

## Chapter 1

# Introduction to Central Service

### EDUCATIONAL OBJECTIVES

At the completion of this assignment, the student will be able to

- Describe the historical development of the central service department (CSD) within health care
- Describe the organizational structure and objectives of the CSD
- List the five major functional areas of a typical CSD
- Describe the basic functions of each CSD area
- Define the ethical responsibilities of the central service technician
- List the categories of hazards associated with work in the CSD
- List the means of preventing safety hazards
- Describe proper attire to be worn in the CSD (how it varies within the department) and the importance of personal cleanliness
- State the purpose and outline of the continuous quality improvement process
- List agencies involved with the development of standards and their application to the CSD
- Define and give reasons for work flow, people flow, and airflow patterns
- Demonstrate an understanding of the purpose of a procedure manual and be able to differentiate between policies and procedures
- Describe the relationship between CSD functions and written policies and procedures
- Describe the four types of communication
- List basic rules for telephone communications
- Define medical terminology



## THE CENTRAL SERVICE DEPARTMENT

(CSD) is the department within a health care facility in which medical/surgical supplies and equipment, both sterile and nonsterile, are cleaned, prepared, processed, sterilized, stored, and issued for patient care.

Until the 1940s, medical/surgical supplies were, for the most part, processed and maintained in the departments and patient care areas in which they were to be used. Under this system, there was considerable duplication of effort and equipment, and it was difficult to maintain consistently high standards of sterilization technique and product quality throughout the health care facility. Sterilization processing was “everybody’s business but no one’s responsibility” (Perkins, 1983).

As the number and variety of surgical procedures grew and the types of medical devices, equipment, and supplies proliferated, it became apparent that centralized processing was needed for efficiency, economy, and patient safety. The work of scientists W. B.

Underwood and John J. Perkins was instrumental in encouraging health care facilities to establish a separate and distinct department, the central service department, with specialized expertise and direct responsibility for providing clean and sterile medical/surgical supplies and equipment to patient care areas.

This chapter provides an overview of the organizational structure, objectives, and functions of the CSD and an introduction to the responsibilities of CSD technicians.

## Organizational Structure

The health care field of sterile processing and distribution has commonly been known as either *central service* or *central supply*, although neither of these names accurately reflects the functions or duties of the people who work in this field. A number of other names are also used to refer to the department that performs these functions. Among these names are central processing, central sterile, supply processing and distribution, and sterile processing and distribution. Whatever the department is called, the functions performed by the staff include the following: (1) cleaning, decontamination, processing (inspection, assembling, and packaging), and

sterilization of reusable patient care supplies and equipment, and (2) distribution of these supplies and equipment to the units that use them.

Other logistical services may also be part of the CSD, such as mailroom, linen, and patient transport. Regardless of how the department is structured, any or all of these functions may be included in the services provided. Some of these functions may be performed by other departments.

Not only are the functions performed by the central service department different from one health care facility to another, but the organizational reporting structure varies also. For example, in many facilities the CSD reports to materials management, in others it reports to surgery, and in still others, to fiscal services, nursing, pharmacy, infection control, or administration. Some facilities have the cleaning, decontamination, processing, and sterilization functions report to one department and distribution to another department.

Every health care facility is organized into divisions and departments, each with a defined scope of activities and an organizational structure of its own. Managers are placed in charge of each of the departments, and their authority relationships are defined. Figure 1.1 shows one type of organizational structure for a health care facility. Figure 1.2 shows an example of an organizational structure for a large CSD.

## **Objectives and Functions**

In general, central service provides the health care facility with services in the areas of supply processing and distribution. The distribution area is responsible for the delivery of supplies to designated customers. The decontamination processing areas are responsible for the cleaning, decontamination, inspection, assembly, packaging, and sterilization of all reusable patient care equipment and supplies. Sterile and nonsterile items must be separated and placed in defined and separate storage areas. This will help avoid confusion as to the items' sterile status.

The objectives of central service include the following:

- Provide inventoried supplies and equipment to customer areas
- Promote better patient care by providing prompt, accurate service
- Provide supplies of sterile linen packs, basins, instruments, trays, and other sterile items
- Maintain an accurate record of the effectiveness of the cleaning, disinfecting, and sterilizing processes
- Strive for uniformity and simplicity in the trays and sets that the department provides

- Maintain an adequate inventory of supplies and equipment
- Monitor and enforce controls necessary to prevent cross-infection according to infection control policies
- Establish and maintain sterile processing and distribution standards
- Operate efficiently to reduce overhead expense
- Stay abreast of developments in the field and to implement changes as needed to stay current with new regulations and recommended practices
- Review current practice for possible improvements in quality or services provided
- Provide consulting services to other departments in all areas of sterile processing and distribution, including in-service education programs, review of policies and procedures, and implementation of new processes

Other objectives may be included depending on the scope of the services provided by the individual department.

