whole Blood



52- Transfusion Related Acute Lung Injury (TRALI), one of the following is TRUE*

a. Can be caused by blood products transfusion, like fresh frozen plasma

b. Is associated with significantly elevated pulmonary artery capillary wedge pressure

c. Is the commonest cause of morbidity associate with blood transfusion

d. Should be treated with high dose steroids

	TRALI	TACO
Onset	• During or within 6 hours of transfusion	• During or within 24 hours of transfusion
Worsening respiratory distress	• Dyspnoea	• Dyspnoea
Physical examination	• Crackles	• Crackles
Imaging	• Bilateral pulmonary infiltrates	• Bilateral pulmonary infiltrates
Response to diuresis	• No response	• Response
Response to oxygen	• No response	• Response
Response to PEEP	• No response	• Response
Response to steroids	• No response	• Response
Response to plasma exchange	• No response	• Response
Response to transfusion cessation	• No response	• Response
Response to plasma exchange	• No response	• Response
Response to plasma exchange	• No response	• Response
Response to plasma exchange	• No response	• Response

	TRALI	TACO
Onset	• During or within 6 hours of transfusion	• During or within 24 hours of transfusion
Worsening respiratory distress	• Dyspnoea	• Dyspnoea
Physical examination	• Crackles	• Crackles
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Response to PEEP	• No response	• Response
Response to steroids	• No response	• Response
Response to plasma exchange	• No response	• Response
Response to transfusion cessation	• No response	• Response
Response to plasma exchange	• No response	• Response
Response to plasma exchange	• No response	• Response
Response to plasma exchange	• No response	• Response

Transfusion related acute lung injury (TRALI)

- Frequency: 1 in 1000 transfusions
- Pathogenesis
 - Hypothesis: Transfusion associated circulatory overload (TACO) is the commonest cause of morbidity associated with blood transfusion.
 - Hypothesis: Transfusion associated circulatory overload (TACO) is the commonest cause of morbidity associated with blood transfusion.
 - Hypothesis: Transfusion associated circulatory overload (TACO) is the commonest cause of morbidity associated with blood transfusion.
- Management: Fluid restriction, oxygen therapy, diuresis, plasma exchange.
- Prognosis: Mortality 10-20%.

Transfusion

The intravenous administration of whole blood or blood products. The most common blood transfusion products are packed red blood cells and are used for the treatment of acute or chronic blood loss. Platelet transfusions, clotting factor transfusions, fresh frozen plasma (FFP), and cryoprecipitate are also available.

e. Typically presents 24 hours after transfusion

53- All of the following are associated with increased likelihood of wound infection after major elective surgery, EXCEPT:

- a. Age over 70 years.
- b. Chronic malnutrition.
- c. Hyperthermia during the operation.
- d. Long-term steroid use.
- e. Infection at a remote body site.

18 of 40

SSI – Risk Factors Patient Characteristics

- Age
- Diabetes
 - HbA_{1c} and SSI
 - Glucose > 200 mg/dL postoperative period (<48 hours)
- Nicotine use: delays primary wound healing
- Steroid use: controversial
- Malnutrition: no epidemiological association
- Obesity: 20% over ideal body weight
- Prolonged preoperative stay: surrogate of the severity of illness and comorbid conditions
- Preoperative nares colonization with *Staphylococcus aureus*: significant association
- Perioperative transfusion: controversial
- Coexistent infections at a remote body site
- Altered immune response

54- A major problem in nutritional support is identifying patients at risk. All of the following can identify the patient at risk, EXCEPT:

- a. Weight loss of greater than 15% over 2 to 4 months.
- b. Serum albumin.
- c. Malnutrition as identified by Physical examination.
- d. Serum transferrin.
- e. Hemoglobin Level.

55- A 17-year-old patient involved in an automobile accident is paralyzed with multiple peripheral extremity injuries. Nutritional support is instituted with a nasogastric feeding catheter. Which of the following statement is TRUE concerning the patient's management?

- a. Feeding into the stomach results in stimulation of the biliary/pancreatic axis which is trophic for small bowel.
 - b. Gastric secretions will dilute the feeding increasing the risk of diarrhea. ✗
 - c. The risk of aspiration is minimized by using the nasal route. ✗
 - d. The cost of the new feeding formulas is more expensive than total parenteral nutrition ✗
 - e. The risk of infection is higher than with Total Parenteral Nutrition ✗
- Handwritten notes:*
- "Risk is more in enteral"
- "55/20" (circled)

56- One of the following is a cyanotic congenital heart disease in the newborn:

- a. Transposition of the Great vessels

Congenital heart diseases

RIGHT-TO-LEFT SHUNTS

Early cyanosis—"blue babies." Often diagnosed prenatally or become evident immediately after birth. Usually require urgent surgical treatment and/or maintenance of a PDA.

The 5 T's:

1. Truncus arteriosus (1 vessel)
2. Transposition (2 switched vessels)
3. Tricuspid atresia (3 = Tri)
4. Tetralogy of Fallot (4 = Tetra)
5. TAPVR (5 letters in the name)

- b. Aortic stenosis
- c. Atrial Septal Defect
- d. Ventricular Septal Defect
- e. Patent Ductus Arteriosus

57- Postoperative oliguria with a fractional excretion of Sodium of less than 1% is most consistent

With*

- a. Pre renal acute renal failure.
- b. Intrinsic acute renal failure.
- c. Chronic renal insufficiency.
- d. Acute tubular necrosis.
- e. Obstructive uropathy.

Renal Complications

- Urinary retention ✓
- Inability to evacuate urine-filled bladder after 6 hours
- 250-300 mL urine → catheterization
- >500 mL trigger foley replacement

- Acute renal failure
- Oliguria < 0.5 cc/kg/hr
- Pre-renal (FeNa < 1)
- Intrinsic (FeNa > 1)
- Post-renal (FeNa > 1)

preoperative hydration to prevent pre-renal causes

58- A 60-year-old TPN-dependent male with short gut syndrome and diarrhea presents with non-healing leg wound. Which trace element he may need supplementation with?

- a. Manganese.
- b. Fluorine.
- c. Selenium.
- d. Copper.

GI 16

e. Zinc

59- All the following are benefits of vacuum assisted wound closure (VAC) EXCEPT:

- a. Keeps wound clean.
- b. Increases angiogenesis.
- c. Increases granulation tissue growth.
- d. Can be used in cases of exposed major blood vessels.
- e. Decreases edema.

MECHANISM OF ACTION

- Promotes **granulation tissue formation**.
- Stimulates **localized blood flow**.
- **Reduces bacterial colonization**
- Provides **moist wound healing** environment
- Reduces **localized edema**
- Enhances **epithelial migration**
- Applies negative pressure to **uniformly draw wound closed** (wound contraction)



Indications for VAC Therapy[®] BOX 1

- ▶ Large, open, contaminated wounds
- ▶ Skin avulsions
- ▶ Degloving injuries
- ▶ Abdominal and thoracic wounds (e.g., laparotomy surgical sites, open thoracic wounds)
- ▶ Surgical dehiscence
- ▶ Chronic nonhealing wounds
- ▶ Prevention of postoperative seroma and edema
- ▶ Bolster for skin grafts
- ▶ Myofascial compartment syndrome

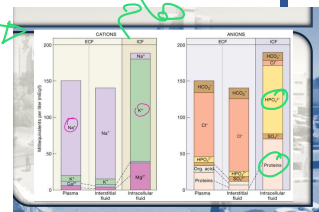
*Our experience with the use of VAC therapy for these indications will be detailed in a companion article in March 2010.

Extracellular fluid

- Accounts for **1/3** of the **TBW**.
- 20% of the total body weight.
 - Interstitial **50%**
 - Intravascular **50%**

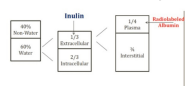
Intracellular fluids

- 2/3** of the total body water **TBW**.
- 40% of the total body weight.
- Found inside the plasma membrane of the body's cells.
 - In humans (average 70 KG), the intracellular compartment contains on average about **28 liters** of fluid.



60- Regarding normal physiology of body fluids in adults, all of the following statements are true

EXCEPT:



1/4 x 1/3

- a. Intra-vascular compartment contains approximately (1/12) of total body water
- b. Intra-vascular and interstitial compartments have different levels of sodium ions.**
- c. The main intra-cellular cation is potassium.
- d. The main intra-vascular anion is chloride.
- e. Starling forces control diffusion between intra-vascular and interstitial compartments.

Hydrophilic & osmotic

61- Body mass index is calculated*

- a. By a ratio of soft tissue mass to bone mass.
- b. By multiplying height (in meters) by weight (in kilograms).
- c. By dividing body weight (in kilograms) by a bone density factor.
- d. By dividing twice the body weight (in kilograms) by half the height in meters.
- e. By dividing body weight in kilograms by the square of body height in meters.**

$$BMI = \frac{\text{weight (kg)}}{\text{height (m}^2\text{)}}$$

62- A 65-year-old man undergoes a low anterior resection for rectal cancer. On the fifth day in hospital, his physical examination shows a temperature of 39°C (102°F), blood pressure of 150/90 mm Hg, pulse of 110 beats per minute and regular, and respiratory rate of 28 breaths per minute. A computed tomography (CT) scan of the abdomen reveals an abscess in the pelvis. Which of the following most accurately describes his present condition?*

- a. Systemic inflammatory response syndrome (SIRS)
- b. Sepsis (SIRS + documented infection = sepsis)**
- c. Severe sepsis *: No organ failure*
- d. Septic shock *: ↓ BP*
- e. Severe septic shock *: ↓ BP*

Terminology

- Systemic Inflammatory Response Syndrome (SIRS)
 - Temp > 38 or < 36
 - HR > 90
 - RR > 20 or PaCO2 < 32
 - WBC > 12 or < 4 or bands > 10%
- Septic: The systemic inflammatory response to infection
- Severe Sepsis: Organ dysfunction secondary to Sepsis
 - Hypotension, hypoxemia, acute lung injury, encephalopathy, acute kidney injury, coagulopathy
- Septic Shock: Hypotension secondary to Sepsis that is resistant to adequate fluid administration and associated with hypoperfusion.

