

DENTAL ASSISTANT SPECIALTY

Clinical Skills-Radiology



Volume 2

**381st Training Squadron
2931 Harney Road
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QTP 4Y0X1-2

DENTAL ASSISTANT SPECIALTY

Volume 2: Clinical Skills-Radiology

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INTRODUCTION

1. Volume 2, *Clinical Skills-Radiology*, Qualification Training Package (QTP) contains modules on Dental Radiology fundamentals, digital imaging, and intraoral imaging techniques. This QTP enhances the 5-skill level on-the-job training (OJT) for a dental assistant journeyman. Trainers and trainees may use the training references listed in each module to compliment training. Trainees, trainers, supervisors, and task certifiers must use all QTPs to conduct upgrade training. Before initiating any training, review your responsibilities as a supervisor/trainer for conducting OJT per AFI 36-2201, Chapter 6, *Air Force Training Program On-The-Job Training Administration*.

2. QTPs are instructional packages designed to help you conduct and evaluate your field training. Once you begin upgrade training, you are required to use the QTPs. QTPs provide continuity to the trainee's upgrade training and are divided into the following volumes: 1) *Basic Skills and Infection Control*; 2) *Clinical Skills-Radiology*; 3) *Clinical Skills-Chairside Assisting*; 4) *Clinical Skills-Preventive Dentistry*; 5) *Patient Administration-Procedures and Programs*, 6) *Logistics Management* and 7) *Budget and Financial Planning*. Developers designed the QTP modules to assist you in preparing for and conducting training. Each module segments the major tasks into teachable elements. Your goal is to provide enough training and guidance so trainees can do all task related steps, without assistance. QTPs also aid OJT task certifiers in evaluating the trainee's demonstrated performance. If you have local training requirements not covered by a QTP module you *should* develop "steps in performance" and "performance checklists" supporting and standardizing those tasks. When you are satisfied the trainee meets standards, as prescribed in the QTP performance checklist, you must document each task completion in the QTP tab. If you are recertifying on a task supported by a QTP, you must use the appropriate module to complete the recertification process.

3. Typically, you will manage each module by training the tasks and then, evaluating performance. Your local steps in performance may vary from the method listed in the QTP module. If this is the case, you may make changes to the first half of each module, (i.e. steps in task performance); however, the "performance checklist" is considered a *standard* and cannot be altered. You may train each QTP volume/module in any sequence; however, when conducting training, use an organized and methodical approach. This organized and methodical approach will reduce your training time and enhance your efforts.

4. The QTPs are tools for assessing/certifying the Dental Assistant initially and each time they arrive at a new duty station. Trainees, trainers, supervisors, and task certifiers must use the QTP as a tool for standardizing annual refresher training. Our goal has been to publish a useable document for both the trainee and trainer. We value your first hand expertise and solicit your feedback on how we can improve our product. Direct all inquiries to:

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MODULE 1: DENTAL RADIOLOGY FUNDAMENTALS

DENTAL ASSISTANT SPECIALTY QTP

TASK NAME: Practice Radiation Safety

OBJECTIVE: Provided all the equipment and supplies, practice radiation safety in a dental treatment room (DTR) or in a central X-ray room.

CFETP/STS REFERENCES:

9.2 Practice radiation safety

EQUIPMENT REQUIRED:

1. Dental radiographic unit
2. Lead apron with thyrocervical collar
3. Protective lead barrier
4. Stepwedge

TRAINING REFERENCES:

1. Air Force Dental Service Digital Diagnostic Imaging Guidelines
2. CDC 4Y051N Volume 1, *Dental Assistant Journeyman*
3. Local Dental Operating Instructions
4. Manufacturer's Instructions for Use (IFU)
5. USAF Guidelines for Infection Prevention & Control in Dentistry

PERFORMANCE CHECKLIST TASK: Practice Radiation Safety

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction and allowed sufficient supervised practice, evaluate the trainee's abilities using this performance checklist.
2. The trainee must use infection control practices and follow all safety precautions at all times.
3. Personnel must use manufacturer's Instructions for Use (IFU) when completing this task.
4. The trainee must perform all parts of the task *without* assistance.
5. The evaluator will evaluate the trainee's performance using this checklist.
6. Once completed, the supervisor must certify performance in the member's AFTR.

NOTE: The evaluator will STOP the procedure immediately and correct the member if performance is detrimental to patient safety.

