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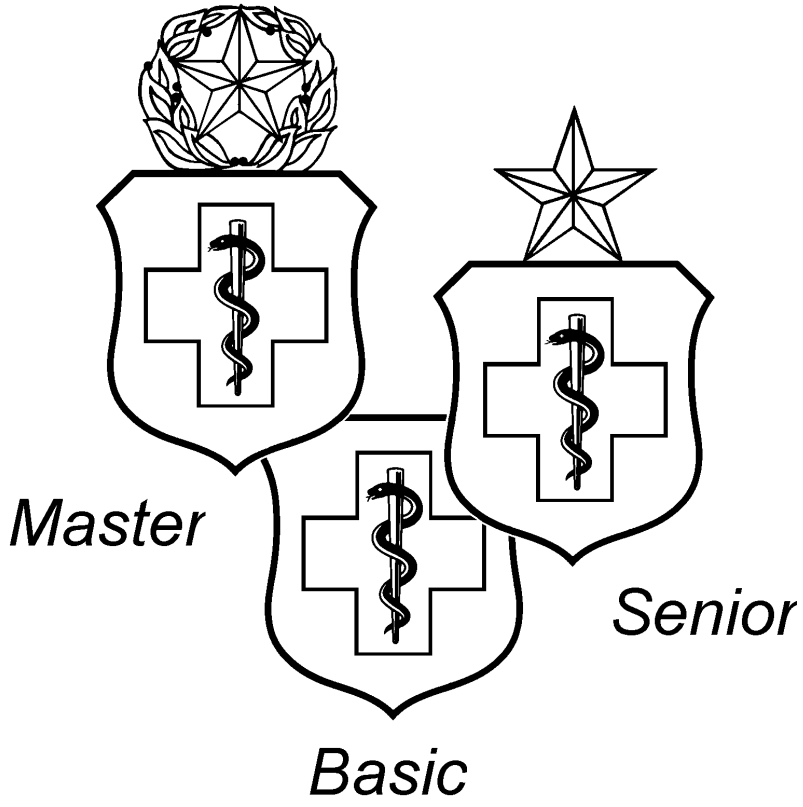
# SURGICAL SERVICE SPECIALTY

## *Sterilization and Disinfection*

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**QTP 4N1X1-02**

**SURGICAL SERVICE SPECIALTY**

***Volume 02: Sterilization and Disinfection***

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OPR: AF/SG1E
Certified by: SMSgt Judy Hickman (60 MSGS/CCC)
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## *INTRODUCTION*

1. This qualification training package (QTP) was developed to make available a training aid which will assist Surgical Service Technicians to develop technical skills essential to performing specialized tasks. The tasks are broken down into teachable elements, which help the trainer guide the trainee into becoming proficient with the tasks. The QTP will also aid the task certifier when evaluating trainees for task certification.

2. As a trainer, go through each module (lesson) and identify which QTP tasks are appropriate for the trainee's duty position (items identified in the CFETP as core tasks are mandatory), then determine the order in which you want the trainee to learn about each subject area. Direct the trainee to review the training references to better understand the objective of each module. Go through the steps in the task performance with the trainee and allow for enough time to learn each step; some objectives may take more time than others. Remember, the objective of the QTP is to ensure the trainee can perform each task thoroughly. When the trainee receives enough training and is ready to be evaluated on an objective, follow the evaluation instructions. Use the performance checklist as you evaluate each objective. If the trainee successfully accomplishes the objective, document appropriately in the individual's training record. If the trainee does not accomplish the objective, review the areas needing more training until the objective is met. Conduct a feedback with the trainee on each module. After the trainer has ensured and documented that the trainee is qualified to perform the task, the trainee should be evaluated by a certifier.

