DENTAL LABORATORY SPECIALTY

Volume 4. Dental Laboratory Administration

381st Training Squadron

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Volume 4, *Dental Laboratory Administration*, Qualification Training Package (QTP) contains modules on managing inventories of artificial teeth and precious metals, establishing laboratory standards and inspecting received clinical casework. This QTP is designed to enhance 5 and 7-skill level on-the-job training (OJT) of dental laboratory personnel. Training references listed in each module may be used to compliment training. All QTPs are intended to be used by trainees, trainers, supervisors, and task certifiers. Before initiating any training you should review your responsibilities as a supervisor/trainer for conducting OJT per AFI 36-2651, Chapter 6, *Air Force On-The-Job Training Administration*.

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) *General Dental Laboratory Experience;* 2) *Fixed Prosthodontics;* 3) *Treatment and Orthodontic Appliances, Complete and Removable Dental Prostheses; and* 4) *Dental Laboratory Administration.* The QTP modules were designed 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 and produce an appliance or prosthesis that meets local requirements and fabrication standards for speed and accuracy. 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" that support and standardize 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 a person is being recertified on a task that is supported by a QTP you must use that module to complete the recertification process.

Typically, you will manage each module by first, 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 are authorized to 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 will reduce your training time and enhance your efforts.

For effective use of this QTP, conduct training in the following manner:

1. Review the procedures in each module with the trainee.
2. Direct the trainee to review the training references listed to prepare for task performance.
3. Review the steps in task performance with the trainee, allowing enough time to adequately train each step (some modules may take longer to teach).
4. Evaluate the trainee's work at each critical step using the performance checklist
5. Evaluate the trainee's performance and provide feedback on any area for improvement.
6. Finally, when the trainee has successfully completed the task you must document the STS. If the trainee does not accomplish the module, conduct follow-up instruction until the trainee successfully completes the task.

The QTP project goal of the 381st Training Squadron, Joint Base San Antonio-Fort Sam Houston TX, is to publish a useable document for trainers and trainees. **You are encouraged to write-in changes or revisions to the QTPs. A corrections/improvements form is located on the last page of each QTP volume.** You may choose to call in your recommendations to DSN/Commercial 420-1950 or (210) 808-1950 or email the author at emily.e.jones.mil@mail.mil.

The inclusion of names of any specific commercial product, commodity, or service in this publication is for informational purposes only and does not imply endorsement by the Air Force.

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MODULE 1: ESTABLISH LABORATORY FABRICATION STANDARDS

STS TASK REFERENCE(S):
>   8.1.1   Establish laboratory fabrication standards

TRAINING REFERENCE(S):
>   *USAF Dental Management Guide*
>   *Area Dental Laboratory Submission Standards*
>   CDC Z4Y052, Vol. 1*, Safety, Management, and Administration*

EVALUATION INSTRUCTIONS:
>   After ensuring the trainee has received sufficient practice, evaluate his/her abilities using the performance checklist.

PERFORMANCE RESOURCES:
>   Quality Control Plan

STEPS IN TASK PERFORMANCE:
1. Local fabrication standards will be determined by the laboratory officer and the laboratory NCOIC
2. Standards will be based off what the laboratory officer deems clinically acceptable
3. Fabrication standards are developed locally as part of an established quality control plan that includes:
    a. A review by the Laboratory Officer or Laboratory NCOIC/Flight Chief of all incoming, working, and complete cases
    b. The review for incoming cases should ensure: acceptable casts, adequate occlusal records, a properly completed and signed DD Form 2322, and any additional items e.g. shade tabs, matrices, and drawings
    c. The fabrication standards should require a review of the prosthesis/appliance by a trainer or NCOIC at the completion of logical steps in the fabrication process
    d. A review of completed casework should include general requirements such as; sanitation, form, function, and esthetics
4. Review feedback from the prescribing dentist and have the method in place for tracking data to evaluate trends and identify areas of improvement

