

**Sterilization Lecture / Principles of Sterilization**  
**Workbook Segment 3 Parts A**

The lecture for sterilization is the 3<sup>rd</sup> segment of the Central Sterile Processing Training program and is separated into five (5) parts.

By the end of all the combined parts in the sterilization lecture the technician will be able to document an understanding of the following:

- A. Principles of sterilization
- B. Steam sterilization
- C. Hydrogen peroxide - Gas Plasma sterilization
- D. Ethylene Oxide sterilization
- E. Biological (Processes and Incubation) - The sterilization practices, processes and incubation of a biological for each stated method of sterilization

This lecture will walk through the 5 steps (parts) the CS technician will consider when sterilizing items.

***Part A Principles of sterilization***

***Step 1 Sterilization Introduction and Definition***

***Step 2 Professionalism***

***Step 3 Factors effecting sterilization***

***Step 4 Facts and Phases of each stated method of sterilization***

***Step 5 Quality controls***

Part B Steam Sterilization

Part C Gas Plasma

Part D Ethylene Oxide (EtO)

Part E Biological (Processes and Incubation)

**Objectives for Segment 3 Part A - Principles of sterilization**

- To provide the central sterile processing technician a knowledge base when sterilizing items
- To provide standards and guidelines for the C.S. technician to consider when preparing, processing and releasing items to the customer
- To provide a “check list” or quality controls when preparing, processing and releasing items to the customer

**The Process**

## **Segment 3 Part A Step 1: Sterilization Introduction and Definition**

### **Topics covered:**

- AAMI definition
- Sterile assurance for end users
- List all sterilization methods
- Three methods this lecture will discuss

### **Key learning points:**

- Define sterilization
- Name the most commonly used method of sterilization
- Name sterilant/s used for gas plasma
- Name disinfectant capable of sterilizing item/s

### **Sterilization:**

- According to AAMI, a validated process used to render a product free from viable microorganisms or process of killing all forms of microbial life (2)
- Validates that the instrument will be free of any microorganisms once it has completed a sterilization cycle
- Is one of the tasks that must be completed to ensure customers and patients have clean, sterile and complete instrument sets

### **There are many types and ways to achieve sterilization for an instrument.**

To name them:

- Steam – the most commonly used
  - Ethylene Oxide Gas – hazardous and lengthy process
  - Gas Plasma – uses hydrogen peroxide and process known as plasma for sterilant
  - Liquid chemical – example is Glutaraldehyde
    - A chemical disinfectant that is capable of sterilizing
- In this lecture we will discuss Steam, EtO and Hydrogen peroxide – Gas Plasma.
- We will also discuss the operating standards, hazard precautions and safety measures, and the monitors for each sterilization method.

## **The Process**

### **Segment 3 Part A Step 2: Professionalism**

### **Topics covered:**

- Defining the ultimate goal/s of a C.S. department
- Defining the C.S. customer/s

**Key learning points:**

- Ultimate goal for any C.S. is to have clean, complete and sterile item/s
  - Customer is ultimately the other part of the C.S. team
  - Sterilization validates that the instrument will be free of any microorganisms once it has completed a sterilization cycle.
  - We take care of our patients.
- **The ultimate goal for any C.S. is to have clean, complete and sterile item/s delivered safely to its customer.**
- **The customer is ultimately the other part of the C.S. team, the operating room staff, as well as the surgeon and of course the patient.**
- **At this point in our studies, the C.S. professional should understand the importance of completing each part of the process well. We want to ensure that our customer and patients will have clean, complete and sterile instrument sets.**
- **Now we are going to learn how to actually sterilize the instrument.**
- **Sterilization validates that the instrument will be free of any microorganisms once it has completed a sterilization cycle.**
- **After the sterilization cycle is complete, we as C. S. professionals can deliver a safe and sterile instrument to our customer, the operating room staff, and to our patient.**
- **Isn't this the reason we do what we do? We take care of our patients.**

**The Process**

**Segment 3 Part A Step 3: Factors effecting sterilization**

**End of the Sterilization Lecture / Principles of Sterilization – Workbook Segment 3 Parts A**

**The technician may continue to the Segment 3 Part A Exam**

**When the exam is complete the technician can advance to Workbook Segment 3 Parts B**

