PRACTICE QUESTIONS

Identification of Infectious Disease Process
Practice Questions (17)

CIC SPICE Course

July 2023

Practice Question

Which of the following statements about influenza is FALSE?

A. Influenza is primarily spread between individuals via respiratory secretions (droplets)

B. B. Viral shedding starts 48-72 hours after infection and typically 48 hours before the onset of symptoms

C. C. Viral shedding normally persists for less than 5 days but can be longer in children and in immunocompromised persons

D. D. The typical influenza symptomology is not always predictive of influenza in elderly or immunocompromised persons.

Practice Question:

An IP is conducting an educational session to help the nursing staff understand infectious disease transmission. She explains that an initial element in transmission is the ability of an organism to survive in the external environment during transit between hosts. What is the second element?

A. Secretion of enzymes that enhance spread through tissues
B. A mechanism for transmission to a new host
C. Invasion and dissemination in the host
D. Avoidance of host resistance

Practice Question:

The IP is teaching nurses how to assess infection risks in patients. Depletion of what cell type provides the best indication of susceptibility to most bacterial infections?

A. monocyte

B. eosinophil

C. neutrophil

D. lymphocyte

Practice Question:

The first immunoglobulin response after exposure to a communicable disease pathogen or vaccine is production of:

A. Immunoglobulin G (IgG)

B. Immunoglobulin M (IgM)

C. Immunoglobulin A (IgA)

D. Immunoglobulin C (IgC)

Practice Question:

Higher morbidity rates in chronic hepatitis B virus carriers are associated with a co-infection of which of the following:

A. Hepatitis A

B. Hepatitis D

C. Hepatitis C

D. Hepatitis E

Practice Question:

All the following are descriptions of patients with immunocompromised status EXCEPT:

A. HIV with CD4 count <200

B. Leukemia or lymphoma

C. Neutropenia (absolute neutrophil count <500/mm3)

D. 1 year post bone-marrow transplant

Practice Question:

When reviewing the Gram stain of a person with a wound infection, the IP sees Gram-positive organisms in clusters. Which organism would this most likely represent?

A. *Streptococcus*

B. Enterococcus

C. Corynebacterium

D. Staphylococcus

Practice Question:

Guidelines for transporting specimens include:

1) Transport within 2 hours of collecting a specimen

2) Transport in leakproof specimen containers and sealable leakproof bags

3) Transport specimen in the syringe used to collect it

4) Refrigerate all specimens prior to transport

A. 1,4

B. 2,3

C. 1,2

D. 3,4

Practice Questions:

A patient has a nasal swab positive for methicillin-resistant Staphylococcus aureus (MRSA) in the absence of symptoms. This is an example of:

A. Normal flora

B. Colonization

C. Asymptomatic infection

D. Symptomatic infection

Practice Question:

An IP is reviewing the cerebrospinal fluid (CSF) result from a patient admitted the previous night. The CSF is cloudy and has an elevated White Blood Cell count (WBC), markedly elevated neutrophils, low glucose, and elevated protein. What type of meningitis should she suspect?

A. Bacterial

B. Viral

C. Fungal

D. Aseptic

Practice Questions:

The ED reports 3 cases of cramping, abdominal pain, and diarrhea within a 24-hour period. All persons are from the same community, and onset of symptoms was within 12 to 36 hours of a picnic they all attended. The IP suspects which of the following foodborne illnesses:

A. *Salmonella*

B. Hepatitis A

C. *Staphylococcus aureus*

D. *Clostridium perfringens*

Practice Question:

A patient is admitted with pruritic lesions on the hands, webs of fingers, wrists, the extensor surfaces of the elbows and knees, and the outer surfaces of the feet, armpits, buttocks, and waist. The most likely diagnosis is:

A. Scarlet fever

B. Herpes zoster

C. Scabies

D. Measles

Practice Question:

A patient who was hospitalized for 2 days calls 3 days after discharge complaining that he has developed healthcare-associated scabies due to his recent inpatient stay. The IP knows that his scabies infestation is not healthcare-associated because:

A. Scabies is only transmitted through contaminated linens, and the IP confirmed that all linens the patient came into contact with had been properly laundered

B. the incubation period for scabies is longer than 5 days

C. the incubation period for scabies is shorter than 3 days

D. Scabies is only transmitted through direct contact and none of the healthcare personnel who cared for the patient are infested

Practice Question:
The causative organism of Creutzfeldt-Jakob disease is a:

A. helminth

B. diphtheroid

C. spirochete

D. prion

Practice Question:

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 indications past exposure to TB

D. Negative TST indicates past exposure to TB

Practice Question:

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

Practice Question:

A 14yo boy from rural Maryland was seen in the emergency department with fever, fatigue, chills, headache, and a large annular lesion on his left thigh. What is the most probable vector of this child's illness?

A. tick

B. mosquito

C. flea

D. louse

Surveillance and Epidemiologic Investigation Practice Questions (11)

CIC SPICE Course

July 2023

Practice question:

Targeted surveillance focuses on

A. **Tracking high-risk, high-volume procedures and potentially preventable healthcare-associated infections (HAIs)**
B. Providing whole-house infection rates
C. Tracking infections that are publicly reported
D. Using the electronic surveillance systems to identify infections

Rationale: *B is total house surveillance; C and D are not surveillance methodologies*

Practice question:

An appropriate indicator to monitor process compliance would be:

A. Class 1 SSI rate

B. Appropriate antibiotic dosage

C. Central line-associated bloodstream infections (CLABSI) in the Neonatal Intensive Care Unit (NICU)

D. Infections caused by multi-drug resistant organisms

Rationale: A, C and D are all outcome measures

Practice Question

What key infection control activity is defined as the systematic ongoing collection, management, analysis and interpretation of data

a. Research
b. Surveillance
c. Benchmarking
d. Accreditation

Practice Question:

For which of the following procedure(s) is the surveillance period for deep incisional or organ/space SSI 90 days

A. Cesarean section
B. Craniotomy
C. Coronary artery bypass graft
D. Laminectomy

A. A, B
B. B, C
C. C, D
D. A, D

Rationale: All other procedures are listed under 30-day surveillance

Practice Question:

What type of rate would the IP want to calculate to give feedback to the surgeons at her facility?

