Infection Control (ICE®)

Exam Blueprint and Suggested References

The ICE® exam is a component of the National Entry Level Dental Assistant (NELDA®), Certified Dental Assistant™ (CDA®) and Certified Orthodontic Assistant (COA®) certification programs.

NELDA component exams
Anatomy, Morphology and Physiology (AMP)
Radiation Health and Safety (RHS®)
Infection Control (ICE)

CDA component exams
General Chairside Assisting (GC)
Radiation Health and Safety (RHS)
Infection Control (ICE)

COA component exams
Orthodontic Assisting (OA)
Infection Control (ICE)

Effective 01/01/2018
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ICE

Exam Blueprint Overview

ICE Exam Weighting by Sub-Content Area

I. Standard Precautions and the Prevention of Disease Transmission (20%)

II. Prevention of Cross-contamination during Procedures (34%)

III. Instrument/Device Processing (26%)

IV. Occupational Safety/Administrative Protocols (20%)

ICE Exam Administration

- Number of Questions: 100
- Time for Exam: 75 minutes
- Tutorial Time: 5 minutes
- Comment Time: 5 minutes

DANB uses computer adaptive testing (CAT) to present questions to candidates. Each candidate starts with a question at or around the pass point. If the candidate gets a question correct, the next question will be slightly harder. If the question is incorrectly answered, the next question will be slightly easier. Question selection takes into account the content of the question, as each candidate is presented with the same percentage of questions from each domain on the exam outline. Using this method of testing, DANB can more accurately pinpoint a candidate’s ability level. The average candidate will get around 50% of the questions correct and around 50% of the questions incorrect. The candidate’s score is based on the difficulty of the questions that were answered correctly.
ICE Exam Blueprint

DANB exams are created using the exam blueprint, which is annually reviewed by subject matter experts. The blueprint is developed through a rigorous content validation study (CVS) and validated by DANB certificants using a job analysis survey. A CVS is conducted every five to seven years to ensure the blueprint is consistent with current clinical practices. DANB’s Board of Directors approves all updates to DANB exam blueprints.

This exam references the following (see p. 6 for full citations for these references):
• Centers for Disease Control and Prevention. Guidelines for Infection Control in Dental Health-Care Settings-2003
• Centers for Disease Control and Prevention. Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care
• Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens (BBP) standard
• OSHA Hazard Communication standard

Sub-Content Area I: Standard Precautions and the Prevention of Disease Transmission (20%)

A. Recognize infection diseases and their relationship to patient and occupational risk.
   1. Modes of disease transmission.
   2. Needs for immunization against infectious diseases (e.g., hepatitis B, influenza).

B. Demonstrate understanding of how to review a medical history to prevent adverse reactions during dental care (e.g., adverse reactions to latex or vinyl).

C. Demonstrate understanding of proper hand hygiene as performed before, during and after oral surgery and intraoral procedures, including but not limited:
   1. Products (e.g., anti-microbial, anti-bacterial, alcohol rub).
   2. Skin/nail care.
   3. Techniques (e.g., length of time, sequencing).
   4. Select appropriate hand hygiene protocol.

D. Describe how to protect the patient and operator by using personal protective equipment (PPE)
   1. Selection and sequence of placing, removing and disposal of PPE according to the procedures(s) and areas, including but not limited to:
      a. Instruments/device processing.
      b. Laboratory.
      c. Oral surgery.
d. Radiology.

e. Treatment room.

2. Dispose of or launder contaminated clothing according to the OSHA Bloodborne Pathogens standard.

E. Demonstrate understanding of how to protect the patient and operator through the reduction or aerosol, droplets and spatter, including but not limited to:

1. Barrier techniques.
2. Dental dams.
3. Evacuation techniques.
4. Patient eyewear.
5. Pre-procedural mouth rinses.

Sub-Content Area II: Prevent Cross-contamination during Procedures (34%)

A. Identify modes of disease transmission.

B. Demonstrate understanding of how to maintain aseptic conditions to prevent cross-contamination for procedures and services.

