



Dental Assisting National Board, Inc.
Measuring Dental Assisting Excellence®

Infection Control (ICE[®])

Exam Outline and Suggested References

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.

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ICE

Exam Outline Overview

ICE Exam Weighting by Domain

- 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 Outline

DANB exams are created using the exam outline, which is annually reviewed by subject matter experts (e.g., Certified Dental Assistant™ [CDA®] certificants and dentists). The outline is developed using a Content Validation Study (CVS), which includes a job analysis survey where practicing CDA certificants are surveyed about how often tasks are performed and how important competent performance of tasks is to the health and safety of the public. This study is conducted every five to seven years to ensure the outline is consistent with current clinical practices. DANB's Board of Directors approves all updates to DANB exam outlines. The ICE exam measures a candidate's knowledge of national infection control practices.

This exam references the following (see p. 7 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

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

A. Recognize infectious diseases and their relationship to patient and occupational risk.

1. Identify 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 to:

1. products (e.g., antimicrobial, antibacterial, 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) (e.g., masks, gloves, eyewear, gowns).

1. Selection and sequence of placing, removing and disposing 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. Management of contaminated PPE according to the OSHA Bloodborne Pathogens standard.

E. Demonstrate understanding of how to protect the patient and operator through the reduction of 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.

Domain II: Prevent Cross-contamination during Procedures (34%)

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

1. Identify modes of disease transmission.
2. 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. Use barrier techniques for equipment and/or surfaces.
 - c. Prepare procedure-specific setups (e.g., single-use devices [SUD], single unit dosing, aseptic retrieval).
 - d. Maintain and monitor dental unit water lines.
 - e. Clean and maintain evacuation lines and traps.
3. Clean and disinfect radiological areas and equipment.
4. Use aseptic techniques for acquiring and processing conventional and digital radiographic images.

5. Select proper methods of disinfection for impressions and dental appliances.
6. Dispose of biohazardous and other waste according to federal regulations.

Domain 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. Follow 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 use chemical agents for cleaning instruments/devices.
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).
8. Package and label instruments/devices for sterilization.
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.

Domain IV: Occupational Safety/Administrative Protocols (20%)

A. Demonstrate understanding of occupational safety standards and guidelines for personnel.

1. CDC Guidelines for Infection Control in Dental Health-Care Settings – 2003.
2. CDC Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care, 2016.
3. 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).
4. 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.
 5. Federal regulations (e.g., EPA, 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

1. Bird, Doni L., and Debbie S. Robinson. *Essentials of Dental Assisting*. 5th ed. St. Louis, MO: Elsevier/Saunders, 2013.
2. Bird, Doni L., and Debbie S. Robinson. *Modern Dental Assisting*. 11th and 12th ed. St. Louis, MO: Elsevier/Saunders, 2015 and 2017.
3. Miller, Chris, and Charles J. Palenik. *Infection Control and Management of Hazardous Materials for the Dental Team*. 6th ed. St. Louis, MO: Elsevier/Mosby, 2018.
4. Molinari, John, and Jennifer Harte. *Cottone's Practical Infection Control in Dentistry*. 3rd ed. Philadelphia, PA: Lippincott, 2010.
5. Phinney, Donna J., and Judy H. Halstead. *Dental Assisting: A Comprehensive Approach*. 4th ed. Clifton Park, NY: Delmar, 2013.

Organizational References

1. The Organization for Safety and Asepsis (OSAP). www.osap.org.
 - *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)*
3. The DALE Foundation. www.dalefoundation.org.
 - *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*

4. Centers for Disease Control and Prevention (CDC). www.cdc.gov.
 - *Guidelines for Infection Control in Dental Health-Care Settings — 2003* (MMWR, Vol. 52, RR 17)
 - *Centers for Disease Control and Prevention. Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Oral Health; 2016*
 - *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)
 - *Hazard Communication Standard* (Code of Federal Regulations #29, Part 1910)
 - *Bloodborne Pathogens Standard* (1910.1030)



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Measuring Dental Assisting Excellence®

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

Radiation Health and Safety (RHS)

Infection Control (ICE)

General Chairside Assisting (GC)

COA component exams

Orthodontic Assisting (OA)

Infection Control (ICE)