

# **Hatrick: Dental Materials: Clinical Applications for Dental Assistants and Dental Hygienists, 2<sup>nd</sup> Edition**

## **Chapter 01: Introduction to Dental Materials**

### **Test Bank**

#### **MULTIPLE CHOICE**

1. Until 1970, which of the following groups of dental auxiliaries were allowed to perform intraoral functions in all states?
  1. Dental hygienists
  2. Registered dental assistants
  3. Certified dental assistants
  4. On-the-job trained dental assistants
  - a. 1, 2, 3, 4
  - b. 1, 2, 3
  - c. 1, 2
  - d. 1

ANS: D

Until 1970, only the dental hygienist was allowed to perform intraoral functions in all states. Although laws vary from state to state, virtually every state has modified, updated, and made changes to state restrictions to allow for the performance of intraoral procedures by all allied oral health care practitioners.

REF: (page 1) Role of the Allied Oral Health Practitioner and Dental Materials

2. Silver paste was first mentioned as a restorative material for teeth by the:
  - a. Chinese
  - b. Greeks
  - c. Romans
  - d. French

ANS: A

Silver paste was first mentioned as a restorative material for teeth by the Chinese in 659 AD. More than 1000 years later, in 1800, it was produced in France from “shavings from silver cut from coins mixed with enough mercury to form a sloppy paste.” Health problems arising from the high mercury content of this early amalgam prompted the American Society of Dental Surgeons to pass a resolution in 1846 stating that amalgam should not be used under any circumstances.

REF: (page 2) The Historical Development of Dental Materials

3. The “Amalgam War” was fought over:
  - a. mining rights in states in the western region of the United States
  - b. the price of silver in relation to tin and zinc

- c. the value and safety of silver dental amalgam
- d. patent issues between France and England

ANS: C

The “Amalgam War” was fought over the value and safety of silver dental amalgam. It did not end until 1895, when G.V. Black developed an acceptable amalgam formula.

REF: (page 3) The Historical Development of Dental Materials

4. Which of the following restorative techniques was first introduced in 1955?
- a. Cohesive gold foil
  - b. Cast gold inlays
  - c. Acid-etch technique
  - d. Synthetic resins for denture bases

ANS: C

The acid-etch technique was introduced in 1955. Cohesive gold foil, which could be condensed directly into the cavity preparation, was introduced in 1855. In 1907, Dr. William Taggart demonstrated a casting method to produce gold inlays. Synthetic resins were introduced in 1932; these resins soon replaced rubber as the denture base of choice. Around this time, synthetic resins also became a popular tooth-colored alternative, and, together with the introduction of the acid-etch technique, have evolved into composite resin, one of the most popular restorative materials.

REF: (page 3) The Historical Development of Dental Materials

5. Dr. Frederick McKay is credited with:
- a. developing an acceptable formula for silver dental amalgam
  - b. noting dental fluorosis in Colorado Springs
  - c. demonstrating a casting method to produce gold inlays
  - d. the introduction of dental cements

ANS: B

Dr. Frederick McKay is credited with noting dental fluorosis in Colorado Springs in 1901. Together with G.V. Black, he determined that drinking water was the factor. These caries-free but mottled teeth prompted Dr. McKay to suggest changes in the water supply, leading to the first community water fluoridation programs in 1945.

REF: (page 3) The Historical Development of Dental Materials

6. Since 2005, the American Dental Association (ADA) Seal of Acceptance is awarded to:
- a. both professional and consumer products
  - b. professional but not consumer products
  - c. consumer but not professional products
  - d. neither professional nor consumer products

ANS: C

Since 2005, the American Dental Association (ADA) Seal of Acceptance is awarded to consumer but not professional products. Although strictly a voluntary program, more than 1300 consumer dental products carry the Seal of Acceptance. Most common among these are toothpaste, toothbrushes, mouth rinses, floss and other interdental cleaners, sugar-free chewing gum, and denture adherents and cleansers.

REF: (page 3) American Dental Association

7. Dental materials considered devices, as well as over-the-counter products sold to the public, are subject to control and regulation of the \_\_\_\_\_ Center for Devices and Radiological Health.
- Centers for Disease Control and Prevention
  - Food and Drug Administration
  - Drug Enforcement Administration
  - Department of Human and Health Services

ANS: B

Dental materials considered devices, as well as over-the-counter products sold to the public, are subject to control and regulation of the Food and Drug Administration Center for Devices and Radiological Health. The original Food and Drug Act of 1906 did not include provisions to ensure medical and dental device safety or claims. In 1976, the Medical Device Amendment was signed to give the Food Drug Administration regulatory authority over medical and dental devices, which are now classified and regulated according to their degree of risk to the public.

