

*Norovirus is the leading cause of acute, self-limiting viral gastroenteritis in adults and is notorious for causing rapid outbreaks of vomiting and watery diarrhea among close contacts.

**Clostridioides difficile* >> 1- induces mucosal damage and pseudomembranous colitis via direct action of its exotoxins (Toxin A and B), not through type III hypersensitivity immune complexes.

2- Most simple cases of antibiotic-associated diarrhea are due to osmotic changes in gut flora, not true *C. difficile* infection.

3- *C. difficile* spores can asymptotically colonize the GI tract of healthy individuals.

4- Oral vancomycin or fidaxomicin are now preferred, though metronidazole was historically considered a treatment of choice.

*Antibiotic therapy is generally contraindicated in infections with Enterohemorrhagic *E. coli* (EHEC, such as O157:H7) because it can increase the release of Shiga-like toxins, significantly raising the risk of developing Hemolytic Uremic Syndrome (HUS).

**Ascaris lumbricoides* (roundworm): This pale yellow nematode is 20-35 cm long and the largest of the intestinal nematodes.

**Trichuris trichiura* (whipworm) is much smaller, typically measuring only 3 to 5 cm in length.

**Ankylostoma duodenale* (hookworm) measures approximately 1 cm in length.

**Necator americanus* (hookworm) measures approximately 1 cm in length.

**Enterobius vermicularis* (pinworm) measures approximately 1 cm in length and primarily presents with perianal pruritus.

**Ascaris* is correctly diagnosed by detecting its characteristically knobby eggs in the stool.

**Ascaris lumbricoides* is factually the most common helminthic infection globally.

*Migrating *Ascaris* larvae pass through the lungs, which incorrectly can cause eosinophilic pneumonitis known as Loeffler syndrome.

*Periorbital edema is typically seen in Trichinellosis. *Ascaris lumbricoides* is commonly associated with GI obstruction

**Taenia solium* is the pork tapeworm. Cysticercosis is a tissue infection with tapeworm larvae caused by the ingestion of eggs of *Taenia solium*. *Taenia saginata* is the beef tapeworm.

*Alcohol rub inactivates Hepatitis C virus (hand washing)

*Antibiotics that trigger hemolysis in G6PD: Dapsone, nitrofurantoin, TMP-SMX.

*The adverse effects of Vancomycin are remembered by the mnemonic "VancoMAN": Nephrotoxicity, ototoxicity, thrombophlebitis, diffuse flushing (red man syndrome), bone marrow suppression, and neutropenia. Neuropathy is not a documented side effect.

*Viridans streptococci (alpha-hemolytic strep) (e.g., *S. mutans*, *S. sanguinis*) are a very common cause of subacute infective endocarditis following dental procedures, as they are part of the normal oral flora and can enter the bloodstream during procedures like root extractions.

**Staphylococcus aureus* usually causes acute endocarditis and is associated with IV drug use or healthcare contact, not routine dental work.

**Staphylococcus epidermidis* is native to the skin and typically causes endocarditis on prosthetic valves or indwelling catheters.

*Anemia is typically associated with hookworms (e.g., *Ancylostoma duodenale*, *Necator americanus*) due to blood loss, not with *Enterobius vermicularis* (pinworm), which primarily presents as anal pruritus at night

**Enterobius vermicularis* (pinworm) typically causes nocturnal perianal pruritus, while hookworms (*Necator*, *Ancylostoma*) cause gastrointestinal blood loss leading to iron deficiency anemia.

*The Hepatitis D virus is a defective RNA virus that relies entirely on the Hepatitis B surface antigen coat for infection; thus, the Hepatitis B vaccine confers absolute immunity against Hepatitis D.

*Influenza vaccine>> It's given annually, It is contraindicated in patients with Guillain-Barré syndrome, it is composed of 3 or 4 strains of influenza virus, it is safe for pregnant and immune compromised patients.

*T-cell deficiencies are typically associated with increased susceptibility to intracellular pathogens, fungal, and severe parasitic infections.

*B-cell deficiencies lead to hypogammaglobulinemia, resulting in a marked susceptibility to extracellular encapsulated bacteria, rather than parasites.

*Congenital rubella syndrome (which includes bilateral cataracts, sensorineural hearing loss, and cardiac defects) occurs in up to 90-95% of infants whose mothers are infected with rubella during the first trimester of pregnancy.

*The intramuscular (inactivated) influenza vaccine is safe and recommended for pregnant women, immunocompromised patients, and transplant recipients.