Step-by-step procedures	GO	NO GO	NOTES
1. Perform stepwedge test (if indicated)			
2. Inspect front and back of lead apron for rips, tears and/or cracks (NEVER fold lead aprons)			
3. Turn-in unserviceable aprons to dental supply custodian for disposition			
4. Screen female patients for the possibility of being pregnant (alert provider, if indicated)			
5. Instruct patients to remove metallic items and removable prostheses from head/neck area			
6. Place lead apron with thyrocervical collar on patient			
7. Stand behind protective barrier during exposure			
FINAL RESULT			

MODULE 1: DENTAL RADIOLOGY FUNDAMENTALS

DENTAL ASSISTANT SPECIALTY QTP

TASK NAME: Prepare a Patient for Radiograph(s)

OBJECTIVE: Provided the necessary equipment and supplies, prepare a patient for radiograph(s).

CFETP/STS REFERENCES:

9.4 Prepare patient for radiograph(s)

EQUIPMENT REQUIRED:

1. Dental treatment room (DTR) with radiographic unit or central X-ray room
2. Dental chair
3. Lead apron with thyrocervical collar

TRAINING REFERENCES:

1. Air Force Dental Service Digital Diagnostic Imaging Guidelines
2. CDC 4Y051N Volume 1, *Dental Assistant Journeyman*
3. Local Dental Operating Instructions
4. USAF Guidelines for Infection Prevention & Control in Dentistry

PERFORMANCE CHECKLIST TASK: Prepare a Patient for Radiograph(s)

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction and allowed sufficient supervised practice, evaluate the trainee's abilities using this performance checklist.
2. The trainee must use infection control practices and follow all safety precautions at all times.
3. The trainee must perform all parts of the task *without* assistance.
4. The evaluator will evaluate the trainee's performance using this checklist.
5. Once completed, the supervisor must certify performance in the member's AFTR.

NOTE: The evaluator will STOP the procedure immediately and correct the member if performance is detrimental to patient safety.

Step-by-step procedures	GO	NO GO	NOTES
1. Screen female patients for the possibility of being pregnant (alert provider, if indicated)			
2. Instruct patient to remove metallic items and removable prostheses from head/neck area			
3. Place lead apron with thyrocervical collar			
FINAL RESULT			

MODULE 1: DENTAL RADIOLOGY FUNDAMENTALS

DENTAL ASSISTANT SPECIALTY QTP

TASK NAME: Locate and Identify Anatomical Landmarks

OBJECTIVE: Provided all the equipment and supplies, locate and identify anatomical landmarks on digital images/conventional radiographs.

CFETP/STS REFERENCES:

9.11 Locate and identify anatomical landmarks

EQUIPMENT REQUIRED:

1. Computer with digital imaging software
2. Panoramic and/or full mouth series digital images

TRAINING REFERENCES:

1. Air Force Dental Service Digital Diagnostic Imaging Guidelines
2. CDC 4Y051N Volume 1, *Dental Assistant Journeyman*
3. Local Dental Operating Instructions
4. USAF Guidelines for Infection Prevention & Control in Dentistry

PERFORMANCE CHECKLIST TASK: Locate and Identify Anatomical Landmarks

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction and allowed sufficient supervised practice, evaluate the trainee’s abilities using this performance checklist.
2. The trainee must use infection control practices and follow all safety precautions at all times.
3. The trainee must perform all parts of the task *without* assistance.
4. The evaluator will evaluate the trainee’s performance using this checklist.
5. Once completed, the supervisor must certify performance in the member’s AFTR.

NOTE: The evaluator will STOP the procedure immediately and correct the member if performance is detrimental to patient safety.

Step-by-step procedures	GO	NO GO	NOTES
1. Retrieve a digital image on digital imaging software (MiPACS)			
2. Locate images that are exposed from the facial aspect			
3. Locate the maxillary sinus			
4. Locate the nasal spine			
5. Locate the maxillary tuberosity			
6. Locate the mandibular canal			
7. Locate the mental foramen on both sides			
8. Locate the ramus of the mandible			
FINAL RESULT			

MODULE 2: DIGITAL IMAGING

DENTAL ASSISTANT SPECIALTY QTP

TASK NAME: Adjust Exposure Control

OBJECTIVE: Provided all the equipment and materials, adjust the exposure control of a radiographic unit IAW provider's prescription and manufacturer's instructions for use (IFU).