Third International Consensus Definitions for Sepsis and Septic Shock

- Sepsis:** a severe, life-threatening condition that results from a dysregulation of the patient's response to an infection, causing tissue and organ damage and subsequent organ dysfunction.
- Septic shock:** a sepsis syndrome accompanied by circulatory and metabolic abnormalities that can significantly increase mortality.

Other definitions of sepsis syndromes

- Systemic inflammatory response syndrome (SIRS):** a group of physiological and immune-mediated reactions that are triggered in response to an infectious or noninfectious insult (e.g., an acute inflammatory process or trauma).
- SIRS is diagnosed if 2 or the following 4 criteria are fulfilled:**
 - Temperature > 38°C or < 36°C
 - Heart rate > 90/min
 - Respiratory rate > 20/min or PaCO2 < 32 mm Hg
 - White blood cell count > 12,000/mm3 or < 4000/mm3 and/or > 10% band cells
- Sepsis:** 2 SIRS criteria PLUS a suspected or confirmed underlying infection.
- Severe sepsis:** sepsis PLUS dysfunction of at least one organ or system.
- Multiple organ dysfunction syndrome (MODS):**
 - Progressive, but potentially reversible, dysfunction of several organs and/or systems.
 - The more organs that are affected, the greater the mortality risk.

63- A patient with grossly contaminated wound presents 12 hours after an accident, his wound should be managed by:

a. Thorough cleaning and primary repair

b. Thorough cleaning with debridement of all dead and devitalized tissue without primary closure

only if clean surgery

c. Primary closure over a drain

لا تغلق الجرح فوراً

d. Covering the defect with split skin graft after cleaning

e. Covering it with a full thickness skin graft

64- The most common radiographic finding on X-ray after aspiration of a foreign body is:

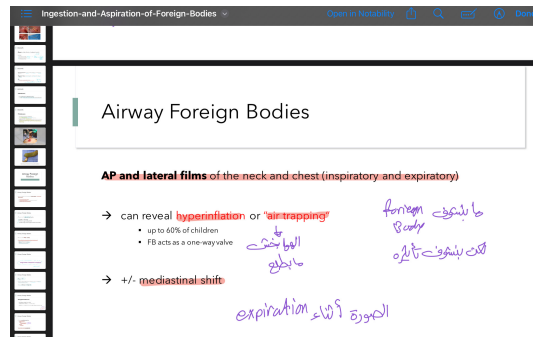
a. Pleural effusion

b. hyperinflation

c. Atelectasis

d. Identification of the foreign body

e. Pneumonia



65- All of the following is true about antibiotic prophylaxis in surgical patients except:

a. The choice of antibiotic is based on type of surgery performed.

b. Antibiotics should be given before the start of anaesthesia

c. Postoperative doses can be given for 2-3 days

d. Further doses of antibiotics are occasionally required during the same procedure

e. Single or multiple types of antibiotics can be given

Prevention Strategies: Core Postoperative Measures

- Surgical Wound Dressing**
 - Protect primary closure incisions with sterile dressing for 24-48 hrs post-op
- Control blood glucose level during the immediate post-operative period (cardiac)**
 - Measure blood glucose level at 6AM on POD#1 and #2 with procedure day = POD#0
 - Maintain post-op blood glucose level at <200mg/dL
- Discontinue antibiotics within 24hrs after surgery end time (48hrs for cardiac)***

66- You are called to observe a patient in the ICU who came to the hospital two days ago and has started to have gram-negative septicaemia. In addition, he has significant heart disease with a history of MI two years ago. Right now, he has **hypotension, high blood volume, high central venous pressure and decreased central venous oxygen saturation** which would point to a diagnosis of:

a. cardiogenic shock

b. over hydration

c. hypovolemic shock

d. adult respiratory distress syndrome

e. septic shock

Shock Inadequate organ perfusion and delivery of nutrients necessary for normal tissue and cellular function. Initially may be reversible but life threatening if not treated promptly.

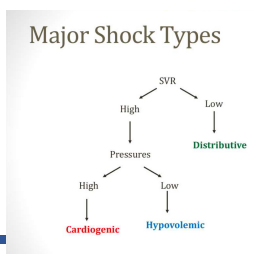
TYPE	CAUSED BY	MECHANISM	SKIN	CVP (RIGHT HEART PRELOAD)	PCWP (LEFT HEART PRELOAD)	CO	SVR (AFTERLOAD)	SVVO (MIXED VENOUS CONTENT)	Treatment
Hypovolemic shock	Hemorrhage, dehydration, burns	Volume depletion		↓	↓	↓	↑	↓	IV fluids
Cardiogenic shock	MI, HF, vascular dysfunction, arrhythmia	Left heart dysfunction	Cold, clammy	↑	↑	↓	↑	↓	Inotropes, diuretics
Obstructive shock	Cardiac tamponade, PE, tension pneumothorax	Right heart dysfunction		↑	↑	↓	↑	↓	Relieve obstruction
Distributive shock	Sepsis (early), anaphylaxis, CNS injury	Systemic vasodilation	Warm, dry	↓	↓	↓	↓	↑	pressor's, epinephrine

Double arrow = primary physiologic disorder driving the shock
*† in cardiac tamponade.

Etiologies of Shock (Cardiogenic)

MAP - CVP = (SV x HR) x SVR

- Low Stroke Volume:
 - Ejection: "Cardiogenic" (Myocardial infarct, valvular defect)
- Abnormal heart rate: "Cardiogenic"
 - Tachycardia (short filling time)
 - Bradycardia



67- One of the following is correct about groin hernia:

- a. Femoral hernia is more common in males. *Females above*
- b. The inguinal hernia appears medial and below to the pubic tubercle. *medial*
- c. Direct inguinal hernia is lateral to the inferior epigastric artery.
- d. Hernioplasty is the surgical treatment for inguinal hernia in adult men.
- e. The risk of strangulation is more common in inguinal compared to femoral hernia *correct*

68- Cellulitis, all the following are true, EXCEPT:

- a. Systemic signs are not present *(locally)*
- b. Blood culture is often negative *✓*
- c. It can be caused by clostridium perfringens. *✓*
- d. It is poorly localized. *✓*
- e. This is non-suppurative invasive infection of tissue. *not skin*

Nonpurulent skin and soft tissue infections

Definitions [3][4]

- Erysipelas:** superficial skin infection involving the **upper dermis**
- Cellulitis:** focal infection of the **deep dermis and subcutaneous tissue**

Clinical features [3][4]

- Local signs: erythema, edema, warmth, tenderness
 - Specific to erysipelas: raised, **sharply demarcated** lesion [2]
 - Specific to cellulitis: **poorly defined** lesion with induration [2]
- Cutaneous lymphatic edema (historically referred to as "peas of orange")
- Common locations: **lower limbs**, face
- Possible additional features:
 - Lymphangitis:** red streaks radiating from the skin lesion and following the direction of the lymphatic vessels [2]
 - Lymphadenitis: swollen, tender regional lymph nodes [2]
 - Bullae
 - Purulent exudate [2]
- Systemic symptoms (in moderate/severe infections): fever, chills, confusion, nausea, headache, muscle and joint pain

Clostridial cellulitis occurs as a localized infection in a superficial wound, usually 2-3 days after injury. Infection may spread extensively along fascial planes, often with evident creptation and abundant gas bubbling, but toxicity is much less severe than with extensive myonecrosis, and pain is minimal.

Clostridial Soft-Tissue Infections - Infectious Diseases

Can Clostridium cause cellulitis?

Clostridium septicum, Clostridium perfringens, Clostridium sordarii, and S. aureus can cause cellulitis

69- Regarding necrotizing soft-tissue infections. All the following are true EXCEPT:

- a. Streptococcus pyogenes cause toxic shock syndrome.
- b. Treatment is mainly surgical.
- c. The onset is usually gradual, and they run a chronic course
- d. They are usually polymicrobial infections.
- e. Dish water pus is a characteristic feature.

Wound Infection

- Group A β-hemolytic streptococcal gangrene** – following penetrating wounds *PIO*
- Clostridial myonecrosis** – postoperative abdominal wound *Early complication*
- Necrotizing fasciitis** – associated with strep, Polymicrobial, associated with DM and PVD

- Presentation:** sudden onset of pain at the surgical site following abdominal surgery, crepitus → edema, tense skin, bullae = EMERGENCY
- Management:** aggressive early debridement, IV antibiotics

70- Regarding sepsis, one of the following is false:

- a. Sepsis is defined as life-threatening organ dysfunction caused by a dysregulated host response to infection. *✓*
- b. The baseline SOFA score can be assumed to be zero in patients not known to have pre-existing organ dysfunction.
- c. Organ dysfunction can be identified as an acute change in total SOFA (sequential organ failure assessment score) score ≥4 points consequent to the infection. (>= 2)
- d. Management with Broad spectrum Antibiotic should be done within one hour of diagnosis.

Outside the ICU, patients with suspected or presumed infection who are highly likely to have poor outcomes can be clinically identified using qSOFA:

- SBP > 100mm Hg
- RR > 22 breaths/min
- Absent mental status

In the ICU, patients with suspected or presumed infection who are highly likely to have poor outcomes can be clinically identified by the presence of 2 or more qSOFA points.