*Antipseudomonal antibiotics follow the "Z-CAR FACE GAP" mnemonic: Zosyn (Piperacillin-tazobactam), Cefepime/Ceftazidime, Aztreonam, Fluoroquinolones (Ciprofloxacin, Levofloxacin), Aminoglycosides (Amikacin, Gentamicin), Carbapenems (except Ertapenem), and Polymyxins. Ceftriaxone is not an anti-pseudomonal antibiotic.

*The nasopharyngeal swab is generally considered the standard and most sensitive sample collection method for detecting SARS-CoV-2 via PCR in common clinical settings.

*Bacillus cereus primarily causes an emetic syndrome (vomiting) due to a heat-stable toxin, or a milder diarrheal syndrome, but typically not severe, massive, or bloody diarrhea compared to pathogens like Cholera or Shigella.

*Fluoroquinolones (such as ciprofloxacin and levofloxacin) carry a well-known risk of causing tendinitis and tendon rupture.

*Doxycycline is associated with photosensitivity, esophagitis, and tooth discoloration in children, not tendinopathy.

*Sulfamethoxazole-trimethoprim (Sulfatrim) causes hypersensitivity reactions and bone marrow suppression, not tendon tearing.

*Ampicillin is a penicillin derivative known for causing maculopapular rashes, not musculoskeletal tendon toxicity.

*Injectable Influenza Vaccine > It is indicated and recommended in pregnant women to prevent severe illness during flu season.

*SIRS criteria require two or more of the following: Temp $>38^{\circ}\text{C}$ or $<36^{\circ}\text{C}$; HR >90 ; RR >20 or PaCO₂ <32 mmHg; and WBC $>12,000$, $<4,000$, or $>10\%$ bands. A WBC of 10,000 is normal.

*Chronic granulomatous disease (CGD) is an immunodeficiency caused by a defect in the phagocyte NADPH oxidase complex, leading to impaired respiratory burst and defective phagocytosis.

*The common cold is overwhelmingly viral. Symptomatic treatment includes hydration, analgesics (like NSAIDs), and decongestants. Antibacterial drugs are not indicated unless a secondary bacterial infection is suspected.

*Hyper-IgE syndrome (Job syndrome) is caused by a STAT3 mutation resulting in defective neutrophil chemotaxis, clinically presenting with recurrent cold staphylococcal abscesses, retained baby teeth, and high IgE levels.

*Staphylococcus aureus and Streptococcus pyogenes are the two most common pathogens responsible for skin and soft tissue infections, including cellulitis.

*Unvaccinated individuals sustaining a needle stick injury from an HBV-positive source must receive both active immunity (HBV vaccine) and passive immunity (Hepatitis B immune globulin).

*Staphylococcus aureus food poisoning is classically associated with rapid-onset symptoms (1-6 hours) after eating creamy foods or pastries containing dairy/custard, due to a preformed enterotoxin.

*Co-administration of vancomycin and an aminoglycoside (e.g., amikacin) has a synergistic nephrotoxic effect, requiring meticulous therapeutic drug monitoring to prevent acute tubular necrosis.

*Clostridioides difficile is an anaerobic, spore-forming, Gram-positive bacillus that causes pseudomembranous colitis primarily after antibiotic exposure.

*Gastric acid suppression with PPIs alters gut flora and is a known risk factor for C. difficile.

*Methicillin-resistant Staphylococcus aureus (MRSA) skin and soft tissue infections dictate strict contact precautions (gloves and gown) in the hospital setting.

*The estimated transmission risk following a percutaneous needle stick injury from a known Hepatitis C positive source is approximately 3%.

*Piperacillin has poor lipid solubility and does not adequately penetrate the cyst fluid.

*Linezolid covers Gram-positive organisms and is not effective against Gram-negative enterics.

*Infections of renal cysts in ADPKD require lipophilic antibiotics capable of penetrating the cyst epithelium, making fluoroquinolones like ciprofloxacin the empiric treatment of choice.

*Clostridioides difficile infection is typically diagnosed via stool tests that detect Toxin A and Toxin B, or through NAAT (PCR) testing for toxigenic strains.

*Type of isolation in TB is respiratory isolation.

*Pseudomonas aeruginosa is the most common causative organism of malignant otitis externa, an invasive infection of the external auditory canal typically seen in elderly diabetic patients.

Sepsis is not associated with:

- A. Dysesthesias in gloves-and-stocking distribution (13%)
- B. Absent or reduced reflexes (9%)
- C. ARDS (9%)
- D. Metabolic alkalosis (88%)
- E. Hypotension (9%)

Incorrect

88%
Answered correctly

00 min, 22 secs
Time Spent

Explanation

Sepsis more commonly leads to metabolic acidosis, especially lactic acidosis due to hypoperfusion.

which is a mismatch?