3. The goal of the developers of this QTP is to publish a useful document for trainers and trainees that will meet Air Force needs under the concepts outlined in the Career Field Education and Training Plan (CFETP). We value your expertise in meeting this goal. If you find discrepancies in this QTP, or have suggestions for its improvement, or if you have suggestions for other areas that may benefit from a QTP, please let us know about them by contacting the below individual:

SMSgt Judy Hickman
*60 MSGS/CCC*
*Travis AFB, CA 94535*
*DSN 799-2385*
Email: judy.hickman@us.af.mil

**PREPARATION OF INSTRUMENTS, SETS, PACKS, AND SUPPLIES FOR STERILIZATION**

## *Clean and Decontaminate Items for Sterilization*

| | |
|---|---|
| **SUBJECT AREA:** | Preparation of Instruments, Sets, Packs, and Supplies for Sterilization |
| **TASK(s):** | Patient care item processing |
| **CFETP/STS REFERENCE(s):** | 5. Sterile Processing and Distribution<br>5.2. Perform sterile processing procedures<br>5.2.3.1. Washer decontaminator/sterilizer<br>5.2.3.2. Perform Inspection & validation testing IAW manufacturer rec<br>5.2.3.3 Ultrasonic cleaner<br>5.2.3.4 Perform Inspection & validation testing IAW manufacturer rec<br>5.2.3.5 Lumen Washers<br>5.2.3.6 Perform Inspection & validation testing IAW manufacturer rec<br>5.2.3.7 Other mechanical methods<br>5.2.3.8 Manual methods<br>5.2.3.9 Instrument lubrication |
| **TRAINING REFERENCE(s):** | CDC 4N151A, Surgical Service Journeyman, Part I, Volume 2, Infection Control, Unit 2<br>AAMI Standards and Recommended Practices<br>Surgical Technology for the Surgical Technologist; A Positive Care Approach<br>Association for the Advancement of Medical Instrumentation (AAMI) Standards<br>Certification Board for Sterile Processing and Distribution, Inc. (CBSPD) |
| **EQUIPMENT REQUIRED:** | Soiled or contaminated instrumentation needing to be reprocessed and prepared for surgery and/or clinic use. |
| **OBJECTIVE:** | The trainee will, without error, properly clean and decontaminate soiled instrumentation, rendering items safe for handling during sorting, inspecting, assembling, and sterilization. |
| **REMARKS/NOTES:** | Since this task involves handling of *contaminated* items, including sharps and delicate instruments, ensure the trainee understands the process, knows inherent risk factors, and is closely supervised during the evaluation. **The evaluator will STOP the procedure immediately and correct the trainee if performance may compromise safety or damage resources.** Ensure the trainee dons all personal protective equipment (PPE) required by current standards/precautions. |

**EVALUATION INSTRUCTIONS:**

1. This QTP should be evaluated during actual performance of the tasks.

2. After the trainee has received instruction, allow sufficient practice on each part of the task. The trainee must satisfactorily perform all parts of the task *without assistance*.

3. Use the appropriate checklist when evaluating the task to ensure all steps of the task are accomplished.

4. Document competency upon satisfactory completion of the evaluation. Initial evaluation should be documented in the Specialty Training Standard (STS). All recurring evaluation should be documented using AF Form 1098, *Special Task Certification and Recurring Training*, or using an approved substitute record.

## PREPARATION OF INSTRUMENTS, SETS, PACKS, AND SUPPLIES FOR STERILIZATION

### PERFORMANCE CHECKLIST

| CLEAN & DECONTAMINATE ITEMS FOR STERILIZATION | SAT | UNSAT |
|---|---|---|
| ***Preparatory Phase*** | | |
| 1. Don personal protective equipment (PPE) required for cleaning and decontamination, and explain why this PPE is needed | | |
| 2. Explain differences between cleaning and decontamination | | |
| 3. Explain why mechanical methods are preferred over manual methods. Cite examples of items that must be manually cleaned and decontaminated, and explain why | | |
| 4. Inspect items to ensure gross contaminants were removed at point of use. Follow locally established protocol for processing items received grossly contaminated | | |
| a. Flush and clean all lumens in accordance with manufacturer's recommendations. | | |
| 5. Perform pre-soaking/pre-rinsing (if local policy dictates) | | |
| ***Mechanical Cleaning & Decontamination*** | | |
| 1. Describe what each of the following types of equipment does, and how to use the ones used in your facility: | | |
| a. Washer-sterilizer | | |
| b. Washer-decontaminator | | |
| c. Ultrasonic cleaner | | |
| 2. Inspect items to ensure they are properly arranged for mechanical cleaning and decontamination; correct discrepancies per local policy | | |
| a. Items should be placed in perforated containers such as pans, trays, or baskets | | |
| b. Heavy instruments should be separated from lighter ones, or, heavy items should be placed in the bottom of the container, lighter ones on top | | |
| c. Sharp or pointed items should be placed in separate containers, or should be placed on top of all other items. Sharp or pointed areas must not be damaged by contact with other instruments, and also must be arranged as to not injure processing area personnel | | |
| d. Concave surfaces of items should face down or to the side to allow solution to flow through, rather than pool on, the surface | | |
| e. Hinged instruments should be open, ratchets disengaged; ringed instruments may be on a stringer to help hold them open | | |
| f. Multi-part instruments should be disassembled; ensure small pieces are safely contained so they are not lost | | |
| g. All items should be arranged neatly; they should not be simply piled in the | | |