1. Clean and disinfect for breakdown and setup of clinical treatment areas, the laboratory, and equipment.
   a. Prepare and use chemical disinfection for breakdown and setup.
   b. Protect the patient and operator using barrier techniques.
   c. Prepare tray setups (e.g., single-use devices [SUD], single unite dosing, aseptic retrieval).
   d. Maintain and monitor dental unit water lines.
   e. Clean and maintain evacuation lines and traps.
2. Clean and disinfect radiological areas and equipment to protect the patient and operator.
3. Use aseptic techniques for acquiring and processing conventional and digital radiographic images.
5. Dispose of biohazardous and other waste according to federal regulations.
Sub-Content Area III: Instrument/Device Processing (26%)

A. **Demonstrate understanding of processing reusable dental instruments and devices.**
   1. Transport contaminated instruments/devices to prevent cross-contamination.
   2. Use work flow patterns to avoid cross-contamination of instruments/devices and supplies.
   3. Clean and maintain dental instruments/devices and supplies prior to sterilization.
   4. Prepare and sue chemical agents for cleaning instruments/devices instructions.
   5. Prepare dental instruments/devices and supplies for sterilization.
   6. Select the system for sterilization.
   7. Select the system for sterilization monitoring (e.g., biological monitoring, chemical integrators).
   9. Load and unload the sterilizer.
  10. Store and maintain integrity of sterile instruments/devices and supplies.

B. **Demonstrate understanding of how to monitor and maintain processing equipment and sterilizers (e.g., ultrasonic cleaner, autoclave).**
   1. Interpret sterilization monitoring devices, errors and results.
   2. Respond to equipment malfunctions.

Sub-Content Area IV: Occupational Safety/Administrative Protocols (20%)

A. **Demonstrate understanding of occupational safety standards and guideline for personnel.**
   1. OSHA Bloodborne Pathogens standard as it applies to, but not limited to:
      a. Engineering and work practice controls.
      b. Needle and sharps safety.
      c. Record keeping and training.
      d. Sharps exposure and post-exposure protocol (e.g., first aid procedures).
2. OSHA Hazard Communication standard as it applies to, but not limited to:
   a. Chemical exposure/hazard (e.g., amalgam, nitrous oxide, laser) and first aid.
   b. Engineering and work practice controls.
   c. Safety data sheets (SDS).
   d. Secondary containers.

3. CDC Guidelines for Infection Control in Dental Health-Care Settings – 2003.


5. Federal regulations (e.g., EPDA, FDA).

B. **Demonstrate understanding of how to maintain and document programs/policies for infection control and safety, including but not limited to:**

1. Exposure control plan.
2. Infection control breaches.
3. Quality assurance (quality improvement).
4. Sterilization logs/records.
5. Training records.
ICE Exam Suggested References

DANB exam committees use the following textbooks and reference materials to develop this exam. This list does not include all the available textbooks and materials for studying for this exam; these are simply the resources that exam committee subject matter experts determined as providing the most up-to-date information needed to meet or surpass a determined level of competency for this exam. Any one reference will likely not include all the material required to study to take the exam.

This list is intended to help prepare for this exam. It is not intended to be an endorsement of any of the publications listed. You should prepare for DANB certification and component exams using as many different study materials as possible.

Textbook References


Organizational References

   • From Policy to Practice: OSAP’s Guide to the Guidelines
   • OSAP’s OSHA & CDC Guidelines: Interact Training System
2. The American Dental Assistants Association (ADAA). www.dentalassistant.org
   • Infection Control in the Dental Office: A Review for a National Infection Control Exam (Course #0906)
   • Guidelines for Infection Control in Dental Health Care Settings (Course #1305)
   • DANB ICE Review
   • DANB ICE Practice Test
   • Glossary of Dental Terms
   • CDEA module: Understanding CDC’s Summary of Infection Prevention Practice in Dental Settings: Basic Expectations for Safe Care

(list continues next page)
   - *Guidelines for Infection Control in Dental Health-Care Settings — 2003* (MMWR, Vol. 52, RR 17)
   - *Updated U.S. Public Health Service guidelines for the management of occupational exposures to HBV, HCV, and HIV and recommendations for postexposure prophylaxis* (MMWR, Vol. 50, RR 11)

5. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA). www.osha.gov
   - *Hazard Communication Guidelines for Compliance* (Publication 3111)
   - *Bloodborne Pathogens Standard* (1910.1030)
State Regulations

Each state’s dental board implements regulations and establishes rules for delegating legally allowable duties to dental assistants. Passing one or more of the DANB component exams or earning DANB certification only conveys authority to perform these duties in those states that recognize these exams or this certification as meeting state dental assisting requirements. This information is at www.danb.org.