MODULE 1: ESTABLISH LABORATORY FABRICATION STANDARDS

PERFORMANCE CHECKLIST

INSTRUCTIONS:
> The trainee must be able to establish laboratory fabrication standards and satisfactorily perform all parts of the task without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

ESTABLISH LABORATORY FABRICATION STANDARDS		
DID THE TRAINEE…?	**YES**	**NO**
1. Coordinate with laboratory officer to determine what is clinically acceptable		
2. Establish review checklist for incoming, active, and completed cases		
3. Review feedback from prescribing dentist		
4. Track data to evaluate trends and identify areas of improvement		

FEEDBACK:
> Use this checklist as a source of information; discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and the trainee should certify performance by appropriately documenting the training record.

MODULE 2: INSPECT RECEIVED CLINICAL CASEWORK

STS TASK REFERENCE(S):
8.1.2   Inspect received clinical casework

TRAINING REFERENCE(S):
Local Dental Laboratory Submission Standards
Area Dental Laboratory Submission Standards
CDC Z4Y052, Vol. 1, *Safety, Management, and Administration*
CDC Z4Y072, Vol. 1, *Dental Laboratory Craftsman*

EVALUATION INSTRUCTIONS:
Demonstrate how to inspect the quality of clinical casework received to ensure compliance with established laboratory fabrications standards. Have the trainee inspect clinical casework received and identify discrepancies. After ensuring the trainee has received sufficient practice, evaluate his/her abilities using the performance checklist.

PERFORMANCE RESOURCES:

Casts	Impressions
DD Form 2322	Interocclusal record
Dies	

STEPS IN TASK PERFORMANCE:
1. Verify completeness of casework
   a. DD Form 2322
   b. Diagnostics casts, opposing cast, working cast, surveyed design cast
   c. Interocclusal records
   d. Impressions
2. Verify completeness of DD Form 2322
   a. Shade and Mold guide (if applicable)
   b. Data delivered
   c. Prosthesis design
   d. Enclosed items
   e. Clinician remarks/instructions
   f. Name and grade of Dental Officer with signature
3. Verify impressions/cast is free of voids, tears, and distortion
4. Verify interocclusal record is free of distortion
5. Verify maxillary/mandibular cast relationship- check for rocking/interferences
6. Verify adequate interocclusal space exist for designed prostheses
7. Verify proper die preparation:
   a. Die trimmed
   b. Margins marked
   c. Preparation free of voids or undercuts
   d. Hardener/spacer applied
   e. Die preparation compatible with restoration design; i.e. porcelain margin
8. Identify discrepancies

MODULE 2: INSPECT RECEIVED CLINICAL CASEWORK

PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able inspect the quality of clinical casework received and satisfactorily perform all steps without assistance. Evaluate the trainee's performance using this checklist.

INSPECT RECEIVED CLINICAL CASEWORK		
DID THE TRAINEE…?	YES	NO
1. Use ADL or local quality control standards to inspect the quality of clinical casework received		
2. Verify completeness of DD Form 2322		
3. Verify completeness of casework		
4. Verify quality of casts		
5. Verify quality of interocclusal records		
6. Verify maxillary/mandibular cast relationship		
7. Verify proper die preparation		
8. Identify discrepancies		

FEEDBACK:

Use this checklist as a source of information; discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and the trainee should certify performance by appropriately documenting the training record.

MODULE 3: INSPECT COMPLETED LABORATORY CASEWORK

STS TASK REFERENCE(S):
  8.1.3   Inspect completed laboratory casework

TRAINING REFERENCE(S):
  Local Dental Laboratory Fabrication Standards
  USAF Dental Management Guide
  CDC Z4Y052, Vol. 1, *Safety, Management, and Administration*
  CDC Z4Y072, Vol. 1, *Dental Laboratory Craftsman*

EVALUATION INSTRUCTIONS:
  Demonstrate how to inspect the quality of laboratory casework completed to ensure compliance with established laboratory fabrications standards. Have the trainee inspect casework completed and identify discrepancies. After ensuring the trainee has received sufficient practice, evaluate his/her abilities using the performance checklist.

