a-IPC Examination Content Outline

2021 Examination Content Outline

1) Identification of Infectious Disease Processes (14 items)

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

2) Surveillance and Epidemiologic Investigation (15 items)

a. Design of Surveillance Systems

1. Conduct a risk assessment on the population served, services provided, and regulatory or other requirements
2. Develop goals and objectives based upon the risk assessment
3. Develop a surveillance plan based on the goals identified from the risk assessment
4. Evaluate periodically the effectiveness of the surveillance plan and modify as necessary
5. Create a notification system based on surveillance plan including epidemiologically significant findings
6. Integrate surveillance activities across health care settings (e.g., ambulatory, home health, long term care, acute care)
7. Establish mechanisms for identifying individuals with communicable diseases requiring follow-up and/or transmission based precautions

b. Collection and Compilation of Surveillance Data

1. Use a systematic approach to record surveillance data
2. Organize and manage data in preparation for analysis
3. Calculate the incidence or prevalence of infections
4. Calculate specific infection rates/ratios (e.g., provider-specific, unit-specific, device-specific, procedure-specific, Standardized Infection Ratio)
5. Use of standardized definitions

c. Interpretation of Surveillance Data

1. Generate, and validate surveillance data
2. Use basic statistical techniques to describe data (e.g., mean, standard deviation, rates, ratios, proportions)
3. Monitor and interpret the relevance of antimicrobial susceptibility patterns
4. Compare surveillance results to published data and/or other relevant benchmarks
5. Analyze and interpret data using appropriate methods

6. Prepare and present findings in an appropriate format that is relevant to the audience/stakeholders (e.g., graph, tables, charts)
7. Develop and facilitate corrective action plans based on surveillance findings
8. When to implement an epidemiological study to investigate a problem (e.g., case control, cohort studies)

d. Outbreak Investigation

1. Verify existence of outbreak
2. Collaborate with appropriate persons to establish the case definition, period of investigation, and case-finding methods
3. Define the problem using time, place, person, and risk factors
4. Formulate hypothesis on source and mode of transmission
5. Implement and evaluate control measures, including ongoing surveillance
6. Prepare and disseminate reports

3) Preventing/Controlling the Transmission of Infectious Agents (16 items)

a. Develop evidence-based/informed infection prevention and control policies and procedures
b. Collaborate with relevant groups and agencies in planning community/facility responses to biologic threats and disasters (e.g., public health, anthrax, influenza)
c. Identify and implement infection prevention and control strategies related to:
    1. Hand hygiene
    2. Cleaning, disinfection, and sterilization
    3. Wherever healthcare is provided (e.g., patient care units, operating room, ambulatory care center, home health, pre-hospital care)
    4. Infection risks associated with therapeutic and diagnostic procedures and devices (e.g., dialysis, angiography, bronchoscopy, endoscopy, intravascular devices, urinary drainage catheter)
    5. Recall of potentially contaminated equipment, food, medications, and supplies
    6. Transmission-based Precautions
    7. Appropriate selection, use, and disposal of Personal Protective Equipment
    8. Patient placement, transfer, and discharge
    9. Environmental pathogens (e.g., Legionella, Aspergillus)
    10. Use of patient care products and medical equipment
    11. Immunization programs for patients
    12. The influx of patients with known/suspected communicable diseases (e.g., bioterrorism, emerging infectious diseases, syndromic surveillance)
    13. Principles of safe injection practices (e.g., parenteral medication administration, single use of syringes and needles, appropriate use of single and multi-dose vials)
    14. Identifying, implementing and evaluating elements of Standard Precautions/Routine Practices (e.g., respiratory hygiene/cough etiquette)
    15. Antimicrobial stewardship

4) Employee/Occupational Health (7 items)

a. Review and/or develop screening and immunization programs
b. Collaborate regarding counseling, follow up, and work restriction recommendations related to communicable diseases and/or exposures

c. Collaborate with occupational health to evaluate infection prevention-related data and provide recommendations
d. Collaborate with occupational health to recognize healthcare personnel who may represent a transmission risk to patients, coworkers, and communities
e. Assess risk of occupational exposure to infectious diseases (e.g., *Mycobacterium tuberculosis*, bloodborne pathogens)

5) Management and Communication (8 items)

a. Planning

1. Develop, evaluate, and revise a mission and vision statement, goals, measurable objectives, and action plans for the Infection Prevention and Control Program
2. Assess needs then recommend specific equipment, personnel, and resources for the Infection Prevention and Control Program
3. Participate in cost benefit assessments, efficacy studies, evaluations, and standardization of products
4. Recommend changes in practice based on current evidence, clinical outcomes, and financial implications
5. Incorporate business modeling to assign value to prevention of and/or presence of healthcare-associated infection (e.g., cost/benefit analysis, return on investment)

b. Communication and Feedback

1. Provide infection prevention and control findings, recommendations, and reports to appropriate stakeholders
2. Facilitate implementation of policies, procedures, and recommendations
3. Communicate effectively with internal and external stakeholders (e.g., transitions of care, reporting of notifiable diseases)
4. Collaborate with internal and external stakeholders in the identification and review of adverse and sentinel events
5. Evaluate and facilitate compliance with accreditation standards/regulatory requirements
6. Perform and create a personalized development plan. (e.g., set goals, maintain competence)

c. Quality Performance Improvement and Patient Safety

1. Participate in quality/performance improvement and patient safety activities related to infection prevention and control (e.g., failure mode and effects analysis, plan-do-study-act)
2. Develop, monitor, measure, and evaluate performance indicators to drive quality improvement initiatives
3. Select and apply appropriate quality/performance improvement tools (e.g., “fishbone” diagram, Pareto charts, flow charts, Strengths-Weaknesses-Opportunities-Threats, Gap Analysis)

6) Education and Research (7 items)

a. Education

1. Assess needs, develop goals and measurable objectives for preparing educational offerings

2. Prepare, present, or coordinate educational content that is appropriate for the audience
3. Provide immediate feedback, education, and/or training when lapses in practice are observed
4. Evaluate the effectiveness of education and learner outcomes (e.g., observation of practice, process measures)
5. Facilitate effective education of patients, families, and others regarding prevention and control measures
6. Implement strategies that engage the patient, family, and others in activities aimed at preventing infection

b. Research

1. Conduct a literature review
2. Critically appraise the literature
3. Facilitate incorporation of applicable research findings into practice

7) Environment of Care (9 items)

a. Recognize and monitor elements important for a safe care environment (e.g., Heating-Ventilation-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

8) Cleaning, Sterilization, Disinfection, Asepsis (9 items)

a. Identify and evaluate appropriate cleaning, sterilization and disinfection practices
b. Collaborate with others to assess products under evaluation for their ability to be reprocessed
c. Identify and evaluate critical steps of cleaning, high level disinfection, and sterilization