

Advancing Infection Control Capacity & Education (ACE): Coaching to Certification

Session 3: Identification of Infectious Disease Process Part 2

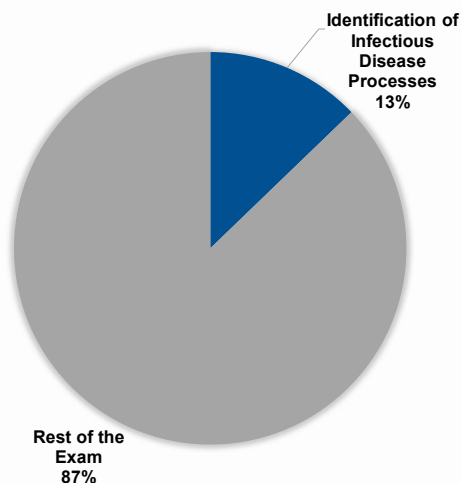
Tuberculosis, Hepatitis, Influenza, Meningitis and CSF interpretation, and Prion Disease

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Objectives



- Interpret the relevance of diagnostic and laboratory reports
- Identify appropriate practices for specimen collection, transportation, handling, and storage
- Correlate clinical signs and symptoms with infectious disease process
- Differentiate between colonization infection and contamination
- Differentiate between prophylactic empiric and therapeutic uses of antimicrobials

*22 questions out of 150 questions on the CIC exam
Why is this topic relevant to competent IPC practice?



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Q1: Which is *true* about a tuberculin skin test (TST):

- a. Positive TST indicates active tuberculosis (TB) infection
- b. Negative TST rules out active TB infection
- c. Positive TST indicates past exposure to TB
- d. Negative TST indicates past exposure to TB

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Q2: The optimal time to collect a sputum specimen for acid-fast bacilli (AFB) testing to rule out TB would be:

- a. First thing in the morning
- b. After a respiratory treatment
- c. Prior to the patient going to bed
- d. Prior to a respiratory treatment

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Q3: During annual TST, an employee's test result was read as 10mm induration. The employee's last TST was negative. This initial result indicates a:

- a. Positive test
- b. False positive
- c. Negative test
- d. False negative

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Q4: Higher morbidity rates in chronic Hepatitis B virus (HBV) carriers are associated with a co-infection of which of the following:

- a. Hepatitis A
- b. Hepatitis D
- c. Hepatitis C
- d. Hepatitis E

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Q5: What type of work restriction is indicated for a healthcare worker with Hepatitis A?

- a. Restrict from contact with patient, patient's environment, and food handling until 7 days after jaundice onset.
- b. There are no restrictions other than restricting the use of standard precautions.
- c. Restrict from contact with patient and food until hepatitis A antigen is negative.
- d. No recommendations are available.

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Q6: Hepatitis A is diagnosed by the presence of:

- 1. Immunoglobulin G (IgG) for anti-Hepatitis D virus (HDV)
- 2. Hepatitis A virus (HAV) Immunoglobulin M (IgM)
- 3. Increase in anti-Hepatitis B virus (HBV)-related to previous Hepatitis B infection
- 4. HAV IgG

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Q7: Which of the following statements about influenza is **false**?

- a. Influenza is primarily spread between individuals via respiratory secretions (droplets)
- b. Viral shedding starts 48-72 hours after infection and typically 48 hours before the onset of symptoms
- c. Viral shedding normally persists for less than 5 days but can be longer in children and in immunocompromised persons
- d. The typical influenza symptomology is not always predictive of influenza in elderly or immunocompromised persons

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Q8: Which of the following statements is **FALSE** regarding influenza viruses?

- a. They are divided into three categories: A, B, C
- b. Influenza A strains have been the predominant cause of worldwide epidemics (pandemics)
- c. Influenza A and B strains have been named according to the city or state and year of their initial isolation
- d. Influenza B strains have not been associated with large epidemics

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Q9: Herpes simplex virus (HSV) keratitis is suspected in an oncology patient. Aerobic eye cultures are negative to date. A single serum sample is sent for enzyme-linked immunosorbent assay (ELISA) antibody testing. The following titers are reported: HSV titer 1:128, cytomegalovirus (CMV) titer <1:8, Epstein-Barr virus (EBV) titer <1:8. These results indicate:

- a. Immunity to HSV
- b. Confirmation of acute HSV infection
- c. Presumptive identification of HSV infection
- d. Immunity to CMV and EBV

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Q10: What type of meningitis would be most consistent with the following cerebrospinal fluid (CSF) report result:

Glucose	Decreased
Protein	Elevated
WBC Counts	1,000/mm ³

- a. Bacterial
- b. Viral
- c. Fungal
- d. Tuberculosis

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Q11: Which change in the white blood cell (WBC) count often indicates a viral infection?

- a. Increased WBC count and decreased lymphocyte
- b. Decreased WBC count and increased lymphocyte
- c. Decreased WBC count and increased bands
- d. Increased WBC count and increased eosinophils

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Q12: An infection preventionist (IP) is reviewing the cerebrospinal fluid (CSF) results from a patient admitted the previous night. The CSF is cloudy and has an elevated white blood cell count (WBC), markedly increased neutrophils, low glucose level, and elevated protein concentration. What type of meningitis should she suspect?

- a. Bacterial
- b. Viral
- c. Fungal
- d. Aseptic

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Q13: The incubation period for meningococcal meningitis is:

- a. 10 to 14 days
- b. 7 to 21 days
- c. 2 to 10 days
- d. 1 to 2 days

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Q14: Two students at a local community college have developed meningococcal meningitis. What is the incubation period during which additional cases may occur?

- a. 12-24 hours
- b. 24-60 hours
- c. 2-10 days
- d. 14-21 days

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Q15: The causative organism of Creutzfeldt-Jakob disease is a:

- a. Helminth
- b. Diphtheroid
- c. Spirochete
- d. Prion

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Q16: A nurse is concerned that a patient in the neurology ward has a prion disease after receiving a lab report stating that the patient had a positive nucleic acid test for John Cunningham virus (JCV) in the cerebrospinal fluid. What is the best response to give this nurse?

- a. The test is positive for Creutzfeldt-Jakob disease, which is a prion disease
- b. The test is positive for *Campylobacter jejuni*, which is not a prion disease
- c. The test is positive for JCV (a polyomavirus), which is not a prion disease
- d. The test is positive for JCV (a polyomavirus), which is a prion disease

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Recommended Reading

- Dive deeper into this material if the organisms are challenging
- If there are a lot of questions around what we studied in the session

APIC Text Subscription

- | | |
|--|---|
| • Chapter 75
Creutzfeldt-Jakob Disease and
Other Prion Diseases | • Chapter 97
Tuberculosis and Other
Mycobacteria |
| • Chapter 99
Viral Hepatitis | • Chapter 82
Herpes Virus |
| • Chapter 89
Neisseria meningitidis | • Chapter 84
Influenza |

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Next Steps

- **Got Questions?** Join us for Office Hours every Thursday at 1:00pm PT
- Reading or Content review
- **Missed a session or want to review the material again?**
Access Padlet Resource Library



Padlet Link:
[OR ACE Program Padlet](#)



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Contact Us

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- <https://comagine.org/program/oregon-infection-prevention>