CFETP/STS REFERENCES:

9.5.1 Adjust exposure control

EQUIPMENT REQUIRED:

1. Dental radiographic unit
2. Dental radiographic unit instructions for use (IFU)
3. Dental radiograph prescription

TRAINING REFERENCES:

1. Air Force Dental Service Digital Diagnostic Imaging Guidelines
2. CDC 4Y051N Volume 1, *Dental Assistant Journeyman*
3. Local Dental Operating Instructions
4. Manufacturer's Instructions for Use (IFU)
5. USAF Guidelines for Infection Prevention & Control in Dentistry

PERFORMANCE CHECKLIST TASK: Adjust Exposure Control

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction and allowed sufficient supervised practice, evaluate the trainee's abilities using this performance checklist.
2. The trainee must use infection control practices and follow all safety precautions at all times.
3. Personnel must use manufacturer's Instructions for Use (IFU) when completing this task.
4. The trainee must perform all parts of the task *without* assistance.
5. The evaluator will evaluate the trainee's performance using this checklist.
6. Once completed, the supervisor must certify performance in the member's AFTR.

NOTE: The evaluator will STOP the procedure immediately and correct the member if performance is detrimental to patient safety.

Step-by-step procedures	GO	NO GO	NOTES
1. Review radiograph prescription (IAW local policies) and radiographic unit IFU			
2. DO NOT take a digital radiograph without a dentist's consent/prescription			
3. Ensure master switch is on			
4. Adjust exposure voltage, milliamperage, and timing controls IAW manufacturer's IFU			
5. Select type of radiograph and patient size IAW manufacturer's IFU			
NOTE: Unit controls may also be adjusted to meet dentist's preferences.			
FINAL RESULT			

MODULE 2: DIGITAL IMAGING

DENTAL ASSISTANT SPECIALTY QTP

TASK NAME: Capture Digital Image

OBJECTIVE: Provided the necessary dental equipment and supplies, capture a digital image IAW the radiographic prescription and manufacturer's instructions for use (IFU).

CFETP/STS REFERENCES:

- 9.5.2 Capture image
- 9.5.3 Use imaging software
- 9.14 Naming series
- 9.15 Orient series

EQUIPMENT REQUIRED:

1. Adhesive bite tabs
2. Computer with digital imaging software (MiPACS)
3. Dental chair
4. Dental health record
5. Dental radiograph prescription
6. Dental radiographic unit
7. Digital sensor
8. Infection control barriers
9. Lead apron with thyrocervical collar
10. Non-antimicrobial (plain soap), anti-microbial soap
11. Paper towel
12. Personal protective equipment (PPE)
13. Sink
14. Water
15. X-tension Cone Paralleling (XCP) instrument

TRAINING REFERENCES:

1. Air Force Dental Service Digital Diagnostic Imaging Guidelines
2. CDC 4Y051N Volume 1, *Dental Assistant Journeyman*
3. Local Dental Operating Instructions
4. Manufacturer's Instructions for Use (IFU)
5. USAF Guidelines for Infection Prevention & Control in Dentistry

PERFORMANCE CHECKLIST TASK: Capture Digital Image

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction and allowed sufficient supervised practice, evaluate the trainee’s abilities using this performance checklist.
2. The trainee must use infection control practices and follow all safety precautions at all times.
3. Personnel must use manufacturer’s Instructions for Use (IFU) when completing this task.
4. The trainee must perform all parts of the task *without* assistance.
5. The evaluator will evaluate the trainee’s performance using this checklist.
6. Once completed, the supervisor must certify performance in the member’s AFTR.

NOTE: The evaluator will STOP the procedure immediately and correct the member if performance is detrimental to patient safety.

Step-by-step procedures	GO	NO GO	NOTES
1. DO NOT take a radiograph without dentist’s consent			
2. Review radiograph prescription (IAW local policies), dental health record and medical history form, AF Form 696			
3. Place infection control barriers on computer equipment and digital sensor			
4. Open digital imaging software (MiPACS)			
5. Select patient’s image record (or create new record) by typing the DoD identification number			
6. Brief patient on procedure, if patient is female (verify if pregnant)			
7. Perform hand hygiene and don PPE			
8. Prepare patient for radiograph(s) as evaluated in QTP2 pages 4 & 5)			
9. Select template for type of digital image to be exposed			
10. Adjust X-ray control panel to required settings IAW manufacturer’s instructions/provider’s prescription			
11. Expose digital image IAW manufacturer’s IFU			
12. Image will be displayed on created template for viewing			
13. After exposure, select image by clicking on image			
14. Under “image properties” (bottom left), locate anatomical information			
15. Under “description” drop down menu, select type of region/location of image (e.g., upper right molar)			
16. Click “save” icon (this automatically archives the digital image)			
17. Under “series description box”, describe/label digital radiograph taken (e.g., PA#30)			
FINAL RESULT			

MODULE 3: INTRAORAL IMAGING TECHNIQUES

DENTAL ASSISTANT SPECIALTY QTP

TASK NAME: Expose Horizontal Bitewing

OBJECTIVE: Provided all the supplies and equipment, expose horizontal bitewings IAW provider's prescription and manufacturer's instructions for use (IFU).