PERFORMANCE RESOURCES:

Casts	Interocclusal Record
Completed Restoration	Microscope
DD Form 2322	Shimstock
Dies	

STEPS IN TASK PERFORMANCE:
  1. Review DD Form 2322
  2. Verify completeness of casework
  3. Verify restoration fabricated per design and instructions
  4. Verify accurate maxillary/mandibular cast relationship- check for rocking/interferences
  5. Verify proper fit of restoration
  6. Verify proper shade and characterization of porcelain restorations
  7. Verify porosity free/highly polished surfaces
  8. Verify a nodule free interior surface using a microscope (fixed)
  9. Verified closed and complete margins (fixed)
  10. Verify proper contours and anatomical features of prosthesis
  11. Using shim stock, verify proper proximal and tissue contacts (fixed)
  12. Verify articulator is adjusted and functioning properly
  13. Using the articulator and shim stock, verify centric contacts between maxillary and mandibular casts without the restoration in place
  14. Using the articulator and shim stock, verify centric/eccentric contacts between prosthesis and opposing cast
  15. Using the articulator, verify absence of destructive eccentric contacts

MODULE 3: INSPECT COMPLETED LABORATORY CASEWORK

PERFORMANCE CHECKLIST

INSTRUCTIONS:
> The trainee must be able to inspect the quality of clinical casework completed and satisfactorily perform all the parts of the task without assistance. Evaluate the trainee's performance using this checklist.

INSPECT COMPLETED LABORATORY CASEWORK		
DID THE TRAINEE…?	YES	NO
1. Use established laboratory fabrication standards to inspect the quality of clinical casework received		
2. Verify restoration fabricated per DD Form 2322		
3. Verify accurate maxillary/mandibular cast relationship		
4. Verify porosity free/highly polished surfaces		
5. Verify a nodule free interior surface using a microscope (fixed)		
6. Verified closed and complete margins (fixed)		
7. Verify proper contours and anatomical features of prosthesis		
8. Verify articulator is adjusted and functioning properly		
9. Use the articulator and shim stock to verify centric/eccentric contacts		
10. Use the articulator to verify absence of destructive eccentric contacts		
11. Identify discrepancies		

FEEDBACK:
> Use this checklist as a source of information; discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and the trainee should certify performance by appropriately documenting the training record.

MODULE 4: MANAGE ARTIFICIAL TOOTH INVENTORY

STS TASK REFERENCE(S):
>8.2   Manage artificial tooth inventory

TRAINING REFERENCE(S):
>AFPAM 47-103V1, *Dental Laboratory Technology-Basic Sciences, Removable Prosthodontics and Orthodontics*
>CDC Z4Y052, Vol. 1, *Safety, Management, and Administration*
>CDC Z4Y072, Vol. 1, *Dental Laboratory Craftsman*

EVALUATION INSTRUCTIONS:
>Demonstrate how to manage inventory of artificial teeth IAW locally established guidelines. Explain how the even tooth exchange privilege is used. You do not need to appoint the trainee this duty to quality training for this module. Have the trainee manage the inventory of artificial teeth. After ensuring the trainee has received sufficient practice, evaluate his/her abilities using the performance checklist.

PERFORMANCE RESOURCES:
>Artificial Teeth   Manufacturer's Order Forms
>Artificial Tooth Management File   Tooth Cabinet

STEPS IN TASK PERFORMANCE:
>1. Establish a file folder with stock level sheet, orders due in, and orders received
>2. Demonstrate how to close out the existing file and initiate a new file
>3. Carry forward the most current stock level sheets and all orders due in
>4. Analyze past tooth orders to determine usage and adjust stock levels to avoid being under or overstocked
>5. Review stock level sheets at least twice a year; date and initial each review, coordinate any proposed stock level changes through your laboratory flight commander/chief.
>6. Adjust stock levels as approved
>7. Make maximum usage of the service stock level method and order often
>8. Review orders due in to avoid reordering and overstocking teeth
>9. When broken sets are available, prepare even exchanges using the manufacturer's order form
>10. Ensure teeth for even exchange meet the requirements of the exchange privilege agreement
>11. Coordinate even exchange orders with the manufacturer and not medical logistics
>12. Prepare new tooth orders for each brand, mold, and shade needed, use manufacturer's order forms
>13. Date order forms and add up quantities requested
>14. Prepare requisition forms and forward tooth orders to medical logistics section
>15. Verify and date orders received
>16. Follow-up on orders due in which have not been received, usually 30 days
>17. Maintain drawers of tooth cabinets in neat, orderly manner

MODULE 4: MANAGE ARTIFICIAL TOOTH INVENTORY

PERFORMANCE CHECKLIST

INSTRUCTIONS:
> The trainee must be able to manage artificial teeth and satisfactorily perform all the parts of the task without assistance. Evaluate the trainee's performance using this checklist.

MANAGE ARTIFICIAL TOOTH INVENTORY		
DID THE TRAINEE…?	YES	NO
1. Maintain the contents of the existing artificial tooth management file IAW locally established guidelines		
2. Review past tooth orders to validate current stock levels		
3. Review orders due in to avoid reordering and overstocking teeth		
4. Prepare even exchanges when broken sets are available IAW the exchange privilege agreement		
5. Prepare new tooth orders as needed		
6. Verify and date orders received		
7. Maintain tooth cabinets in neat orderly manner		

FEEDBACK:
> Use this checklist as a source of information; discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and the trainee should certify performance by appropriately documenting the training record.

MODULE 5: MANAGING THE DENTAL REGISTRY OF PRECIOUS METALS AND ALLOYS

STS TASK REFERENCE(S):
> 8.3   Managing the Dental Registry of Precious Metal and Alloys

TRAINING REFERENCE(S):
> AFPAM 47-101, *Managing Air Force Dental Services*
> CDC Z4Y052, Vol. 1, *Safety, Management, and Administration*
> CDC, Z4Y072 Vol. 1, *Dental Laboratory Craftsman*

EVALUATION INSTRUCTIONS:
> Demonstrate how to manage precious metals and alloys IAW applicable directives and local operating instructions. You do not need to appoint the trainee this duty to ensure quality training for this module. Have the trainee manage the precious metals and alloys. After ensuring the trainee has received sufficient practice, evaluate his/her abilities using the performance checklist.

PERFORMANCE RESOURCES:

AF IMT 520	Hand Held Vacuum
DD Form 2322	Precious Metals and Alloys
Dental Register of Precious Metals and Alloys	Safe or Vault
	SF 700 and 702
Electronic Scale or Balance	

STEPS IN TASK PERFORMANCE:
1. Manage the dental register of precious metals and alloys
   a. Maintain the register in a folder or notebook, file credit and debit vouchers separately
   b. Maintain a separate AF IMT 520, Record of Dental Precious Metals and Alloys, for each type of precious metal used and index them according to stock number
   c. Make all entries in ink; cross out and initial errors with a single line and enter the correct information- *DO NOT* use whiteout
   d. Close out register at the end of the fiscal year and establish new register on 1 October of each succeeding year
   e. Have inventories accomplished: before closing out the old register; when a custodian is appointed; or anytime any precious metals custodian is reassigned.
   f. Verify balances of precious metals on hand match AF IMT 520 and all accounting in the register is accurate before working in the register
   g. Make debit voucher entries on AF IMT 520 when items are received from medical logistics
   h. Issue precious metal on DD Form 2322, Dental Laboratory Work Authorization, and account for expenditures
   i. Assign credit voucher numbers and make entries on AF IMT 520 for expenditures of precious metals and alloys
   j. For restorations which did not fit after try-in, assign debit voucher number to DD Form 2322 and reenter weights on appropriate AF IMT 520