Antibiotic therapy

- Crystalloids are favored as the initial fluid
- Hydroxyethyl starches are likely harmful
- Albumin may have a role, particularly if a lot of fluid is given

Antibiotic therapy

- intravenous antimicrobial therapy as early as possible and within the first hour of recognition
- empiric broad-spectrum therapy with one or more antimicrobials to cover all likely pathogens (including bacterial and potentially fungal or viral coverage)
- antimicrobial therapy to be narrowed once pathogen identification and sensitivities are established and/or adequate clinical improvement is noted.

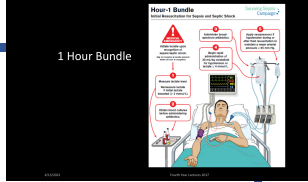
SOFA Score

SOFA score	1	2	3	4
Neurological (RASS)	13-14	10-12	6-9	< 6
Respiratory (P/FiO2)	< 400	< 100 with respiratory support	< 200 with respiratory support	< 100 with respiratory support
Circulatory (MAP)	> 70	Dispersive 5-6	Dispersive 1-5	Dispersive 1-5
Coagulation (APTT)	< 1.5x	< 1.5x	< 1.5x	< 1.5x
Renal (creatinine)	< 1.5x	< 1.5x	< 1.5x	< 1.5x
Bilirubin	< 1.5x	< 1.5x	< 1.5x	< 1.5x

SOFA Score
The European Society of Intensive Care Medicine

SOFA score	0	1	2	3	4
Mortality	<10%	15-20%	40-50%	>50%	>80%
SOFA score	0-6	7-9	10-12	13-14	15
Mortality	<10%	15-20%	40-50%	>50%	>80%
Score trend (First 48 hrs)	Unchanged	Unchanged	Unchanged	Increasing	Decreasing

Patients with a SOFA score of 2 or more had an overall mortality risk of approximately 10% in a general hospital population with presumed infection.



e. SOFA score ≥ 2 reflects an overall mortality risk of approximately 10% in a general hospital

701 Regarding the direct inguinal hernia

a. Use of surgical mesh is a must.

b. The sac should be excised at surgery.

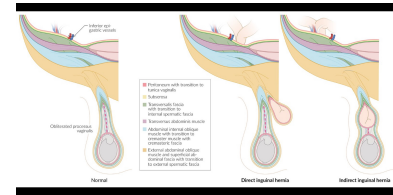
c. Has a preformed sac formed by a persistent processus vaginalis.

d. The neck of its sac lies medial to the inferior epigastric artery. ✓

e. It is mostly congenital

Direct inguinal hernia

- **Acquired** condition
- Caused by weakening of the transversalis fascia
 - Commonly secondary to conditions resulting in increased intraabdominal pressure (e.g. chronic obstructive pulmonary disease with chronic coughing, constipation)
 - May be associated with long-term glucocorticoid use
- Medial to the inferior epigastric blood vessels (within Hesselbach triangle) and lateral to the rectus abdominis
- Hernial sac protrudes directly through the posterior wall of the inguinal canal (without involvement of the spermatic cord or round ligament of the uterus)
- Only herniates through the superficial (external) ring
- Only surrounded by the external spermatic fascia



72- A 20-year-old male patient underwent an uneventful appendectomy for acute appendicitis. All the following are true about his postoperative care **except**:

a. Wound swelling and discharge could be a sign of wound infection ✓

b. Pathological examination of the appendix is mandatory ✓

c. The development of new onset diarrhoea could be due to pelvic abscess ✓

d. Routine use of post-operative metronidazole and cefuroxime for 3 days reduce postoperative hospital stay.

e. Early mobilization can reduce the risk of deep vein thrombosis ✓

Prevention Strategies: Core Postoperative Measures

- **Surgical Wound Dressing**
 - Protect primary closure incisions with sterile dressing for 24-48 hrs post-op
- **Control blood glucose level during the immediate post-operative period (cardiac)**
 - Measure blood glucose level at 6AM on POD#1 and #2 with procedure day = POD#0
 - Maintain post-op blood glucose level at <200mg/dL
- **Discontinue antibiotics within 24hrs after surgery end time (48hrs for cardiac)**

*Fig. DE: Surgical Site Infections and the Surgical Care Improvement Project (SCIP); Evolution of National Quality Measures. Surg Infect 2008;9(6):379-84.

What antibiotics are given after appendectomy?

Postoperative antibiotic treatment

All patients receive IV antibiotics during the first 48 h after appendectomy: cefuroxime/metronidazole (three times a day, 1500/500 mg), or alternatively ceftriaxone/metronidazole (once a day, 2000 mg)/three times a day, 500 mg) according to local antibiotic policy.

73- A 52-year-old obese lady reports a painless grape sized mass in her groin area. She has no medical conditions apart from some varicose veins. There is a cough impulse, and the mass disappears on lying down. What is the most likely cause?

a. Saphena varix

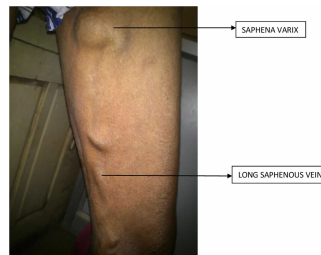
b. Arteriovenous malformation

c. False aneurysm of the femoral artery

d. Femoral hernia

e. Inguinal hernia

- **Saphenous varix:** a dilated, sacular swelling of the great saphenous vein that lies just distal to the junction of the femoral vein and the great saphenous vein
- Dense shrapne



SAPHENA VARIX.

- sacular enlargement of the termination of the long saphenous vein.
- usually accompanied by other signs of varicose veins.
- disappears when the patient lies flat.
- In both, there is an **impulse on coughing**
- a varicose hum can be heard when a stethoscope is applied over a saphena varix.

74- What is the ideal time for prophylactic dose of antibiotic in patient who is planned for right hemicolectomy?

a. Early morning of the day of surgery

b. One day before surgery

Operative Antibiotic Prophylaxis

- Decreases bacterial counts at surgical site
- Given within 60 minutes prior to starting surgery (knife to skin)
- Repeat dose for longer surgery (T 1/2)
- Do not continue beyond 24 hours
- Determinants – prevailing pathogens, antibiotic resistance, type of surgery
- Not a substitute for aseptic surgery or good technique

- Before فحس*
- c. One hour after incision
 - d. Four hours before incision
 - e. Thirty minutes before incision

75- All of the following are advantages of FAST (focused assessment with sonography for trauma), compared to CT scan of the abdomen, in blunt abdominal trauma EXCEPT:

- a. Gives early diagnosis
- b. The diagnosis is usually specific of which organ is affected**
- c. Does not need patient transport
- d. Can be repeated
- e. Performed rapidly

بالاستشوار ونسج

Comparison of DPL, FAST and CT			
TABLE 5-2 ■ Comparison of DPL, FAST, and CT in Blunt Abdominal Trauma			
	DPL	FAST	CT SCAN
Advantages	<ul style="list-style-type: none"> • Early diagnosis • Performed rapidly • 95% sensitive • Detects bowel injury 	<ul style="list-style-type: none"> • Early diagnosis • Noninvasive • Performed rapidly • Repeatable 	<ul style="list-style-type: none"> • Most specific for injury • Sensitive: 92%-98% accurate
Disadvantages	<ul style="list-style-type: none"> • Invasive • Low specificity 	<ul style="list-style-type: none"> • Operator-dependent • Bowel gas and substantial air distortion • Misses diaphragm, bowel, and pancreatic injuries 	<ul style="list-style-type: none"> • Cost and time • Misses diaphragm, bowel, and some pancreatic injuries • Transport required

76- One of the following patients require urgent investigation to malignancy

- a. A 58-year-old with anemia and low MCV**
- b. A 45-year-old male with constipation of 2 weeks duration
- c. A 60-year-old Patient with anal pain and fresh rectal bleeding
- d. A 24-year-old female patient with right iliac fossa pain
- e. A 65-year-old female with full thickness rectal prolapse

GI 36

Presentation

فحس

Higher risk
 Rectal bleeding with a change in bowel habit to looser stools or increased frequency of defecation persisting for **6 weeks (all ages)**
 Change in bowel habit as above without rectal bleeding and persisting for **6 weeks (> 60 years)**
 Persistent rectal bleeding **without anal symptoms (> 60 years)**
 Palpable right-sided abdominal mass **(all ages)**
 Palpable rectal mass (not pelvic) **(all ages)**
 Unexplained iron deficiency anaemia **(all ages)**

Low risk
 Patients with **no iron deficiency anaemia, no palpable rectal or abdominal mass**
 Rectal bleeding with **anal symptoms and no persistent change in bowel habit (all ages)**
 Rectal bleeding with an **obvious external cause, e.g. anal fissure (all ages)**
 Change in bowel habit **without rectal bleeding (< 60 years)**
 Transient changes in bowel habit, particularly to **harder or decreased frequency of defecation**
 Abdominal pain as a single **symptom without signs and symptoms**

77- The most common microorganism causing liver abscess is?