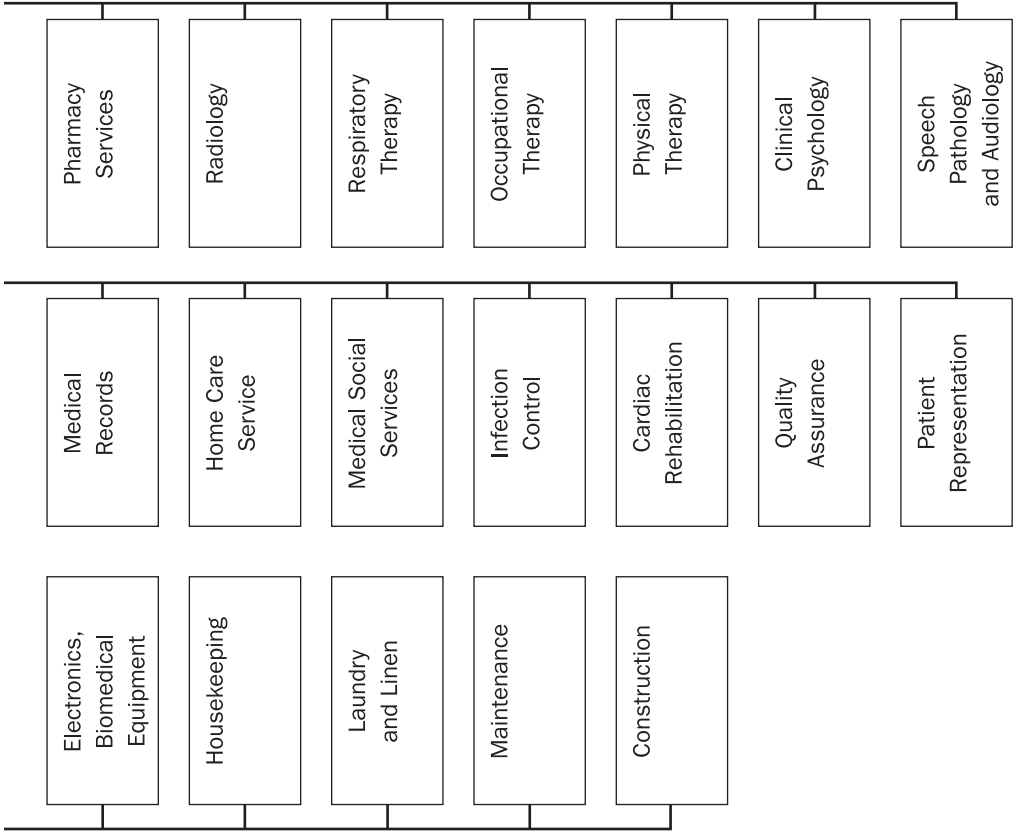
## Major Areas in Central Service

The CSD is usually divided into five major areas: decontamination, processing (inspection, assembly, and packaging), sterilizing, sterile storage, and distribution.