| CLEAN & DECONTAMINATE ITEMS FOR STERILIZATION | SAT | UNSAT |
|---|---|---|
| container. Do not overload the instrument trays | | |
| h. Avoid mixing instruments made of dissimilar metals in the same load | | |
| 3. Follow the manufacturer's instructions and local policy for loading and operating the mechanical cleaning equipment | | |
| ***Manual Cleaning & Decontamination*** | | |
| 1. Wash the items in clean, warm water, mixed with a detergent that is non-corrosive, low sudsing, and that will leave no residue | | |
| 2. Keep all items immersed in (except for those that cannot be immersed, such as air-powered instruments), and guard against splashing of, the solution while manually washing items | | |
| a. Flush and clean all lumens in accordance with manufacturer's recommendations. | | |
| 3. Use a soft-bristle brush to clean the box locks, ratchets, serrations, and other hard-to-reach places on instruments and glassware. **Never** use steel wool, abrasive pads, or other abrasive agents to routinely scrub surgical instruments | | |
| 4. Clean delicate microsurgery instruments, such as those used for eye or neurosurgery, according to the manufacturer's directions | | |
| 5. Always pick up delicate instruments by their handles, and do not allow them to strike each other or other objects as you clean them | | |
| 6. Clean air-powered instruments according to the manufacturer's directions | | |
| 7. Rinse all items thoroughly with hot water to remove all residual detergent and other matter, then allow the instruments to dry | | |
| 8. Place instruments in appropriate containers for terminal sterilization (if the instrument is heat and moisture tolerant) or for chemical disinfection according to local policy | | |
| ***Lubrication*** | | |
| 1. Use instrument milk to lubricate all metal instruments with moving parts (providing manufacturer and local policy permits) after cleaning and decontamination | | |
| 2. Ensure the milk is mixed (according to manufacturer's directions) in a container large enough to allow a full tray or pan of instruments to be fully immersed in the solution | | |
| 3. Lubricate most common instruments by: | | |
| a. Immersing the instruments in the solution for at least 30 seconds | | |
| b. Removing the instruments from the solution | | |
| c. Allowing excess lubricant to drain; *do not* rinse or wipe off the lubricant | | |
| 4. Specialty instruments should be lubricated only according to manufacturer's recommendations | | |
| **FINAL RESULTS/NOTES**: | | |

**FEEDBACK:** Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc.

**PREPARATION OF INSTRUMENTS, SETS, PACKS, AND SUPPLIES FOR STERILIZATION**

***Assemble Cleaned Items for Sterilization***

| | |
|---|---|
| **SUBJECT AREA:** | Preparation of Instruments, Sets, Packs, and Supplies for Sterilization |
| **TASK(s):** | Perform assembly procedures |
| **CFETP/STS REFERENCE(s):** | 5.3. Perform assembly procedures<br>5.3.1. Instruments/supplies sorting<br>5.3.2. Instrument/supplies inspection<br>5.3.3. Assemble instrument/supply sets<br>5.3.4. Utilize appropriate inventory count sheets |
| **TRAINING REFERENCE(s):** | CDC 4N151A, Surgical Service Journeyman, Part I, Volume 2, Infection Control, Unit 2<br>AAMI Standards and Recommended Practices<br>Association for the Advancement of Medical Instrumentation (AAMI) Standards<br>Certification Board for Sterile Processing and Distribution, Inc. (CBSPD)<br>Surgical Technology for the Surgical Technologist; A Positive Care Approach<br>Standards, Recommended Practices and Guidelines |
| **EQUIPMENT REQUIRED:** | Clean, decontaminated surgical instrumentation needing to be reprocessed and prepared for surgery and/or clinic use |
| **OBJECTIVE:** | The trainee will, without error, properly sort, inspect, select, and arrange instrumentation in preparation for sterilization. |
| **REMARKS/NOTES:** | Since this task may involve handling of sharps and delicate instruments ensure the trainee understands the process, knows inherent risk factors, and is closely supervised during the evaluation. **The evaluator will STOP the procedure immediately and correct the trainee if performance may compromise safety or damage resources.** Ensure the trainee dons all personal protective equipment (PPE) required by current standards/precautions. |