- a. Klebsiella
- b. Staphylococcus (according to the internet)
- c. proteus
- d. Pseudomonas
- e. E-coli**

8. The most common microorganism causing liver abscess is:

- A. Klebsiella**
- B. Staphylococcus
- C. proteus
- D. Pseudomonas
- E. E-coli

↳ Most common site is Right Lobe

Answer: A

Common pathogens [1][2][9][6][5][9]

- Often polymicrobial
- Most commonly isolated organisms []
 - E. coli []
 - K. pneumoniae [] [1][8][9]
 - Streptococcus spp. [] [3][2][7]
- Other causative bacteria include Enterococcus spp., Staphylococcus aureus, and anaerobes. [] [6]

78- All the following is true about inguinal hernia repair EXCEPT

- a. Irreducible hernia is a risk factor for strangulation ✓
- b. Chronic postoperative pain can be as high as 20 % of cases ✓

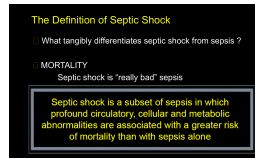
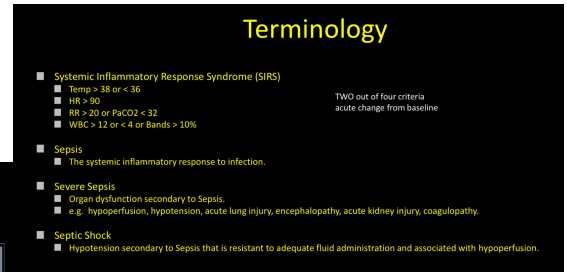
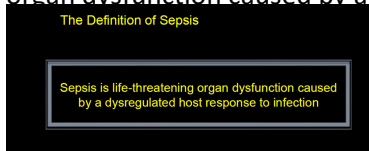
c. Is a clean operation

d. Cannot be performed as a day case setting if it was done under local anesthesia

e. Testicular atrophy is a known postoperative complication

79- Life threatening organ dysfunction caused by a dysregulated host response to infection is the definition of:

- a. Septicemia
- b. Sepsis
- c. Septic shock
- d. Refractory shock
- e. Severe sepsis



80- All of the following are part of the primary survey in trauma patients except:

- a. Plain abdomen X-ray
- b. CXR
- c. FAST
- d. Pelvic X-ray
- e. Cervical spine

ADJUNCTS TO PRIMARY SURVEY

Done to: **MONITOR, RESUSCITATE OR IDENTIFY.**

- > ECG monitoring.
- > Monitoring of vital signs: blood pressure, pulse pressure, heart rate, body temperature and respiratory rate
- > Monitoring: arterial blood gases, pulse oximetry, and colorimetric CO2 monitoring.
- > Urinary and gastric catheters.
- > X-Rays and diagnostic studies: AP chest and AP pelvis and lateral cervical spine.
- > FAST or DPL.

81- All true about necrotizing fasciitis except:

- a. Carries high mortality
- b. Occur in immunocompromised subjects
- c. Is a single microbial infection in 80% of cases
- d. Trauma can be a predisposing factor
- e. Require urgent treatment with antibiotics and debridement

mostly polymicrobial

82- Noradrenaline will be most useful in which form of shock? **

- a. Obstructive
- b. Is contraindicated in shock
- c. distributive
- d. Metabolic
- e. Cardiogenic

Shock		Inadequate organ perfusion and delivery of nutrients necessary for normal tissue and cellular function. Initially may be reversible but life threatening if not treated promptly.							
TYPE	CAUSED BY	MECHANISM	SKIN	CVP (RIGHT HEART P/BLOAD)	PCWP (LEFT HEART P/BLOAD)	CO	SVR (AFTERLOAD)	SVVO (MIXED VENOUS CONTENT)	Treatment
Hypovolemic shock	Hemorrhage, dehydration, burns	Volume depletion		↓	↓	↓	↑	↓	IV fluids
Cardiogenic shock	MI, HF, vascular dysfunction, arrhythmia	Left heart dysfunction	Cold, clammy	↑	↑	↓	↑	↓	Inotropes, diuresis
Obstructive shock	Cardiac tamponade, PE, tension, pneumothorax	Right heart dysfunction		↑	↑	↓	↑	↓	Relieve obstruction
Distributive shock	Sepsis (early), anaphylaxis, CNS injury	Systemic vasodilation	Warm, dry	↓	↓	↓	↓	↑	pressors, epinephrine

Double arrow = primary physiologic disorder driving the shock.
*↑ in cardiac tamponade.

83- All of the followings are within the spermatic cord in the inguinal canal except:

- a. Testicular artery
- b. Genital branch of genitofemoral nerve
- c. Artery to the vas
- d. Lymphatics
- e. Inferior epigastric artery

SPERMATIC CORD CONTENTS


"PILES DON'T CONTRIBUTE TO A GOOD STYLISH LIFE"

- Pampiniform plexus
- Ductus deferens
- Cremasteric artery
- Testicular artery
- Artery of the ductus deferens
- Genital branch of the genitofemoral nerve
- Sympathetic nerve fibers
- Lymphatic vessels

84- All are correct about Clostridium Difficile colitis except:

- a. Most likely affect elderly patients with co-morbidities
- b. The use of a cephalosporin-based antibiotic is a risk factor
- c. Surgery is the first line of management
- d. Oral but not intravenous vancomycin is of help in this situation
- e. Can be diagnosed by performing flexible sigmoidoscopy

Clostridioides difficile



Produces toxins A and B, which damage enterocytes. Both toxins lead to watery diarrhea → pseudomembranous colitis (PMC). Often 2nd to antibiotic use, especially clindamycin, ampicillin, cephalosporins, fluoroquinolones; associated with PPIs.

Pulmonary infection: toxic megacolon, ileus, shock.

Difficile causes diarrhea. Diagnosed by PCR or antigen detection of one or both toxins in stool. Treatment: oral vancomycin or fidaxomicin. For recurrent cases, consider repeating prior regimen or fecal microbiota transplant.

85- One of the following is true about inguinal hernia

- a. More common in females
- b. Reducible hernia is a high-risk factor for strangulation
- c. Testicular atrophy is a known postoperative complication
- d. Can't be performed as a day-case setting
- e. Is a clean-contaminated operation

Types of Surgery

Clean	Hernia repair breast biopsy	1-5%
Clean/Contaminated	Cholecystectomy Elective bowel resection	2-5%
Contaminated	Emergency bowel resection	5-30%
Dirty/infected	Perforation, abscess	5-30%

Complication - Late complications

- Recurrence
- Testicular atrophy if testicular artery is damaged
- Obstruction

Inguinal hernia repair

Complications

- Recurrence
- Chronic groin pain
- Nephropathy
- Neuropathic
- Cord and testicular
- Hematoma
- Ischemic colitis
- Testicular atrophy
- Injury to vas deferens
- Hydronephrosis
- Testicular descent
- Bowel and bladder injury

*If it was a herniotomy (in peds) or without using a mesh it would've been clean

86- False about hypernatremia?

- a. cannot use NL saline if the patient has hypovolemia
- b. associated with inadequate water intake ✓
- c. Should not be corrected greater than 0.5mmol/L/hr ✓
- d. clinically manifest primarily by neurological effects ✓
- e. if hypervolemia is present use furosemide

Loop

Indications for NS

- Water and salt depletion – diarrhoea, vomiting, excessive diuresis
- Hypovolemic shock
- Alkalosis with dehydration
- Severe salt depletion and hyponatremia
- Initial fluid therapy in DKA
- Hypercalcemia
- Fluid challenge in prerenal AKI
- Irrigation – washing of body fluids
- Vehicle for certain drugs

87- Wrong about Inguinal hernia?

- a. femoral is the most common hernia in females
- b. females are more likely to have femoral
- c. males are more likely to have inguinal
- d. Inguinal hernia is superior & medial to pubic tubercle
- e. Femoral hernia is inferior & lateral to pubic tubercle

Where is the most common place for a woman to get a hernia?

The umbilicus is the thinnest part of the abdominal wall. It's a very common site to develop a hernia, whether you're a man or a woman.

- Healthy individuals with minimal anticipated blood loss during surgery- (6-7 g/dl)
- Cardiac or pulmonary disease- (10g/dl)
- In case of elective surgery:
 - Correctable cause of anemia- delay surgery
 - Uncorrectable cause - blood transfusion
- Blood transfusion are also required during emergency surgeries

88- Who should receive blood transfusion?

- A patient with with Hb 8 with tachycardia and SOB
- A patient with with HB 10 and CAD
- A patient on hemodialysis and Hb 7
- A patient with 1 g\dl drop in Hb after bleeding

Indication for RBC

1. Symptomatic anemia, bleeding patient.
 - Hb < 7 g/dl.
 - Hb < 10g/dl in acute MI, congestive heart failure, angina, transient ischemic attack, syncope.
 - Hb < 8 g/dl in thalassemia.
2. Platelet rich plasma-
 - When bleeding due to reduced platelet or inadequate platelet function.
 - PRP increases plate count by 4000-8000/mm³.
 - ABO matching required.

89- Which of the following is an indication for FFP?

- volume repletion
- reversal of bleeding due to clopidogrel
- A patient who received 1 PRBC
- A patient who is on warfarin with a high INR

3. Fresh frozen plasma

- ABO matching required Rh compatibility not required.
- Indication:
 - Factor V and 11 deficiency.
 - Diffusional coagulopathy.
 - Coagulopathy of liver disease.
 - HELLP Syndrome.
 - Reversal of warfarin anticoagulation.
- 4. Cryoprecipitate
 - Indications:
 - Factor 8 deficiency.
 - Von Willebrand disease.
 - Hyperfibrinogenemia with >100 mg/dl.
 - Factor 13 deficiency.

