

STERILE PROCESSING BASIC TRAINING: SPD BOOT CAMP®

Module #3:
*Basic Medical Terminology for
Sterile Processing Professionals*

by

The Central Sterile Processing Initiative

Sterile Processing Basic Training: SPD Boot Camp

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**Message From The Central Sterile Processing
Initiative Director**

Thank you for purchasing this e-course, an introductory and review survey of the basics of sterile processing, *Sterile Processing Basic Training: SPD Boot Camp*.

Thank you, enjoy the program, and I am always just an e-mail away if you have questions or need my assistance during the course of your studies.

Sincerely,
Shane Huey,
Director

www.centralsterileprocessing.net

Preface

This e-course is neither the traditional textbook nor the typical student workbook. It is, rather, a combination of the best and most relevant of information related to the basics of sterile processing education and training presented much like a series of lecture notes with multimedia elements included for a more complete and well rounded educational experience for both sterile processing "newbies" and seasoned veterans simply seeking a comprehensive review alike.

The content is structured as a classroom lecture/text with all relevant points discussed and references provided for further information and investigation.

In this text one will be presented with material contained within the industry standard texts, current field relevant articles, and as well have workspace much like contained within the likewise standard workbooks. Herein, however, the student will find no superfluous material to bog one down unnecessarily. Covered within is only that which one needs to know as a sterile processing tech at the level 1 stage—the ESSENTIALS of sterile processing, that which every tech need know—the prerequisites of the field. References will be cited throughout the course, however, to point students in the right direction should they choose (and we are trusting that they will!) to pursue additional knowledge, training, and advancement in the field of sterile processing.

The course consists of multiple individual modules (at least 15 at the time of this printing). Please read through each module from beginning to end at least once before attempting to complete the assignments and then work your way back through the text completing the required coursework specified in the assignment directions at the end of the module (see contents).

Module 3

Module Objectives

- Familiarity with the basic terminology utilized in the sterile processing and OR departments
- Understanding of specific medical terminological roots, prefixes, and suffixes
- Ability to comprehend medical terms by division into word elements per the above objective as related to sterile processing and surgical specific terms
- Identification of medical/surgical abbreviations relevant to sterile processing

Medical Terminology for Sterile Processing Professionals

Introduction

Every field has its own technical language specific to the field. Healthcare, and, most specifically, sterile processing, is no different.

Extensive grasp of medical terminology is an essential requirement in the role of the sterile processing technician. Highly specialized medical terms are encountered day to day on the part of the sterile processing technician as related to surgical procedures, surgery schedule, instrumentation items and set names, interaction with OR and other perioperative and clinical staff, etc. To be successful in the field requires a modicum of mastery of at least the basic jargon.

Not only is medical terminology essential for operational functionality but also directly relates to patient safety. Many an error has been caused by either lack of understanding of the appropriate technical medical jargon or the poor communication thereof.

Take your time with module 3, study carefully, and learn the material. More than simply needing to regurgitate the material on a quiz, as a sterile processing technician, you will be utilizing this material throughout your career, not only in sterile processing but in healthcare more generally.

Dictionary of Important Basic Sterile Processing Terms

ANSI/AAMI - abbreviations for: American National Standards Institute/Association for the Advancement of Medical Instrumentation (often occur together)

acidic - pertaining to the pH of a substance; acids have a pH of less than 7

aeration - the process of "airing out" items that have been sterilized utilizing ethylene oxide, typically via circulation of warm air in an aerating chamber

alkalinity - pertaining to the pH of a substance; alkaline substances have a pH greater than 7

alkylation - the process by which ethylene oxide deactivates microorganisms via disruption of metabolic processes

amylase - an enzyme involved in the hydrolyzing of carbohydrates; a common component of multi-enzymatic detergents

AORN - abbreviation for: Association of periOperative Registered nurses

AER - automated endoscope reprocessor

autoclave - sterilizer; a machine utilized to provide for terminal sterilization of product; several types: prevac and gravity (both steam), ETO or EO (ethylene oxide), hydrogen peroxide plasma (e.g., Sterrad brand by ASP), ozone, etc.

