

# Chapter 9

## ENVIRONMENT OF CARE

NOTES

**The CIC® exam will have a total of fourteen (14) questions addressing Environment of Care. The content will test knowledge of the following:**

- A.** Recognize and monitor elements important for a safe care environment (e.g., Heating, Ventilation, and Air Conditioning, water standards, construction)
- B.** Assess infection risks of design, construction, and renovation that impact patient care settings
- C.** Provide recommendations to reduce the risk of infection as part of the design, construction, and renovation process
- D.** Collaborate on the evaluation and monitoring of environmental cleaning and disinfection practices and technologies
- E.** Collaborate with others to select and evaluate environmental disinfectant products

### KEY CONCEPTS

- The environment is an important source of healthcare-associated infections
- Adherence to established environmental infection prevention practices must be followed to maintain a safe environment of care for both patients and providers
- Effective management plans are essential for taking charge of the environment of care

### RESOURCES FOR STUDY

Nearly all questions on Environment of Care are based on chapters in the primary references, but secondary references may be useful to clarify more detailed issues.

## NOTES

**Primary Reference:**

1. Grota P, ed. *APIC Text of Infection Control and Epidemiology*, 4th edition. Washington, DC: Association for Professionals in Infection Control and Epidemiology, 2014. Also available online at <http://text.apic.org> [subscription required].

**Notable Chapters**

- |     |   |
|-----|---|
| 31  | Cleaning, Disinfection, and Sterilization   |
| 84  | Legionella pneumophila  |
| 107 | Environmental Services  |
| 111 | Laundry, Patient Linens, Textiles, and Uniforms   |
| 112 | Maintenance and Engineering   |
| 113 | Waste Management  |
| 114 | Heating, Ventilation and Air Conditioning   |
| 115 | Water Systems Issues and Prevention of Waterborne Infectious Disease in Healthcare Facilities |
| 116 | Construction and Renovation   |
2. Heymann, D., ed. *Control of Communicable Diseases Manual*, 19th ed., Washington, DC: American Public Health Association; 2008.
  3. Brooks, Kathy. *Ready Reference for Microbes*, 3rd ed., APIC; 2012.
  4. Heymann, D., ed. *Control of Communicable Diseases Manual*, 19th ed., Washington, DC: American Public Health Association; 2008.
  5. Kulich P, Taylor D, eds. *The Infection Preventionist's Guide to the Lab*, APIC, Washington, DC, 2012.

**Secondary Reference:**

1. Current Recommendations of the Advisory Committee on Immunization Practices (ACIP).
2. Current guidelines, standards, and recommendations from CDC, APIC, SHEA, and Public Health Agency of Canada.
3. Pickering, Larry K, ed. *Red Book*, 29th ed., Elk Grove Village, IL: American Academy of Pediatrics; 2012.

## NOTES

- 23.** The planning committee for your new healthcare facility would like to include a water feature just inside the entrance of the new building. Which of the following recommendations should you make to ensure that this does not put patients, staff, and visitors at risk of infection:
- 1) The water feature must include underwater lighting to allow personnel to visualize whether it is being properly maintained
  - 2) The water feature should be designed so that water does not remain stagnant in any part of the feature, and should include built-in methods of filtering or disinfecting the water
  - 3) The water feature should be designed to prevent aerosolizing of water
  - 4) The water feature must have routine maintenance
- a.** 2
  - b.** 2, 4
  - c.** 2, 3, 4
  - d.** 1, 2, 3, 4
- 24.** In a construction zone in a healthcare facility that is occupied, airflow should be:
- a.** Negative in the construction zone
  - b.** Positive in the construction zone
  - c.** Neutral in the construction zone
  - d.** Negative outside the construction zone
- 25.** Which of the following is an Infection Control Risk Assessment (ICRA) element related to building design features?
- a.** An assessment of the specific construction hazards and the determination of protection levels for those hazards
  - b.** The impact of a water outage during construction activity
  - c.** The number of airborne infectious isolation (AII) rooms and where they will be located in the facility
  - d.** A plan on where to relocate patients during construction

## NOTES

**24. A Negative in the construction zone**

**Rationale:** Because of the potential in a construction area to generate dust that may contain harmful pathogens such as *Aspergillus*, it is critical that airflow in a construction zone that is in an occupied facility is negative. This will pull air into the construction zone whenever someone enters it rather than allowing air to escape from the construction zone into areas where patients and healthcare workers might be exposed.

**Reference:** *APIC Text*, 4th edition, Chapter 116 - Construction and Renovation

**25. C The number of airborne infectious isolation (All) rooms and where they will be located in the facility**

**Rationale:** An ICRA should be utilized for the design phase of a healthcare facility and for the active construction phase. ICRA elements to be included in the design phase are how many All rooms and protective environments rooms will be in the facility and where they will be located, the needs and locations for air ventilation, the types of water systems to include, and which finishes and surfaces are appropriate.

**Reference:** *APIC Text*, 4th edition, Chapter 116 - Construction and Renovation