

SAMPLE TEST ITEMS

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The following test items, including a sample of a testlet, represent the various subject areas of the *Dental Hygiene Examination Specifications*. They are typical of test items included in Component A of the National Board Dental Hygiene Examination. Component B consists of case-based items; for a sample, see related patient materials (history, chart, radiographs, clinical photographs) and test items

You may wish to read the test items and record your answer before you check the answer key. There is only one correct or best response for a test item. On an actual test, it is better to guess than leave an answer blank. There is no penalty for guessing wrong.

1. Each of the following oral microorganisms could colonize soft tissue *EXCEPT* one. Which one is this *EXCEPTION*?
 - A. *Neisseria sicca*
 - B. *Candida albicans*
 - C. *Streptococcus mitis*
 - D. *Streptococcus mutans*
 - E. *Streptococcus salivarius*
2. The virus responsible for which of the following diseases is the *MOST* resistant to chemical and physical agents?
 - A. AIDS
 - B. Herpes
 - C. Measles
 - D. Influenza
 - E. Hepatitis
3. Root hypersensitivity diminishes as the tooth forms which of the following?
 - A. Mantle dentin
 - B. Secondary dentin
 - C. Cellular cementum
 - D. Acellular cementum
4. A 21-year-old woman, who is in her third trimester of pregnancy, has a pyogenic granuloma (3 mm in diameter) between her maxillary left lateral incisor and canine. After offering oral hygiene instructions, which of the following should be the *NEXT* step?
 - A. Perform an oral prophylaxis.
 - B. Suggest that the patient see a periodontist.
 - C. Refer the patient for an excision of the granuloma.
 - D. Allow hormonal influences to subside, and then reappoint the patient for a prophylaxis after childbirth.
 - E. Reappoint the patient for a prophylaxis one-month later.
5. Which of the following nerves supplies the intrinsic muscles of the tongue?
 - A. Vagus
 - B. Facial
 - C. Lingual
 - D. Hypoglossal
 - E. Glossopharyngeal
6. Which of the following tissues and organs is/are the *MOST* radioresistant?
 - A. Nerves
 - B. Glands
 - C. Skin
 - D. Bone marrow
 - E. Reproductive organs
7. Superficial lymphatic vessels of the breast drain primarily into which of the following nodes?
 - A. Axillary
 - B. Cervical
 - C. Substernal
 - D. Subclavicular
 - E. Supraclavicular
8. Primarily, systemic fluorides protect the teeth by which of the following actions?
 - A. Lowering their surface energy
 - B. Creating bacteriostasis
 - C. Inhibiting enzyme activity
 - D. Reducing the fluoroapatite solubility
 - E. Improving their morphology
9. Bell's palsy involves which of the following cranial nerves?
 - A. III
 - B. IV
 - C. V
 - D. VII
 - E. IX
10. Periodontal disease is considered to be controlled when
 - A. no bleeding on probing is present.
 - B. the gingival tissue is firm, pink and stippled.
 - C. no pockets are deeper than 3 mm.
 - D. calculus and plaque have been removed
 - E. the gingival tissue height approximates the cemento-enamel junction.
11. Curets can be hand-sharpened on a flat stone. This process becomes the *MOST* effective when the face of the curet meets the stone at an angle of
 - A. 45-60°.
 - B. 70-80°.
 - C. 80-90°.
 - D. 100-110°.
 - E. 120-130°.

