

Pharmacy Sterile Services

STERILE SUPPLY ROOM

The sterile supply room (SSR) is a unit dealing with the furnishing of professional sterile (and allied non sterile) supplies to special departments. The professional supplies are single use disposable beddeck, syringes, tubing, urine collection sets, intravenous administration sets, needles, gloves and blood bags. The special departments supplied with these items include nursing caring area, physicians' clinics, special laboratories and operating rooms. The other names for this unit may be central sterile supply room (CSSR), or simply central supply room (CSR)

Initially, the facility of the central sterile supply room was started as an equipment washroom with autoclaving facilities. Currently, a sterile room utilizes the modern production line techniques with automatic control recording devices to ensure sterility, modern washing, drying and powdering equipment for surgical gloves as well as taking an active role in development of various sterilization techniques.

In Pakistan this service is not included under the management scope of a pharmacist. The objective of this text is to pinpoint the potential role of the pharmacist, which he can be assumed to do for the management of this service if delegated.

In this Chapter, the management and operational aspects have been narrated. A separate Chapter (15) has been devoted for distribution of sterile supplies to the hospital as well as information to the patients.

PURPOSES

The purpose, philosophy and objectives of central sterile supply facility is a centralized system for total decontamination to provide professional support and service for improved patient care and have the following functions:

1. Direct operating room supply.
2. Cleaning and sterilization of hospital items.
3. Preparation, packaging and sterilization of items received from pharmacy for this purpose, if the pharmacy and the sterile supply is not under one management.
4. Preparation of procedural trays and sets used in the care and treatment of patients.
5. Maintain accurate and current inventory of supplies and equipment in the department.
6. Maintain an accurate record of the effectiveness of various processes for cleaning, disinfecting and sterilization.
7. Develop a cost effective program by cost analysis of personnel, supplies and

- equipment.
8. Participation in research programs.

ORGANIZATION AND MANAGEMENT OF SUPPLY ROOM

Administrative scope

A sterile supply room is one of the specialized hospital operations and may or may not function under the pharmacy. When not operating under pharmacy, it would be called central sterile supply room or central processing department and has broader scope of services. It may also be involved in cleaning, storage and dispensing of specialized equipment such as suction pumps, cardiac catheters, monitoring equipment, surgical dressing carts, resuscitation carts, and a myriad of special kits and trays.

The organization and therefore, the management of sterile room varies widely in various hospitals. In some institutions, it is not given a full departmental status and is considered as a sub-department. Under this situation, manager of unit does not report to hospital administrator but to some major department head such as operating room supervisor or nursing service administrator.

In some other institutions, this unit operates under the control of a division of surgical care established under control of general nursing services. In addition to the supply room, this division also encompasses the operating rooms, recovery rooms and intensive surgical care unit.

Management control of supply room

It is evident from the forgoing discussion that there are four options, all in use in different institutions for management of a sterile room. It may function under:

Pharmacist control: The procurement, storage and distribution of supplies as well as preparation of various sterile solutions in sterile room are the same functions a pharmacist undertakes in pharmacy. It is therefore, possible that management of a sterile room can be incorporated into pharmacist's duties.

Nurse control: Nurses in patient care ultimately use the majority of sterilized items dispensed. Furthermore, a nurse has full understandings of intended use of these products, she logically can be considered to be responsible for operation of central sterile supply room.

Pharmacist-nurse dual control: Some authorities accept the fact that central sterile supply room has dual functions, viz., cleaning, packaging and distribution of medical equipment and supplies as well as the manufacture of sterile fluids. Accordingly, a pharmacist-nurse dual control can be effective in which a nurse is responsible for the former and a pharmacist for the latter.

Operating supervisor's control: In some institution, the supply room has not accorded a full departmental status and is considered as a sub-department of any major department. Under this situation, manager of the unit reports to the respective major department's head such as operating room supervisor.