**EVALUATION INSTRUCTIONS:**

1. This QTP should be evaluated during actual performance of the tasks.

2. After the trainee has received instruction, allow sufficient practice on each part of the task. The trainee must satisfactorily perform all parts of the task *without assistance*.

3. Use the appropriate checklist when evaluating the task to ensure all steps of the task are accomplished. **NOTE:** This checklist is divided into distinct steps-sort, inspect, select, and arrange. Novice/inexperienced trainees generally follow these steps separately. However, more experienced trainees may elect to perform some steps simultaneously, i.e. may sort, inspect, select, and arrange all of one type instrument in one step rather than sort all instruments, then inspect all, etc. This is acceptable <u>providing</u> the trainee performs all steps on all items.

4. Document competency upon satisfactory completion of the evaluation. Initial evaluation should be documented in the Specialty Training Standard (STS). All recurring evaluation should be documented using AF Form 1098, *Special Task Certification and Recurring Training*, or using an approved substitute record.

**PERFORMANCE CHECKLIST**

| ASSEMBLE CLEANED ITEMS FOR STERILIZATION | SAT | UNSAT |
|---|---|---|
| ***Sort Items*** | | |
| 1. Separate instruments into stacks or groups of identical instruments; ring-handled instruments may be grouped on rolled towel | | |
| 2. Handle sharp/delicate instruments carefully; separate/pad them to prevent damage | | |
| 3. Ensure instruments with locking ratchets are open | | |
| 4. Group all parts of multi-part instruments (such as self-retaining retractors) together | | |
| 5. Sort reusable items such as medicine glasses, metal ware by like item | | |
| 6. (***If applicable***) Sort reusable needles by size, all pieces of multi-part needles together | | |
| ***Inspect Items*** | | |
| 1. Explain importance of inspection | | |
| 2. Explain and demonstrate inspection of: | | |
| a. Hinges/box locks | | |
| b. Jaws | | |
| c. Ratchet/locking mechanism | | |
| d. Instrument shanks | | |
| e. Bent/broken tips | | |
| f. Cutting edges | | |
| g. Instrument finish/corrosion | | |
| h. Lumens. | | |
| 3. Describe disposition procedures for: | | |
| a. Soiled or dirty items. | | |
| b. Broken or damaged items. | | |
| ***Select Items*** | | |
| 1. Obtain instrument count sheet or cardex | | |
| 2. Select proper quantity of each item listed | | |
| 3. Follow instructions on count sheet or cardex *exactly* | | |
| 4. Annotate discrepancies per local policy | | |
| 5. Describe local policy for making changes/modifications to sets | | |
| ***Arrange Items*** | | |
| 1. Large or heavy instruments in bottom of pan | | |
| 2. Delicate or sharp instruments on top, protected per local policy | | |
| 3. Hinged instruments' ratchets and jaws open | | |
| 4. Ringed instruments on stringer, curved tips facing same direction | | |
| 5. Multi-part instruments disassembled (but parts grouped together) | | |
| 6. Cups/basins separated by linen/gauze, placed to not hold moisture | | |
| 7. Glassware wrapped/contained | | |
| 8. Instruments with lumens flushed with distilled water | | |
| 9. Linen freshly laundered, folded per local policy | | |
| 10. Gauze/sponges packaged/counted per local policy | | |
| 11. All contents arranged in neat and orderly fashion | | |
| 12. Chemical sterilization indicator included | | |
| 13. Count sheet annotated with number of items/discrepancies and included with set (per local policy) | | |