CFETP/STS REFERENCES:

9.6.1 Expose horizontal bitewing (4 images)

EQUIPMENT REQUIRED:

1. Adhesive bite tabs
2. Computer with digital imaging software (MiPACS)
3. Dental chair
4. Dental health record
5. Dental radiograph prescription
6. Dental radiographic unit
7. Digital sensor
8. Infection control barriers
9. Lead apron with thyrocervical collar
10. Non-antimicrobial (plain soap), anti-microbial soap
11. Paper towel
12. Personal protective equipment (PPE)
13. Sink
14. Water
15. X-tension Cone Paralleling (XCP) instrument

TRAINING REFERENCES:

1. Air Force Dental Service Digital Diagnostic Imaging Guidelines
2. CDC 4Y051N Volume 1, *Dental Assistant Journeyman*
3. Local Dental Operating Instructions
4. Manufacturer's Instructions for Use (IFU)
5. USAF Guidelines for Infection Prevention & Control in Dentistry

PERFORMANCE CHECKLIST TASK: Expose Horizontal Bitewing

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction and allowed sufficient supervised practice, evaluate the trainee’s abilities using this performance checklist.
2. The trainee must use infection control practices and follow all safety precautions at all times.
3. Personnel must use manufacturer’s Instructions for Use (IFU) when completing this task.
4. The trainee must perform all parts of the task *without* assistance.
5. The evaluator will evaluate the trainee’s performance using this checklist.
6. Once completed, the supervisor must certify performance in the member’s AFTR.

NOTE: The evaluator will STOP the procedure immediately and correct the member if performance is detrimental to patient safety.

Step-by-step procedures	GO	NO GO	NOTES
1. Review patient’s dental health record and radiograph prescription			
2. Place infection control barriers			
3. Gather sensor (size #2 according to prescription) with bite tabs			
4. Open digital imaging software (MiPACS), turn on sensor image scanner			
5. Select patient’s digital image record (confirm record with patient)			
6. Select the appropriate template			
7. Adjust X-ray control panel to required settings IAW manufacturer’s instructions/provider’s prescription			
8. Brief patient on procedure (if female, verify if pregnant)			
9. Perform hand hygiene and don PPE			
10. Place lead apron with thyrocervical collar on patient			
11. Ensure sensor is activated			
12. Place long axis of sensor perpendicular to occlusal plane and the floor			
a. First image: the sensor is centered horizontally on second molar			
b. Second image: the sensor is placed with forward edge of sensor behind the distal 1/3 of the most anterior cuspid			
13. Instruct patient to close gently			
14. Position patient with occlusal plane parallel to the floor			

15. Establish parallel relationship between cone opening and sensor (opening rests lightly on patient's cheek)			
16. Center bite tab in cone opening			
17. Stand behind protective barrier			
18. Expose image			
19. Repeat steps (11-18) for remaining image(s)			
FINAL RESULT			

MODULE 3: INTRAORAL IMAGING TECHNIQUES

DENTAL ASSISTANT SPECIALTY QTP

TASK NAME: Expose Vertical Bitewing

OBJECTIVE: Provided the necessary equipment and supplies, expose vertical bitewing IAW provider's prescription and manufacturer's instructions for use (IFU).

CFETP/STS REFERENCES:

9.6.2 Expose vertical bitewing (4 images)

EQUIPMENT REQUIRED:

1. Adhesive bite tabs
2. Computer with digital imaging software (MiPACS)
3. Dental health record
4. Dental radiograph prescription
5. Dental radiographic unit
6. Digital sensor
7. Infection control barriers
8. Lead apron with thyrocervical collar
9. Non-antimicrobial (plain soap), anti-microbial soap
10. Paper towel
11. Personal protective equipment (PPE)
12. Sink
13. Water
14. X-tension Cone Paralleling (XCP) instrument

TRAINING REFERENCES:

1. Air Force Dental Service Digital Diagnostic Imaging Guidelines
2. CDC 4Y051N Volume 1, *Dental Assistant Journeyman*
3. Local Dental Operating Instructions
4. Manufacturer's Instructions for Use (IFU)
5. USAF Guidelines for Infection Prevention & Control in Dentistry

PERFORMANCE CHECKLIST TASK: Expose Vertical Bitewing

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction and allowed sufficient supervised practice, evaluate the trainee’s abilities using this performance checklist.
2. The trainee must use infection control practices and follow all safety precautions at all times.
3. Personnel must use manufacturer’s Instructions for Use (IFU) when completing this task.
4. The trainee must perform all parts of the task *without* assistance.
5. The evaluator will evaluate the trainee’s performance using this checklist.
6. Once completed, the supervisor must certify performance in the members AFTR.