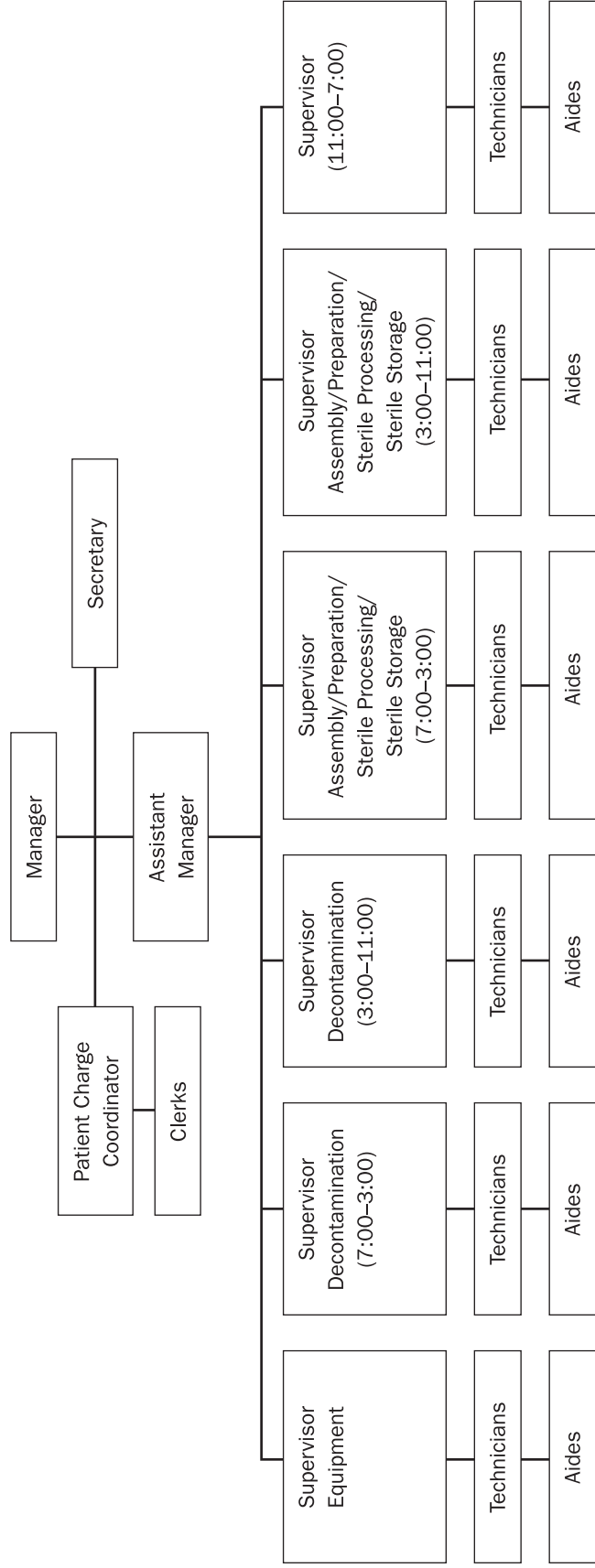
Decontamination is the area where reusable patient care equipment and supplies are cleaned and rendered safe to handle. This can be done manually or with mechanical equipment depending on the item being decontaminated and the resources of the department. Whether manual or mechanical means are used, chemical detergents and disinfectants will be utilized as part of the process.

Processing is the area where decontaminated or clean supplies, instruments, and trays are prepared for additional processing, storage, or distribution. There may be a linen room where packs of reusable linen are folded, assembled, and packaged. This is normally separate from the processing areas because of the large amount of lint that is generated. Lint can act as a vehicle for the movement of microorganisms, and can invade a patient wound and cause the body to attack it as a foreign object. Both of these possibilities can cause an infection to develop. For this reason the amount of lint (and other dust) must be minimized in the processing area. In addition to a linen room, many CSDs have an assembly area for house trays as well as single packaged items. Larger central service departments process operating room instruments through their CSD. Many CSDs also process reusable RT and anesthesia equipment. Clinics and other hospitals sometimes share processing services with one CSD to centralize processing and reduce costs.





**Figure 1.1.** Example of an Organizational Structure for a Health Care Facility.



**Figure 1.2.** Example of an Organizational Structure for a Large CSD.

The sterilizer area of the CSD is where packaged items are subjected to a process that destroys all microorganisms. This can be accomplished through a number of different methods, but most commonly through steam, ethylene oxide (EtO), gas plasma (Sterrad), or peracetic acid (Steris) sterilization. Other means of sterilization include dry heat and liquid chemicals (e.g., 2 percent glutaraldehyde).

Sterile storage is the area of the CSD where items are stored until distributed for use. There may be a separate area for the storage of clean, nonsterile items. The entire storage area must be subject to the principles of sterile storage. These principles include controlled temperature and humidity, limited traffic, ventilation requirements, and mechanisms that ensure that the environment remains as clean and dust-free as possible. Many times sterile trays are stored in this area until needed for surgery. Sterile storage is detailed in Chapter Eight.

Several major CSD functions are performed in the distribution area, including the preparation and delivery of exchange carts, case carts, orders, patient care equipment, and linens. In addition, CSD technicians are often responsible for replenishing stock (par level) of frequently used supplies on patient care units.

The CSD staff members are responsible for furthering the objectives of the department, while performing functions in a timely and conscientious manner and maintaining high standards of ethics, safety, and cleanliness. They must comply with all departmental rules and regulations.

## Ethics

In the normal course of their duties, CSD personnel often have access to patient information and have a responsibility to keep all such information confidential. Only the information necessary to perform CSD functions should be discussed within the health care facility, and patient information should never be communicated outside the institution. Not only do patients have a right to privacy, but also inappropriate discussions concerning patients may be overheard and misinterpreted by visitors, patient relatives, or other staff members.

Information or rumors regarding employees and physicians must also be considered confidential. Employees having tests or procedures have the same right to privacy as other patients. Inappropriate discussions concerning employees and physicians may be overheard and misinterpreted.

Central service department staff members have access to many items useful in the home. Just as shoplifting from department stores ultimately increases prices for all consumers, taking these supplies for personal use drives up costs. This action constitutes theft.