| ASSEMBLE CLEANED ITEMS FOR STERILIZATION | SAT | UNSAT |
|---|---|---|
| **FINAL RESULTS/NOTES**: | | |

**FEEDBACK:** Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc.

## PREPARATION OF INSTRUMENTS, SETS, PACKS, AND SUPPLIES FOR STERILIZATION

### *Package Patient Care Items for Sterilization*

**SUBJECT AREA:** Preparation of Instruments, Sets, Packs, and Supplies for Sterilization

**TASK(s):** Perform packaging procedures

**CFETP/STS REFERENCE(s):**
5.4. Perform packaging procedures
5.4.1. Rectangular wrapping method
5.4.2. Diagonal wrapping method
5.4.3. Peel-packs
5.4.4. Rigid containers
5.4.5. Item labeling

**TRAINING REFERENCE(s):**
CDC 4N151A, Surgical Service Journeyman, Part I, Volume 2, Infection Control, Unit 2
AAMI Standards and Recommended Practices
Association for the Advancement of Medical Instrumentation (AAMI) Standards
Certification Board for Sterile Processing and Distribution, Inc. (CBSPD)
Surgical Technology for the Surgical Technologist; A Positive Care Approach
Standards, Recommended Practices and Guidelines

**EQUIPMENT REQUIRED:**
Assembled instrument sets, loose instruments, utensils, and other clean and assembled patient care items needing to be packaged for sterilization
Various sizes and types of wrapping materials appropriate for the items to be packaged

**OBJECTIVE:** The trainee will, without error, select appropriate packaging material, perform packaging method, and label various patient care items in preparation for sterilization.

**REMARKS/NOTES:** Because more than one type and method of packaging may be suitable for an item, the evaluator must be objective. Trainee should be penalized for selection of inappropriate material/method only, not simply for selecting material/method other than evaluator would choose. However, if written directions exist (such as found on cardex or count sheet), the trainee must follow them to pass evaluation.

**EVALUATION INSTRUCTIONS:**

1. This QTP should be evaluated during actual performance of the tasks.

2. Before evaluating the tasks, the evaluator should review with the trainee the material in the training references covering types and characteristics of wrapping materials, and should ensure the trainee understands the advantages and disadvantages of each type and method available.

3. After the trainee has received instruction, allow sufficient practice on each part of the task. The trainee must satisfactorily perform all parts of the task *without assistance*.

4. Use the appropriate checklist when evaluating the task to ensure all steps of the task are accomplished.

5. Document competency upon satisfactory completion of the evaluation. Initial evaluation should be documented in the Specialty Training Standard (STS). All recurring evaluation should be documented using AF Form 1098, *Special Task Certification and Recurring Training*, or using an approved substitute record.

**PREPARATION OF INSTRUMENTS, SETS, PACKS, AND SUPPLIES FOR STERILIZATION**

**PERFORMANCE CHECKLIST**

| **PACKAGE PATIENT CARE ITEMS FOR STERILIZATION** | **SAT** | **UNSAT** |
|---|---|---|
| ***Types and Characteristics of Packaging Materials*** | | |
| 1. Trainee explains advantages/disadvantages of packaging materials: | | |
| a. Non-disposable wrappers | | |
| b. Disposable wrappers | | |
| c. Peel-packs | | |
| d. Rigid containers | | |
| ***Rectangular Wrapping Method*** | | |
| 1. Identify types of items packaged using rectangular wrapping method | | |
| 2. Check item for internal chemical indicator/count sheet | | |
| 3. Wrap item: | | |
| a. Place opened wrapper(s) with long side parallel to your body | | |
| b. Place item in wrapper center, long item sides parallel to long wrapper sides | | |
| c. Fold one long edge of wrapper over item; make cuff | | |
| d. Fold second long edge of wrapper over item; make cuff | | |
| e. Fold one side over item, fold loose ends under (close to item) | | |
| f. Fold final side over item, loose ends folded under | | |
| g. Repeat steps b-f with second wrapper if local policy or manufacturer directions require. | | |
| 4. Secure and label with appropriate sterilizer tape. | | |
| ***Diagonal Wrapping Method*** | | |
| 1. Identify types of items packaged using diagonal wrapping method | | |
| 2. Check item for internal chemical indicator/count sheet | | |
| 3. Wrap item: | | |
| a. Place opened wrapper(s) with one corner towards your body | | |
| b. Place item in wrapper center, item sides parallel to your body | | |
| c. Fold one corner of wrapper over item; make cuff | | |
| d. Fold an adjacent corner of wrapper over item; make cuff | | |
| e. Fold opposite corner of step d over item; make cuff | | |
| f. Fold final corner over item; tuck flap or wrap flap per local policy | | |
| g. Repeat steps b-f with second wrapper if local policy or manufacturer directions require. | | |