- A. Chlamydia ... bats (33%)
- B. salmonella enteritidis ... chicken (9%)
- C. Pasteurella ... cats (22%)
- D. cryptococcus neoformans ... pigeons (22%)
- E. brucella canis ... dogs (22%)

*Live-attenuated vaccines, such as the measles-mumps-rubella (MMR) vaccine, are strictly contraindicated in immunocompromised patients due to the risk of uncontrolled vaccine strain replication.

*Enteroviruses, including coxsackieviruses and echoviruses, are the most common cause of viral meningitis across all age groups.

*The Hepatitis A vaccine is an inactivated vaccine and is safe to administer during pregnancy if indicated by high-risk exposure.

*Sepsis = vasodilation + tachycardia + ↑ lactate; hypothermia = bad prognostic sign; blood cultures often negative.

*The Human Papillomavirus (HPV) vaccine is not recommended during pregnancy due to limited safety data.

*The MMR vaccine is a live-attenuated virus vaccine and is strictly contraindicated during pregnancy.

*Plasmodium falciparum is the most dangerous species of malaria, capable of causing severe complications such as cerebral malaria, severe anemia, and multiorgan failure.

*Staphylococcal food poisoning is caused by the ingestion of preformed enterotoxins, resulting in rapid-onset (within 1-6 hours) nausea, severe vomiting, and abdominal cramping. Fever is typically absent or very mild since it is a toxin-mediated illness, not an active systemic infection.

*Following a needle stick injury from a known positive source, Hepatitis B virus carries the highest transmission risk (approx. 30%), followed by Hepatitis C (3%) and HIV (0.3%).

*Streptococcus pneumoniae and Staphylococcus aureus are the most common bacterial pathogens responsible for secondary pneumonia following an influenza virus infection.

*Adverse effects of metronidazole include a metallic taste, headache, and a disulfiram-like reaction with alcohol; red man syndrome is uniquely caused by rapid vancomycin infusion

- *Herpes Simplex Virus 1 (HSV-1) is the most common cause of fatal sporadic viral encephalitis, characteristically localizing to the temporal lobes.
- *Common Variable Immunodeficiency (CVID) >> presents in young adulthood (not in children) with recurrent sinopulmonary infections due to a defect in B-cell differentiation, resulting in hypogammaglobulinemia (low IgG and IgA) but normal B-cell counts.
- *Blood cultures lack perfect sensitivity in sepsis; they are positive in less than 50% of confirmed clinical sepsis cases, meaning negative cultures do not rule out the diagnosis.
- *In sepsis >> Hypotension may resist fluid resuscitation
- *Group A streptococci (GAS), such as Streptococcus pyogenes, are a classic cause of pyogenic infections like pharyngitis and tonsillitis.
- *A positive Hepatitis C antibody test requires follow-up with HCV RNA PCR to differentiate between active infection and spontaneously cleared past exposure.
- *Doxycycline (a tetracycline) is contraindicated in pregnancy due to its potential to inhibit bone growth and discolor teeth in the developing fetus.
- *Erysipelas is a well-demarcated, superficial skin infection with prominent lymphatic involvement, almost exclusively caused by Streptococcus pyogenes (Group A Strep).
- *Intestinal infection with the Ascaris lumbricoides roundworm is definitively diagnosed by visualizing its classic knobby, bile-stained eggs on an ova and parasites stool exam.
- *Selective IgA deficiency is the most common primary immunodeficiency, often remaining asymptomatic but carrying a risk of sinopulmonary infections, GI infections, and anaphylaxis during blood transfusions.

About amoeba histolytica found in feces, which of the following is NOT true?

- A. Treatment for 7-10 days (9%)
- B. Elevated alkaline phosphatase means liver abscess (9%)
- C. Blood comes from colon ulcers (9%)
- D. Metronidazole is the treatment of choice (9%)

Incorrect 54% Answered correctly 00 min, 15 secs Time Spent

Explanation

While alkaline phosphatase (ALP) can be elevated in an amoebic liver abscess, it is not specific and does not inherently "mean" there is a liver abscess. Other liver conditions can also raise ALP.

*Chylothorax fluid is an exudative effusion that is rich in triglycerides (> 110 mg/dL). However, its cholesterol content is generally low (< 200 mg/dL, often around < 50 mg/dL), so the statement that cholesterol is more than 200 is incorrect.