A. Procedure-specific
B. Provider-specific
C. Unit-specific
D. Device specific

Rationale: Providing feedback data of their specific rates has been shown to reduce SSI rates.

Practice Question:

An IP is preparing the quarterly report for the infection control committee. What information will be needed to calculate a CLABSI rate for the ICU?

A. The total number of patients in the unit for the time period

B. The total number of central line catheters for the time period

C. The number of patients who had bloodstream infections identified

D. The number of device days for the time period

i. B, C

ii. A, C

iii. A, B

iv. C, D

Rationale: The numerator is the number of CLABSIs, and the denominator is the number of device days.

Practice Question:

Which of the following is not considered one of the criteria for causality?

A. The incidence of disease is higher in those who are exposed to the factor.
B. Evidence that the independent and dependent variables are related
C. The association has been observed in numerous studies
D. The onset of disease must precede exposure to the causal factor

Rationale: The exposure precedes the onset of disease

Practice Question:

The use of influenza vaccines in school age children to decrease the number of cases in the community uses the principle of:

A. Epizootic
B. Endemic
C. Herd immunity
D. Epidemic

Practice Question:

Plague is endemic in parts of the southwest united states. the word "endemic" means:

A. Natives are immune to plague
B. **An expected number of cases occurs each year in each geographical area**
C. Plague has become resistant to all forms of treatment for this population
D. The disease is seen in a seasonal pattern each year for this area

Practice question:
A pandemic differs from an epidemic in that:

A. Only one disease is involved
B. It is usually vector borne
C. There is a higher mortality rate
D. Several countries or continents are involved

Practice Question:

The IP monitors all patients who have coronary artery bypass graft surgery for infections and pneumonia. The probability or likelihood of an event occurring is the:

A. Risk

B. Attack rate

C. Host factor

D. Incidence

Preventing and Controlling Transmission Practice Questions (13)

CIC SPICE Course

July 2023

Practice question:

Most healthcare-associated pathogens are transmitted from patient to patient via:

A. Improper isolation practices
B. Inadequate sterilization of medical instruments
C. Hands of healthcare personnel
D. Ineffective disinfection of medical devices

Practice Question

Respiratory hygiene includes all but the following:

A. **Covering the mouth and nose with the hands when coughing and sneezing**
B. Offering a surgical mask to a coughing patient
C. Discarding used masks and tissues appropriately and performing hand hygiene
D. Posting signs in public areas in languages appropriate to the population served, educating healthcare staff, patients and visitors and leaving in place all year

Practice question

Numerous outbreaks of infections have been attributed to unsafe injection practices. The IP designs an educational program to review safe injection practices with all the nursing staff. These practices do not include:

A. Use single-dose vials whenever possible and avoid multi-dose vials
B. **Discard saline bags used for IV flushes for multiple patients after 1 hour**
C. Enter medication vials with a new needle and syringe, even on the same patient
D. Use needles and syringes for only one patient

Practice question

Which of the following does not meet the requirements for an airborne isolation room?

A. Negative airflow isolation room (negative air pressure to the corridor)

B. At least 15-20 air exchanges per hour

C. Direct exhaust to the outside

D. Daily monitoring of the air pressure with visual indicators

Practice question

A patient with bacterial meningitis due to Neisseria meningitidis requires what type of TBP?

A. Contact precautions
B. Airborne precautions
C. Standard precautions
D. Droplet precautions

Practice Question:

Which of the following precautions should be used for a patient who is immunocompromised and suspected of having cryptococcal meningitis?

A. Airborne Precautions for 24 hours after antibiotic is started if the patient is improving
B. Mask worn when within 3 feet from the bed
C. Standard Precautions for family and staff
D. Contact Precautions for staff, family restricted from visiting other patients.

Rational: Cryptococcal meningitis is not transmitted person to person

Practice question

An IP has been asked to provide infection prevention consultation to a long-term care facility. As a part of this consultation, she checks to make sure which of the following program components are in place?

A. Decolonizing residents with MRSA

B. Establishing an antimicrobial stewardship program

C. Implementing an annual influenza vaccination program

D. Collecting environmental cultures of high-touch areas

A. A, B

B. B, C

C. C, D

D. A, D

Practice question

All the following methods of collecting a urine sample are correct except?

A. Disinfection of foley catheter collection port with 70% alcohol

B. Obtain 5-10 ml. of urine with syringe from the collection port after it has been prepped with 70% alcohol

C. Collect from foley catheter bag

D. Urine from a straight catheter, discard first 15 ml; collect the remainder

Practice question

Several measures to reduce urinary tract infections have been implemented at a long-term care facility. The most important action that will reduce infections is:

A. An appropriately trained person performing twice daily meatal care with a povidone-iodine solution

B. Maintaining a sterile, closed drainage system

C. Changing all indwelling catheters every 7 days and obtaining a urine culture on removal

D. Administering continuous antibiotic bladder irrigation on all patients who must maintain a catheter

Practice question

The CDC recommendations for decreasing CLABSI include all the following except:

A. Educational programs
B. Routine replacement of catheters
C. The use of chlorhexidine for skin antisepsis
D. The use of maximal sterile barrier precautions

Practice question

According to the CDC central venous catheters should be replaced:

A. Every 72 to 96 hours
B. Every 7 days
C. After 1 month
D. If malfunctioning

Practice question

Which of the following is not part of the bundle practices to reduce VAP?