| PACKAGE PATIENT CARE ITEMS FOR STERILIZATION | SAT | UNSAT |
|---|---|---|
| 4. Secure with appropriate sterilizer tape. | | |
| ***Peel-Pack Method*** | | |
| 1. Identify types of items packaged using peel-pack method | | |
| 2. Select appropriate size package for item. Should be a minimum of 1-inch safety margin on all sides of item | | |
| 3. Place item in package, handle or blunt end towards end of peel-pack that will be opened, tips protected/ratchets held open per local policy | | |
| 4. Place chemical indicator in package; indicator side visible | | |
| 5. Seal pouch: | | |
| a. If self-seal, remove protective strip and seal; ensure no air gaps or wrinkles in package | | |
| b. If heat-seal, follow manufacturer directions; always check integrity of the seal | | |
| 6. Label IAW local policy | | |
| ***Rigid Container*** | | |
| 1. Identify types of items packaged using rigid containers | | |
| 2. Check item for internal chemical indicator/count sheet | | |
| 3. Inspect container and gaskets for cleanliness/damage<br>a. Describe disposition procedures for dirty or damaged container | | |
| 4. Ensure contents will fit in container without contacting the lid | | |
| 5. If container is engraved with set/content name, ensure the contents match the container label | | |
| 6. Change filters IAW local policy and manufacturer instructions | | |
| 7. Place contents in container; close lid | | |
| 8. Engage locking mechanism and attach appropriate sealing/security device(s); if device has chemical indicator, ensure it is visible | | |
| ***Label Items*** | | |
| 1. Describe locally approved methods for labeling various items | | |
| 2. Minimum label information: | | |
| a. Name of article/contents | | |
| b. Initials of individuals assembling/packaging item | | |
| c. Sterilization control number and/or expiration date | | |
| d. (Optional) Using unit or destination of package | | |
| **FINAL RESULTS/NOTES**: | | |

**FEEDBACK:** Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc.

## PRINCIPLES OF LOADING AND UNLOADING A STEAM STERILIZER

***Load a Steam Sterilizer***

**SUBJECT AREA:** Principles of loading and unloading a steam sterilizer

**TASK(s):** Load sterilizer

**CFETP/STS REFERENCE(s):**
5.5.2. Sterilization procedures
5.5.2.1. Steam
5.5.2.2. Chemical
5.5.2.3. Other

**TRAINING REFERENCE(s):**
CDC 4N151A, Surgical Service Journeyman, Part I, Volume 2, Infection Control, Unit 3
AAMI Standards and Recommended Practices
Association for the Advancement of Medical Instrumentation (AAMI) Standards
Certification Board for Sterile Processing and Distribution, Inc. (CBSPD)
Surgical Technology for the Surgical Technologist; A Positive Care Approach
Standards, Recommended Practices and Guidelines

**EQUIPMENT REQUIRED:**
Steam sterilizer
Items packaged and ready for sterilization
Sterilizer rack and loading carriage
Sterilizer test pack (as needed per local policy)
Heat resistant gloves and other locally determined personal protective attire

**OBJECTIVE:** The trainee will, without error, demonstrate proper techniques for loading various items in a steam sterilizer to ensure all surfaces are contacted by the sterilant and drying of sterilized items is not compromised.

**REMARKS/NOTES:** Review steps of the process one-on-one with the trainee to ensure full understanding of the concepts of proper loading of the sterilizer. Ensure the trainee understands common errors and how to avoid them. Review local policy and all applicable safety data before performing or evaluating the task. Since this task involves using steam apparatus, ensure the trainee understands the process, knows inherent risk factors, and is closely supervised during the evaluation. **The evaluator will STOP the procedure immediately and correct the trainee if performance may compromise safety or damage resources.** Ensure the trainee dons all personal protective equipment (PPE) required by current policies.