NOTE: The evaluator will STOP the procedure immediately and correct the member if performance is detrimental to patient safety.

Step-by-step procedures	GO	NO GO	NOTES
1. Review patient’s dental health record and radiograph prescription			
2. Place infection control barriers			
3. Prepare sensor with bite tabs			
4. Open digital imaging software (MiPACS)/turn on sensor image scanner			
5. Select patient’s digital image record			
6. Select the appropriate template for capture			
7. Adjust X-ray control panel to required settings IAW manufacturer’s IFU/radiograph prescription			
8. Brief patient on procedure (if female, verify if pregnant)			
9. Perform hand hygiene and don PPE			
10. Place lead apron with thyrocervical collar on patient			
11. Ensure sensor is activated			
12. Place long axis of sensor is perpendicular to the occlusal plane and the floor			
a. Center sensor vertically on the second molar for the molar view			
b. Center sensor on the second bicuspid of the bicuspid view			
13. Instruct the patient to close gently			
14. Position patient with occlusal plane parallel to the floor			
15. Establish parallel relationship between the cone opening and sensor (opening rests lightly against the patient’s cheek)			

16. Center the bite tab in cone opening			
17. Stand behind protective barrier			
18. Expose image IAW with manufacturer's IFU			
19. Repeat steps 11-18 for remaining image(s)			
FINAL RESULT			

MODULE 3: INTRAORAL IMAGING TECHNIQUES

DENTAL ASSISTANT SPECIALTY QTP

TASK NAME: Expose Periapical Image (Full Mouth) Series

OBJECTIVE: Provided all the equipment and supplies, expose periapical image (full mouth) series IAW radiograph prescription and manufacturer's instructions for use (IFU).

CFETP/STS REFERENCES:

9.6.3 Expose periapical image (full mouth)

EQUIPMENT REQUIRED:

1. Adhesive bite tabs
2. Computer with digital imaging software (MiPACS)
3. Dental health record and patient
4. Dental radiograph prescription
5. Dental radiographic unit
6. Digital sensor
7. Infection control barriers
8. Lead apron with thyrocervical collar
9. Non-antimicrobial (plain soap), anti-microbial soap
10. Paper towel
11. Personal protective equipment (PPE)
12. Sink
13. Water
14. X-tension Cone Paralleling (XCP) instrument

TRAINING REFERENCES:

1. Air Force Dental Service Digital Diagnostic Imaging Guidelines
2. CDC 4Y051N Volume 1, *Dental Assistant Journeyman*
3. Local Dental Operating Instructions
4. Manufacturer's Instructions for Use (IFU)
5. USAF Guidelines for Infection Prevention & Control in Dentistry

PERFORMANCE CHECKLIST TASK: Expose Periapical Image (Full Mouth) Series

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction and allowed sufficient supervised practice, evaluate the trainee’s abilities using this performance checklist.
2. The trainee must use infection control practices and follow all safety precautions at all times.
3. Personnel must use manufacturer’s Instructions for Use (IFU) when completing this task.
4. The trainee must perform all parts of the task *without* assistance.
5. The evaluator will evaluate the trainee’s performance using this checklist.
6. Once completed, the supervisor must certify performance in the member’s AFTR.

NOTE: The evaluator will STOP the procedure immediately and correct the member if performance is detrimental to patient safety.

Step-by-step procedures	GO	NO GO	NOTES
1. Review patient’s dental health record and radiograph prescription			
2. Place infection control barriers			
3. Prepare sensor (according to prescription 14 needed for full mouth [FM] series) with bite tabs			
4. Open digital imaging software (MiPACS)/turn on the sensor image scanner			
5. Select patient’s digital image record			
6. Select the appropriate template			
7. Adjust radiographic unit control panel to required settings per manufacturer’s IFU/radiograph prescription			
8. Brief patient on procedure (if female, verify if pregnant)			
9. Perform hand hygiene and don PPE			
10. Place lead apron with thyrocervical collar on patient			
11. Ensure sensor is activated			
12. Place sensor in bite block			
13. Place bite block behind and parallel to long axis of appropriate tooth			
14. Instruct patient to close gently on bite block			
15. Establish parallel relationship between cone opening and locator ring			
16. Place X-ray cone parallel to indicator rod			
17. Stand behind protective barrier			
18. Expose image IAW manufacturer’s IFU			
19. Repeat steps 11-18 for remaining image(s)			
FINAL RESULT			