All tasks should be performed according to established procedures. Taking shortcuts or breaking protocol may appear to save time; however, supplies may not be prepared correctly and may not be usable. Not following established procedures

may also have serious consequences that jeopardize the safety of both patients and staff. Additional time and money may be needed to correct errors or treat injuries resulting from improper work performance. So please check with a supervisor before attempting to make a change.

## **Safety**

Safety is a major concern of the CSD. The primary areas of safety hazards include environmental, electrical, mechanical, chemical, biological, fire, and physical. The work performed in the CSD is complex and requires attention to detail to avoid injury to both patients and employees. Most workplace injuries and accidents are caused by neglect, carelessness, thoughtlessness, or a lack of understanding of the principles of safety. Safety is every employee's responsibility. An understanding and application of basic safety standards will enable the employee to ensure that injuries, accidents, and damage are kept to a minimum.

### **Environmental Hazards**

Workers may suffer cuts or "sticks" from needles, scalpels, other sharp instruments, and glassware in the decontamination area. At *all* times, be alert for these hazards and never reach into any liquid to retrieve items. Always use a forceps or other grasping tool to retrieve items immersed in liquid. The floor may be wet and slippery and can cause falls. Soiled, reusable medical/surgical items are considered to be contaminated with bacteria and other microorganisms, which can cause illness to the staff. Wearing the proper protective equipment as described in Chapter Four helps to prevent this from happening. In the processing and sterilization areas, personnel can be burned when operating steam sterilizers or heat sealers. Be aware that many areas of a steam sterilizer are hot. Use insulated gloves to move carriages and know where hot areas are located on your sterilizers. Employees can be exposed to high levels of EtO. EtO is a known carcinogen and a possible mutagen, but when used properly prevents employee infection. Receiving staff have to contend with heavy boxes, splinters, and large carts, which require the use of proper body mechanics and ergonomically correct equipment. Distribution technicians work with elevators and lifts, bulky patient care equipment, and traction apparatus. All these items pose potential safety problems and require careful, precise use and handling. If workers follow protocols as defined by their department's policies and procedures, these environmental concerns can be minimized. If you have any concerns, be sure to ask your department manager how you can best be protected.

It is important to keep the workplace clean and free of clutter. Work surfaces and equipment must be cleaned and disinfected routinely to retard the growth of microorganisms. Clutter provides fuel for fires and a breeding ground for insects,

vermin, and the microorganisms they carry. Passageways must be kept free of boxes and carts, both to prevent injuries and to keep escape routes open in the event of fire or other emergencies. In a health care facility, escape routes must not only accommodate people, but also large transport vehicles such as stretchers and carts. A separate breakout or decasing area should be maintained to hold deliveries until the exterior shipping cartons can be opened and the contents removed in a safe and controlled manner. Exterior shipping cartons have been exposed to many environments (in warehouses, on docks, in trucks), are usually made of corrugated porous material, and must be considered heavily contaminated and should not be brought into the CSD. These procedures all serve to minimize contamination and prevent accidents.

If workers follow the proper protocol as set up by their department these environmental concerns can be minimized. Be sure to ask your department manager how you are protected if you have any concerns.

### **Electrical Hazards**

All electrical devices should be inspected upon arrival in the health care facility to ensure proper grounding and electrical safety, including electrical devices for personal use such as radios, if permitted in the workplace. Routine preventive maintenance of equipment is essential. The health care facility's biomedical or plant engineering staff usually perform these tasks. All maintenance and repairs of equipment issued by the CSD and used in the CSD should be documented and records maintained.

Electrical cords should be kept behind equipment and away from walkways so that personnel will not trip on them. Extension cords should never be used. All cords should have a grounded, three-prong, hospital-grade plug. If a cord is cracked or cut, it must be replaced. Water should never be allowed to collect near an electrical outlet.

For other electrical safety rules, the facility's safety regulations can be consulted.

### **Mechanical Hazards**

Equipment operational safety is very important in the CSD. Large, automated pieces of equipment are used, including several types of washer/decontaminators, ultrasonic washers, scope washers, and sterilizers. To prevent injury (and to avoid damaging expensive equipment), CSD staff must understand and practice the proper operating procedure for each piece of equipment. The equipment manufacturers' written operation and maintenance procedures must be reviewed and followed. As with all in-service education conducted in the department, training on equipment operation should be documented and maintained in each employee's file in the CSD.

**Chemical Hazards**

A number of hazardous chemicals are used in the decontamination area of the CSD, including detergents, disinfectants, drying agents, and sterilants. During all preparation of cleaning solution, cleaning, and processing procedures, employees must wear gloves to protect their skin. Eye protection should be worn whenever there is potential for splashing and when specified in departmental procedures. Prior to working with or being around these chemicals, each employee must have training on the use and hazards of each chemical. This training is for the employees' safety.