12. Radiographic intensifying screens are used for
- magnifying images.
 - increasing detail.
 - reducing the exposure time.
 - speeding the processing time.
 - decreasing the processing time.
13. Following an occurrence of primary herpetic gingivostomatitis, the herpes simplex virus can remain dormant in which of the following?
- Muscle
 - Epithelium
 - Bloodstream
 - Sensory ganglia
 - Connective tissue
14. Each of the following characterizes an ideal chemical disinfectant *EXCEPT* one. Which one is this *EXCEPTION*?
- Heat-stable
 - Long shelf-life
 - Water solubility
 - Activity against vegetative microbes
 - Activity against microbial spores
15. A 70-year-old edentulous patient routinely cleans and soaks her dentures in hot water. Which of the following can occur as a result of this practice?
- Softening the base
 - Distorting the base
 - Loosening the teeth
 - Crazing the denture
 - Discoloring the denture
16. Each of the following describes an action of desensitizing agents *EXCEPT* one. Which one is this *EXCEPTION*?
- Inhibition of the sensory nerve function in dentin
 - Stimulation of secondary dentin formation
 - Deposition of insoluble salts in the exposed dentin
 - Adhesion of substances over the ends of dentinal tubules
 - Reduction of pulpal inflammation
17. The submandibular salivary glands are *BEST* examined by which of the following?
- Percussion
 - Transillumination
 - Bimanual palpation
 - Indirect vision with the mouth mirror
 - Asking the patient to lift the tongue up and back
18. An antihistamine is the drug of choice for treating which of the following?
- Hay fever
 - Common cold
 - Anaphylactic shock
 - Immune suppression
 - Vitamin C overdose
19. The principal factor that controls x-ray penetration is
- film.
 - time.
 - distance.
 - wavelength.
 - milliamperage.
20. Dental hygienists should complete informed consent procedures with patients. Each of the following is a component of informed consent *EXCEPT* one. Which one is this *EXCEPTION*?
- Insuring patients' agreement for care
 - Informing patients of treatment risks
 - Completing outline of oral hygiene education
 - Discussing options for care with patients
 - Obtaining signature of patients or guardians
21. Which of the following explains why the application of excessive heat to a tooth causes the patient pain?
- Stimuli of any kind to the pulp result in the sensation of pain.
 - Excessive stimulation of heat receptors results in pain.
 - Heat receptors in the pulp have a low threshold to pain.
 - Blood vessels of the pulp expand and cause strangulation of the tissue.
 - Heat increases the inflammatory response resulting in pain.

Test item #'s 22-26 refer to the following testlet.

A dental hygienist was recently employed at a 200-bed, long-term care facility on a full-time basis. Before his/her employment, dental hygiene services were not provided by the facility, though a dentist had been treating residents, two days per month, using a newly built dental operator, located at the facility. Within two months of employment, this dental hygienist screened all the residents and completed data that included high scores in the following indices: DMFT, GI, and PI. In addition, nursing staffs were interviewed and the dentist was consulted.

22. Gaining compliance from the nursing home staff to work with residents to complete daily mouth care is a primary objective of the program. Which of the following will help to insure cooperation of the nursing home staff?
- A. Provide residents new toothbrushes.
 - B. Educate residents about oral diseases.
 - C. Motivate residents to value personal oral care.
 - D. Provide residents incentives to perform mouth care.
23. An initial professional responsibility of the dental hygienist is to determine the oral health status of residents. Which of the following represents the *BEST* approach?
- A. Review patient records.
 - B. Conduct an oral screening.
 - C. Meet with a consulting dentist.
 - D. Ask the nursing staff about the patients' needs.
24. In analyzing the assessment data, the dental hygienist noted that the correlation between age and presence of oral cancer is +0.8. Which of the following represents the relationship between age and oral cancer?
- A. No correlation
 - B. Weak
 - C. Moderate
 - D. Strong
25. The dental hygienist hypothesized that the nursing assistants who used electric toothbrushes on residents' teeth could remove plaque more effectively than the nursing assistants who used manual toothbrushes on the residents. In this study, which of the following represents the independent variable?
- A. Time of toothbrushing
 - B. Length of toothbrushing
 - C. Type of toothbrush used
 - D. Degree of plaque present
 - E. Residents' gingival health
26. The dental hygienist recorded the Gingival Index (GI) scores of residents who have Alzheimer's disease, which were: 2.5, 2.75, 2.8, 3.0, 2.5, 2.0, 2.4, and 2.9. Which of the following represents the mean GI score of this group of residents?
- A. 2.50
 - B. 2.55
 - C. 2.61
 - D. 2.63
 - E. 2.75

CASE C #'s 1-7

**SYNOPSIS
OF PATIENT
HISTORY**

Age 60
 Sex F
 Height 5' 1"
 Weight 175 lbs
80 kgs

CASE C

VITAL SIGNS

Blood pressure 135/95
 Pulse rate 78
 Respiration rate 15

MEDICAL HISTORY: The patient has a history of hypertension, which began 12 years ago when she was going through menopause. The patient reports she is feeling fine and her hypertension is well controlled. Her physician prescribed medications 2 years ago.