A. Keeping the head of the bed raised to 30-45 degrees elevation unless medically contraindicated
B. Performing routine oral care on a ventilated patient
C. Taking sedation “vacations” to assess patients’ ability to breathe on their own
D. Changing ventilator circuits every 48 hours

Practice question

In reviewing the literature on risk for acquiring post-operative pneumonia, the ICP finds that the risk is greatest for patients undergoing what type of surgery?

A. Total hip replacement
B. Bowel resection
C. Coronary artery bypass
D. Esophagogastrectomy

Data Analysis and Presentation Practice Questions (20)

CIC SPICE Course

July 2023

Practice Question:

The ICP fills out a survey after an educational program. After having learned about the product XYZ, how likely are you to consider implementing it in your hospital ?

Extremely unlikely 1 – 2 – 3 – 4 – 5 Extremely likely

What type of scale is this?

A. Nominal
B. Equal Interval
C. Continuous

Practice Question:

On June 1st, there were 25 surgical patients in the hospital. Two of these were post-op SSIs identified in May. During the month 5 additional SSIs were admitted. A total of 60 surgeries were performed in June. What is the numerator for a June incidence rate?

A. 25
B. 5
C. 7
D. 8.3

Practice Question:

15 persons were infected with Salmonella at a picnic where 75 ate potato salad. What was the attack rate of salmonella among those who ate potato salad?

A. 15%

B. 0.20

C. 18%

D. 20%

Practice Question:

During the winter of 2017, 645 persons died from influenza related illness in Columbus. The population of Columbus was 1.2 million. What was the crude mortality rate?

A. 54 per 100,000
B. 5.3 %
C. 54%
D. 0.005%
E. Unknown

Practice Question:

During the winter of 2017, 645 persons died from influenza related illness in Columbus. The population of Columbus was 1.2 million. What was the cause-specific mortality rate?

A. 54 per 100,000

B. 5.3 %

C. 54%

D. 0.005%

E. Unknown

Practice Question:

What is the range for the following numbers?

2,3,4,5,8, 9, 10, 12, 14

Range = 14 – 2 = 12

- What is the mean?

  Mean = 67/9 = 7.44

- What is the median?

  Median = 8

Practice Question:

What percentage of patients had LOS between days 3 and 7 days? (use chart on slide 27 of this presentation)

A. 68.2%
B. 95.5%
C. 98.7%
D. 67.5%

Practice Question:

Using a device associated infection formula, calculate the rate for 1000 vent days:

4 cases of VAE

800 ventilator days

4/800 X 1000 is the same as 4000/800 which equals 5

Practice Question:

Calculate the device utilization rate for a facility which has had 800 vent days and 4000 patient days.

800 / 4000 = 0.2

Practice Question:

- CLABSI rate = 4 CLABSI/284 line days
- Predicted Infections = 0.50

- ***What is the SIR?***
- ***How would you explain the SIR to your administrator?***

SIR = 4 CLABSIs observed/0.50 CLABSIs predicted
SIR=8
We observed more (8 times) CLABSIs than predicted based on comparison to a standard rate*
***state source of standard rate, NHSN? which years?**

Practice Question:
A Statistical Process Control Chart:

A. Analyzes the data for deviations from the pooled mean of the samples
B. Should be used only to display the data
C. Should be used only when a Pareto Chart is inconclusive
D. Should be used when data is discrete

Practice Question:

The probability of not rejecting a false null hypothesis is considered a(n):

A. Type I error
B. Type II error
C. Alternative hypothesis
D. Alpha error

Practice Question:

What is the probability of committing a Type I error if the P-value is 0.10?

A. **1 in 10**
B. 1 in 100
C. 1 in 5
D. 1 in 20

Practice Question:

- *A pilot research study was conducted to compare the association between a new type of dressing and a unit's CLABSI rates. During the six-month period prior to the intervention of the new dressing the unit's CLABSI rate was 2.06 per 1000 central line days. During the 6 months the dressing was trialed, the unit's CLABSI rate was 1.76 per 1000 central line days. The p-value was 0.03. What conclusion can be reached?*