**EVALUATION INSTRUCTIONS:**

1. This QTP should be evaluated during actual performance of the tasks.

2. After the trainee has received instruction, allow sufficient practice on each part of the task. The trainee must satisfactorily perform all parts of the task *without assistance*.

3. Use the appropriate checklist when evaluating the task to ensure all steps of the task are accomplished.

4. Document competency upon satisfactory completion of the evaluation. Initial evaluation should be documented in the Specialty Training Standard (STS). All recurring evaluation should be documented using AF Form 1098, *Special Task Certification and Recurring Training*, or using an approved substitute record.

**PRINCIPLES OF LOADING AND UNLOADING A STEAM STERILIZER**

**PERFORMANCE CHECKLIST**

| LOAD A STEAM STERILIZER | SAT | UNSAT |
|---|---|---|
| ***Preparatory Phase*** | | |
| 1. Explain basic principles of steam sterilization: | | |
| a. Steam temperature | | |
| b. Steam saturation | | |
| c. Steam purity | | |
| d. Steam penetration/contact | | |
| 2. Describe features of common steam sterilizers, including local minimum parameters for sterilization using each type: | | |
| a. Gravity displacement | | |
| b. Prevacuum | | |
| ***Performance Phase*** | | |
| 1. Ensure sterilization rack is properly and securely on its carriage | | |
| 2. Load all items onto sterilization rack—DO NOT overload | | |
| a. Load all packages with loose contact between individual items; DO NOT overcrowd or overload chamber racks or sterilizer cart | | |
| b. Place all packages, trays, and sets (except rigid containers and heavy instrument sets in mesh-bottom trays) on edge with the longest side of the pack on the rack shelf | | |
| c. Place receptacles such as basins and bowls on their sides | | |
| d. Tip wrapped packages slightly forward to prevent condensation from being trapped in the containers during load cool down | | |
| e. Place rigid containers and heavy instrument sets in mesh-bottom trays flat on the shelf | | |
| f. Allow at least 3 inches between the top of the sterilizer chamber and the topmost packages of the load | | |
| g. Place hard goods on bottom shelf, linens and soft goods on top | | |
| h. Place the larger packs and rigid containers on the lower shelves and the smaller packs on the top shelves | | |
| i. Place paper and plastic peel packaged items on edge with the plastic side of one package facing the paper side of the adjacent package | | |
| j. Use wire baskets to hold the peel packaged items on the rack or cart shelves to ensure this position is maintained during the cycle and to provide easier handling | | |
| k. Whenever possible, sterilize like items together in a load, not mixed with other type items. For example, sterilize linens in one load and hard goods (instrument sets, basins, trays) in a separate load | | |
| l. DO NOT put any items into a heated sterilizer until its time to start the sterilization cycle | | |
| 3. Place sterilization “challenge” or “test” pack on sterilization load IAW local policy | | |
| 4. Don heat-resistant gloves and any other locally required personal protective attire; FOLLOW ALL LOCAL SAFETY GUIDELINES | | |

| LOAD A STEAM STERILIZER | SAT | UNSAT |
|---|---|---|
| 5. Roll carriage and sterilization rack into position in front of sterilizer chamber; engage carriage-to-sterilizer locking mechanism | | |
| 6. Release sterilization rack-to-carriage locking mechanism and push loaded rack fully into sterilization chamber | | |
| 7. Release and remove the empty carriage | | |
| 8. Close and secure sterilizer door | | |
| 9. Start appropriate sterilization cycle | | |
| **FINAL RESULTS/NOTES**: | | |