ANTICOAGULANT	REVERSAL AGENT	NOTES
Heparin	Protamine sulfate	@ charged peptide that binds @ charged heparin
Warfarin	Vitamin K (slow) +/- FFP or PCC (rapid)	
Dabigatran	Idarucizumab	Monoclonal antibody Fab fragments
Direct factor Xa inhibitors	Andexanet alfa	Recombinant modified factor Xa (inactive)

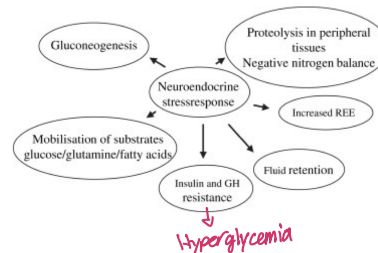
90- not commonly seen with diarrhea?

- alkalosis
- hypercalcemia

Acidosis ⊕ Hypokalemia

91- All of the following can present in an acute trauma patient except:

- hypoglycemia
- lipolysis.
- hypercatabolism
- gluconeogenesis.



92- A patient presenting to the ER after an RTA. He is conscious and communicative. He was found to be hypotensive and is complaining of abdominal pain. What is the best next step?

- Jaw thrust
- chin lift
- intubation
- IV line

non-conscious

E. emergent laparotomy جوابه دوج

93- A patient was being treated for lower leg ulcer with a cephalosporin. He developed diarrhea and tested positive for C.diff with the stool toxin test. Best next step?

- a. Switch to oral vancomycin
- b. start metronidazole therapy



Clostridium difficile
 Produces toxin A and B, which damage enterocytes. Both toxins lead to watery diarrhea → pseudomembranous colitis (PM) "Stuenkel"
 → antibiotic use, especially clindamycin, ampicillin, cephalosporins, fluorquinolones associated with PM.
 Fulminant infection: toxic megacolon, ileus, shock.
 Difficile causes diarrhea. Diagnosed by PCR or antigen detection of one or both toxins in stool.
 Treatment: oral vancomycin or fidaxomicin. For recurrent cases, consider repeating prior regimen or fecal microbiota transplant.

Clostridiaceae (difficile) Infection		Table
		Antibiotic therapy for C. difficile infection in adults (1/2018)
Category		Treatment options
Initial episode	Nonsevere CDI or severe CDI ¹	<ul style="list-style-type: none"> First line <ul style="list-style-type: none"> Oral vancomycin (USMLE) <input type="checkbox"/> Or oral metronidazole (USMLE) <input type="checkbox"/> Second line in nonsevere cases if vancomycin and fidaxomicin are unavailable or suboptimal (e.g., in patients with allergy) or metronidazole (USMLE) <input type="checkbox"/>
	Fulminant CDI	<ul style="list-style-type: none"> First line (high-dose oral vancomycin) (USMLE) <input type="checkbox"/> Consider adding IV metronidazole (USMLE) <input type="checkbox"/> In patients with pericolic ileus, consider adding vancomycin enemas (USMLE) <input type="checkbox"/>
Recurrent CDI	First recurrence	<ul style="list-style-type: none"> If the initial episode was treated with standard-dose vancomycin <ul style="list-style-type: none"> Oral metronidazole (USMLE) <input type="checkbox"/> Or repeat and extend oral vancomycin (USMLE) <input type="checkbox"/> If the initial episode was treated with metronidazole² <ul style="list-style-type: none"> Or vancomycin (USMLE) <input type="checkbox"/> Or standard-dose oral vancomycin (USMLE) <input type="checkbox"/>
	Subsequent recurrences	<ul style="list-style-type: none"> Any of the following <ul style="list-style-type: none"> Oral vancomycin (USMLE) <input type="checkbox"/> Standard-dose oral vancomycin (USMLE) <input type="checkbox"/> Followed by oral rifaximin (USMLE) <input type="checkbox"/> Repeat standard-dose oral vancomycin (USMLE) <input type="checkbox"/>

94- Which of the following is associated with the highest perioperative mortality?

- a. MI 4 months ago
- b. Aortic stenosis
- c. CHF with Hb 7 "not sure"
- d. Frequent PVCs
- e. Age more than 70

خبر

95- A patient had epidural anesthesia for a lower abdominal surgery, she has headache after the procedure, which of the following is not done to decrease the headache?

- a. bed rest
- b. analgesics
- c. decrease caffeine intake
- d. epidural blood patch
- e. oral hydration

How do you get rid of a headache after spinal anesthesia?

Your provider may recommend **getting bed rest, drinking plenty of fluids, consuming caffeine and taking oral pain relievers**. If your headache hasn't improved within 24 hours, your provider might suggest an epidural blood patch.

96- Which of the following is false about hypercalcemia:

- a. breast cancer metastasis is an unusual cause
- b. severely hypercalcemic patient will have signs of extracellular fluid volume deficit ✓
- c. Volume repletion would result in increased urinary excretion of calcium ✓
- d. Hypercalcemic patients will have signs and symptoms similar to hyperglycemia

USMLE-style Question

Key learnings: signs of hypercalcemia

- ↳ Painful bones
- ↳ Renal stones
- ↳ Abdominal groans
- ↳ Sitting on the throne (polyuria, constipation)
- ↳ & Psychiatric overtones.

For causes of hypercalcemia, remember "Thinking Chimpanzees!"

Thinking: Thiazides, thyroid
Calcium supplementation
Hyperparathyroidism
Immobilization, inherited (FHH)
Milk-alkali synd., meds (thiazides, lithium)
Paraneoplastic PTHrP
Adrenal insufficiency
Neoplasm (multiple myeloma, breast, lung)
Zollinger-Ellison syndrome
Excessive vitamin D
Excessive vitamin A
Sarcoidosis & granulomatous diseases

97- Not given in cardiogenic shock: (both could be given according to the internet)

- a. nitroprusside
- b. norepinephrine

Management of cardiogenic shock [46][53][54]	
Classification	Treatment
Dry and cold	<ul style="list-style-type: none"> • Fluid bolus only in cases of hypotension and/or PCWP < 15 mm Hg • Consider a fluid challenge (250-500 mL) [53][46] • If shock persists, start a vasopressor, ideally, norepinephrine. • Administer inotropic support if hypoperfusion persists despite fluids and vasopressors. [45] ◦ Dobutamine ◦ Milrinone ◦ Dopamine
Wet and cold	<ul style="list-style-type: none"> • Administer inotropic therapy to maintain perfusion. • If shock persists, start a vasopressor (ideally, norepinephrine). • Once systolic BP is > 90 mm Hg, start diuretic therapy for AHF. • If symptoms persist, start treatment for refractory AHF.

98- Antibiotic given for cholecystectomy prophylaxis:

- a. Cefuroxime
- b. Cefazolin
- c. Ceftriaxone
- d. Metronidazole

Subst

99- Drug of choice for hydatid cyst:

- a. Mebendazole
- b. Ketoconazole
- c. Albendazole

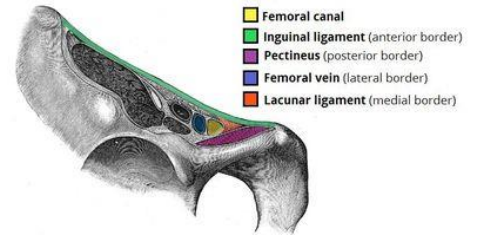
GI 1/6

100- Wrong about femoral canal:

- a. Inguinal ligament is the superior border of femoral canal
- b. Pectinular line posteriorly to femoral canal
- c. Contains lymph Nodes
- d. lacunar ligament is the lateral border

medial

GI 1/6



101- All of following considered distributive shock except:

- a. anaphylactic
- b. hemorrhagic
- c. septic

102- Unlikely injured site to cause hypovolemic shock:

- a. Intracranial
- b. Spleen

1/6

103- Wrong about Massive blood transfusion:

- a. One blood volume in 24
- b. 10 units in 12 hrs *??*
- c. 50% blood volume in 3 hrs
- d. 4 units in one hour
- e. Transfusion needing FFP to treat coagulopathy

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هاتين*

What is a "Massive Transfusion"

- Replacement of one blood mass, or 10 units of RBCs in a 24 hour period
- Dynamic Definitions
 - Transfusion of ≥4 PRBC units with 1 hour when ongoing need is foreseeable
 - Replacement of 50% of the total blood volume within 3-4 hours

Fresh frozen plasma [24][32][7][33]

Recommendations in this section are consistent with the 2010 AABB guideline for plasma transfusion. [25]

- **Content**
 - Plasma, including all coagulation factors and plasma proteins
 - All cellular components are removed from the transfusion product.
 - Unit volume: ~200-300 mL [7][32]
- **Compatibility requirements:** See "ABO blood type system"
 - ABO compatibility must be considered. [25]
 - Rh(D) matching not required. [27][22]
- **Indications [24][31]**
 - Management of coagulopathy in patients with multiple clotting factor deficiencies (e.g., due to liver cirrhosis, DIC)
 - Prevention of dilutional coagulopathy in massive transfusion
 - Plasma exchange (transfusions, e.g., in TTP/HUS)
 - Management of some coagulation factor deficiencies if no specific concentrate for treatment exists
 - Alternative therapy for:
 - Management of plasma protein deficiencies if recombinant products are unavailable. [25]
 - Immediate reversal of warfarin in patients with life-threatening bleeding or intracranial hemorrhage if 4-factor PCC is unavailable. [24]
- **Effect**
 - Correction of both isolated and multiple coagulation factor deficiencies [25]
 - Intravascular volume expansion roughly equivalent to unit volume

Massive transfusion

Definition

- The replacement of a large volume of blood in response to massive hemorrhage
- There is no universal threshold for a massive transfusion; proposed values include: [5-4][55]
 - Complete replacement of a patient's blood volume (~ 10 units of RBCs) within 24 hours
 - Replacement of ≥ 50% of a patient's blood volume (~ 5 units of RBCs) within 3 hours
 - Blood loss replacement at a rate of > 150 mL/minute
 - Transfusion of ≥ 3 units of pRBCs within 1 hour