REF: (page 4) Food and Drug Administration

8. Which of the following represents the standards used to develop specifications and testing on an international level?
- Food and Drug Administration (FDA)
  - American Dental Association (ADA)
  - International Standards Organization (ISO)
  - Interpol

ANS: C

The International Dental Federation and the International Standards Organization (ISO) represent the standards used to develop specifications and testing on an international level. These standards are developed through the ISO's technical committee for dentistry (ISO TC 106).

REF: (page 4) International Agencies

9. Which of the following statements is true concerning the American Dental Association (ADA) Seal?
- All dental products qualify for the Seal.
  - The process typically requires at least 3 months for completion.
  - The ADA Seal is usually awarded for the life of the product.

- d. Products do not require evaluation when the composition of a previously accepted product is changed.

ANS: B

The process typically requires at least 3 months for completion. Not all dental products qualify for the Seal. The ADA Seal is usually awarded for a period of 5 years, at which time they are re-evaluated. Products are also re-evaluated any time the composition of a previously accepted product is changed.

REF: (page 4) Unnumbered Box 1-1, The ADA Seal

10. The delivery of dental materials most often falls to:
- a. the dentist
  - b. the dental hygienist
  - c. the dental assistant
  - d. the dental lab tech

ANS: C

The dental assistant is most directly responsible for the delivery of dental materials within specific guidelines outlined by the dental manufacturer.

REF: (page 1) Role of the Allied Oral Health Practitioner and Dental Materials

11. Which of the following is not a classification of dental materials?
- a. Preventive
  - b. Biological
  - c. Restorative
  - d. Therapeutic

ANS: B

Dental materials are classified as preventive, restorative, and therapeutic materials.

REF: (page 2) Role of the Allied Oral Health Practitioner and Dental Materials

12. The best resource for choosing which dental material to use could be determined by:
- a. reading professional journals
  - b. meeting with manufacturers' representatives
  - c. discussing which materials colleagues use
  - d. All of the above are good resources.

ANS: D

Professional journals, dental materials manufacturers and manufacturers' representatives, Internet links, and other resources can provide invaluable information.

REF: (page 2) Role of the Allied Oral Health Practitioner and Dental Materials

13. The first acceptable amalgam formula was developed by \_\_\_\_\_ in 1895.
- a. Pierre Fuchard

- b. Dr. Frederick McKay
- c. Dr. William Taggart
- d. G.V. Black

ANS: D

The “Amalgam War” ended in 1895, when G.V. Black developed an acceptable amalgam formula.

REF: (page 3) The Historical Development of Dental Materials

14. Today’s approach to dental care is referred to as:
- a. comprehensive care
  - b. evidence-based dentistry
  - c. individualized care
  - d. science-based dentistry

ANS: B

The ADA defines evidence-based dentistry as an approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence related to the patient’s oral medical history with the dentist’s clinical expertise and the patient’s treatment needs and preferences.

REF: (page 2) Evidenced-Based Decision Making

15. In history, the earliest recorded mention of restorative dentistry occurs about:
- a. 2500 BC
  - b. 600 BC
  - c. 1200 AD
  - d. 1700 AD

ANS: B

Much is found in the literature about treatment options, including remedies of potions and prayer, but no evidence of restorative dentistry exists until around 600 BC to 300 BC.

REF: (page 2) The Historical Development of Dental Materials

16. The earliest historical mention of the use of fluoride dates back to 1874 in:
- a. England
  - b. Colorado Springs
  - c. Prussia
  - d. China

ANS: A

Preventive dentistry had an early beginning as well, with the first mention of fluoride introduced in 1874 and dispensed in England at this time for the prevention of caries.

REF: (page 3) The Historical Development of Dental Materials

**MATCHING**

*Match the items with the correct description below.*

- a. Food and Drug Administration
- b. American Dental Association
- c. International Standards Organization

- 1. Seal of Acceptance
- 2. Regulation over dental devices
- 3. Standards to develop specifications on an international level

- |           |  |
|-----------|--|
| 1. ANS: B | REF: (page 3) American Dental Association  |
| 2. ANS: A | REF: (page 4) Food and Drug Administration |
| 3. ANS: C | REF: (page 4) International Agencies       |

**SHORT ANSWER**

- 1. What would be the four characteristics of the perfect dental material?

ANS:

The perfect dental material would be biocompatible, bond permanently to tooth structure, be esthetic with the tooth/tissue structures, and repair or regenerate missing tissues.

REF: (page 2) Role of the Allied Oral Health Practitioner and Dental Materials