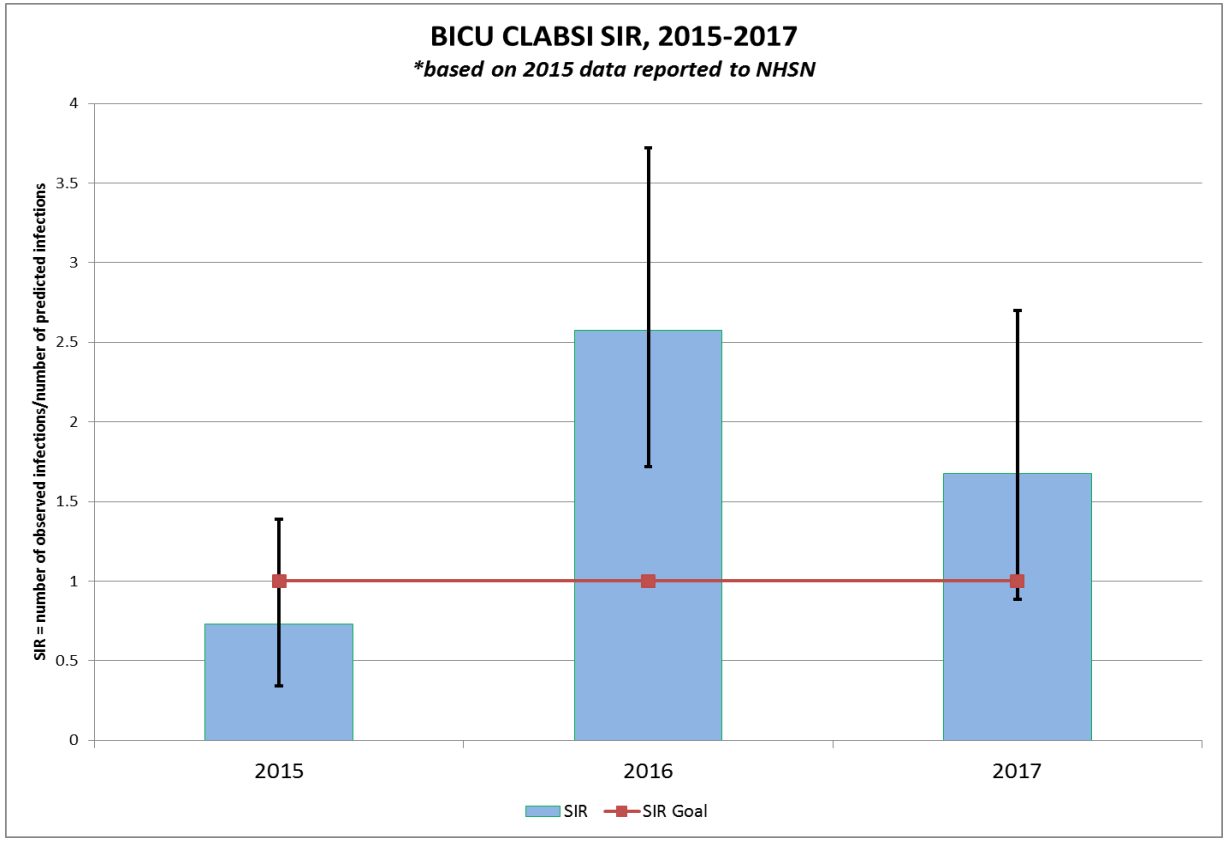
Answers:

A. **The new dressing may be associated with statistically significant lower CLABSI rates**
B. The new dressing caused the decreased CLABSI rates
C. The new dressing should not be used
D. No significant statistical conclusions can be drawn from this pilot study

Practice Question:

What year was the CLABSI SIR statistically significantly different from 1?

A. 2015
B. 2016
C. 2017



Practice Question:

A hundred college freshmen were monitored for colds during the winter. 55 are smokers. 75% of the smokers had 2 or more colds. 20% of the non-smokers had 2 or more colds. What type of study was this?

A. Case-control
B. Cohort
C. Cross-sectional
D. Period prevalence

Practice Question:

You have decided to compare your CLABSI rate to the published NHSN rate. What test will you use to compare?

A. 2 X 2 table
B. Chi-square
C. Fisher's exact
D. You need more information

Practice Questions:

Calculate the Sensitivity and Specificity for these data:

	Has Condition: YES	Has Condition: NO
Positive Test	40	30
Negative Test	10	70
Total	50	100

Sens = 40/50 = 80% **PPV = 40/70 =57%**

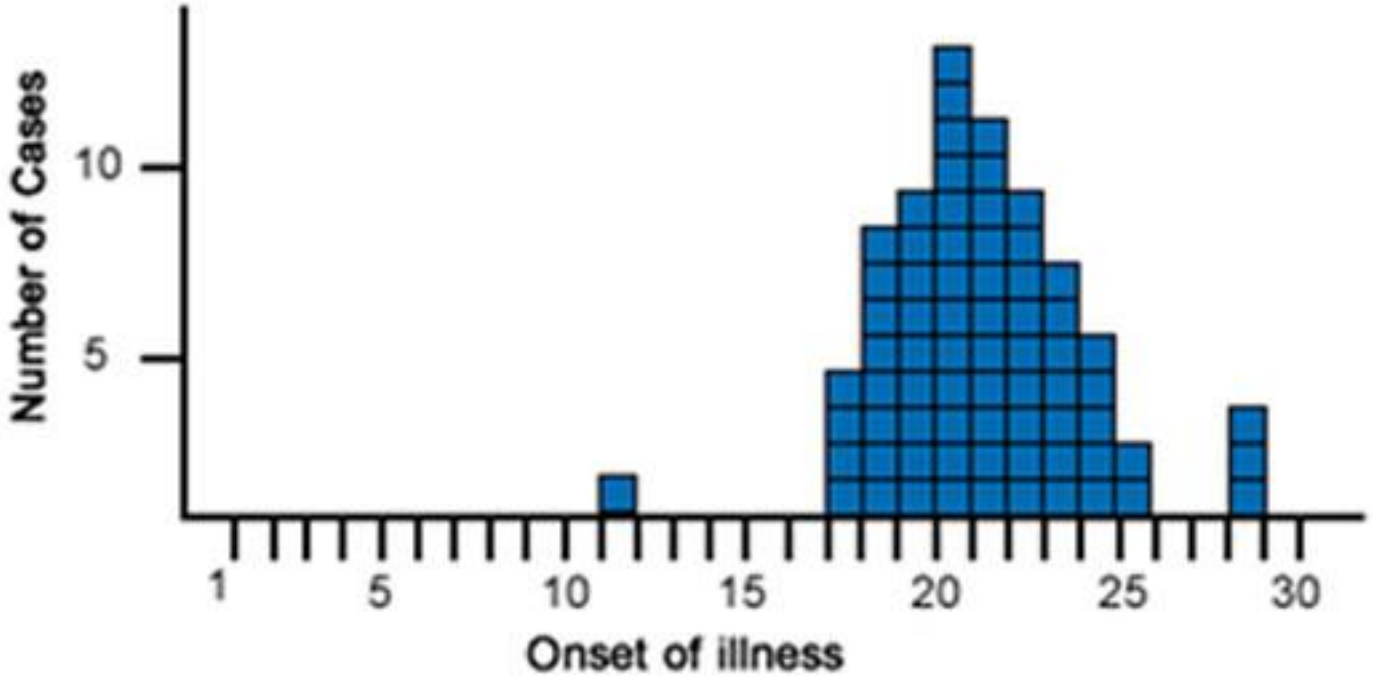
Spec = 70/100 = 70% **NPV = 70/80 =88%**

Practice Question:

What type of chart/graph could you use to BEST display discrete causes of medication errors and the cumulative percentage of all errors?

A. Bar chart
B. Line graph
C. Pareto chart
D. Pie chart

Practice Question:
Based on the epidemic curve, what is the most *likely* source of this outbreak?



A. Widespread contamination of a food product
B. An item served during catered lunch
C. An ill healthcare worker with norovirus

Education (18) and Research (6) Practice Questions

CIC SPICE Course

July 2023

Education Question 1

Adult learners are often motivated to learn by:

- 1) The need for new skills
- 2) Professional standard mandates
- 3) Desire for promotion and increased salary
- 4) Changing cultural expectations

a. 2, 4
b. 1, 3
c. 3, 4
d. 1, 4

Education Question 2

The healthcare facility has established a goal of improving infection prevention competency with hand hygiene among all staff. Which of the following education and training approaches should the IP recommend as a priority?

a. Analysis of human factors that may present unrecognized obstacles for compliance

b. Attending local/state health department educational programs on hand hygiene

c. Implementation of a mentoring program based on peer-to peer instruction and coaching

d. Intensified disciplinary actions for employees who do not follow hand hygiene procedures

Education Question 3

Which of the following should be used as a quality improvement measure for infection prevention education programs?

a. The frequency of classes offered through the year

b. The average number of attendees per class offered

c. Summary of pre/post test scores for each class

d. Analysis of program evaluation scores for all classes

Education Question 4

The IP is asked to provide content for a hybrid education program. This model is most often based on:

a. **Attendance at a live event with assigned online follow-up activities**
b. Combination on online and independent for a specific topic
c. Independent study with concurrent mentoring from a local expert
d. Self-assessment of learning needs that is used to develop an instructional plan

Education Question 5

- ***Which of the following situations would be best for the IP to apply just-in-time learning principles?***

a. During a 30-minute orientation session for new employees

b. With staff who repeatedly have problems applying infection definition

c. In a medical staff meeting where surveillance priorities are being discussed

d. For nurse managers evaluating monthly infection trend reports

Education Question 6

A form of interactive training is often preferred among adult learners. However, in some situations a lecture may represent the best approach. In which of the following situations should the IP consider a lecture?

a. **When reviewing accreditation survey results for the infection prevention program with managers**
b. When addressing inaccurate data entry of reportable infections by a health data analyst
c. After observing unsafe disposal of contaminated syringes in the ER
d. When discovering employees with influenza-like symptoms providing patient care

Education Question 7

Programs to build infection prevention competency have traditionally focused on a combination of skill and ability. Today, however, competency may include which of the following components?

1) Emotional intelligence
2) Cultural diversity
3) Communication Methods
4) Effectiveness within a team

a. 1, 2, 3
b. 2, 3, 4
c. 1, 3, 4
d. 1, 2, 4

Education Question 8

The director has requested that the IP summarize the results of an education program to five different groups within the institution. The director specifically requests that the method used not only indicate the overall mean score for each group but also aid a simple comparative analysis for all who participated. The best data display technique to summarize these would be:

a. A line list

b. A pie chart

c. A bar chart

d. A spreadsheet

Education Question 9

Many infection prevention programs address behavioral change. To achieve sustainable success following initial training, the IP must focus on which aspect of behavior?

a. Avoidance of behavior change
b. Repetition and reinforcement
c. Need for approval and recognition
d. Critical thinking and judgement

Education Question 10

In which of the following infection prevention topics is the required educational content for employees most clearly described by a regulatory agency?

a. Hand hygiene monitoring systems
b. Environmental cleaning of hard surfaces
c. Active surveillance for methicillin-resistant *Staphylococcus aureus* in hospitals
d. Prevention employee exposure to bloodborne pathogens

Education Question 11

- ***An employee scored below the minimal acceptable level on the annual review of IP competencies. The employee has attempted to pass the written test three times and has now been referred to IP for additional help. What should the IP evaluate first?***

a. The employee's motivation to learn or review material

b. The length of time the individual has been employed in health care

c. The employee's anxiety regarding test taking

d. The employee's literacy and reading ability

Education Question 12

- ***During an IP class, 1 person repeatedly interrupts, contradicts the instructor, makes negative comments. The most important thing the IP can do in this situation is:***

a. Request the individual be removed by security

b. Insist that the individual remain silent

c. Remain calm and assess the best way to intervene

d. Dismiss the class and apologize to the instructor

Education Question 12

- ***The need to include employee education for IP is included in all of the following program components except:***

a. Facility IP risk assessment

b. Facility IP program plan

c. Annual facility budget and allocation of resources

d. Facility 5-year strategic plan

Education Question 13

- **The IP received feedback from course attendees that the didactic component is too lengthy and difficult. Which training component should the IP now reevaluate for its effectiveness?**

a. Lab-based simulation training

b. Supervised clinical practice in patient care areas

c. The classroom portions of the training program

d. The testing requirements for course completion

Education Question 14

- ***Direct observation of performance by an individual of a specific skill may yield a temporary and artificial high result. This phenomenon is known as the:***

a. **Hawthorne effect**
b. Measure of success
c. Score of inflation risk
d. Robertson's rule

Education Question 15

- ***The IP wants to ensure that the educational programs are based on the most rigorous and reliable sources of clinical evidence. Which of the following sources would best meet this need?***

a. **Standards issued by national or international authoritative sources**
b. Best-practice guidelines from professional organizations
c. Consensus statements published by leading subject matter experts
d. Literature review of publications during the past 5 years

Education Question 16

- ***The process of evaluating learner response to an individual test questions in order to determine the quality and accuracy of those questions is known as:***

a. Validity testing

b. Correlation

c. Item analysis

d. Risk adjustment

Education Question 17

- ***After holding a housewide education session on HH, the IP wants to evaluate how effective the sessions were in changing behavior. The most common way to assess HH behavior is:***

a. Post-test for participants to find out how much info they retained on HH

b. Monitor job performance reviews for 1 year after the session to identify deficiencies related to HH

c. Send an anonymous observer to the floors to assess HH compliance

d. Conduct a survey to find out if participants have changed their HH behavior

Education Question 18

- ***Which of the following would be an enabling factor to increase HH compliance with staff in the ICU?***

a. **Easy access to hand sanitizer, sinks, and soap**
b. Staff rewards for good HH
c. Staff knowledge of contact transmission of infections
d. Counseling for staff members who are observed not performing HH

Research question 1

All of the following are features of well-written research methods sections except:

a. Time period of the study
b. Clear criteria for defining cases and controls
c. Questions the research will answer
d. Methods of quality assurance

Research Question 2

Which of the following questions should be asked when evaluating results from a research study?

1) Were the instruments valid for the study?
2) Is this a peer-reviewed research journal?
3) Was the sample representative of the intended population?
4) Do the conclusions prove the hypothesis?

a. 1, 2, 3
b. 2, 3, 4
c. 1, 3, 4
d. 1, 2, 4

Research Question 3

An assessment of internal validity and the influence of bias can be found in which section of a research study?

- a. Introduction
- b. Results
- c. **Discussion**
- d. Methods

Research Question 4

- The abstract in a research study must include:

a. A review of the literature

b. A biographical profile of the principal investigator

c. The intent or objective of the study

d. Conflict of interest disclosures

Research Question 5

Which of the following refers to the statistical technique that combines the results of a large number of studies?

a. Linear regression analysis
b. Inferential statistics
c. Meta-analysis
d. Axiomatic approach

Research Question 6

The IP is reviewing a research study to assess the association between needless connectors (NC) change frequency and CLABSI rate. In a multivariate analysis, the CLABSI rate was significantly higher (p=0.001) among patients that had NC changed every 24 hours compared to patients changed at 96 hours. The IP knows that this p value indicates more evidence in support of which of the following?

a. **The alternative hypothesis**
b. The quality of the analysis
c. The null hypothesis
d. The statistical hypothesis

Additional questions: education & research

- In the APIC Study Guide:
  - Exam 1: 42, 61, 62, 85,89, 96, 120
  - Exam 2: 27, 58, 69, 79, 92, 93, 102, 103, 111, 117, 118, 129
  - Exam 3: 6, 41, 48, 66, 69, 97, 106, 118, 125, 130, 131

Environment of Care (6) Practice Questions

CIC SPICE Course

July 2023

Practice Question:

- ***Which of the following minimum efficiency reporting values (MERV) is sufficient to meet the minimum operating room (OR) standards for air filtration***

A. MERV 10

B. MERV 12

C. **MERV 14**

D. MERV 16

Practice Question

- **Which of the following is an ICRA element related to building design features**:
  1. **An assessment of the specific construction hazards and the determination of protection levels for those hazards**
  2. The impact of a water outage during construction activity
  3. The number of airborne infection isolation (AII) rooms and where they will be located in the facility
  4. A plan on where to relocate patients during construction

Practice Question:

- ***Your organization is planning a major construction project. You have been asked to complete the Infection Control Risk Assessment (ICRA) by the project manager. You explain that:***
  1. It is his job to complete the ICRA
  2. The construction company will complete the ICRA
  3. An ICRA is not needed for the project
  4. **The ICRA must be conducted by a committee with expertise in a variety of areas**

Practice Question:

- ***Which of the following would be an acceptable route for diffusion of air in an OR?***
    1. Laminar airflow with the supply over the surgical table and an exhaust in the floor in the center of the room
    2. Laminar airflow with a supply over the surgical table and an exhaust near the floor at the periphery of the room
    3. Noninductional unidirectional infusion of air with a supply over the surgical table and an exhaust in the floor in the center of the room
    4. **Noninductional unidirectional infusion of air with a supply over the surgical table and an exhaust near the floor at the periphery of the room**

Practice Question:

- **Which of the following recommendations should be made to reduce the risk of infection from sinks in patient care areas?**
  1. **Sink basins should be deep enough to prevent splashing of water onto nearby patient care items**
  2. Sink faucets should be located such that the flow of water hits the drain directly
  3. Sinks should be placed within two feet of the point of care to encourage frequent hand hygiene
  4. Aerators should be installed on faucets to minimize the amount of splash in the sink