104- About hernias what is true:

- a. Strangulation mortality is above 10% ~~10%~~ 100%
- b. Indirect hernia are 20% of inguinal hernia
- c. Females have femoral hernia more than inguinal hernia
- d. Are second to adhesions as a cause of intestinal obstruction

172. Regarding abdominal wall hernias:

- A. Are 2nd to adhesions as a cause of strangulated intestinal obstruction
- B. 20% of inguinal hernias are indirect
- C. In women inguinal hernias are less common than femoral hernias
- D. The mortality associated with bowel strangulation is over 10%
- E. Trial reduction of pediatric inguinal hernias is not recommended

Answer: D

105- Sepsis with organ failure and persistent hypotension is the definition of:

- a. Septic shock
- b. SIRS
- c. Severe sepsis
- d. MODS

106- Not part of the SIRS criteria:

- a. Temperature < 36
- b. HR >90
- c. WBC > 12000 or < 4000
- d. RR>8 or PaCO2 >23mmHg
- e. Cell bands > 10%

Terminology

- Systemic Inflammatory Response Syndrome (SIRS)
 - Temp > 38 or < 36
 - HR > 90
 - RR > 20 or PaCO2 < 32
 - WBC > 12 or < 4 or Bands > 10%

TWO out of four criteria
acute change from baseline
- Sepsis
 - The systemic inflammatory response to infection.
- Severe Sepsis
 - Organ dysfunction secondary to Sepsis.
 - e.g. hypoperfusion, hypotension, acute lung injury, encephalopathy, acute kidney injury, coagulopathy.
- Septic Shock
 - Hypotension secondary to Sepsis that is resistant to adequate fluid administration and associated with hypoperfusion.

107- Antibiotic prophylaxis for inguinal hernia repair with mesh:

- a. Vancomycin
- b. 1st generation cephalosporin (cefazolin)
- c. 2nd generation cephalosporin
- d. 3rd generation cephalosporin

108- all are risk factors for C. difficile infection except:

- a. smoking
- b. PPI
- c. Prolonged broad-spectrum antibiotics use
- d. Severely ill patient

Clostridioides difficile

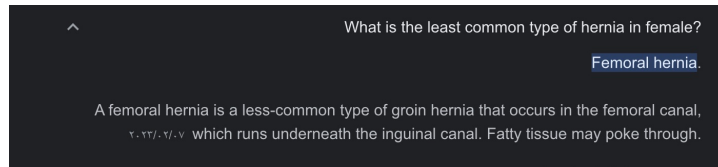


Produces toxins A and B, which damage enterocytes. Both toxins lead to watery diarrhea → pseudomembranous colitis. Often 2^o to antibiotic use, especially clindamycin, ampicillin, cephalosporins, fluoroquinolones; associated with PPIs.
Fulminant infection: toxic megacolon, ileus, shock.

Difficile causes diarrhea.
Diagnosed by PCR or antigen detection of one or both toxins in stool.
Treatment: oral vancomycin or fidaxomicin.
For recurrent cases, consider repeating prior regimen or fecal microbiota transplant.

109- Rare hernia in females:

- a. direct inguinal hernia
- b. indirect inguinal hernia
- c. femoral hernia
- d. incisional hernia
- e. umbilical hernia : *most common*



↳ But it is more common in F>M

110- All are absolute contraindications to insert NGT except:

- a. confirmed esophageal rupture
- b. suspected esophageal rupture
- c. esophageal stricture (Most likely)
- d. foreign body in esophagus

E. strict

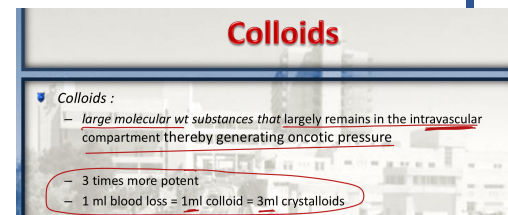
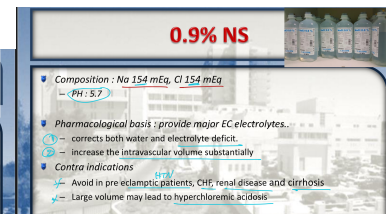
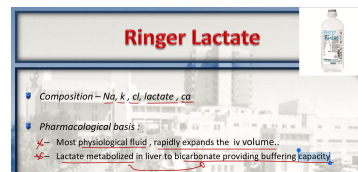
CONTRAINDICATIONS

Nasogastric intubation is contraindicated in patients with:

- esophageal stricture because of the risk for esophageal perforation,
- esophageal varices because tube placement may trigger variceal bleeding which can be life-threatening
- basilar skull fracture or facial fracture due to the potential for intracranial misplacement
- a bleeding diathesis, minimal trauma to the pharynx, esophagus, or stomach from nasogastric tubes can also lead to severe bleeding and, thus, tubes are avoided whenever possible.

111- False about IV fluids :

- A. NaCl has 154 mEq Na & 154 mEq Cl
- B. RL is the most physiological
- C. hypotonic fluids can increase intracerebral pressure (or edema)
- D. colloids can cause volume overload
- E. G5W is enough to support nutrition for a fasting patient



112- All given for treatment of pseudo membranous colitis except:

- a. metronidazole
- b. vancomycin
- c. steroids
- d. stop offending antibiotic

113- All risk factors for c.difficile infections except:

- a. vegetarian
- b. long course of antibiotics

114- High velocity penetrating trauma, transverse abdomen at mid umbilicus, which is likely to be injured:

- a. small bowel
- b. liver
- c. kidney
- d. spleen

GI 1/50

115- Source of infection after inguinal hernia repair is:

- a. Patient's skin (NOT SURE)
- b. instruments
- c. surgeon

116- False about hypermagnesemia:

- A. associated with ECG changes consistent with hyperkalemia
- b. Deep tendon reflexes are exaggerated (lost usually)
- c. Levels are parallel with potassium levels

Electrolyte disturbances

ELECTROLYTE	LOW SERUM CONCENTRATION	HIGH SERUM CONCENTRATION
Sodium	Nausea, malaise, stupor, coma , seizures	Irritability , stupor, coma
Potassium	T waves and flattened T waves on ECG, arrhythmias , muscle cramps, spasm, weakness	Wide QRS and peaked T waves on ECG, arrhythmias , muscle weakness
Calcium	Tetany , seizures , QT prolongation , twitching (eg, Chvostek sign), spasm (eg, Trousseau sign)	Stones (renal), bones (pain), groans (abdominal pain), throne (↑ urinary frequency), psychiatric overtones (anxiety, altered mental status)
Magnesium	Tetany , torsades de pointes , hypokalemia , hypocalcemia (when $[Mg^{2+}] < 1.0$ mEq/L)	↓ DTRs , lethargy, bradycardia, hypotension, cardiac arrest, hypocalcemia
Phosphate	Bone loss, osteomalacia (adults), rickets (children)	Renal stones, metastatic calcifications, hypocalcemia

117- most important factor for wound healing:

- a. vit.D
- b. vit.C
- c. carbohydrate
- d. caloric intake
- e. balanced diet

118- Source of protein in pts with trauma is:

- a. liver
- b. plasma protein
- c. skeletal muscle

119- About erysipelas, all are true except:

- a. caused by group A Strep
- b. Painful
- c. Red, flat skin lesions
- d. Face is common site
- e. Treated with penicillin

(Erysipelas)


Definition: skin infection, Affects the upper dermis

Organism: B-hemolytic streptococci (A) or S.pyogenes

Important characteristics:

- Red, tender, demarcated and painful plaque
- Occur in infant and young children

Treatment:
Penicillin (IV or Oral)



120- SSI, usually occurs when?

- a. 4-5 days post op

Surgical site Inf.

121- Prophylactic antibiotic not indicated in:

- a. Hernioplasty
- b. Herniorrhaphy
- c. Duct ectasia
- d. Colectomy

- To fix things together by over suturing under tension => -orrhaphy (ex: herniorrhaphy) -> add a mesh

- If we add any foreign devices/materials in any surgery => -plasty (ex: stent angioplasty, knee replacement, orthoplasty, hernioplasty) -> add a mesh

- Any change in the configuration or the shape of the tissue => -plasty (ex: pyloroplasty, abdominoplasty, U-Y plasty, Y-V plasty, Z-plasty, Z-plasty (on contracted scars)) -> add a mesh

122- All are risk factors of wound infection except:

- a. DM
- b. Immunosuppression
- c. Vit C def
- d. Young age

123- A patient with multiple fractures and hypovolemic shock, what is the initial resuscitation?

- a. Blood
- b. FFP
- c. Hypertonic saline
- d. Ringer's lactate

Indications

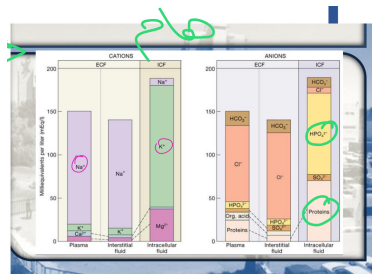
- 1 - Correction in severe hypovolemia
- 2 - Replacing fluid in post op patients, burns *Pedlemel's formula*
- 3 - Diarrhoea induced hypokalemic metabolic acidosis
 - Fluid of choice in diarrhoea induced dehydration in paediatrics
- 4 - DKA
 - provides water, correct metabolic acidosis and supplies potassium
- 5 - Maintaining normal ECF fluid and electrolyte balance

124- Body response to major trauma/ shock includes one of the following:

- a. Increased Na and water secretion
- b. Increased renal perfusion
- c. Hyperkalemia
- d. Hypoglycemia
- e. Decreased cortisol production

125- Compared to ICF, the ECF has one of the following:

- a. Lower Cl-
- b. Higher K+
- c. Lower protein
- d. Lower pH



e. Bigger in volume

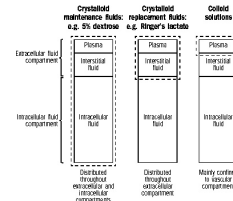
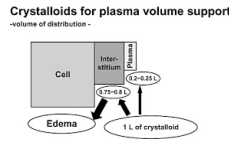
126- Which of the following is true about femoral hernia?