A material safety data sheet (MSDS) for each chemical used must be readily available in the work area. Manufacturers are required to supply users with MSDSs. It is the responsibility of the manager to make sure that employees have access to the MSDS information. The MSDS contains information including hazards, exposure limits, recommended personal protective equipment (PPE), first-aid measures, disposal, and directions for leak or spill situations. Hazards of the chemicals used in the department and use of MSDSs must be a part of the training process, and documentation of this process must be placed into each employee's file.

**Biological Hazards**

Supplies and equipment arriving in the decontamination area must *all* be considered contaminated with microorganisms that may be pathogenic (disease-producing). Adherence to the department's policy on PPE and correct handling of these items prevents the spread of infection from one person to another. Central service department technicians can also protect themselves from infection by proper attention to their own general health, including proper nutrition and adequate rest. Proper hand-washing is one of the keys to preventing infections in the hospital, and is described in detail in Chapter Three.

**Fire Hazards**

Every employee must comply with the fire safety rules of the CSD and the health care facility. Employees should participate in scheduled safety programs and fire drills and know the proper procedures to follow in the event of a fire. Important considerations include how to respond to a fire you discover, the locations and use of fire alarms and extinguishers, whom to call, and escape routes and exits.

A CSD technician who discovers a fire should get people out of immediate danger, activate the fire alarm, and contact the proper authorities. If feasible, and if staff are trained in fire-fighting procedures, measures may be taken to fight the fire; otherwise, everyone should be evacuated from the immediate area and the doors closed to contain the fire. Most health care facilities have fire doors that close automatically when any type of fire or smoke detection alarm is activated. The doors close to contain the smoke or fire. CSD technicians should know what procedures should be

followed if closed fire doors are encountered while supplies are being distributed. Nothing should be stored by the fire doors that would prevent the doors from closing properly. Hallways should always remain clear so that staff can exit without tripping or falling over items in the event of a fire.

### **Physical Hazards**

All CSD technicians should learn and use good body mechanics, including the correct techniques and postures for lifting, pushing, pulling, and reaching. This is especially necessary when moving heavy, bulky, or difficult-to-handle objects such as large carts, heavy trays, or equipment.

CSD technicians should be alert to, and try to correct, any conditions in the work environment that could contribute to injuries. Safe conditions include carts and lifts available to move heavy supplies, work materials within easy access, adjustable chairs, padding for sharp edges and hard surfaces, and tables or desks set at the correct height for easy access to work. Tasks or job assignments should be alternated to avoid repetitive motions and repeated forceful exertions, which can contribute to work-related injuries.

Proper attire can also prevent physical injury. Closed-toe shoes help prevent needle sticks and smashed toes. Open-heel shoes, such as clogs, can be hazardous, especially on wet floors. Loose-fitting clothing and jewelry can get caught in moving equipment and thus should not be worn.

### **Incident Reports**

All accidents and injuries should be reported to a supervisor immediately. At most health care facilities, it is the policy to require an incident report detailing how the accident happened, where and when it occurred, any witnesses to the accident, what medical treatment was necessary, and whether there was any work time lost due to the accident. A description of corrective actions taken to prevent a recurrence of the accident is also required, either in the incident report or in separate documentation.

The incident report is needed for insurance and worker's compensation purposes. This report and ensuing investigation can lead to increased workplace safety by improving procedures, changing environmental design, or correcting identified problems. For example, incidents of skin irritation may indicate that cleaning materials have not been mixed, diluted, or used correctly. Shocks or burns can result from faulty electrical equipment, mishandling of devices, or improper operation of sterilization units. Employees can suffer bruises and strains as a result of using incorrect body mechanics for moving objects or heavy lifting. Falls can result from wet, slippery, or cluttered floors. The investigation of the incident may reveal work practices that need improvement.

### Disaster Plans

All health care facilities have internal and external disaster plans. Every employee must understand his or her role in each type of disaster and be able to recognize the various codes that are used to designate the kind of emergency (such as fire, EtO spill, telephone system failure, bomb threat, flood, tornado, earthquake, chemical warfare, biological warfare, or power outage). When the emergency involves substantial numbers of incoming patients (external disaster), the CSD staff are often called on to deliver large amounts of supplies to the triage area. Instead of the word *disaster*, some facilities are using the words *potential injury-creating event* (PICE).