- *Chylothorax is the accumulation of chyle (a milky lymphatic fluid rich in triglycerides) in the pleural space. It typically results from disruption or obstruction of the thoracic duct. Malignancy is the most common non-traumatic cause, primarily Lymphoma.
- *Definitive diagnosis of primary syphilis requires direct visualization of Treponema pallidum via dark-field microscopy from a chancre exudate or a biopsy.
- *Zidovudine (AZT) acts as a Nucleoside reverse transcriptase inhibitor (NRTI).

*Brucellosis is a zoonotic infection that is rarely transmitted between humans; *Brucella melitensis* is the most virulent species, and treatment requires prolonged antibiotic courses. Brucellosis in children under 8 years of age should be treated with a combination of rifampin and TMP-SMX for at least 6 weeks to avoid doxycycline-induced adverse effects.

*Cavitating pulmonary tuberculosis is the most highly infectious form of the disease due to massive pathogen replication and aerosolization via the open airway connection.

Laryngeal and cavitory pulmonary tuberculosis are the most highly infectious forms of the disease because the bacilli are easily aerosolized during speaking or coughing.

*Extended-spectrum beta-lactamase (ESBL) producing bacteria are defined by their resistance to third-generation cephalosporins (such as ceftriaxone) and monobactams, while remaining susceptible to carbapenems.

*While esophageal or pulmonary candidiasis are AIDS-defining, simple oropharyngeal candidiasis (oral thrush) indicates immunosuppression but does not formally define AIDS.

**Mycobacterium bovis* is a zoonotic pathogen that can cause gastrointestinal or pulmonary tuberculosis following the consumption of contaminated, unpasteurized cow's milk.

*Pott's disease is a specific extrapulmonary manifestation of tuberculosis involving the spine, caused by *Mycobacterium tuberculosis*.

**Vibrio cholerae* produces a toxin that induces profound secretory, non-bloody "rice-water" diarrhea, unlike invasive pathogens such as *Shigella*, *Salmonella*, and *Campylobacter*.

*While herpes zoster occurs with increased frequency in HIV, it is not classified as an AIDS-defining condition, unlike Kaposi sarcoma, TB, and CMV retinitis.

*Sacroiliitis is the most common focal complication of brucellosis, and endocarditis is its most common cause of death.

*The baseline risk of vertical transmission of HIV from an untreated mother to her child is approximately 25%, but this drops to less than 2% with proper antiretroviral therapy.

*Among *Brucella* species, *Brucella suis* uniquely tends to cause prolonged illness with severe suppurative and destructive lesions, while *B. melitensis* is the most common globally.

*Antiretroviral therapy (ART) must be initiated immediately in all patients diagnosed with HIV, regardless of their CD4 count or viral load, to maximize clinical benefit and prevent transmission.

**Bacillus anthracis* is primarily acquired through cutaneous contact with animal hides, inhalation of spores, or consuming undercooked meat, whereas unpasteurized milk classically transmits *Brucella*, *Listeria*, and *M. bovis*.

*The peak incidence of newly diagnosed HIV cases in Jordan occurs within the young adult population, specifically the 25-35 year demographic.

*Mycobacterium tuberculosis is an acid-fast, obligate aerobe that acts as a facultative intracellular pathogen, surviving and replicating inside host alveolar macrophages.

*Bacillus cereus produces a preformed, highly heat-stable emetic toxin that classically causes rapid-onset food poisoning (vomiting) shortly after the consumption of reheated fried rice.

*A bone marrow culture provides the highest diagnostic sensitivity for typhoid fever, particularly in patients who have already initiated empiric antibiotic therapy.

*During the acute window period of HIV infection (first 1-2 weeks), antibodies and p24 antigen are undetectable, making HIV RNA PCR the only reliable diagnostic tool.

*The acute presentation of bacterial meningitis accompanied by a rapidly spreading petechial or purpuric rash is highly specific and practically pathognomonic for Neisseria meningitidis.

*The estimated average risk of HIV transmission following a percutaneous needle stick injury from a known positive source is 0.3%.

*Definitive diagnosis of active pulmonary tuberculosis requires identifying the pathogen via acid-fast bacilli (AFB) smear and culture from 3 serially collected sputum samples.

*Although endocarditis occurs in a minority of patients with brucellosis, it is the primary cause of mortality associated with the disease.

*HIV patients become highly susceptible to Pneumocystis jirovecii pneumonia (PCP) when their CD4 count falls below 200 cells/mm³, at which point TMP-SMX prophylaxis is indicated.

*Pulmonary and extrapulmonary Tuberculosis (TB) are classified by the CDC as AIDS-defining clinical conditions in HIV-infected individuals.

*Clindamycin is highly effective in providing antimicrobial coverage against most anaerobic bacteria, particularly in infections located above the diaphragm.