

Dental Assistant– Dental Science 1

Exam Information	Description
Exam number 720 Items 53 National Career Cluster Health Science NCHSE Health Science Certification available Yes	The Dental Science 1 industry certification exam assesses learners' preparedness to assist a dentist or dental hygienist in performing the functions of a dental practice. The exam evaluates skills in chairside assisting, patient preparation, front office functions, selected dental office laboratory procedures, and an introduction to radiology.

Exam Blueprint and Performance Skills

Standard	Percentage of exam score
1. Field Of Dentistry	9%
2. Basic Dental Equipment	12%
3. Ethical & Legal Behavior	4%
4. Personal Safety	4%
5. Infection Control	19%
6. Oral Anatomy	27%
7. Identify The Infectious Process	6%
8. Preventative Dentistry Program	6%

9. Skills And Responsibilities	9%
10. Perform Basic Life Support Skills	3%

*Includes performance skill evaluation

Standard 1 - Field Of Dentistry

Students will examine the field of dentistry

Objective 1 Describe the following dental health team members (including educational requirements, professional organizations, responsibilities, and licensure):

1. Dentist
2. Dental Hygienist
3. Dental Assistant
4. Administrative Assistant
5. Dental Laboratory Technician

Objective 2 Describe the following areas of specialization in dentistry:

1. Dental Public Health
2. Endodontics
3. Oral & Maxillofacial Surgery
4. Orthodontics
5. Pediatric Dentistry
6. Periodontics
7. Prosthodontics

Standard 2 - Basic Dental Equipment

Students will identify areas of the dental office and basic dental equipment

Objective 1 Identify and describe the following areas of the dental office:

1. Dental Operatory (treatment area)
2. Reception area
3. Administration/Business area
4. Sterilization area
5. Dental laboratory
6. Dentist's private office
7. Consultation room
8. Dental staff lounge

Objective 2 Identify and describe proper use and maintenance of the following equipment:

1. Operator stool
2. Assistant stool
3. Dental chair
4. Operating light
5. Air water syringe
6. Oral evacuation system
7. Curing light
8. Triturator/Amalgamator
9. Rheostat (foot control)
10. X-ray systems
11. Autoclave
12. Ultrasonic cleaner

Standard 3 - Ethical & Legal Behavior

Students will differentiate appropriate ethical and legal behavior in a dental setting

Objective 1 Define the difference between ethics and laws including the importance of professional and personal ethics in the workplace.

Objective 2 Discuss ethical and legal responsibilities for the dental healthcare worker

Objective 3 Identify standards of the Health Insurance Portability and Accountability Act/HIPAA and discuss the need to protect the patient's privacy.

Objective 4 Explain the purpose of the State Dental Practice Act and how it applies to the role of the dental assistant. Compare and contrast the levels of supervision.

1. Direct Supervision
2. Indirect Supervision
3. General Supervision

Standard 4 - Personal Safety

Students will demonstrate personal safety procedures based on Occupational Health and Safety Administration (OSHA) and Centers for Disease Control (CDC) guidelines.

Objective 1 Explain the OSHA Bloodborne Pathogen Standard including:

1. Training requirements
2. Employee medical records
3. Exposure protocol

Objective 2 Outline the OSHA Hazard Communication Standard including:

1. Training program
2. Chemical inventory
3. Locate OSHA posters and SDS sheets on site

Objective 3 Identify the roles of government agencies.

1. Occupational Safety and Health Administration- OSHA
2. Center for Disease Control and Prevention- CDC
3. National Institute For Occupational Safety and Health- NIOSH
4. Environmental Protection Agency- EPA
5. Food and Drug Administration- FDA

Optional: Standard performance evaluations on the final page of this document

Standard 5 - Infection Control

Students will demonstrate infection control protocol

Objective 1 Identify the components of the chain of infection

1. Virulence/infectious agent
2. Number of microorganisms
3. Susceptible host
4. Portal of entry

Objective 2 Identify modes of infection transmission in the dental office.