### Personal Cleanliness

Personal cleanliness is essential in order to reduce transmission of microorganisms to supplies, patients, and other persons. Personal hygiene, good handwashing technique, and cleanliness of hair and clothing all can help to reduce the spread of infection-causing microorganisms. **Handwashing, in particular, is the single most important method of preventing cross-contamination.**

Proper attire in the CSD also reduces the transfer of microorganisms into or out of the department. Every health care facility has its own policy on attire. In general, CSD personnel are required to wear scrub suits or uniforms, which are provided, laundered, and issued by the health care facility. Laundering by the institution reduces the risk of personnel carrying microorganisms from the home to the workplace and vice versa. Employees generally wear hair coverings, and, in some institutions, shoe covers are worn as well. When working in some of the areas, it is also common practice to prohibit jewelry, except for simple rings (i.e., wedding bands), and nail polish. Rings can harbor microorganisms. Jewelry can get caught in equipment and be a safety hazard, as well as breaking and getting into trays or sets. Nail polish can chip off and get into items being processed. Artificial nails should be prohibited because fungus can grow under the nails or the nails may come off and get into the trays. Nails should be trimmed short to prevent debris from collecting underneath them, which could cause an increase in bioburden and patient infection.

### Continuous Quality Improvement

Continuous quality improvement (CQI) is a process designed to improve the quality of products and services provided. The process is continuous because the department should always be striving for the highest level of product and service quality and customer satisfaction. Customers can include patients, physicians, nurses, staff in other departments, visitors, administration, and staff within the CSD. Over

time, customer expectations, technology, standards, and costs change. These factors make it necessary to reevaluate the way things are done and determine what changes need to be made to improve the process by which products and services are produced.

Quality means producing a product or service that consistently meets or exceeds customer expectations and standards of practice. The CQI process requires the CSD to achieve standards of practice that meet the expectations of their customers. In other words, the quality of products and services is assessed by the customer.

CQI is a search for the way to *do right things right*. That is, do the *right things* to meet customer expectations and do them in the *right way* to meet the standards of practice and ensure the safety of employees and patients, while maintaining the cost needs of the institution. It also means *not* doing things that are no longer needed, even though they may always have been done, and done well.

It is important that central service professionals be involved in developing a CQI process for the department so the department can provide the best quality of products and services for its customers.

## Rules and Regulations

The activities and responsibilities of the CSD are governed by many rules and regulations. Some are established by federal, state, or local government agencies and accrediting bodies, some by the hospital administration, and some by the CSD management. All CSD employees must know the rules and regulations that affect them. Written rules, regulations, policies, and procedures should be available for reference.

### Governing Bodies

All health care facilities must meet the standards of federal, state, and local authorities from which flow many of the rules and regulations applicable to the CSD.

The standards of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) affect most areas of the health care facility. The JCAHO is a voluntary organization, not a government agency, but its standards must be met if the facility is to retain its accreditation and qualify for financial reimbursement by insurers, in particular Medicare and Medicaid. Among the JCAHO standards that specifically affect central service are those for infection control, continuous quality improvement, safety management, sterilization practices, personnel training, leadership, and information management. Policies and procedures in CSD should include these standards.

Several agencies of the federal government regulate hospitals. The regulations of the Occupational Safety and Health Administration (OSHA), the Environmental

Protection Agency (EPA), and the Food and Drug Administration (FDA) are especially relevant to CSD functions. The regulations of OSHA help keep the workplace safe by, for example, establishing and enforcing standards limiting occupational exposure to EtO and other toxic chemicals. The EPA regulates EtO manufacture, labeling, and emissions. The regulations of the FDA are also important to CSD functions. FDA regulations govern the manufacturing and classification of commercially prepared medical devices and provide for a network for tracking purposes and for reporting defective products and user errors (Safe Medical Device Act).

All state governments have one or more departments with jurisdiction over public health, occupational safety, and environmental pollutants. Health care facilities must comply with state regulations as well as with local fire, electrical, and plumbing codes.

Local authorities may regulate waste disposal, including recycling programs, decontamination of contaminated waste, and chemical disposal into sewer systems. The CSD must know what these regulations are and comply with them (e.g., contaminated waste must be kept separate so it can be incinerated or microwaved before being put into a landfill, and chemicals such as glutaraldehyde must be neutralized before going into the sewer system to avoid disturbing the bacterial process used in sewer systems).

### **Reprocessing Single-Use Medical Devices**

In the past many of the medical devices used in health care facilities were manufactured to be used as reusable devices. In the 1960s, manufacturers were using more plastics, technology became more complicated, demand for products increased, and health care facilities encouraged the use of disposable products to meet hospital demand but not increase staffing levels. Manufacturers responded to the demand by making products that were validated for one time use and not tested for multiple uses.

In the 1990s, health care facilities became concerned about the cost of disposable medical devices and their impact on the environment. Using low-temperature sterilization (EtO), health care facilities began to reprocess (collect, clean, inspect, package, sterilize, and distribute) a number of medical devices labeled as single use. Some health care facilities began using third-party reprocessors instead of doing the reprocessing in-house.

The FDA became concerned with the practice of reprocessing used single-use medical devices (SUDs). In August of 2000, the FDA released a document called *Enforcement Priorities for Single-Use Devices Reprocessed by Third Parties and Hospitals*, which is meant to ensure that reprocessing programs are safe and scientifically based.

According to this document, third-party and hospital reproducers of single-use devices must adhere to all the same requirements that original equipment manufacturers must follow. In effect, the hospital or third-party reproducer becomes a manufacturer if they reprocess SUDs. As manufacturers, they are required to

- Register their facility with the FDA and provide a list of all SUDs reprocessed
- Adhere to manufacturer adverse-event reporting requirements as well as user facility reporting requirements already in place
- Establish a tracking system for certain devices specified by the FDA that will enable the facility to quickly locate these devices should they need corrective actions
- Maintain records on and submit a written report to the FDA on device corrections and removals
- Follow good manufacturing practices, including design controls, process validation, controls for manufacture of packaging, proper labeling, storage, and installation, and servicing of devices
- Adhere to labeling requirements, which include name and place of manufacturer and adequate directions for use
- Adhere to premarket submissions and approvals

Most hospitals will find the FDA requirements very costly, time-consuming, and difficult to manage consistently. Therefore, hospitals will be compelled to either identify and stop reprocessing SUDs, adhere to all the FDA requirements if they continue to reprocess SUDs, or use a qualified third-party processor. SUDs chosen to be reprocessed must be identified by a multidisciplinary group that is able to assess the risk, infection-control, ethical, and cost-analysis factors. A third-party reproducer must be chosen carefully: a site visit is recommended.

CSD and all the other health care areas and facilities must keep up with FDA requirements, changes to those requirements, and changes to the designation of facilities required to abide by them. Belonging to professional organizations, reading magazines and journals, and visiting the FDA Web site are effective ways of keeping current.

### **General Hospital Policies**

The administration of every health care facility establishes policies on general dress code, safety procedures, disaster plans, personnel wages and benefits, budgeting, job classifications, materials purchasing, and many other matters affecting all personnel employed by that institution.

**Departmental Rules and Regulations**

Some rules and regulations relate specifically to the unique functions of the CSD, especially regarding work flow, air flow, and “people flow.”

Work flow refers to the order in which medical or surgical items are received in the CSD, processed, and dispensed for patient use. The department layout and location relative to customer areas varies from facility to facility, as do specific work-flow policies and procedures. Certain general principles of work flow apply to any CSD. The objective is to prevent cross-contamination.

Contaminated reusable items should be transported to the decontamination area in such a manner as to protect people and the environment from contamination. Items should be transported in closed case carts or containers to reduce risk of cross-contamination. After cleaning and decontamination, the items should be taken to the assembly and sterile processing area, where they are inspected, assembled, packaged, and, if necessary, sterilized. They are then transferred to the sterile storage area and maintained until issued. Disposable items should enter the facility through the receiving area. They should be removed from their exterior shipping cartons before they are placed in the sterile storage area. Exterior shipping cartons are porous and a good place for microorganisms to accumulate, especially the fungus organisms. From the storage area, items are dispensed to customers. In summary, work should always flow from “dirty” to clean areas, never the reverse. Deviating from these practices can result in contamination of clean or sterile items and, consequently, may harm patients.

The ventilation system of the CSD must be designed so that the air flow is away from clean areas into “dirty” areas. To accomplish this, the air in the assembly and sterile processing, sterile storage, and distribution areas is maintained under positive pressure, and the air in the decontamination area is maintained under negative pressure. This means that the ventilation system “pushes” air out of clean areas and draws air into “dirty” areas.

People flow refers to the movement of personnel from one area of the CSD to another. Traffic must be controlled so that staff never go from “dirty” to clean areas without putting on a clean uniform. This prevents contamination of clean or sterile items. The correct people-flow pattern is from clean to “dirty” areas, including tours, inspections, and housekeeping tasks.

**Policy and Procedure Manuals**

Central service department technicians need to be fully aware of all departmental policies and procedures. Policies are general guidelines for action, whereas procedures are the specific steps for performing a task. These manuals are used as constant reference tools and should be kept in a convenient place. Employees should consult these manuals whenever assembling instrument sets or when ques-

tions arise, and should help contribute to keeping them current. Policy and procedure manuals are essential tools when assisting in the training of new staff. Computers are beginning to be used for this purpose.

### **Equipment Manuals**

Equipment used for cleaning, sterilization, and other functions in the CSD is quite complex. For each piece of equipment, the manufacturer supplies an information manual that provides instructions for preventive maintenance, troubleshooting, routine care and cleaning, and operation. Such manuals are also supplied for patient care equipment. It is important that the manufacturer's instructions be followed to prolong the useful life of the equipment and ensure that it is maintained in good working condition. Proper care of equipment reduces the operating costs of the CSD and contributes to employee and patient safety.

## **Communication**

Effective communication promotes efficiency, safety, cooperation, and a positive image. Central service technicians interact and communicate not only with each other and with their supervisors, but also with personnel from all other departments, especially those directly involved in patient care. Effective communication requires a conscientious effort to improve and practice.

### **Four Types of Communication**

There are four types of communication: spoken, nonverbal, written, and listening.

People speak in different ways to different people at different times. Social conversation is a way of sounding people out. It is used to get acquainted with people. Avoid emotional interchanges and personal confidences that may interfere with the job. By listening sympathetically to a person's fears, basic feelings, and beliefs you can gain his or her trust. Intellectual conversation deals with facts and ideas, which flow two ways. Talk *to* each other, not *at* each other. Avoid monopolizing the conversation and interrupting the sentences of others. Get feedback and give feedback to make sure the message is understood.

Communication by telephone must be handled with courtesy and efficiency. You have the first three seconds to make a good impression. Important first words when answering the telephone should be a greeting, what department you are with, and your full name. Speak clearly without rushing. People are responsive to the tone of your voice. Convey a feeling of intelligence and helpfulness. Repeat the caller's message to make sure you understand what the caller is trying to communicate. Give complete attention to the caller and avoid conversing with others.

Facial expressions, body language, and voice tone are important parts of non-verbal communication. They can be positive or negative signals. Positive signals, including keeping your eyes on the speaker and standing or sitting erectly, send a message of interest; nodding your head may show active, enthusiastic participation; smiling shows agreement with something and encouragement; and leaning toward the speaker shows approval or a special interest in some point. Crossing arms or legs may signal disinterest or disagreement with the speaker. Restless movements may signal boredom.

Written communication should be specific, accurate, and brief. Gather and analyze facts, then put important pieces together to form a complete picture.

Actively listen. Avoid daydreaming, doodling, or looking out the window. Sift and sort the ideas being presented and ask questions to clarify.

### **Medical Terminology**

All CSD technicians should be able to demonstrate appropriately the use of basic medical terminology in both written and oral communication. Being familiar with terms for medical/surgical items will enable the technician to better understand what is needed when a customer requests supplies. The environment CSD technicians work in requires accurate exchange of information and often quick understanding and reaction to requests. Confusion, errors, and safety hazards can be avoided by the use of correct terminology.

Medical terminology can be simplified by being aware of the meaning of the prefixes, roots, and suffixes used, and building on those parts of words.

All words have a root, which is the main body of the word and gives the primary meaning. Some words can have more than one root, such as hysterosalpingo-oophorectomy (hyster = uterus, salping = tube, oophor = ovary, ectomy = excision), which means the surgical removal of the uterus, fallopian tubes, and ovaries.

A prefix precedes the root and modifies or alters the root's meaning. The word elements in bradycardia are a prefix (brady = slow) and root (cardi = heart); therefore, the meaning would be a slow heartbeat. Another word used often in CSD is *disassemble*, in which the prefix (dis = apart) and root (assemble = put together) would give the meaning to take apart. Not all words have a prefix.

A suffix follows the root and modifies or alters the root's meaning. The word elements in gastrectomy are a root (gastr = stomach) and suffix (ectomy = excision); therefore, the meaning would be the surgical removal of part or all of the stomach. Suffixes such as *ous*, *eal*, *ic*, *ary*, *al*, and *ac* mean *pertaining to*. Not all words have a suffix.

The letters in word elements (prefix, root, suffix) have to be looked at closely. One letter change or omission can totally change the meaning. Examples include the following:

Prefixes: ante = before  
anti = against

Roots: cysto = bladder  
cyto = cell  
ileo = part of small bowel  
ilio = part of hip bone

Suffixes: ostomy = creating a new opening  
otomy = incision into

Review the materials in Appendix B carefully before going on to the next chapters in the manual. The study of human anatomy and physiology in Chapter Two will give another opportunity to identify meanings of medical word elements as they relate to body systems.

## Summary

Chapter One has introduced the work of the central service technician. The general organizational structure of a health care facility and CSD functions within that facility were discussed. Also addressed were the major physical areas of the CSD and the variety of activities performed in each area.

The importance of ethical behavior and good communication was stressed, along with the many safety precautions necessary in accomplishing daily work. The operation of an efficient support service also depends on personal cleanliness, standards of quality, and other rules and regulations. The medical language used every day in hospitals was also introduced.

Chapter Two will discuss the human body and its functions. By better understanding body structure and how the body works, central service technicians can better appreciate the importance of central service and the responsibilities they have for complete and accurate work.