DENTAL HISTORY: Her last dental visit was 3 years ago, with a history of sporadic visits dependent on family income and available time.

SOCIAL HISTORY: She is an active 60-year-old widow who lives in upstate New York. She has a family day-care facility in which she cares for her 2 grandchildren and 4 other neighborhood children. The patient reports she has lost 20 pounds in the last year.

CHIEF COMPLAINT: "I need a cleaning, my gums bleed, and my mouth is dry. I've always had soft teeth and seem to have cavities each time I come for a check-up. With each child I've had gum problems, especially with my bottom teeth."

1. Under Care of Physician
 Yes No Condition: Hypertension

2. Hospitalized within the last 5 years
 Yes No Reason: _____

3. Has or had the following conditions:
Hypertension; allergic to dust, pollen,
and animals

4. Current medications:
Diltiazem (Cardizem CD®) 120 mg bid
Loratadine (Claritin®) 10 mg qd

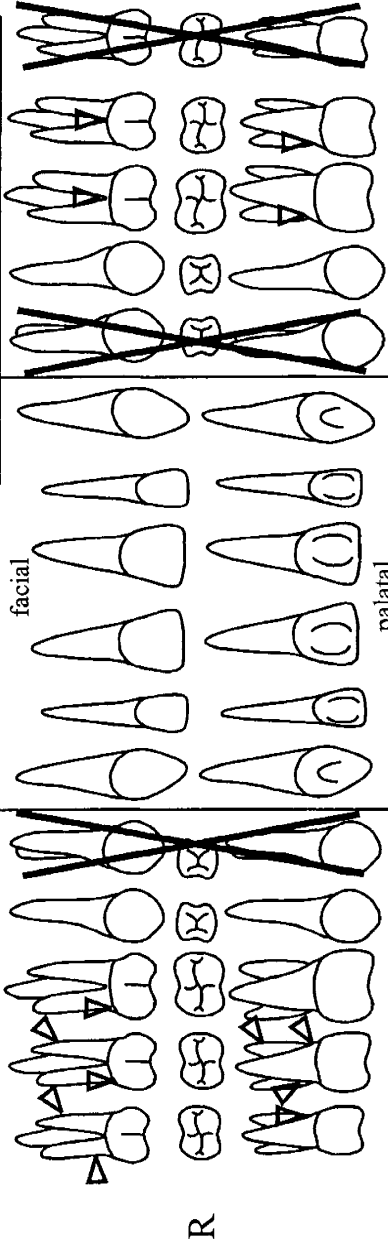
5. Smokes or uses tobacco products
 Yes No