bacteria - pl. for bacterium; single-celled, plant-like structure; also referred to as "germs" and "microbes"

bioburden - also referred to as bioload or microbial load; the amount of microbial contaminants on an object (quantification of bacterial population)

biofilm - build up of nearly impermeable microscopic polysaccharide film on an object functioning as a protective barrier for microbes underneath; an issue in the decontamination process

biological indicator (BI) - sterilization monitoring and validation package/test consisting of a viable, precisely quantified bacteriological population (in spore form); bacteria is matched to sterilization methodology to which it presents a substantial challenge (e.g., *G. stearothermophilus bacillus* and steam sterilization)

Bowie Dick - a test pack for monitoring and validation of dynamic air removal (vacuum) in steam autoclaves

case cart system - a system of sterile supply and instrumentation distribution common to sterile processing departments; required items are placed on cart in sterile processing and distributed to areas of service for cases in the area of service

cavitation - process by which ultrasonic washer systems dislodge soil from instrumentation; in cavitation, tiny bubbles are produced in solution by sonic processes that implode pulling debris away from the soiled objects; amplified by certain detergents and their respective surfactant properties

CDC - Centers for Disease Control

chemical indicator (CI) - a process and/or sterilization monitoring and validation device utilized to monitor a specific parameter of the sterilization process or the entire sterilization process

cleaning - removal of all visible gross soil such that an object is rendered safe for handling and further processing; first phase of decontamination and reprocessing

contamination - the state of an object exposed to soil visible or otherwise; exposure to microorganisms

critical parameters - parameters of a process that are critical to the completion of that particular process and require monitoring to validate those parameters, e.g., the critical parameters of steam sterilization (temperature, time, pressure, etc.)

cross contamination - the movement of contaminants from an individual

or object to another individual or object

D value - the d value is a numerical value assigned to identify the mortification rate of bacteria; it is the value at which 90% of a microbial population are mortified

decontamination - the removal of contaminants

detergent - a chemical cleaning agent that functions by reducing surface tension (surfactant property) and sequestering soil allowing it to be washed away

disinfectant - a chemical which effectively mortifies microbial agents with the exception of spores

disinfection - the process of microbial mortification

ebonization - a chemical process in which a coating (black) is applied to certain surgical instrumentation to reduce glare and for instrumentation utilized with lasers

endoscope - a medical device used in the visualization of hollow components of the anatomy (scopes)

enzyme - a substance involved in the initiation of chemical reactions

ethylene oxide (EO/ETO) - a high saturating and effective chemical sterilant that deactivates microbes by the process of alkylation; used in low temperature sterilization and for heat and moisture sensitive instrumentation and equipment

EPA - Environmental Protection Agency

event related sterility - sterility related to an "event", e.g., dropped package, compromised wrapper, exposure to fluid, etc. as opposed to time related sterility (shelf life expiration)

FDA - Food and Drug Administration

flash sterilization - a form of sterilization in which items are sterilized in emergent situations without being either wrapped or containerized; typically a gravity displacement cycle

fluid invasion - entrance of water or other moisture into critical

areas of equipment or instrumentation resulting in violation of components

fomite - an inanimate object via which microorganisms are transmitted

gas plasma - gas is one of the 4 physical states of matter; plasma is the 4th state and results from the superheating of gas

geobacillus stearothermophilus - a non-pathogenic bacteria, highly resistant to heat, which is utilized for sterilization validation in steam, ETO, and dry heat sterilization

germ - a pathogenic microbe

germicidal - having the effect of being microcidal

glutaraldehyde - a chemical utilized in disinfection and sterilization processes

gravity displacement sterilization - a sterilization methodology in which air is displaced by steam (as opposed to a vacuum pull) and then steam displaced by air; typically utilized in flash sterilization

high-level disinfection - eradication of most microbial contaminants with exception of bacteriological spores

impingement - mechanical means by which washers and washer-disinfectors clean soiled instrumentation; operates on principle of hydroforce

integrating indicators - a chemical indicator (CI) in which all of the critical parameters monitored during a sterilization cycle are integrated via monitoring unit; monitoring action calibrated to correlate with action of biological indicator (BI)

