

Operating Department



Objectives



- Importance
- Areas of operating suite
- Parameters for OR:
T., humidity, ACH, ...
- Ventilation: positive/ negative pressure,
laminar flow,...

Infection Control in ORs



Infection control is critical in ORs.

- Most of the causes of wound contamination in the OR are the result of:
 - ◆ The patient's skin flora and
 - ◆ Bacteria shed on airborne particles from the OR personnel

Importance



- Exposure of a usually sterile body cavity to the external environment
- Implantation of a foreign object(s) into a normally sterile site

**Provide a safe environment
for procedures that carry
a high risk of infection**

Traffic & Activities

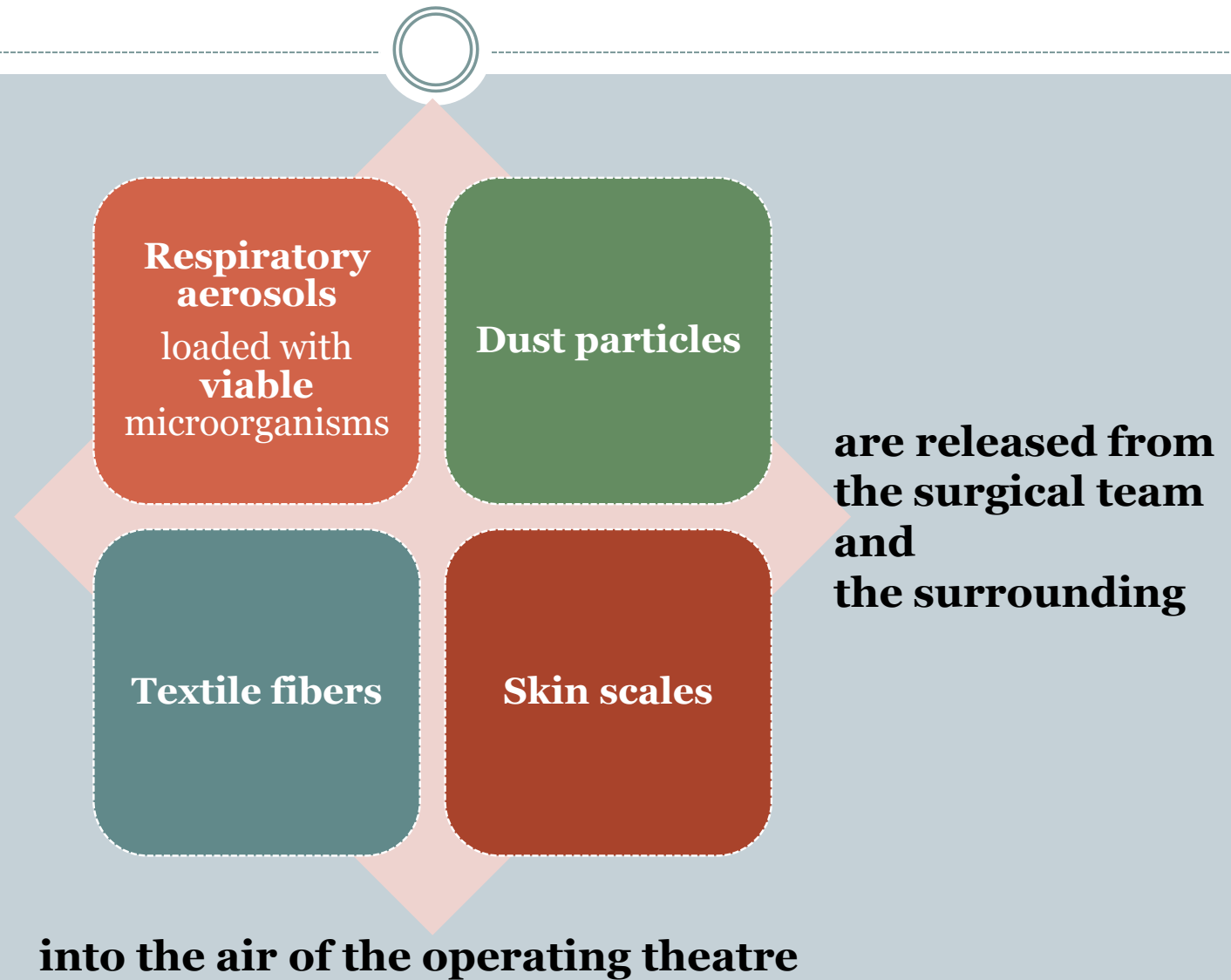


- It is important to control traffic and activities in operating department:
- The number of people
- The amount of activity



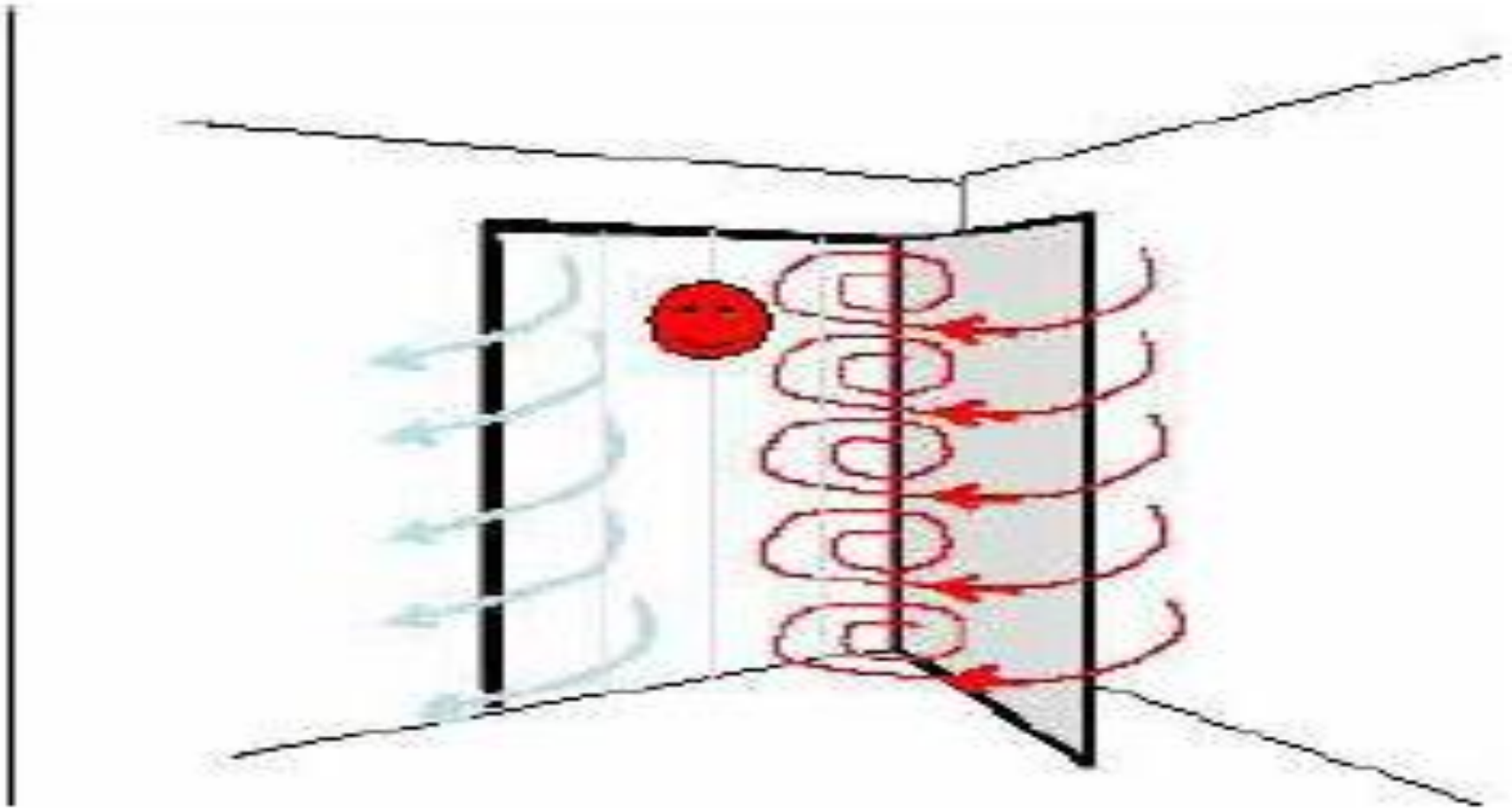
influence the number of microorganisms that are present and therefore influence the risk of infection