- a. More common in middle aged and older women
- b. Can be above and medial to the inguinal ligament

The femoral canal lies just below the inguinal ligament and lateral to the pubic tubercle. Consequently, a femoral hernia will pass below and lateral to the pubic tubercle, whereas an inguinal hernia will be seen above and medial to it. The key landmark for the femoral canal is the femoral vein.

127- What is the volume of distribution of crystalloids?

- a. ECF
- b. ICF
- c. Transcellular fluid



128- After a CVA, an elective surgery must be delayed for how long?

- a. 7 days
- b. 6 weeks (for MI)
- c. 3 months
- d. 6 months
- e. 1 year

حفظ
صوت عازون

- Surgeon and the consultants
 - weigh the benefits vs. risk of the procedure
 - whether the perioperative intervention is beneficial
- Perioperative intervention includes:
 - Coronary revascularization (bypass or percutaneous transluminal angioplasty)
 - Modification of choice of anesthetic
 - Invasive intraoperative monitoring
- Patients having PCI with stenting should defer the elective procedure for 4-6 weeks (or less depending on the type of stent)
- **In case of MI, elective surgery should be postponed for 4-6 weeks** *very important*
- Medical therapy with beta blockers have been recommended as per ACC/AHA guidelines:

Cerebrovascular disease

- **Known or suspected cerebrovascular disease requires special consideration:**
 1. **The asymptomatic carotid bruit :**
 - Fewer than 50% of bruits reflect hemodynamically significant disease. No increase in risk of stroke has been demonstrated during noncardiac surgery in the presence of an asymptomatic bruit.
 1. **Patients with recent transient ischemic attacks (TIAs):**
 - Patients with **symptomatic** carotid artery stenosis should have an **endarterectomy or carotid stenting** before elective surgery.
 1. **Elective surgery for patients with a recent CVA :**
 - should be delayed for a minimum of 2 weeks, ideally for **6 weeks**.

129- A 24-year-old healthy male, undergoing **hernia repair at 12mid-day**, he **started fasting at midnight (12 hours fasting)**, what is the maintenance fluid therapy?

- a. 1250 ml NS+ 500 ml D5W
- b. 1250 ML D5W+ 500 ml NS
- c. 1000 ml D5W+ 2500ml RL
- d. 1000 ml RL+ 2500 ml D5W

كلها قه، ال Maintenance الـ 2500 في اليوم
∴ 1250 في نص يوم من D5W

130- 10 Kgs infant, 11 months old, temp 38 C, what is the maintenance fluid per day?

- a. 300 ml
- b. 500 ml
- c. 800 ml
- d. 1200 ml
- e. 1500 ml

*11 * 10 = 1100*

131- At which day post-op will the protein start to be metabolized?

- a. 5
- b. 7 NOT SURE 😞
- c. 10
- d. 13
- e. 15

The need for nutritional support should be assessed continually in patients both preoperatively and postoperatively. Most elective surgical patients have adequate fuel reserves to withstand common catabolic stresses and partial starvation for up to 7 days and do not benefit from perioperative nutritional support

Fluid	Volume	Electrolyte	Calories
0.9% NaCl	1000 ml	154 mEq Na ⁺ , 154 mEq Cl ⁻	0
5% Dextrose in 0.9% NaCl	1000 ml	154 mEq Na ⁺ , 154 mEq Cl ⁻	170
0.9% NaCl with 20 mEq KCl	1000 ml	154 mEq Na ⁺ , 154 mEq Cl ⁻ , 20 mEq K ⁺	0
5% Dextrose in 0.9% NaCl with 20 mEq KCl	1000 ml	154 mEq Na ⁺ , 154 mEq Cl ⁻ , 20 mEq K ⁺	170

132- All of the following statements regarding the use of systemic prophylactic antibiotics are true, EXCEPT:

- A. The goal is to attain high tissue level at time of incision. ✓
- B. Should be as broad-spectrum as possible in most cases.**
- C. Are usually given as a single dose. ✓
- D. They are not effective if given 3 hours after making the incision. ✓
- E. Are not effective in reducing postoperative respiratory infections. ✓

Prevention Strategies: Supplemental Perioperative

- Redose antibiotic at the 3 hr interval in procedures with duration >3hrs (* See exceptions to this recommendation in "Ergonomics R, et al. The Society of Thoracic Surgeons Practice Guidelines Society Evidence: Prophylaxis in Cardiac Surgery. Part II: Antibiotic Choice. Ann Thor Surg 2007;83:1569-76)
- Adjust antimicrobial prophylaxis dose for obese patients (body mass index >30) (* Anderson DJ, Kaye KS, Clamon D, et al. Strategies to prevent surgical site infections in acute care hospitals. Infect Control Hosp Epidemiol 2008;29 (Suppl 1):S51-S61)

Prevention Strategies: Core Preoperative Measures

Administer antimicrobial prophylaxis in accordance with evidence based standards and guidelines

- Administer within 1 hour prior to incision*
 - 2hr for vancomycin and fluoroquinolones
- Select appropriate agents on basis of
 - Surgical procedure
 - Most common SSI pathogens for the procedure
 - Published recommendations

133- Concerning erysipelas, all of the following statements are true, EXCEPT:

- A. Is caused by staphylococcus.
- B. Is typically painless.
- C. Is effectively treated by penicillin.
- D. Hands are mainly involved.
- E. The lesion has ill-defined flat edge. : Well p 1562 cellulitis**

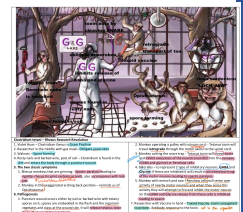
143- tetanus, all of the following statements are true, EXCEPT:

- A. The majority of cases are due to endogenous infection.
- B. It is caused by gram negative anaerobic bacilli.**
- C. Tetanospasmin is the most important neurotoxin responsible for the disease
- D. The disease is characterized by episodes of convulsions with short period of muscle relaxation in between.
- E. Penicillin and metronidazole are used to treat an established infection.

Treatment

In addition to initial supportive care, management should focus on controlling the infection, eliminating toxin production, and neutralizing circulating toxin.

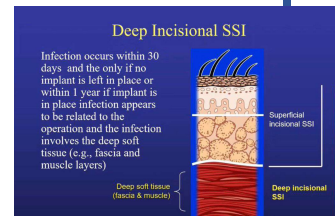
- **Wound cleaning and debridement** □
- **Antibiotic treatment** □
 - Drug of choice: metronidazole
 - Alternative: penicillin G



- **Tetanospasmin:** reaches the CNS through retrograde axonal transport
 - Toxin binds to receptors of peripheral nerves and is then transported to interneurons (Renshaw cells) in the CNS via vesicles [182]
 - Acts as protease that cleaves **synaptobrevin**, a SNARE protein → prevention of inhibitory neurotransmitters (i.e., GABA and glycine) release from **Renshaw cells** in the spinal cord → uninhibited activation of alpha motor neurons → muscle spasms, rigidity, and autonomic instability
- **Tetanolysin:** causes hemolysis and has cardiotoxic effects

135- All of the following statements about surgical site infections (SSIs) are true, EXCEPT:

- A. Infection in the musculofascial tissues is known as deep SSI.
- B. The patient may have systemic signs in a minor SSI.**
- C. Infection causing delay in hospital discharge is a major SSI.
- D. The differentiation between major and minor SSIs is extremely important.
- E. Surveillance for surgical site infection should be done for a year after implanted joint surgery.



Peripheral parenteral nutrition (PPN)

- administered through a peripheral IV catheter.
- The osmolality of PPN solutions generally is limited to **900 mOsm** to avoid phlebitis.
- Temporary nutritional supplementation with PPN may be useful in selected patients but is not typically indicated.

136- Which of the following statement concerning intravenous nutritional support is TRUE?

- A. Concentrations of glucose no higher than 5% should be used to avoid peripheral vein sclerosis
- B. A major disadvantage of the peripheral technique is limited caloric delivery
- C. If total parenteral nutrition is required, access to the superior vena cava via the external jugular vein is the most suitable site
- D. Venous thrombosis is an uncommon complication for long-term central vein catheterization
- E. amino acid solutions should only be administered centrally



137- A 40 year old male patient involved in a road traffic accident, at the accident and emergency department his Glasgow coma scale was 15, but he had shortness of breath, hypotension with tachycardia. He had a patent airway with difficulty in breathing. The air entry was reduced and hyper-resonant on the right side of the chest. The most appropriate next step is:

- A. Urgent chest x ray
- B. IV access and blood transfusion
- C. Intubation and ventilation
- D. Needle thoracostomy
- E. Diagnostic peritoneal lavage

pneumothorax

138- All of the following is correct about Femoral hernia EXCEPT:

- A. More common in women
- B. The risk of strangulation is more as compared with inguinal hernia
- C. It present as a swelling below and medial to Pubic tubercle
- D. The sac may contain omentum
- E. Can be a cause of small bowel obstruction

The femoral canal lies just below the inguinal ligament and lateral to the pubic tubercle. Consequently, a femoral hernia will pass below and lateral to the pubic tubercle, whereas an inguinal hernia will be seen above and medial to it. The key landmark for the femoral canal is the femoral vein.

139- A 35 year old male patient, admitted with abdominal pain, distension and excessive vomiting. He had previous history of appendectomy at the age of 18. The most likely cause for this illness is:

- A. Internal hernia
- B. Right colon cancer
- C. Volvulus

D. Adhesions

E. Acute mesenteric ischaemia

140- Concerning postoperative atelectasis, all of the following statements are true EXCEPT:

A. This is the most common cause of postoperative fever that starts on postoperative day four.

B. The physical examination may demonstrate dullness to percussion over the involved area and diminished or absent breath sounds.

C. The most common cause of postoperative atelectasis is bronchial obstruction by plugs of tenacious sputum.

D. Postoperative atelectasis is best managed by standard chest physiotherapy, deep breathing, coughing, and suctioning of patients who are intubated.

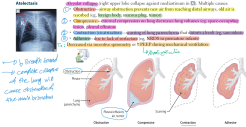
E. Judicious use of postoperative analgesia is an essential adjunct permitting patients to breathe deeply, cough forcefully and participate in chest physiotherapy

Postoperative Fever

- What is the number #1 cause of fever PDD #1?
- Atelectasis #1 (most common cause)
- Management: IS (incentive spirometry), early ambulation
- Work-up > 48h:
 - Blood cultures
 - Urinary culture
 - CXR
 - Sputum culture
 - ...then Treat the fever

Pulmonary complications

• Atelectasis – peripheral alveolar collapse due to shallow tidal breaths, MC cause of fever within 48h



Atelectasis is often precipitated by postoperative pain (poor cough) and poor lung compliance, retained airway secretions, posterior tongue prolapse, airway edema, or anesthetic effects, which can all interfere with spontaneous deep breathing and coughing.

141- The most commonly involved organ in penetrating abdominal trauma is:

A. Small bowel

B. Colon

C. Liver

D. Spleen

E. Kidney



142- How many kilocalories per gram are contained in the glucose used in parenteral formulas?

A. 4.0

B. 5.5

C. 9.0

D. 10.0

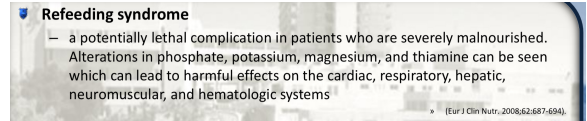
E. 11.9

CALORIE SOURCES		
▪ CARBOHYDRATES	Enteral	Parenteral
	4 kcal/gram	3.4 kcal/gram
▪ FAT	Enteral	Parenteral
	9 kcal/gram	kcal/mL (product-specific)
▪ PROTEIN	Enteral	Parenteral
	4 kcal/gram	4 kcal/gram

143- Re-feeding syndrome is characterized by which of the following electrolyte abnormalities?

- A. Hyponatremia, hypokalemia, hypercalcemia
- B. Hyperphosphatemia, hypokalemia, hypocalcemia
- C. Hypokalemia, hypomagnesemia, hypophosphatemia**
- D. Hypocalcemia, hyponatremia, hypomagnesemia
- E. Hyperglycemia, hyperkalemia, hyperphosphatemia

Refeeding syndrome—often occurs in significantly malnourished patients with sudden ↑ calorie intake → ↑ insulin → ↓ PO_4^{3-} , ↓ K^+ , ↓ Mg^{2+} → cardiac complications, rhabdomyolysis, seizures.
Treatment: nutritional rehabilitation, psychotherapy, olanzapine.



144- A child who was involved in a road traffic accident has a bleeding open femur fracture. What is the first step in fluid resuscitation in the emergency room?

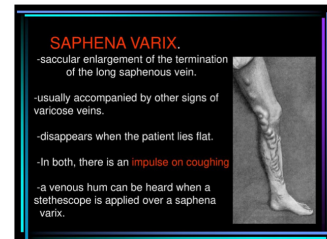
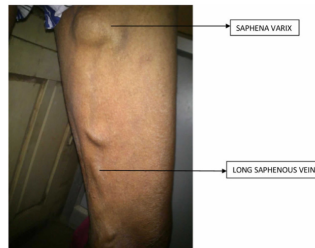
- A. Bolus 10ml/kg of normal saline
- B. Bolus 20ml/kg of normal saline**
- C. Bolus 20ml/kg of colloid
- D. Transfuse 20ml/kg of packed red blood cells
- E. Transfuse 20ml/kg of packed red blood cells, fresh frozen plasma, and platelets

- **Approach to fluid administration** [2][30]
 - Administer rapid fluid bolus (i.e., within 10–30 minutes)
 - Adults: **NS or LR 500–1000 mL IV bolus** [2]
 - Children: NS or LR 10–20 mL/kg IV bolus [9][31]

145- The least likely differential diagnosis of a groin lump in a supine patient is?

- A. Irreducible inguinal hernia.
- B. Psoas abscess.
- C. Hodgkin lymphoma.
- D. Saphena varix.**
- E. Femoral artery aneurysm.

• **Saphenous varix:** a dilated, saccular swelling of the great saphenous vein that lies just distal to the junction of the femoral vein and the great saphenous vein.
• *Dr. Bruce Sherwin*



146- A loss of 30% of blood volume in a 70kg man results in:

- A. few initial symptoms α
- B. slight decrease in hematocrit α
- C. increased capillary hydrostatic pressure \uparrow (oncotic) & \downarrow hydrostatic
- D. decrease in venomotor tone α
- E. increased release of anti-diuretic hormone (ADH)** ✓

10-15% → severe Dehydration

147- All of the following are signs of hypovolemic shock EXCEPT:

- A. Skin vasoconstriction
- B. Confusion
- C. Tachycardia

D. Distended neck veins : Fluid overload دلو

- E. Tachypnea

148- All of the following are considered early postoperative complications EXCEPT:

- A. Fever
- B. Urinary Tract Infection
- C. Wound Infection
- D. Deep Venous Thrombosis

E. Incisional hernia

What is early postoperative complications?
Common general postoperative complications include postoperative fever, atelectasis, wound infection, embolism and deep vein thrombosis (DVT). The highest incidence of postoperative complications is between one and three days after the operation.

149- All of the following options are correct regarding major lower limb amputation EXCEPT:

A. Energy expenditure to achieve mobility is lower following above knee amputation compared to below knee amputation

- B. Patient outcome is worse following emergency amputation than elective amputation → ایک ما تھول ایسے طارے
- C. Amputations performed by specialist surgeons have improved outcomes ✓ نتیجہ اُسوا منے ما یگون مرتبہ
- D. Compared to the general population, patients with diabetes are at higher risk of major amputations ✓
- E. Deep vein thrombosis is a recognized risk following major amputation ✓

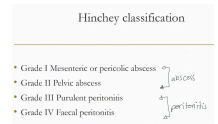
How do lower extremity amputations affect energy expenditure?
The energy expenditure is known to be significantly greater when the level of amputation is high. In the case of transtibial amputees the energy expenditure is increased only by 16% to 33% at a comfortable walking speed of approximately 50 to 70 m/min.

150- Complications of massive blood transfusion include all of the following EXCEPT**

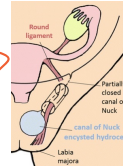
- A. Hypothermia
- B. Thrombocytopenia
- C. Hyperkalemia
- D. Hypercalcaemia Hypocalcaemia
- E. Metabolic acidosis

Blood transfusion risks include infection transmission (low), transfusion reactions, transfusion-associated circulatory overload (TACO; volume overload → pulmonary edema, hypertension), transfusion-related acute lung injury (TRALI; hypoxia and inflammation → noncardiogenic pulmonary edema, hypotension), iron overload (may lead to 2⁺ hemochromatosis), hypocalcemia (citrate is a Ca²⁺ chelator), and hyperkalemia (RBCs may lyse in old blood units).

- Not to do in sepsis? Infection source control During 1st hour, stabilize the patient first
- Wrong about fluids: 130mm/L of Cl in ringer lactate 112
- Regarding wounds Which is true? Diverticulitis stage 2 is considered a contaminated wound
- 1st in hemostasis >>> Vasoconstriction
- Vit. C.>>> Hydroxylation of procollagen
- True about abx: carabapenems have good coverage for gram +ve and anaerobes



- True about gas gangrene?? pain, crepitus and toxemia
- True>>> Canal of Nuck opens in labia majora
- true about hypovolemic shock? Increased SVR
- MCC in septic shock? staph/ pseudomonas/ Ecoli
- true about septic shock: persisting hypotension requiring vasopressors to maintain a MAP of 65
- Management of gastric outlet obstruction with hypochloremic hypokalemic metabolic alkalosis? 0.9 NS infusion with KCl



- ✂ Most common cause of death after blood transfusion? - TRALI
- Which of the following is true about body fluids? ± It might be affected by wide range of physiological variation
- Which of the following is true about body fluids? ± The concentration of sodium in the intravascular and the interstitial compartment is almost equal.
- Amino acid most important in improving immunity glutamine
- limit for K in peripheral line: 20 mEq
- Pt with crush injury, in respiratory distress, multiple rib fractures, life saving measure is: intubation and mechanical ventilation
- Plain AXR in SBO, what is the finding? Valvulae conniventes (plica circularis) ?!
- Not complication of TPN: - Hypoglycemia (mentioned in past papers, but both HYPO/HYPER glycemia are possible complications of TPN)

50- Which of the following Blood transfusion complication is most likely to result in the death of a patient?
 a. Circulatory overload
 b. Allergic reaction
 c. Febrile reaction
 d. ABO incompatibility
 e. Transfusion related Acute lung injury