ISO - International Standards Organization

ISO 9000 - a set of standards recognized and utilized by a number of healthcare organizations which seeks to provide for quality control and monitoring standards

The Joint Commission - hospital and healthcare accrediting agency

Julian calendar - Calendar in which each day is numbered, for example, the Julian date for January 1 is 001.

load control - a process by which all sterilized loads are labeled and logged to facility both distribution and load recall in the event of an adverse situation during or post sterilization

Materials Management - that department within the healthcare facility responsible for the acquisition and distribution of a facility's material goods

MEC - minimum effective concentration; related to the minimum effective concentration for various chemicals utilized for high-level disinfection

MRSA - methicillin resistant staphylococcus aureus; a highly resistant strain of bacteria common in the healthcare setting

MSDS - Material Safety Data Sheets

noncritical medical device - device classification related to instrumentation or other devices that only come into contact with a patient's skin

non-pathogenic - non-disease causing

nosocomial infection - an infection acquired in the healthcare setting

OSHA - Occupational Safety and Health Administration

oxidation - a process in which an atom loses an electron, which results in the breakdown of a cell or other matter; process by which peracetic acid deactivates microorganisms

ozone - O₃, a highly reactive form of the oxygen molecule with functions as a sterilant in ozone based systems

par level - a required amount of inventory

pathology - the study of disease and disease causing pathogens

performance improvement (PI) - a platform of data collection concerning areas of improvement related to overall performance (may

be general or specific); data collected helps to improve previous performance levels

perpetual inventory - a system of continual monitoring of inventory flow, both in and out; typically a digital system

quality assurance - metric-based efforts at providing continual quality improvement and control

quality control - the metrics of quality of assurance

recommended practice - consensus based set of voluntary guidelines based on current best practice

regulation - government-mandated requirement or law

sanitize - to reduce the microbial count (not equivalent to disinfection)

semi-critical device - a medical instrument or device in which contact is made with a mucous membrane; compare to non-critical device

shelf life - the amount of time an item can remain in sterile storage under appropriate conditions prior to expiration

standards - a consensus acceptance of a baseline set of parameters related to monitoring quality output of products and/or services

standard precautions - the use of appropriate PPE based on the assumption that all soiled (or assumed soiled) items are infectious

sterility assurance level (SAL) - the probabilistic statistic related to the viability of an organism surviving a given sterilization process

sterilization - a process in which essentially all forms of microbial life are mortified; includes deactivation of bacteriological spores

Medical Roots, Prefixes, and Suffixes

Relevant Terms

- *root* - the base component of a word from which primary meaning is derived
- *prefix* - the component of the word preceding the root
- *suffix* - that component of a word following the root

Some Essential Common Surgical Roots

arthro - pertaining to joint(s); e.g., arthritis (-o dropped, arthroscopy, etc.)

broncho - pertaining to the bronchus of the lung; e.g., bronchoscopy

cardio - pertaining to the heart; e.g., cardiopulmonary edema

cerebro - pertaining to the brain/spine; e.g., cerebrospinal fluid

cranio - pertaining to the brain; e.g., craniotomy

chole - pertaining to the gallbladder; e.g., cholecystectomy

chondro - pertaining to the cartilage; chondroma

cysto - pertaining to the bladder; e.g., cystoscopy

derma - pertaining to the dermis or skin; e.g., dermatome

gastro - pertaining to the stomach; gastroenterology

gyne - pertaining to the female organ structures; e.g., gynecology

hema - pertaining to the blood; e.g., hematocrit

hepat - pertaining to the liver; e.g., hepatitis

herni - pertaining to a rupture; e.g., herniorrhaphy

hyster - pertaining to the uterus; e.g., hysteroscopy

lipo - pertaining to fat; e.g., liposuction

litho - pertaining to stones; e.g., lithotripsy (crushing of a stone such as a gallstone)