1. Direct transmission
2. Indirect transmission
3. Airborne transmission
4. Parenteral transmission
5. Bloodborne transmission

Objective 3 Outline standards for prevention of disease transmission

1. Prevent cross-contamination
 - a. Patient to dental team
 - b. Dental team to patient
 - c. Patient to patient
 - d. Dental office to community
 - e. Community to dental office
2. Maintain aseptic conditions

Objective 4 Compare the different types of dental waste and appropriate waste disposal.

1. General waste
2. Hazardous waste
3. Infectious/contaminated waste
 - a. Blood/blood-soaked materials
 - b. Pathological waste
 - c. Sharps, needles, burs

Standard 6 - Oral Anatomy

Students will identify intra-oral anatomy and surrounding structures

Objective 1 Identify teeth by name, location, and permanent, primary, or mixed dentition.

Objective 2 Identify anatomical parts, tissues, and surfaces of a tooth.

1. Anatomical parts
 - a. Clinical crown
 - b. Anatomical crown
 - c. Root including the apex
2. Tissues
 - a. Enamel
 - b. Cementum
 - c. Dentin
 - d. Pulp
3. Supporting structures
 - a. Periodontal ligaments
 - b. Alveolar bones
 - c. Gingiva

Objective 3 Identify primary and permanent teeth using the Universal Tooth Numbering System.

Objective 4 Identify surfaces of the teeth.

1. Mesial
2. Distal
3. Facial
 - a. Labial
 - b. Buccal
4. Incisal
5. Occlusal
6. Lingual

Objective 5 Identify major landmarks of the oral cavity and surrounding structures.

1. Maxillary sinus
2. Salivary glands and ducts
3. Maxilla
4. Mandible
5. TMJ – Temporal Mandibular Joint
6. Incisive papilla
7. Rugae
8. Uvula
9. Frenulum
10. Soft palate
11. Hard palate
12. Tongue
13. Teeth

14. Oral mucosa
15. Temporal bone
16. Trigeminal nerve

Objective 6 Describe genetic and developmental factors that can affect dental development.

1. Tori
2. Supernumerary
3. Enamel dysplasia
4. Cleft palate
5. Cleft lip
6. Tongue-tied
7. Anodontia
8. Microdontia
9. Macrodontia

Optional: Standard performance evaluations on the final page of this document.

Standard 7 - Identify The Infectious Process

Students will identify the infectious process of dental caries and other diseases of the oral cavity.

Objective 1 Outline the dental caries process:

1. Acids in plaque and saliva attack the tooth
2. Calcium and phosphate are dissolved from the enamel (demineralization)
3. Fluoride, calcium, and phosphate are re-deposited into the tooth (remineralization)

Objective 2 Describe the clinical characteristics of periodontal disease:

1. Gingivitis
 - a. Red Tissues
 - b. Swollen Tissues
 - c. Tissues Bleed Easily
2. Periodontitis
 - a. Inflammation of periodontium
 - b. Mobility
 - c. Pain

d. Pus

Objective 3 Discuss the diseases/conditions of the oral cavity and tongue including:

1. Oral cancer
2. Candidiasis (thrush)
3. Cellulitis
4. Fissured tongue
5. Geographic tongue
6. Glossitis
7. Herpes
8. “Meth Mouth”
9. Eating Disorders

Standard 8 - Preventative Dentistry Program

Students will identify components of a comprehensive preventative dentistry program including patient education.

Objective 1 Explain the parts of a preventive dentistry program and their effects on oral conditions.

1. Nutrition
 - a. Dental decay is directly linked to the presence of dietary sugars (sucrose) in the diet.
 - b. Acids in foods/beverages can erode dental enamel.
2. Plaque control
 - a. Disclosing
 - b. Tooth brushing methods-Bass
 - c. Flossing
3. Fluoride therapy
4. Dental check-ups

Objective 2 Identify different products used for oral hygiene and their uses.

