



Western Technical College

31508310 Dental Radiography - Advanced

Course Outcome Summary

Course Information

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| Description | Builds on principles and skills developed in Dental Radiography. Dental Assisting students expose full mouth series, extra-oral and specialized images on adult and child patients. Emphasis is placed on protection against x-ray hazards. Students will also process, mount, and evaluate images for diagnostic value. In addition, they will use images to explain dental health and treatment plans to patients. |
| Career Cluster | Health Science |
| Instructional Level | Technical Diploma Courses |
| Total Credits | 1 |
| Total Hours | 36 |

Pre/Corequisites

Prerequisite 10508103 Dental Radiography

Textbooks

Dental Radiography: Principles and Techniques - with Access. 6th Edition. Copyright 2022. Iannucci, Joen and Laura Jansen Howerton. Publisher: Elsevier Science. **ISBN-13:** 978-0-323-69550-3. Required.

Success Abilities

1. Cultivate Passion: Enhance Personal Connections
2. Cultivate Passion: Increase Self-Awareness
3. Live Responsibly: Develop Resilience
4. Live Responsibly: Foster Accountability
5. Refine Professionalism: Act Ethically

6. Refine Professionalism: Improve Critical Thinking
7. Refine Professionalism: Participate Collaboratively
8. Refine Professionalism: Practice Effective Communication

Program Outcomes

1. DA-1 year: Manage infection and hazard control
2. DA-1 year: Produce diagnostic intraoral and extraoral radiographs on a variety of patients
3. DA-1 year: Demonstrate professional behaviors, ethics, and appearance

Course Competencies

1. Expose full mouth images on patients to include permanent, primary/mixed, and/or edentulous dentitions.

Assessment Strategies

- 1.1. on patients in a clinical or laboratory setting
- 1.2. using both paralleling and bisecting angle techniques
- 1.3. given the required forms
- 1.4. under the supervision and observation of instructional staff

Criteria

You will know you are successful when

- 1.1. you check the prescription before exposure.
- 1.2. you select the correct armamentarium.
- 1.3. you manage patients effectively.
- 1.4. you position yourself and your patient correctly.
- 1.5. you perform all steps in the correct order.
- 1.6. you record exposure accurately.
- 1.7. you employ safety precautions.
- 1.8. you follow infection control protocol.
- 1.9. you wear personal protective equipment.
- 1.10. images are of diagnostic quality.
- 1.11. images are stored and can be easily retrieved.
- 1.12. patient's records show accurate, up-to-date documentation of treatment and services.

Learning Objectives

- 1.a. Review basic principles of paralleling and bisecting angle techniques.
- 1.b. Review film holding devices for paralleling and bisecting angle techniques.
- 1.c. Discuss placement of film for paralleling and bisecting angle techniques.
- 1.d. Discuss placement of film holders for paralleling and bisecting angle techniques.
- 1.e. Describe placement of PID and angulation of PID for paralleling and bisecting angle techniques.
- 1.f. Describe the advantages and disadvantages of the digital technique of film holding.
- 1.g. Demonstrate correct and incorrect horizontal and vertical angulation.

2. Process images of diagnostic quality.

Assessment Strategies

- 2.1. in a laboratory/clinical setting using processing equipment
- 2.2. by submitting processed and mounted images for evaluation
- 2.3. by explaining a treatment plan or diagnosis to a patient or role play patient

Criteria

You will know you are successful when

- 2.1. you check that equipment is prepared and ready for use.
- 2.2. images meet standards of diagnostic quality.
- 2.3. processing errors are recorded and corrections are listed.

- 2.4. images are mounted correctly.
- 2.5. you follow infection control protocol.
- 2.6. you use images to explain diagnosis and treatment plans developed by a dentist or hygienist.
- 2.7. your explanation is accurate.
- 2.8. you use terminology and language that the patient understands, accurately defining technical terms as necessary.
- 2.9. you check for patient understanding.
- 2.10. you respond truthfully and accurately to patient questions.
- 2.11. images are stored and can be easily retrieved.
- 2.12. patient's records show accurate, up-to-date documentation of treatment and services.

Learning Objectives

- 2.a. Review the composition of the processing solutions.
- 2.b. Review the components of the processing units.
- 2.c. Review the procedural step for automatic and manual processing.
- 2.d. Demonstrate the process of film duplication used in dentistry.
- 2.e. Review the requirements for a darkroom.
- 2.f. Review film processing problems.
- 2.g. Review importance of using anatomy/landmarks in film mounting.
- 2.h. Correctly mount films.

3. Produce extra-oral images.

Assessment Strategies

- 3.1. under the supervision and observation of instructional staff
- 3.2. on patients in a clinical or laboratory setting

Criteria

You will know you are successful when

- 3.1. you check the prescription before exposure.
- 3.2. you manage patients effectively.
- 3.3. you record exposure accurately.
- 3.4. you select the correct armamentarium.
- 3.5. you position yourself and your patient correctly.
- 3.6. you perform all steps in the correct order.
- 3.7. you employ safety precautions.
- 3.8. you follow infection control protocol.
- 3.9. you wear personal protective equipment.
- 3.10. extraoral images are of diagnostic quality.
- 3.11. images are stored and can be easily retrieved.
- 3.12. patient's records show accurate, up-to-date documentation of treatment and services.

Learning Objectives

- 3.a. Describe equipment used for the panelipse.
- 3.b. Describe the purpose and use of extraoral radiographs.
- 3.c. State the correct beam alignment.
- 3.d. State the correct placement of the film.

4. Produce images using specialized films and techniques.

Assessment Strategies

- 4.1. by exposing specialized images on patients or manikins in a laboratory/clinic setting
- 4.2. given the required forms
- 4.3. under the supervision and observation of instructional staff
- 4.4. by submitting processed images

Criteria

You will know you are successful when

- 4.1. you expose bitewing and occlusal images on permanent, primary, and mixed dentitions.
- 4.2. you expose periapicals for endodontic treatment (optional).
- 4.3. you expose images using localization techniques.
- 4.4. you check the prescription before exposure.

- 4.5. you record exposure accurately.
- 4.6. you select the correct armamentarium.
- 4.7. you perform all critical in the correct order.
- 4.8. you position yourself and your patient correctly.
- 4.9. you employ safety precautions.
- 4.10. you follow infection control protocol.
- 4.11. you wear personal protective equipment.
- 4.12. images are of diagnostic quality.
- 4.13. images are stored and can be easily retrieved.
- 4.14. patient's records show accurate, up-to-date documentation of treatment and services.

Learning Objectives

- 4.a. List uses of occlusal radiograph.
- 4.b. Describe vertical angulation for maxillary and mandibular cross-sectional film.
- 4.c. Discuss vertical angulation for maxillary and mandibular topographical film.
- 4.d. State purpose of localization technique.
- 4.e. Describe the buccal rule.
- 4.f. Describe the right angle technique.
- 4.g. Expose films according to chosen localization and uses.