**High Plains Technology Center**

**Health Careers**

**Learning Activity Packet (LAP) for Dental Assistant**

**Related unit of instruction:**

Dental Science

**Approximate Completion time:**

21 hours

**Rationale for the Lap:**

This LAP is designed to provide the student instruction in anatomy and physiology and microbiology especially as it relates to application to dental treatment and care. The student will learn about blood borne pathogens. The student will become familiar with the principles of diet and nutrition as they relate to the dental patient.

**Criteria for successful completion:**

By the end of this LAP the student will

1. Read and turn in work sheet for Chapters 6-9 in *Torres and Ehrlich Modern Dental Assisting 10th ed.,* Bird, Robinson, Workbook and text, Saunders Elsevier, 2012.
2. Pass the tests for the chapters

**Learning Objective:**

General Anatomy Chapter 6

1. Pronounce, define and spell the Key Terms.
2. Explain the difference between anatomy and physiology.
3. Identify the planes and associated body directions used to divide the body into sections.
4. Identify the four levels of organization in the human body.
5. Describe the components of a cell.
6. Identify and describe the four types of tissue in the human body.
7. Name and locate the two major body cavities and their components.
8. Name and locate the two reference regions of the body.

General Physiology Chapter 7

1. Pronounce, define and spell the Key Terms.
2. Name and locate each of the 10 body systems.
3. Explain the purpose of each body system.
4. Describe the components of each body system.
5. Explain how each body system functions.
6. Describe the signs and symptoms of common disorders related to each body system.
7. Give examples of conditions that require interaction among body systems.

Oral Embryology and Histology Chapter 8

1. Pronounce, define and spell the Key Terms.
2. Define embryology and histology.
3. Describe the three periods of prenatal development.
4. Discuss prenatal influences on dental development.
5. Describe the functions of osteoclasts and osteoblasts.
6. Describe the steps in the formation of the palate.
7. Describe the stages in the development of a tooth.
8. Discuss genetic and environmental factors that can affect dental development.
9. Discuss the life cycle of a tooth.
10. Explain the differences between clinical and anatomic crowns.
11. Name and describe the tissues of the teeth.
12. Name and describe the three types of dentin.
13. Describe the structure and location of dental pulp.
14. Name and describe the components of the periodontium.
15. Describe the functions of periodontal ligaments.
16. Describe the various types of oral mucosa and give an example of each.

Head and Neck Anatomy Chapter 9

1. Pronounce, define and spell the Key Terms.
2. Identify the regions of the head.
3. Locate and identify the bones of the cranium and face.
4. Locate and identify the muscles of the head and neck.
5. Identify and trace the routes of the blood vessels of the head and neck.
6. Identify the components of the temporomandibular joint.
7. Describe the action of the temporomandibular joint.
8. Identify the location of major and minor salivary glands and associated ducts.
9. Describe and locate the divisions of the trigeminal nerve.
10. Identify the locations of major lymph node sites of the body.
11. Identify and locate the paranasal sinuses of the skull.
12. Integrate knowledge about head and neck anatomy into clinical practice.

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**Criteria for successful completion:**

By the end of this LAP the student will

1. Read and turn in work sheets for Chapters 10-12 in *Torres and Ehrlich Modern Dental Assisting 10th ed.,* Bird, Robinson, Workbook and text, Saunders Elsevier, 2012.
2. Pass the tests for the chapters

**Learning Objective:**

Landmarks of the Face and Oral Cavity Chapter 10

1. Pronounce, define and spell the Key Terms.
2. Name and identify the landmarks of the face.
3. Name and identify the landmarks of the oral cavity.
4. Describe the structures found in the vestibular region of the oral cavity.
5. Describe the area of the oral cavity proper.
6. Describe the characteristics of normal gingival tissue.
7. Locate and describe the functions of the taste buds.

Overview of the Dentitions Chapter 11

1. Pronounce, define and spell the Key Terms.
2. Explain how the size and shape of teeth determine the functions of different types of teeth.
3. Name and identify the location of each tooth surface.
4. Use appropriate terminology to identify landmarks of the teeth.
5. Explain the differences between primary, mixed and permanent dentitions.
6. Explain the terms *occlusion*, *centric occlusion* and *malocclusion*.
7. Explain Angle’s classification of malocclusion.
8. Name and describe the three primary systems of tooth numbering.
9. Identify teeth using the Universal/National System, the Palmer Notation System, and the ISO/FDI System.

Tooth Morphology Chapter 12

1. Pronounce, define and spell the Key Terms.
2. Identify the location of each permanent tooth.
3. Use the correct terminology when discussing features of the permanent dentition.
4. Describe the general and specific features of each tooth in the permanent dentition.
5. Discuss clinical considerations of each tooth in the permanent dentition.
6. Compare and contrast the features of the primary and permanent dentitions.
7. Describe the general and specific features of the primary dentition.
8. Discuss clinical considerations of the primary dentition.

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**Criteria for successful completion:**

By the end of this LAP the student will

1. Read and turn in work sheets for Chapters 18-19 in *Torres and Ehrlich Modern Dental Assisting 10th ed.,* Bird, Robinson, Workbook and text, Saunders Elsevier, 2012.
2. Pass the tests for the chapters

**Learning Objective:**

Microbiology Chapter 18

1. Pronounce, define and spell the Key Terms.
2. Discuss the contributions of early pioneers in microbiology.
3. Explain why the study of microbiology is important for the dental assistant.
4. Identify the types of bacteria according to their shape.
5. List the major groups of microorganisms.
6. Describe the differences among aerobes, anaerobes and facultative anaerobes.
7. Identify diseases caused by chlamydiae.
8. Identify the most resistant form of life known and explain how it survives.
9. Compare viruses with bacteria and name diseases caused by each.
10. Explain why specificity in viruses is important.
11. Describe how prions differ from viruses and bacteria.
12. Name the blood-borne pathogens of concern in dentistry.
13. Name two diseases caused by prions.
14. Describe the symptoms of influenza.
15. Describe possible effects of a pandemic.
16. Describe the symptoms of West Nile virus.
17. Explain how West Nile virus is spread.
18. Explain how each type of hepatitis is transmitted.
19. Describe the effects of HIV on the immune system.
20. Identify methods of HIV transmission.
21. Explain why avian flu is a concern to humans.

Disease Transmission and Infection Control Chapter 19

1. Pronounce, define and spell the Key Terms.
2. Describe the roles of the CDC and OSHA in infection control.
3. Explain the difference between Universal Precautions and Standard Precautions.
4. Describe the differences between a chronic infection and an acute infection.
5. Describe the types of immunity and give examples of each.
6. Give an example of a latent infection.
7. Identify links in the chain of infection.
8. Describe the methods of disease transmission in a dental office.
9. Describe the components of an OSHA exposure control plan.
10. Explain the rationale for standard precautions.
11. Identify the OSHA categories of risk of occupational exposure.
12. Describe the first aid necessary after an exposure incident.
13. Discuss the rationale for hepatitis B vaccination for dental assistants.
14. Explain the importance of hand care for dental assistants.
15. Explain proper hand hygiene for dental assistants.
16. Explain the advantages of alcohol-based hand rubs.
17. Discuss the types of PPE needed for dental assistants.
18. Demonstrate the proper sequence for donning and removing of personal protective equipment.
19. Identify the various types of gloves used in a dental office.
20. Explain the types and symptoms of latex reactions.
21. Describe the proper handling and disposal methods for each types of waste generated in dentistry.
22. Explain the CDC recommendations regarding the use of a saliva ejector.
23. Describe the rationale of CDC recommendations regarding Creutzfeldt-Jakob disease and other prion-related diseases.
24. Describe the rationale of CDC recommendations regarding laser plumes.
25. Explain the precautions necessary when a patient with active tuberculosis is treated.

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By the end of this LAP the student will

1. Read and turn in work sheets for Chapters 20-21 in *Torres and Ehrlich Modern Dental Assisting 10th ed.,* Bird, Robinson, Workbook and text, Saunders Elsevier, 2012.
2. Pass the tests for the chapters

**Learning Objective:**

Principles and Techniques of Disinfection Chapter 20

1. Pronounce, define and spell the Key Terms.
2. Explain why dental treatment room surfaces need barriers or disinfection.
3. List the types of surfaces in the dental office that are typically covered with barriers.
4. Describe two methods to deal with surface contamination.
5. Name types of items that are single-use only.
6. Name the types of items that may be single-use or reusable.
7. Explain the difference between disinfection and sterilization.
8. Explain the difference between a disinfectant and an antiseptic.
9. Name the government agency that is responsible for registering disinfectants.
10. Identify chemical products used for intermediate-level and low-level surface disinfection, and explain the advantages and disadvantages of each.
11. Demonstrate the process of cleaning and disinfecting a treatment room.
12. Demonstrate the process of precleaning contaminated dental instruments.
13. Explain the precautions that should be taken when chemical sterilants/disinfectants are used.
14. Describe the CDC guidelines for disinfecting clinical contact surfaces.
15. Describe the CDC guidelines for disinfecting housekeeping surfaces.

Principles and Techniques of Instrument Processing and Sterilization Chapter 21

1. Pronounce, define and spell the Key Terms.
2. Discuss the seven steps involved in processing dental instruments.
3. Describe the three most common methods of heat sterilization and the advantages and disadvantages of each.
4. Describe the precautions that are necessary when one is packaging materials for sterilization.
5. Describe the steps involved in cleaning and sterilizing the high-speed dental handpiece.
6. Explain the differences between process indicators and process integrators.
7. Describe when and how biologic monitoring is done.
8. Explain the primary disadvantage of flash sterilization.
9. Describe the three forms of sterilization monitoring.
10. Explain how sterilization failures can occur.
11. Explain the limitations of chemical liquid sterilants.
12. Describe the classification of instruments used to determine the type of processing.
13. Explain the purpose of a holding solution.
14. Describe the safety precautions that are necessary when one is operating an ultrasonic cleaner.
15. Describe the Centers for Disease Control and Prevention (CDC) guidelines for sterilization and disinfection of patient care items.
16. Describe the CDC guidelines for cleaning and decontaminating instruments.
17. Describe the CDC guidelines for preparing and packaging instruments for sterilization.

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Dental Science

**Approximate Completion time:**

9 hours

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**Criteria for successful completion:**

By the end of this LAP the student will

1. Read and turn in work sheet for Chapter 16 in *Torres and Ehrlich Modern Dental Assisting 10th ed.,* Bird, Robinson, Workbook and text, Saunders Elsevier, 2012.
2. Pass the test for the chapter

**Learning Objective:**

Nutrition Chapter 16

1. Pronounce, define and spell the Key Terms.
2. Explain how diet and nutrition can affect oral conditions.
3. Explain why the study of nutrition is important to the dental assistant.
4. Describe the three types of proteins.
5. List the six areas of My Pyramid.
6. Explain the meaning of “recommended dietary (daily) allowance”.
7. Describe the difference between vitamins and minerals.
8. Describe the role of carbohydrates in the daily diet.
9. Explain the need for minerals in the diet.
10. Discuss the health and oral implications of eating disorders.
11. Explain how to interpret food labels.
12. Explain the criteria that must be met for a food to be considered “organic”.
13. Explain the relationship between frequency and quantity of cariogenic foods in causing tooth decay.