**FEEDBACK:** Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc.

## PRINCIPLES OF LOADING AND UNLOADING A STEAM STERILIZER

***Unload a Steam Sterilizer***

| | |
|---|---|
| **SUBJECT AREA:** | Principles of loading and unloading a steam sterilizer |
| **TASK(s):** | Unload sterilizer |
| **CFETP/STS REFERENCE(s):** | 5.5. Sterilization procedures<br>5.5.2.1. Steam<br>5.5.2.2. Chemical<br>5.5.2.3. Other |
| **TRAINING REFERENCE(s):** | CDC 4N151A, Surgical Service Journeyman, Part I, Volume 2, Infection Control, Unit 3<br>AAMI Standards and Recommended Practices<br>Association for the Advancement of Medical Instrumentation (AAMI) Standards<br>Certification Board for Sterile Processing and Distribution, Inc. (CBSPD)<br>Surgical Technology for the Surgical Technologist; A positive Care Approach<br>Standards, Recommended Practices and Guidelines |
| **EQUIPMENT REQUIRED:** | Steam sterilizer<br>Sterilizer rack containing newly sterilized items<br>Sterilizer rack loading carriage<br>Sterilizer test pack (as needed per local policy)<br>Heat resistant gloves and other locally determined personal protective attire |
| **OBJECTIVE:** | The trainee will, without error, demonstrate proper techniques for removing a sterilization cart, containing newly sterilized items, from the sterilizer. The trainee will then demonstrate proper techniques for unloading the various sterilized items using proper handling techniques to prevent sterilization compromise. |
| **REMARKS/NOTES:** | Review steps of the process one-on-one with the trainee to ensure full understanding of the concepts of proper unloading of the sterilizer. Ensure the trainee understands common errors and how to avoid them. Review local policy and all applicable safety data before performing or evaluating the task. Since this task involves using steam sterilization apparatus, ensure the trainee understands the process, knows inherent risk factors, and is closely supervised during the evaluation. **The evaluator will STOP the procedure immediately and correct the trainee if performance may compromise safety or damage resources.** Ensure the trainee dons all personal protective equipment (PPE) required by current policies. |

**EVALUATION INSTRUCTIONS:**

1. This QTP should be evaluated during actual performance of the tasks.

2. After the trainee has received instruction, allow sufficient practice on each part of the task. The trainee must satisfactorily perform all parts of the task *without assistance*.

3. Use the appropriate checklist when evaluating the task to ensure all steps of the task are accomplished.

4. Document competency upon satisfactory completion of the evaluation. Initial evaluation should be documented in the Specialty Training Standard (STS). All recurring evaluation should be documented using AF Form 1098, *Special Task Certification and Recurring Training*, or using an approved substitute record.

**PRINCIPLES OF LOADING AND UNLOADING A STEAM STERILIZER**

**PERFORMANCE CHECKLIST**

| UNLOAD A STEAM STERILIZER | SAT | UNSAT |
|---|---|---|
| ***Removing Sterilization Rack from Chamber*** | | |
| 1. When the sterilizer cycle-complete alarm sounds, check the chamber pressure gauge or digital readout to ensure there is no pressure in the chamber. *Always check the chamber pressure **before** opening any sterilizer door* | | |
| 2. As you open the sterilizer door, *stand behind the door, slightly towards the hinged side, **never** in front of the opening chamber* | | |
| 3. "Crack" the door open about 6-8 inches; allow load to cool-down IAW local policy (usually 15-30 minutes) | | |
| 4. Don heat-resistant gloves and any locally required personal protective attire | | |
| 5. Position sterilization rack carriage in front of chamber and engage *carriage-to-sterilizer* locking mechanism | | |
| 6. Grasp sterilization rack and pull it fully onto carriage; ensure the *rack-to-carriage* locking mechanism engages | | |
| 7. Release *carriage-to-sterilizer* locking mechanism and pull carriage and sterilized load to designated cooling area IAW local policy | | |
| ***Unloading Sterilized Items from Sterilization Rack*** | | |
| 1. Remove sterilization challenge/test pack; process IAW local policy | | |
| a. Describe disposition procedures for contaminated items. | | |
| 2. When the load reaches room temperature, visually inspect packaging of items for signs of wetness. Describe reasons moisture may be present and take corrective actions. | | |
| 3. Handle sterile items as little as possible | | |
| 4. Check each package for integrity; if torn, soiled, wet, or distorted, or if dropped on the floor, consider item contaminated | | |
| 5. If a plastic dust cover is used to extend the shelf-life of a sterilized item, allow the item to cool to room temperature, then place the dust cover as soon as possible after sterilization (and cooling) | | |
| 6. If sterile and nonsterile supplies must be stored in the same area, keep them strictly separated. | | |
| 7. Avoid packing tightly or over-stocking shelves | | |
| 8. Rotate stock-first in, first out | | |
| **FINAL RESULTS/NOTES**: | | |

**FEEDBACK:** Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc.