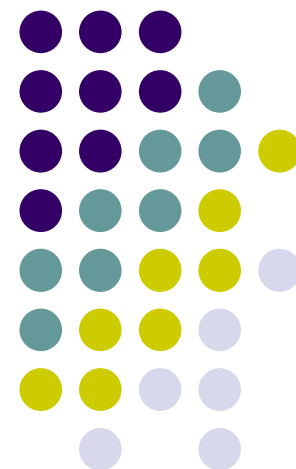
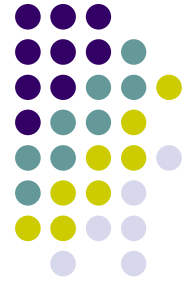


供應中心之感染管制： 動線規劃

中國醫藥大學附設醫院
感染科主任 王任賢



Central supply room: Definition



- Defined as a unit in the hospital which issues sterile supplies and most of the special equipment needed in the care of patients.
- **Centralization** means the concentration of all equipment in one place, under one head, where it may be cared for with the greatest efficiency and used to the best advantage.

Central supply room: Location



- This Central Supply Room should, if possible, be **centrally located**
 - time, labor, and money are saved in the service rendered
- Directed by a **competent supervisor**.
 - It would carry out its extremely important function.

Central supply room: Scope



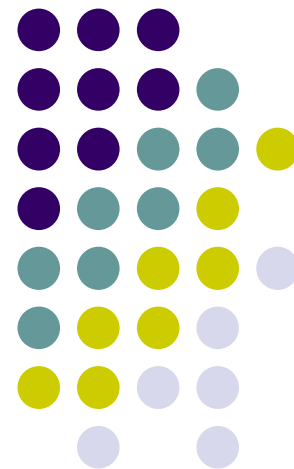
- The size, scope and capacity of this unit will be determined, in large measure, by the **individual requirements** of the hospital.
- It may be the place where **surgical supplies are prepared and distributed**, including **rubber goods**. In some hospitals, the collection and **storage of blood** has been added to the facilities offered by this room.

Central supply room: Purpose



- conserve time and material by reducing the duplication of supplies and effort.

供應中心之動線規劃



Background



- Microbial contamination is minimized by reducing the number of people permitted into an area and by defining the activities that take place there

Traffic flow and activity patterns



- **Regulating the flow** of visitors, patients and staff plays a central role in preventing disease transmission.
 - the number of microorganisms in a designated area tends to be related to the number of people present and their activity
- Microbial contamination is high in areas such as **waiting rooms** and places where **soiled surgical instruments are initially processed**.
- An important objective of infection prevention is to minimize the level of microbial contamination in areas where **patient care and instrument processing take place**.



Location of CSD

- According to the size and type of the healthcare facility, the work area for processing instruments (e.g., the Central Supply Department or CSD) may be **part of or connected to the surgical unit**, or it may be an **independent area** somewhere away from the surgical unit.

CSD is considered a semi-restricted area



- This is the area where instruments, surgical gloves and equipment are processed
- where staff should be specially trained in handling and processing and storing instruments, equipment and other clean, sterile or high-level disinfected items.
- CSD is considered a **semi-restricted area**, so all the recommendations for traffic patterns and proper attire should be followed.

Semirestricted Area: Definition



- Peripheral support area of the surgical unit, includes preoperative and recovery rooms,
- Storage space for sterile and high-level disinfected items
- Corridors leading to the restricted area.
- Support activities (e.g., instrument processing and storage) for the operating room occur here.

Semirestricted Area



- **Limit traffic** to authorized staff and patients at all times.
- Have a **work area** for processing of clean instruments.
- Have **storage space** for clean and sterile or high-level disinfected supplies with enclosed shelves to minimize dust and debris collecting on stored items.
- Have doors **limiting access to the restricted area** of the surgical unit.
- Staff who work in this area should wear **surgical attire and a cap**.
- Staff should wear clean, **closed shoes** that will protect their feet from fluids and dropped items

CSD consists of four areas

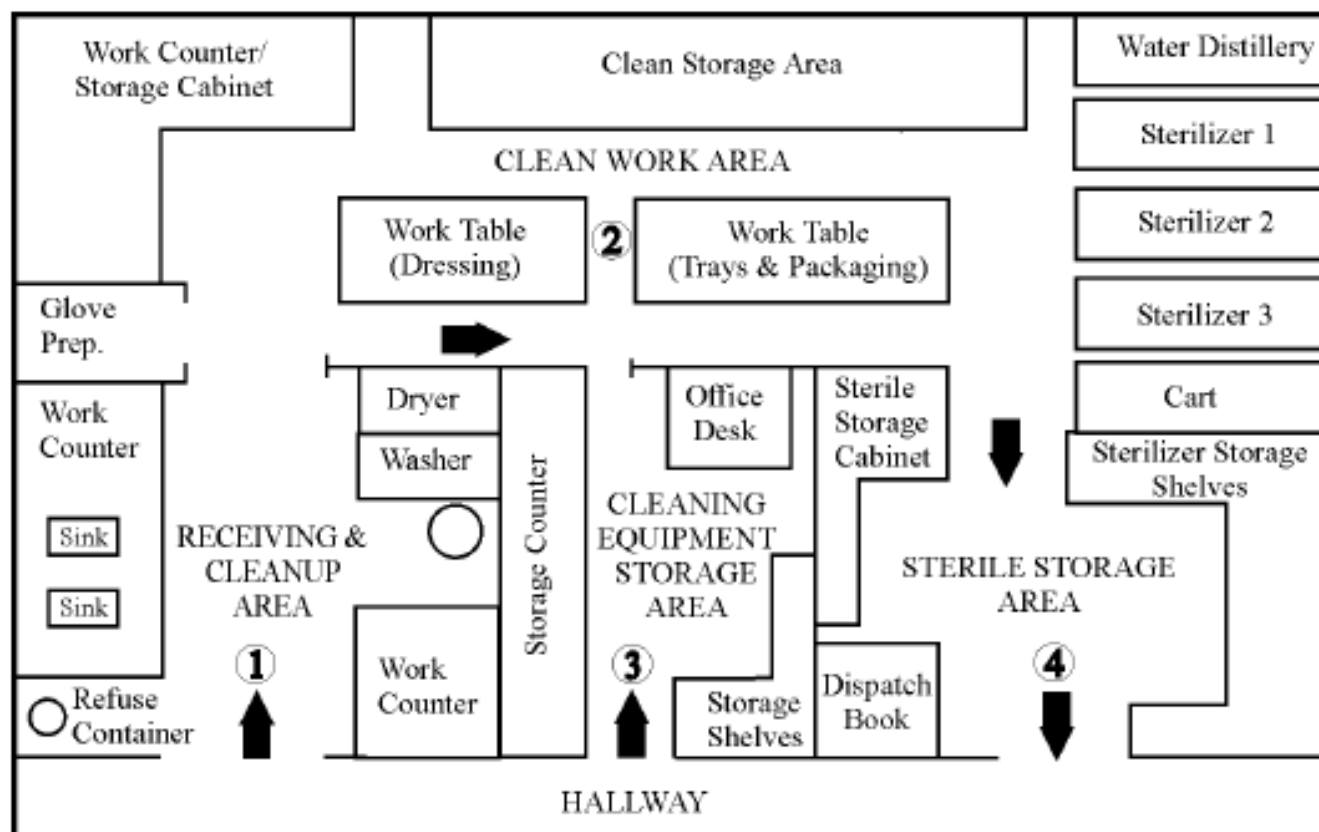


- “dirty” receiving/cleanup area
- “clean” work area
- cleaning equipment storage area
- sterile or high-level disinfected storage area



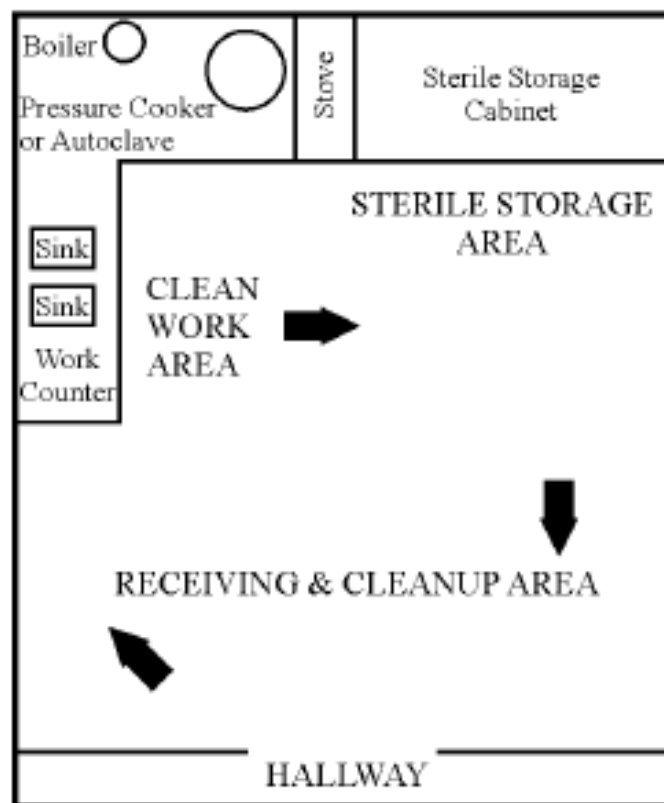
醫院供應中心之平面圖範例

Figure 15-2. Floor Plan for a Central Supply Department in a Hospital

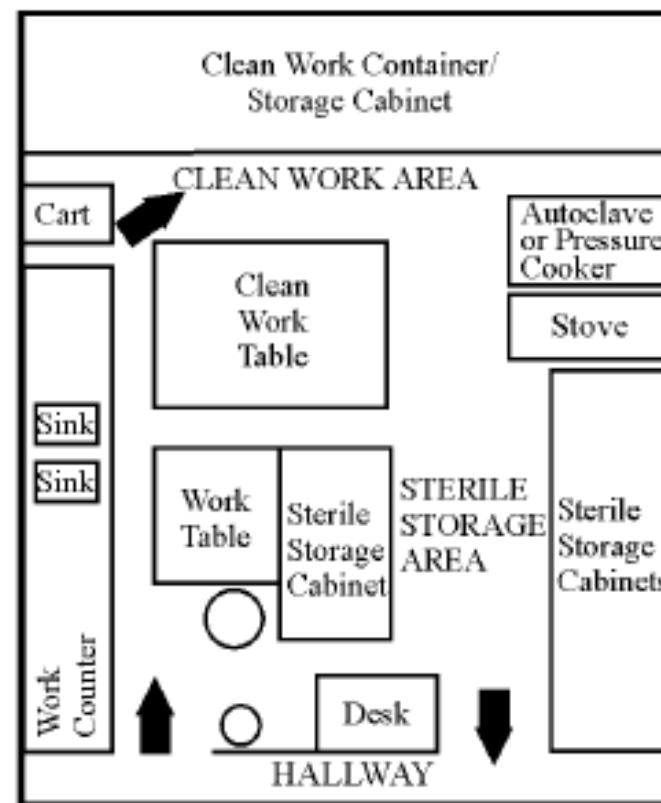




中小型臨床單位之動線規劃範例



Design for small clinic with minimal service space available



Design for larger facility or where volume is greater



Initial processing

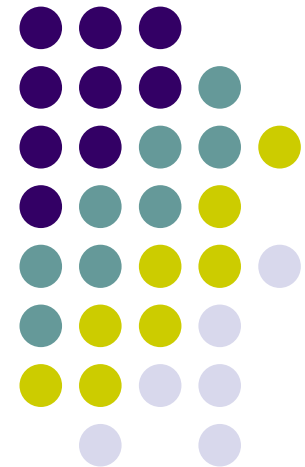
- Following surgery, decontaminate instruments, surgical gloves and other items by placing them in a **plastic container** filled with a **0.5% chlorine solution** at the point of use. **Cover the container** and transport it to the CSD or designated instrument and equipment processing area.
- Alternatively, **place soiled instruments in their original sterile wrap** and transport them to the CSD where they can be **immediately decontaminated** before further processing.



Separation: principle

- Separate the “dirty” receiving/cleanup area (1) from the “clean” work area (2) with a **physical barrier** (wall and door).
- If this is not possible, use a **screen** or **paint a red line on the floor** to designate separation between areas.

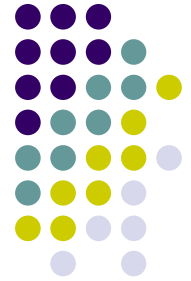
The function and equipment requirements for the four areas of a typical CSD



“Dirty” Receiving/Cleanup Area



- In this area soiled items are received, disassembled and washed, rinsed and dried.
- The “dirty” receiving/cleanup area should have:
 - a receiving counter
 - If it is not possible to decontaminate instruments and other items in procedure or operating rooms, a decontamination counter is needed for this step.
 - two sinks if possible (one for cleaning and one for rinsing) with a clean water supply
 - a clean equipment counter for drying.



“Clean” Work Area

- In the clean work area, cleaned items are:
- **inspected** for flaws or damage;
- **packaged** (if indicated), and either sterilized or high-level disinfected; and
- sent for storage as packaged or air dried and placed in a sterile or high level disinfected container.

Clean work area



- a large work table;
- shelves for holding clean and packaged items
- a high-pressure steam sterilizer, a dry-heat oven, a steamer or a boiler.

Clean Equipment Storage Area



- Store clean equipment in this area. **CSD staff also should enter the CSD through this area.**
Equip the area with:
 - shelves (preferably enclosed) for storing clean equipment, and
 - an office or desk for record keeping.

Sterile or High-Level Disinfected Storage Area : Definition



- Store sterilized packs and covered sterile or high-level disinfected containers in this area. This area should be separated from the central sterile supply area.

Sterile or High-Level Disinfected Storage Area : Operation I



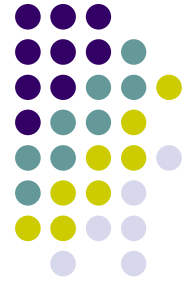
- **Limit access** to the storage area and/or store items in closed cabinets or shelves. (**Enclosed shelves** or cabinets are preferred as they protect packs and containers from dust and debris.
- Open shelves are acceptable if the area has limited access, and housekeeping and ventilation practices are controlled.)
- Keep the storage area **clean, dry, dust-free and lint-free** by following a regular housekeeping schedule.

Sterile or High-Level Disinfected Storage Area : Operation II



- Packs and containers with sterile or high-level disinfected items should be stored **20 to 25 cm (8 to 10 inches) off the floor, 45 to 50 cm (18 to 20 inches) from the ceiling and 15 to 20 cm (6 to 8 inches) from an outside wall.**
- **Do not use cardboard boxes for storage.** (Cardboard boxes shed dust and debris and may harbor insects.)
- **Date and rotate the supplies** (first in, first out). This process serves as a reminder that the package is susceptible to contamination and conserves storage space, **but it does not guarantee sterility.**

Sterile or High-Level Disinfected Storage Area : Operation III



- Packs will remain sterile as long as the **integrity** of the package is maintained.
- Sterile or high-level disinfected containers remain so until they are **opened**.
- Dispense sterile and high-level disinfected articles from this area.

Sterile or High-Level Disinfected Storage Area : Operation IV



- The shelf life of a packaged sterile item is **event-related** and not **time related**. An event can compromise the integrity and effectiveness of the package.
- Events that can compromise or destroy package sterility include **multiple handling**, **loss of package integrity**, **moisture penetration** and **airborne contamination**.
- Sterility is lost when the package has **tears** in the wrapper, has become wet, has been dropped on the floor, has dust on it or is not sealed.

Sterile or High-Level Disinfected Storage Area : Operation V



- The shelf life of a sterile package will depend on the **quality of packing, conditions during storage and transport, and the amount of handling prior to use.**
- **Sealing sterile packs in plastic bags can help prevent damage and contamination.**

Ideal number of times an item should be handled



- Most contaminating events are related to excessive or improper handling of the packages.
 - when removing it from the sterilizer cart and placing on a storage shelf,
 - when transporting it to the place where it is to be used, and
 - when selecting it to be opened for use.

Factors destroy sterility efficiency of the packaging material as a bacterial barrier



- Dust
- Moisture
- Holes, breaks, rupture of seals
- Opening the package
- Before using any item that has been stored, check the package to be sure it is not dirty, wet or damaged.

Handling and Transporting Instruments and Other Items : I



- Keep **clean** and **high-level** disinfected or sterile instruments and other items separate from **soiled** equipment and **waste** items. Do not transport or store these items together.
- Transport high-level disinfected and sterile instruments and other items to the procedure or operating room in a **closed cart or container with a cover to prevent contamination**.
- **Remove supplies from all shipping cartons and boxes** before bringing such supplies into the procedure room, the operating room or the clean work area of the CSD. (Shipping boxes shed dust and harbor insects that may contaminate these areas.)

Handling and Transporting Instruments and Other Items : II



- Transport soiled supplies and instruments to the receiving/cleanup area of the CSD in **leakproof, covered waste containers**.
- Transport contaminated waste to the disposal site in **leakproof, covered waste containers**.

懇請賜教