Practice Question:

- ***You have been asked to do an in-service for Environmental Services on cleaning procedures. Which of the following is the best practice for cleaning a patient room:***
  1. Clean the patient zone first, and then the perimeter of the room
  2. Clean the perimeter of the room first, and then the patient zone
  3. Clean items that are low to the floor and then work your way up to higher items
  4. Clean items that are higher up first, and then work your way down to lower items

  a. 1,3
  b. 2,3
  c. 1,4
  d. 2,4

Cleaning, Disinfection, Sterilization and Antiseptics (11) Practice Questions

CIC SPICE Course

July 2023

Practice Question:

- ***According to AAMI ST79, which of the following are among the recommendations of mechanical cleaning equipment in order to verify adequate cleaning?***

1. Verification should be carried out monthly
2. Verification should be carried out upon installation
3. Verification should be carried out after major repairs
4. Verification should be when changing cleaning chemistry

a. 1, 2, 3, 4
b. 1, 2, 4
c. 1, 2, 3
d. 2, 3, 4

Practice Question:

- ***The purpose of cleaning medical devices before sterilization or HLD is to:***
  1. **Reduce bioburden**
  2. Add an additional step in the process
  3. Replace the sterilization process
  4. Increase the amount of time it takes to clean an endoscope

Practice Question:

- ***One disadvantage of liquid sterilization is:***
  1. Liquid sterilants are highly toxic and items must be aerated before use
  2. It is a high heat process so it may not be used on heat-labile items
  3. It is not an appropriate process for critical items
  4. **Items cannot be wrapped during the sterilization process so sterility can be maintained during storage**

Practice Question:

- ***Which of the following is likely to result in the highest efficacy of the medical instrument cleaning:***
  1. **Use of central reprocessing area for all instrument cleaning**
  2. Local instrument reprocessing within the area of care
  3. Use of an acidic cleaner
  4. Allowing the instrument to dry after use and before cleaning

Practice Question:

- ***Which of the following practices is most likely to result in improved infection prevention?***
  1. Strictly adhering to EPA-registered product label contact time for LLD of environmental surfaces
  2. Utilizing a 1-minute contact time for LLD of environmental surfaces regardless of the EPA-registered product label contact time
  3. **Thoroughly cleaning and disinfecting all surfaces in a room that have potentially come into contact with hands**
  4. Thoroughly cleaning and disinfecting all high touch surfaces in a room

Practice Question:

- ***Which of the following items can generally be reprocessed by only using low-level disinfectants:***
  1. **Blood pressure cuffs**
  2. Anesthesia equipment
  3. Bronchoscopes
  4. Surgical instruments

Practice Question:

- ***Which of the following are used for sterilization of medical instruments:***
  1. **Steam sterilizer**
  2. Pasteurizer
  3. **Ethylene oxide sterilizer**
  4. Ultrasonic cleaner

Practice Question:

- ***The purpose of a biological indicator in an autoclave is:***
  1. To determine whether the items being autoclaved are properly sterilized, which is indicated by a positive BI result
  2. **To determine whether the items being autoclaved are properly sterilized, which is indicated by a negative BI result**
  3. To determine whether the items being autoclaved are properly cleaned, which is indicated by a positive BI result
  4. To determine whether the items being autoclaved are properly cleaned, which is indicated by a negative BI result

Practice Question:

- ***Report of an:***
  - ***Infestation of fruit flies in the sterile instrument storage room***
  - ***Steam intrusion and wetness***
  - ***Significant construction debris***
- ***OR staff want to know whether they can use the sterile packs. These conditions can affect the integrity of the packaging and contaminate the contents***
  - **The instruments should be unwrapped, visibly inspected, cleaned if necessary, and reprocessed**

Practice Question:

- ***The director of surgical services has received a call from a neurosurgeon who would like to schedule a brain biopsy on a person suspected of having CJD. The staff have expressed concern cleaning and sterilizing the surgical instruments. Your response is:***
    1. Surgical instruments are very expensive and should be cleaned and sterilized after the procedure
    2. The recommendations are unclear as to how to clean and sterilize instruments
    3. There are no special requirements for cleaning and sterilizing of surgical instruments
    4. **The instrument used in these cases require special reprocessing**

Practice Question:

- **Aseptic techniques is defined as:**
  1. No touch techniques
  2. A process used in the operating room
  3. An absence of organisms
  4. **The process for keeping away disease producing organisms or prevent contamination with microorganisms**

End of Session (20)
Practice Questions

CIC SPICE Course

July 2023

The bacterium most likely to be transmitted from mother to infant during labor and cause neonatal sepsis is?

1. *Escherichia coli*
2. *Staphylococcus aureus*
3. **Group B *Streptococcus***
4. Group A *Streptococcus*

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

1. **Bacterial**
2. Viral
3. Fungal
4. Tuberculosis

The most common organism associated with pneumonia in school-aged children and young adults

1. *Neisseria meningitidis*
2. *Streptococcus pneumoniae*
3. *Staphylococcus aureus*
4. ***Mycoplasma pneumoniae***

Rationale: Mycoplasma is uncommon under the age of 5 but is the leading cause of pneumonia in school-aged children and young adults. It can occur during any season and occurs through out the world

A pediatric patient has been diagnosed with pediculosis. What is the *most appropriate* follow-up to prevent it from spreading to other patients or healthcare professionals

1. **Place the patient on Contact Precautions until 24 hours after appropriate treatment has been initiated**
2. Require all visitors and HCP who enter the room to wear a disposable scrub cap for any patient contact
3. Use an insecticidal spray in the room after the patient is discharged
4. Prophylactically treat all family members and anyone with close physical contact with the patient

A measles exposure from a patient in a clinic was identified and an exposure work-up was initiated. A staff exposure was defined as “nonimmune HCP with more than 5 minutes of same-room contact or face-to-face with the index patient.” Forty-eight HCP were identified as possible exposures. Of these, 44 had documented immunity to measles. Of the remaining HCP, three did not have the same room or face-to-face contact. How many HCP were at risk of developing measles because of the exposure?