STAFFING OF PERSONNEL IN STERILE ROOM

The personnel needed for sterile room must be skillful and trained in the principles of sterilization, use of autoclave, identification of surgical instruments, disassembly,

cleaning and assembling equipments, decontamination, basic bacteriology and biological testing. In case of unavailability of such personnel, individuals with scientific background may be recruited and given on-the-job training. The pharmacist-director of the sterile supply room can undertake a training program in order to develop personnel who are qualified in theory and technology more economically than that of the on-the-job training. The materials handling aspect of the sterile room operation should be coordinated with those of the departments of pharmacy, purchasing and distribution. By so doing a duplication of services or function will be eliminated or, at least, minimized.

HOSPITAL PHARMACIST AS MANAGER OF STERILE ROOM

A pharmacist has a diversity of knowledge, which enables him to perform various tasks including those, which are closely resembling to that performed in central sterile room by his counterparts. These jobs are:

1. Purchasing of supplies.
2. Receiving and storing of supplies.
3. Dispensing of supplies in small lots.
4. Distributing of supplies to pavilions.
5. Charging, inventory and accounting procedures.
6. Practicing the principles of standardization.
7. Manufacturing in bulk.
8. Manufacturing in small lots, both sterile and non-sterile products.

It is clearly evident that a pharmacist is qualified and at better position both by education and experience to supervise activities of central sterile supply room. Using a hospital pharmacist as manager, sterile room has obvious merits. The examples of these benefits are an economical management due to non-requirement of specialized personnel, avoiding duplication of inventories in sterile room and in pharmacy, and full utilization of space and equipment.

PLANNING THE STERILE SUPPLY ROOM

The planning of the sterile supply room requires the scheming for:

Location

Ideally, central sterile supply room should be located among the areas frequently requiring its services. While selecting its location, consideration must also be given to the easy receipt of large quantities of linen from the laundry, surgical dressings from the storeroom and large shipments of sterile intravenous and irrigating fluids. In case where an ideal central location is not possible, efficient transport systems such as conveyor and pneumatic tube systems can be provided.

In the institutions, where the pharmacy and central sterile supply room are combined under one management, both units should be physically combined where possible or adjacent to one another. This arrangement provides an opportunity of a closer supervision, consolidation of duties and coverage of both services on a twenty-four-hour basis in an economical way.

Lay out design

The layout design of sterile room must be so as it makes possible (a) separation of non-

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sterile areas from that of sterile areas, (b) entrance of contaminated or non-sterilized items from one end of the room, (c) passing of the material through the various work stations and sterilizer, and (d) finally stored in a sterile storage area ready to be dispensed from the clear side of the room. Such lay out design minimizes the cross-contamination of the non-sterilized and sterilized items.

Work stations

The planning of work stations consists of the determination of the number, type and size of work stations required. These are carefully planned for an efficient working.

Space allocation

The space allocation depends on the size of the hospital and that of the sterile room. The space must be adequate for disassembling, autoclaving, sterilizing and assembling equipments, and storage and to perform the required functions.

Equipments

The equipments usually needed for this facility are the laminar flow hood. For details, the readers are referred to Chapter 8 on Manufacturing Bulk and Sterile.

STANDARDIZATION COMMITTEE

The standardization committee (or current practices committee) is an institutional group delegated with responsibilities of investigating, developing and standardizing procedures and equipments needed. The purpose of the committee is to ensure proper use, reduction in duplication of inventory and production of standardization of procedures in hospitals including the procedure of supplies and products to be dispensed from the central sterile supply room.

The membership on this committee is by appointment of interested staff members jointly by the chief of staff and the administrator of the hospital. Each major discipline including administration, laboratories, surgery, medicine radiology, pathology, nursing and director of pharmacy and sterile supply room should be represented on the committee. The meetings are held according to a set schedule for a year. The chairman and the secretary are appointed from committee members. The secretary is responsible for gathering all samples and prices of materials as well as data dealing with a particular procedure or type of equipment.

The chairman of the committee may then assign the responsibility for investigation and development of new procedure or new product or any problem under discussion to a subgroup of the master committee. The secretary forwards suggestions of the subcommittee concerning procedure or equipment in writing with a predetermined format to master committee for approval. Once approved, the report is to be distributed to staff immediately. These reports are collected in a bound volume and referred to as the standardization or current practices manual to serve as an authoritative procedural manual.