6. Is pregnant
 Yes No N/A

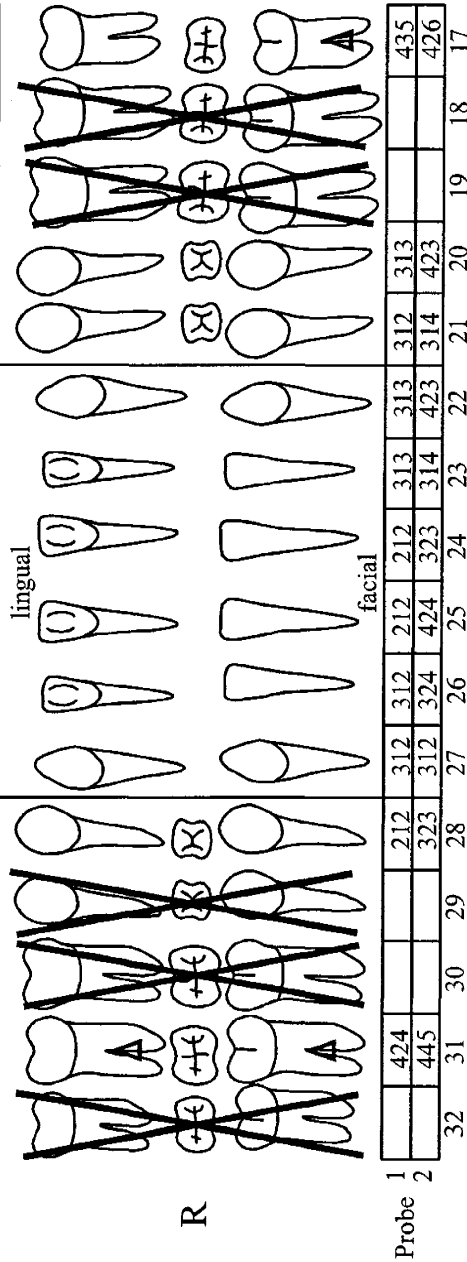
CASE C

ADULT CLINICAL EXAMINATION

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | |
|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|--|
| Probe | 1 | 547 | 334 | 534 | 423 | 324 | 423 | 324 | 423 | 324 | 423 | 423 | | | 324 | 424 | 424 | |
| | 2 | 666 | 536 | 634 | 324 | 325 | 423 | 323 | 313 | 324 | 523 | | | | 424 | 427 | 724 | |



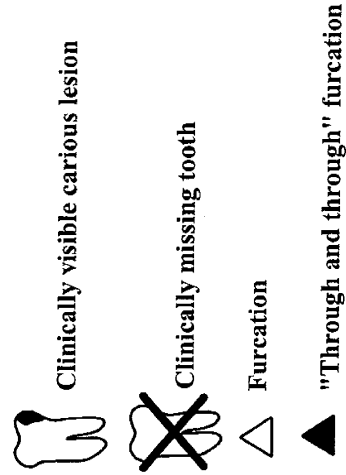
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| Probe | 1 | 665 | 534 | 734 | 323 | 324 | 423 | 323 | 333 | 434 | 424 | | | 445 | 627 | 634 | |
| | 2 | 665 | 634 | 424 | 423 | 323 | 323 | 323 | 323 | 323 | 323 | 323 | | | 323 | 324 | 534 |
| Probe | 1 | 444 | | | | 313 | 212 | 313 | 212 | 212 | 212 | 212 | 312 | 213 | | | 424 |
| | 2 | 555 | | | | 334 | 223 | 323 | 212 | 212 | 212 | 213 | 313 | 323 | | | 635 |



| | | | | | | | | | | | | | | | | | |
|-------|---|-----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Probe | 1 | 424 | | | | 212 | 312 | 312 | 212 | 212 | 313 | 313 | 312 | 313 | | | 435 |
| | 2 | 445 | | | | 323 | 312 | 324 | 424 | 323 | 314 | 423 | 314 | 423 | 314 | 423 | 426 |
| | | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 |

SUPPLEMENTAL ORAL EXAMINATION FINDINGS

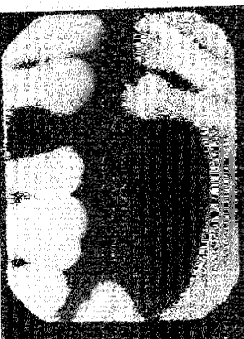
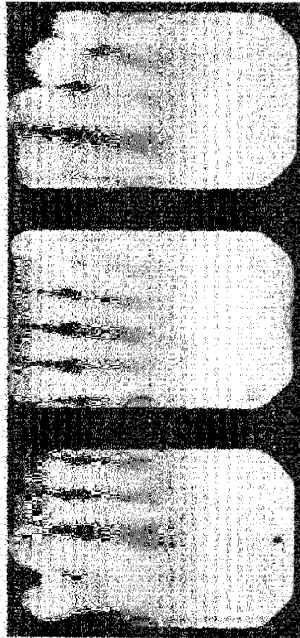
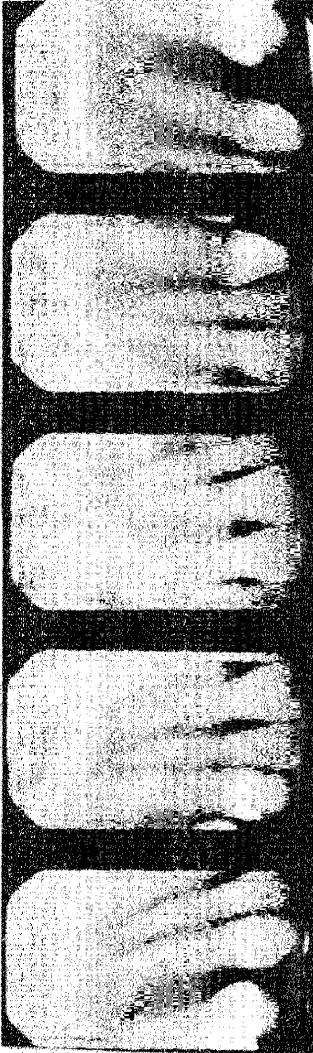
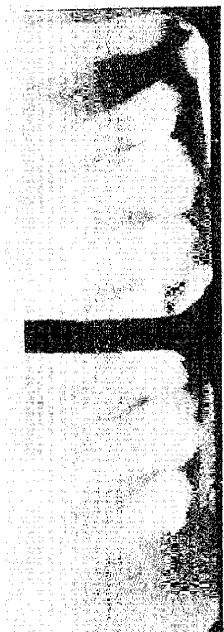
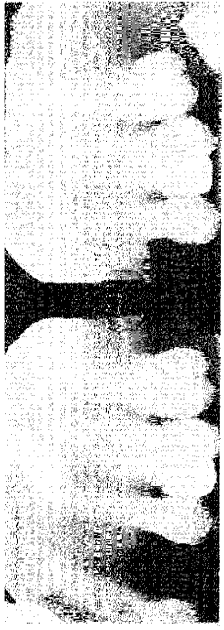
1. Generalized gingival recession
2. Generalized light-to-moderate plaque
3. Localized moderate supragingival calculus on lower anteriors
4. Moderate subgingival calculus
5. Generalized bleeding on probing
6. Second probe reading is at the 6-week reevaluation



Probe 1: initial probing depth

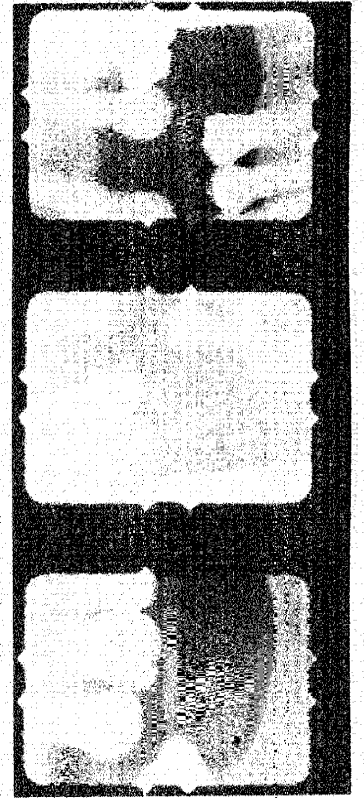
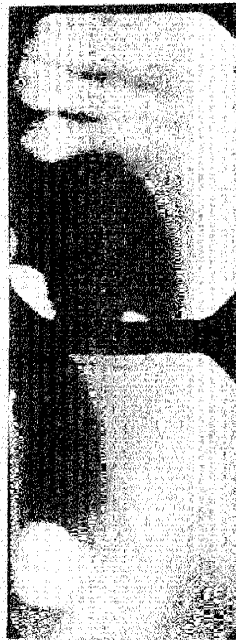
Probe 2: probing depth 1 month after scaling and root planing

CASE C



L

R



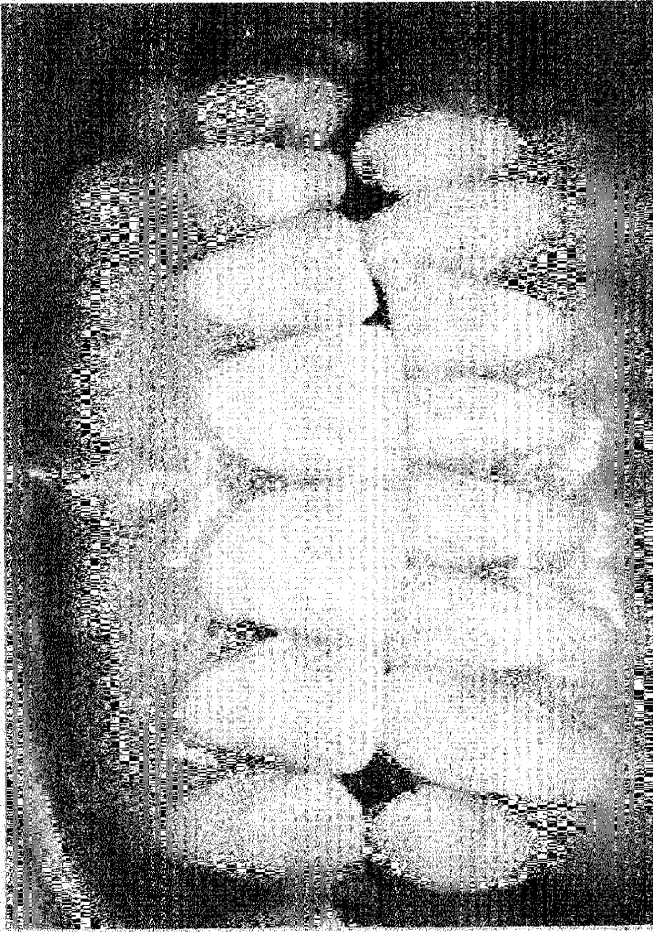
L

R

2-YEAR FOLLOW-UP

CASE C

L



R



LEFT SIDE

END OF CASE C

CASE C #'s 1-7

1. Why were vertical bitewing radiographs taken two years following completion of full-mouth periodontal debridement rather than traditional horizontal bitewing radiographs?
 - A. Cost efficiency
 - B. Patient's comfort
 - C. Improved technical quality
 - D. More alveolar bone is imaged
2. Which of the following technical errors is seen on the vertical bitewing radiographs?
 - A. Improper cone placement
 - B. Improper vertical angulation
 - C. Excessive time in fixing solution
 - D. Film overlapped during processing
 - E. Temperature too high in developing solution
3. Which of the following terms *BEST* describes the caries present on the maxillary right second premolar seen on the vertical bitewing radiographs?
 - A. Primary
 - B. Arrested
 - C. Rampant
 - D. Recurrent
4. When the dental hygienist informs the patient of her current blood pressure reading, the patient responds, "That's good; my pressure is down". Which of the following represents this dental hygienist's *BEST* response?
 - A. "The 135 reading, the systolic, is still high and requires consultation with the physician before care."
 - B. "The 95 reading, the diastolic, is too high and requires consultation with the physician before care."
 - C. "The 135 reading, the diastolic, is still high and requires consultation with the physician before care."
 - D. "The 95 reading, the systolic, is too high and requires consultation with the physician before care."
 - E. "Both the 135 and the 95 are elevated and require consultation with the physician before care."
5. Following periodontal debridement, which of the following is *MOST* appropriate to cleanse the embrasures spaces in this patient's anterior teeth?
 - A. Rubber tip
 - B. Floss
 - C. Oral irrigator
 - D. Interdental brush
 - E. Single-tuft brush
6. Which of the following represents a risk factor for hypertension in this patient?
 - A. Weight
 - B. Gender
 - C. Allergies
 - D. Medications
7. Which of the following *BEST* accounts for the rapid spread of decay over the two-year period?
 - A. Loss of weight
 - B. Altered nutritional patterns
 - C. Change in oral hygiene habits
 - D. Relocation to a nonfluoridated area
 - E. Medication-induced xerostomia

Sample Test-Answer Key

1. D
2. E
3. C
4. A
5. D
6. A
7. A
8. D
9. D
10. A
11. D
12. C
13. D
14. A
15. B
16. E
17. C
18. A
19. D
20. C
21. A
22. C
23. B
24. D
25. C
26. C

Case C

1. D
2. A
3. D
4. B
5. B
6. A
7. E