During Surgical Procedures

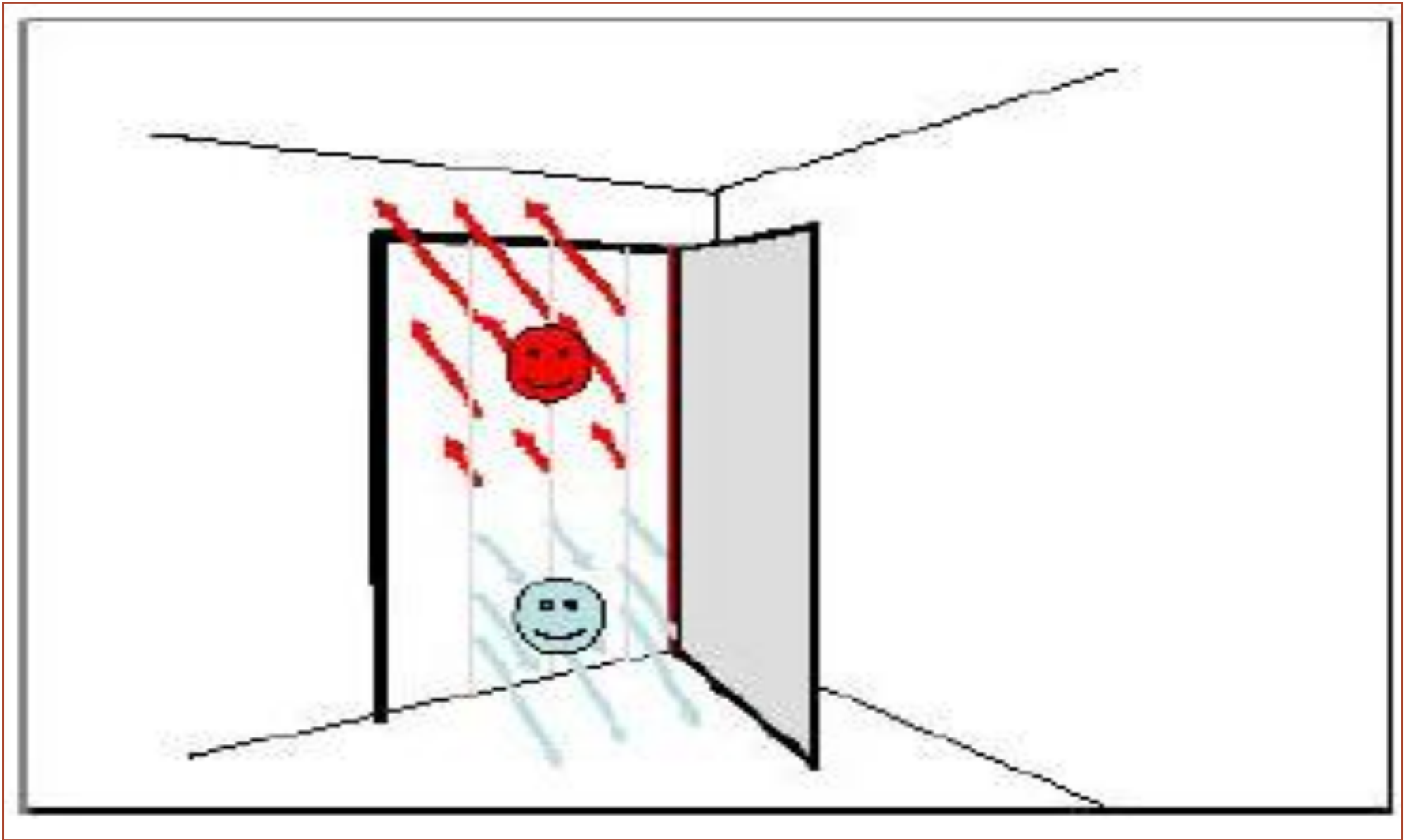




Demonstration of how a walking person may entrain air into their wake

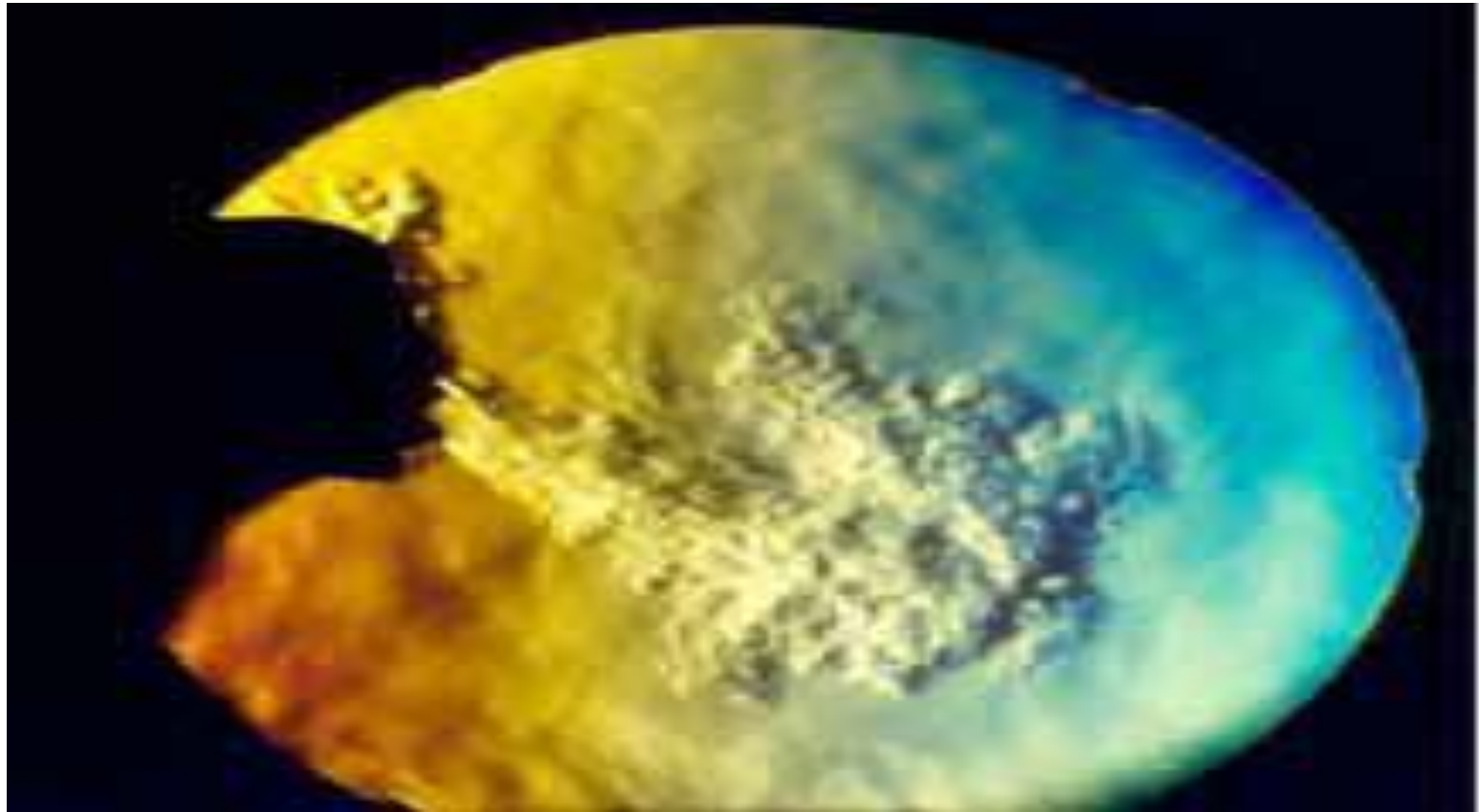


Demonstration of how opening a door may transport air from inside an isolation room to the outside, during the door-opening motion itself



Demonstration of how an open door can allow air of different temperatures and densities to mix and exchange

Humans Respiratory Aerosols (Droplets) Breathing, Talking, Coughing



*Prof Gary S Settles, Department of Mechanical and Nuclear
Engineering, Pennsylvania State University, PA, USA*

Humans Respiratory Aerosols (Droplets) Sneezing, Singing



*Prof Andrew Davidhazy, School of Photographic Arts and Sciences,
Rochester Institute of Technology Rochester, NY, USA*

Operating Room Environment



- Exercising
- Changing of clothing



can lead to airborne dissemination of group A streptococci from vaginal or rectal carriage

Operating Room Environment



- Efforts should be made to minimize personnel traffic during operations



Physical Layout of the Operating Room



- ❑ Divided into 3 traffic pattern areas:
 - Unrestricted
 - Semi-restricted
 - Restricted

**This design is important to keep
bacterial contamination to the
minimum**

Definitions



- ***Procedure room***
- ***Operating room***
- ***Patient care station***

Procedure Room



- A room for the performance of procedures that *do not require* an aseptic field
- May require use of sterile instruments or supplies
- = *Unrestricted areas*
- Local anesthesia and minimal and moderate sedation may be administered
- Anesthetic agents must *not require special ventilation* or scavenging equipment

Operating Room

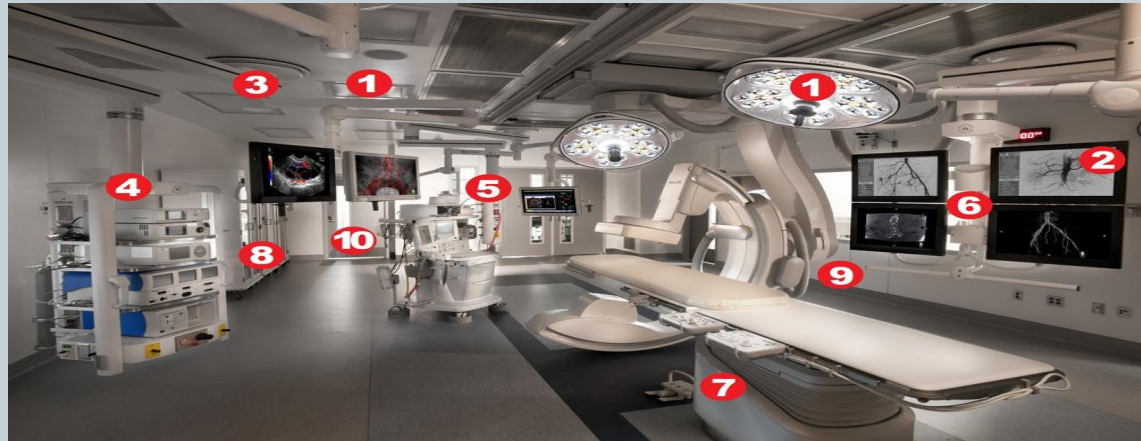


- OR: a room in the surgical suite that meets the requirements of a *restricted area*.
- For performing surgical operations or other invasive procedures that require an *aseptic field*.
- Any form of anesthesia may be administered in an OR as long as appropriate anesthesia *gas* administration devices and *exhaust systems* are provided.

Hybrid Operating Room



- A **hybrid operating room** is an operating room that has *permanently installed equipment* to enable *diagnostic imaging* before, during, and after surgical procedures.



- Use of *portable* imaging technology *does not make* an OR a hybrid operating room.

Patient Care Station



- A ***patient care station*** is a designated space where *a specific patient care function* takes place
- The term *does not imply* any *structural* requirement
- The structural requirements, instead, are included in the definitions of ***bays*** and ***cubicles***
(types of patient care stations)

Patient Care Station



Types of patient care stations:

- A **bay** has one hard wall at the headwall and three soft walls
(cubicle curtains or portable privacy screens)



Patient Care Station



Types of patient care stations:

- A ***cubicle*** has at least one opening and no door and is enclosed on three sides with full- or partial-height partitions.
- A patient care station can also be a room.



Traffic in the Surgical Area



- Signage helps clarify the requirements for what team members must wear in each area
- Defined by the activities performed in each area



Traffic in the Surgical Area



- OR and procedure rooms are in a controlled traffic area
- Monitoring of the flow of patients, team members, equipment, and supplies occurs at certain points in the space
 - control desk
 - double closed doors to hallways

Unrestricted Area



- Central control point (front desk)
 - monitor the entrance of patients, personnel, and materials
- Dress - Street clothes are permitted in this area
- Traffic is not limited
- The entrance to the surgical suite should be restricted to authorized personnel based on organizational policies