rhino - pertaining to the nose; e.g., rhinosinusitis

tracheo - pertaining to the trachea; e.g., tracheotomy

Some Common Essential Surgical Prefixes

a/an- without, lacking; e.g., anemia

anti- against; e.g., antiseptis

dis- apart from, away from; e.g., dislocation

hyper- above; e.g., hyperglycemic

hypo- below; e.g., hypoglycemic

sub- beneath; e.g., subcutaneous

supra- above; e.g., suprahip

bi- two, pertaining to two or both sides; e.g., bilateral knee

hemi- half; e.g., hemithyroidectomy

para- alongside, beside; e.g., parathyroid

peri- around; e.g., periosteum

post- after; e.g., postoperative

Some Common Essential Surgical Suffixes

- algia**... pertaining to pain; e.g., fibromyalgia
- cide**... pertaining to death; e.g., germicide
- cise**... pertaining to cutting; e.g., to excise
- ectomy**... pertaining to surgical removal; e.g., polypectomy
- emia**... pertaining to the blood; e.g., anemia
- genic**... pertaining to the etiology; e.g., osteogenic
- itis**... pertaining to inflammation; e.g., osteoarthritis
- oma**... pertaining to a tumor; e.g., melanoma
- oscopy**... pertaining to visual examination; e.g., laparoscopy
- plasty**... pertaining to surgical repair; e.g., rhinoplasty
- rrhage**... pertaining to flow of bodily fluids; e.g., hemorrhage
- rrhaphy**... pertaining to cessation of flow/suturing; e.g., herniorrhaphy
- tome**... pertaining to a surgical instrument that cuts; e.g., osteotome

Some Common Surgical Procedure Abbreviations

ACL- anterior cruciate ligament reconstruction

CABG- coronary artery bypass graft

CR- closed reduction

D & C- dilation and curettage

ORIF- open reduction internal fixation

TAH- total abdominal hysterectomy

THA- total hip arthroplasty

TURP- transurethral resection of prostate

Required Readings, Recommended Readings, and Other Resources

Required Reading

Module 3

[SweetHaven Online Medical Terminology Course](#)

http://www.sheppardsoftware.com/web_games_vocab_med.htm

[Medical Terminology Flash Cards](#)

Recommended Reading

Central Service Technical Manual, Seventh Edition. Chapter 2.

Chobin, Nancy, Ed. The Basics of Sterile Processing, Third Edition. Annex A.

Perkins, John J. Principles and Methods of Sterilization in Health Sciences, Second Edition. Chapter 2.

Recommended Links

<http://www.medterms.com/script/main/hp.asp>

<http://www.medilexicon.com/medicaldictionary.php>

Module Assignments

Module 3 Assignments

- 1) Read the module in its entirety from cover to cover at least once.
- 2) Read the items assigned for required reading.
- 3) In the required reading section, there are 2 software programs for practicing medical terminology. Follow the directions on the respective sites for creating flash cards and quizzing yourself. Document the results and submit.
- 4) Do a web search for 3 websites related to medical terminology. Discuss 3 things learned not covered in this particular module.
- 5) Research on the topic of the importance of medical terminology in the healthcare setting. a) Define "jargon" and, b) pen a 4-6 paragraph essay on the importance of medical terminology in the healthcare setting.
- 6) Distinguish between *medical* and *surgical* terminology (1 paragraph).
- 7) In a medical dictionary (online or standard text or both) look up an additional 25 medical/surgical terms not included in this module text. Terms must be related to surgery and/or sterile processing. Define (in your own words) the term and provide an example of each.
- 8) Define the following terms: *prefix*, *suffix*, *root*. Provide 3 examples of each.
- 9) Complete the module quiz (posted online separately 3-5 days after posting of this module). Submit with above documents to info@centralsterileprocessing.net. In subject line, type "Module 3 Assignments." In body of e-mail, submit full name.

END MODULE 3

**Module 3 is but a basic primer on medical/surgical/sterile processing terminology. As such, please consult the recommended resources for a more comprehensive study of the topic.*