Answers

1. 4
2. 45
3. **1**
4. 48

A preliminary microbiology report states that a patient's blood culture grew aerobic, Gram-negative bacilli. Which of the following is the most likely genus and species of the organism?

1. *Enterococcus faecalis*
2. *Bacteroides fragilis*
3. ***Acinetobacter baumanii***
4. *Neisseria meningitides*

Rationale: 1 is a gram positive; 2 is anaerobic gram negative and 4 is a gram-negative coccus (round). Acinetobacter is aerobic GN bacillus.

Which of the following is an example of surveillance on a process indicator?

1. The incidence rate of *C. difficile* in the Bone Marrow Transplant Unit
2. **The rate of hand hygiene compliance in the Bone Marrow Transplant Unit**
3. The number of sharp object injuries in the month of May in the Bone Marrow Transplant Unit
4. The prevalence of vancomycin-resistant *enterococci* (VRE) in the Bone Marrow Transplant unit

The director of the IPC department has assigned one of her IPs to cofacilitate in a root cause analysis of an adverse event in collaboration with the PI team. The IP plans to use process improvement tools and techniques during the analysis. Which of the following methods would best outline the possible causes of the event?

1. Brainstorming
2. Affinity diagrams
3. **Fishbone diagram**
4. Pareto chart

Which of the following would be an appropriate method to evaluate the quality of an IP program?

1. The total number of areas where surveillance was carried out in the past year
2. **The average amount of time that elapsed between receiving reports from the lab about patients with multidrug-resistant infections and placing those patient on appropriate isolation precautions**
3. The number of IPs in the program per the number of beds
4. The average amount of money spent on isolation gowns this year as compared to last year

Program evaluation is necessary to measure change and growth in the learner. The following program element should be evaluated in order to demonstrate efficacy and impact

1. Appropriateness of the program design
2. Adequacy of the teaching and instructional resources
3. Knowledge, skills, and attitudes learned by the participants
4. Assessing the educational needs of the attendees

1. **1,2,3**
2. 1,3,4
3. 2,3,4
4. 1,2,4

Rationale: assess needs prior to the program not part of the evaluation

An early-level (novice) IP in your department has set a goal of advancing to achieve middle-level (proficient) competency within the next year. Which of the following activities would be the most appropriate to include on her personal development plan for the year:

1. Nominating herself for the President-elect chapter of the local APIC chapter
2. Taking the Certification in IC exam within six months
3. Requestion information about a Master of Science in epidemiology degree
4. Learning the basics of CAUTI surveillance

1. 1
2. 1, 2
3. **1,2,3**
4. 1,2,3,4

The “epidemiologic triangle” model for disease causation does *not* include:

1. Agent
2. Host
3. **Time**
4. Environment

In a gram stain procedure, gram-positive bacteria stain purple because:

1. They have a lipopolysaccharide layer in their cell wall that is decolorized with alcohol
2. Their cell walls contain long-chain fatty acids that take up crystal violet easily
3. **They have a thick peptidoglycan cell wall that retains the *primary stain* during the alcohol decolorization**
4. Gram-staining is simple staining, so the only stain used is crystal violet

Tip here is the **primary stain** – gram stain is purple initially and due to the GPs cell walls being thick they can resist decolorization

A patient has been admitted with a wound infection. The lab reports that the stain of the wound culture is positive for AFB and the culture is positive for *Mycobacterium marinum*. Which of the following is the correct follow-up of this lab report?

1. **No further follow-up is necessary**
2. Place the patient on airborne precautions
3. Contact the local health department to report the *Mycobacterium* infection
4. Place the patient on contact precautions

A classic sign of Measles is:

1. Kaposi sarcoma
2. Stiff neck
3. **Kolpik spots**
4. Bull’s-eye rash

Contact precautions for a patient with scabies can be discontinued when the patient has received effective treatment for?

1. 10 days
2. 7 days
3. 48 hours
4. **24 hours**

The microbiology lab calls the IP with a CSF gram stain result. From an infection prevention standpoint, the most concerning result would be:

1. Gram-negative rods
2. Gram-positive cocci in pairs
3. Acid-fast bacilli
4. **Gram-negative diplococci**

Rationale: Presumptive identification of *N. meningitidis*

Which would be the most objective method to determine the need for education about hand washing for a group of employees on a unit?

- **Observational studies**
- Personal interviews
- Focus group discussions
- Test development

The IP is selecting a process measure in order to monitor and evaluate quality of care. An example of a process measure is:

1. SSI after a hip replacement
2. Conjunctivitis
3. **Hepatitis B immunity rates**
4. Tuberculin skin test (TST) conversions

A patient in the neurosurgical ICU develops a fever. Cultures are ordered and collected. The physician decides to start an antibiotic while waiting for the culture results because the patient is critically ill. This type of antibiotic usage is called:

1. **Empiric**
2. Prophylactic
3. Therapeutic
4. Pathogen-directed