MODULE 5: MANAGING THE DENTAL REGISTRY OF PRECIOUS METALS AND ALLOYS

STEPS IN TASK PERFORMANCE (CONTINUED):

         k. When dentists turn-in a patient's old restoration to the laboratory, assign debit voucher number to DD Form 2322 and make entries on the appropriate AF IMT 520

         l. Conduct monthly inventory, with inspector, to verify quantity of precious metals on hand are the same as that recorded on the AF IMT 520

         m. Accomplish AF Form 85, Inventory Adjustment Voucher, to correct imbalances due to accounting error, but not due to actual loss of property

2. Secure precious metal and alloys
   a. Keep precious metals locked in a safe or vault when not in use
   b. Annotate SF 702, Safe or Cabinet Security Record, when opening and closing the safe
   c. Restrict combination and access to only authorized individuals listed on SF 700, Security Container Information
   d. Change combination of safe every six months or when there is a custodial change and reaccomplish SF 700, Security Container Information

3. Recover precious metal and alloys
   a. Recover scrap or grindings containing precious metals using hand held vacuum
   b. Assign debit voucher numbers and make entries on AF IMT 520 for scrap or grinding containing precious metals unfit for further use
   c. Turn-in precious metals which are excess or unfit for use and grindings to medical logistics using applicable documents

MODULE 5: MANAGING THE DENTAL REGISTERY OF PRECIOUS METALS AND ALLOYS

PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to manage the dental registry of precious metals and alloys and satisfactorily perform all the parts of the task without assistance. Evaluate the trainee's performance using this checklist.

MANAGING THE DENTAL REGISTERY OF PRECIOUS METALS AND ALLOYS		
DID THE TRAINEE…?	YES	NO
1. Verify balances of precious metals on hand and ensure register was properly maintained before working in the register		
2. Correctly annotate debit voucher entries on AF IMT 520 for metals received from medical logistic		
3. Correctly issue and account for expenditures on DD Form 2322		
4. Correctly assign credit voucher numbers and make entries on AF IMT 520 for metals expended		
5. Correctly assign credit voucher numbers and make entries on AF IMT 520 for restorations which did not fit after try-in		
6. Correctly assign credit voucher numbers and make entries on AF IMT 520 for scrap or grindings containing precious metals		
7. Conduct monthly inventory, with inspector, to verify quantity of precious metals on hand match those recorded on the AF IMT 520		
8. Annotate AF 702 when opening and closing the safe		
9. Restrict combination and access to only authorized individuals listed on SF 700		
10. Change combination of safe semiannually or when there is a custodial change and reaccomplish SF 700, Security Container Information		
11. Recover scrap or grindings containing precious metals		
12. Assign debit voucher numbers and make entries on AF IMT 520		
13. Turn-in precious metals which are excess or unfit for use and grindings to medical logistics		

FEEDBACK:

Use this checklist as a source of information; discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and the trainee should certify performance by appropriately documenting the training record.

Quality Training Package (QTP) Corrections/Improvements Form	Volume #	Module(s) #

The QTP project goal of the 381st Training Squadron, Joint Base San Antonio-Fort Sam Houston TX, is to publish a useable document for trainers and trainees. Utilize this form to suggest changes or revisions to this QTP volume. If necessary, submit additional forms for each module. Email the form to emily.e.jones.mil@mail.mil.

Your Contact Information:

Name (Last, First, MI):	Rank:	Base:
Email Address:		Phone #:

Item Suggestion(s):

Item	Reference within Document (e.g., page #, paragraph, sentence, etc.)	Recommended Changes
STS Task		
Training References		
Evaluation Instructions		
Performance Resources		
Steps in Task Performance		
Performance Checklist		
Feedback		

Additional Suggestions (e.g., overall formatting, images, title page design, introduction, table of contents, feedback form, etc.):

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