1. Toothbrushes
2. Dental floss/tape
3. Interdental aids
4. Toothpastes
5. Mouth rinses

Standard 9 - Skills And Responsibilities

Students will be able to perform the skills and responsibilities of a dental assistant in the front office.

Objective 1 Identify the differences between verbal and nonverbal communications.

1. Verbal-words spoken
 - a. Words
 - b. Listening skills
 - c. Voice inflection
2. Non-verbal-body language
 - a. Facial expressions
 - b. Appearance
 - c. Gestures
 - d. Mannerisms
 - e. Attitudes
 - f. Actions

Objective 2 Describe good phone courtesy.

1. Smile
2. Don't chew gum or eat
3. Speak directly into the receiver
4. Speak clearly and slowly
5. Answer promptly
6. Greet patient-identify yourself and the practice
7. Ask how you can help the caller

Objective 3 Outline the process of scheduling appointments.

1. Guidelines for scheduling-units of time
2. Confirmation of appointments
3. Re-call

Objective 4 Discuss the functions of computerized practice management systems.

1. Patient registration
2. Scheduling
3. Charting
4. Progress notes

5. Radiographs

Objective 5 Identify the data gathering process and prepare a patient record.

1. Registration form
2. Medical-dental health history form
3. Clinical examination form
4. Progress note form
5. Treatment plan

Objective 6 Define terminology related to insurance.

1. Carrier
2. Co-insurance
3. Deductible
4. Dependent
5. Eligibility
6. Exclusions
7. Maximum
8. Provider
9. Subscriber

Objective 7 Learn the common dental procedure codes

1. Diagnostic: D0100–D0999
2. Preventive: D1000–D1999
3. Restorative: D2000–D2999
4. Endodontics: D3000–D3999
5. Periodontics: D4000–D4999
6. Removable Prosthodontics: D5000–D5899
7. Maxillofacial Prosthetics: D5900–D5999
8. Implant Services: D6000–D6199
9. Fixed Prosthodontics: D6200–D6999
10. Oral Surgery: D7000–D7999
11. Orthodontics: D8000–D8999
12. Adjunctive General Services: D9000–D9999

Optional: Standard performance evaluations on the final page of this document

Standard 10 - Perform Basic Life Support Skills

Students will be able to perform basic life support skills.

Objective 1 Describe the signs and symptoms of common medical emergencies and describe how to respond to them.

1. Symptom: what a patient tells you regarding how they feel
2. Sign: what you observe in a patient
3. Common emergencies include:
 - a. Airway obstruction/choking
 - b. Syncope/fainting
 - c. Postural hypotension
 - d. Angina/chest pain
 - e. Acute myocardial infarction/heart attack
 - f. Stroke/CVA
 - g. Hyperventilation
 - h. Asthma attack
 - i. Allergic reaction
 - j. Seizure
 - k. Diabetic shock
 - l. Hyperglycemia
 - m. Hypoglycemia

Objective 2 Demonstrate how to take, record, and monitor vital signs using automated systems:

1. Blood pressure
2. Pulse

Optional: Standard performance evaluations on the final page of this document

Performance Skills Evaluation

Exam name: Dental Science 1

Candidate Name: _____

Performance assessments may be completed and evaluated any time before the certification is issued. The following performance skills can be used in connection with the associated standards and exam. The evaluator will function as the subject matter expert to determine if the candidate meets the skills requirements with a Yes/No for passing.

Standard 4 – Personal Safety

- Demonstrate proper use of PPE and correct handwashing technique.
- Obtain Hepatitis B vaccination or provide signed declination form.
- Demonstrate methods of sterilization and disinfection

Pass:

Standard 9 – Skills & Responsibilities

- Instruct a patient in oral hygiene.
- Prepare a patient record.
- Seating and dismissing patients.

Pass:

Standard 10 – Perform Basic Life Support Skills

- Obtain current CPR certification.

Pass:

Evaluator Name:

Date:
