

INFECTION PREVENTION & CONTROL IN OPERATION ROOM

Outlines

- Aim
- Layout / sterile zone
- Standard and Universal precautions
- CDC recommendations and Category
- Risk factors
- Management of blood spillage
- Evaluation of infection control

Aim



- Provide a sterile field for a safe surgery
- Prevention of All HAIs (not only SSI)
- Prevention of occupational hazards

Layout of OT

- Outer Zone


(Main Access corridor, transfer area, supervisor office or control station, documentation area, preoperative patient holding area(s), the changing facilities).

- Clean/ Semi restricted zone

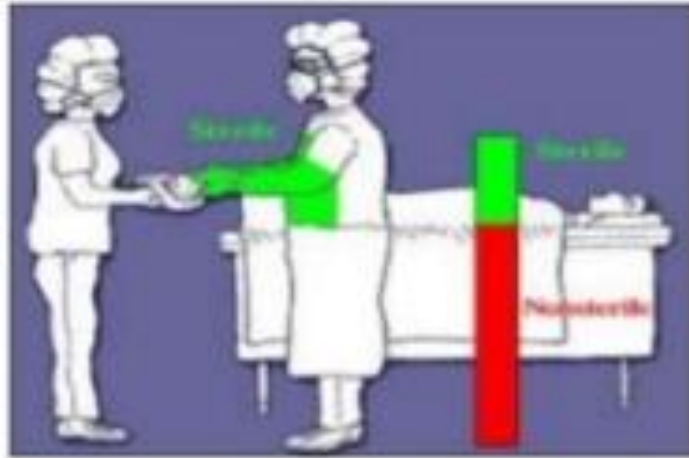
(Clean corridor, sterile and equipment sterile store, anesthesia and recovery room, rest areas)

- Restricted zone

(scrub sinks, operation room)

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- Staff must change into theatre clothes and shoes before entering the clean/ semi restricted area
 - The operating theatre (restricted zone) should be restricted to just the personnel involved in the actual operation

Sterile field



Do not allow sterile personnel to reach across unsterile areas or to touch unsterile items, or vice versa

Infection prevention and control



- Standard and universal precautions
- CDC recommendations for prevention of SSI

Standard and Universal precautions

Standard Precautions:

1. Hand hygiene
2. PPE
3. Aseptic technique- Prevention of needle stick
4. Environmental Cleaning
5. Instruments reprocessing
6. Waste management

Universal precautions:

Blood spillage management/ blood and body fluid post exposure management

CDC recommendation for prevention of SSI

Category IA. Strongly recommended for implementation and supported by well-designed experimental, clinical, or epidemiological studies.

Category IB. Strongly recommended for implementation and supported by some experimental, clinical, or epidemiological studies and strong theoretical rationale.

CDC recommendation for prevention of SSI

- Category II. Suggested for implementation and supported by suggestive clinical or epidemiological studies or theoretical rationale.
- No recommendation; unresolved issue. Practices for which insufficient evidence or no consensus regarding efficacy exists.

CDC recommendation for prevention of SSI

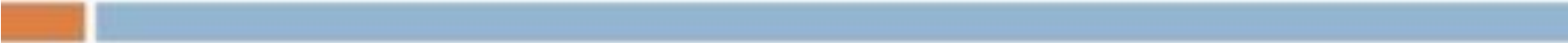
- Preoperative
- Intraoperative
- Postoperative
- Surveillance

Preoperative



- Preparation of patient
- Hand antisepsis for surgical team members
- Management of infected or colonized surgical personnel
- Antimicrobial prophylaxis

Preparation of the patient




Identify and treat all infections remote to surgical site before elective operations IA

Do not remove hair preoperatively unless it will interfere with the operation IA

If needed, remove hair immediately before the operation preferably with electric clippers IA

Preparation of the patient



Require patients to shower or bathe with an antiseptic agent at least the night before the operative day IB

Thoroughly wash and clean at and around the incision site to remove gross contamination before performing skin preparation IB

Hand/forearm antisepsis for surgical team

- Keep nails short and do not wear artificial nails
IB
- Perform preoperative surgical scrub for at least 2 to 5 minutes using an appropriate antiseptic
IB
- Dry hands with sterile towels and don a sterile gowns and gloves
IB

Antimicrobial prophylaxis



- Administer a prophylactic antimicrobial agent only when indicated IA
- Administer by the IV route the initial dose not more 1 hour before incision IA

Intraoperative

- Ventilation system
- Cleaning and disinfection of environmental surfaces
- Microbiological sampling
- Sterilization of surgical instruments
- Surgical attire and drapes
- Asepsis and surgical technique

Ventilation




- Maintain positive pressure ventilation in the operating room IB
- Maintain a minimum of 15 air changes per hour with at least 3 fresh air IB
- Do not use UV radiation in the operating room to prevent SSI IB
- Keep operating room doors closed except as needed for passage of equipment personnel and the patient IB

Cleaning and disinfection of environmental surfaces

- When visible soiling or contamination with blood or other body fluids of surfaces or equipment occurs, use an approved disinfectant to clean the affected area before the next operation IB
- Do not perform special closing the operation room after contaminated or dirty operation IB

Sterilization of surgical instruments



- Sterilize all surgical instruments according to the guidelines IB

Surgical attire and drapes

- Wear full PPE IB
 - Surgical mask that fully covers the mouth and nose
 - Cap or hood to fully cover hair on head and face
 - Sterile gloves
 - Impermeable sterile gowns

- Change scrub suits when visibly soiled or contaminated with blood or body fluids IB

Asepsis and surgical technique

- Adhere to principles of asepsis when placing intravascular devices IA
- If drainage is used , use a closed suction drain, insert it through a separate incision distant from the operative incision and remove it as soon as possible IB

Risk Factors

- Classify the risk factors according to your setting situation

Easy to change and high priority	Easy to change and not high priority
Hard to change and high priority	Hard to change and not high priority

- Target the modifiable and high priority

Cleaning Spills of Blood and Body Fluids

Procedures for dealing with small spillages eg, splashes and droplets

- Gloves and a plastic apron must be worn
- The area should be wiped thoroughly using disposable paper roll / towels.
- The areas should be cleaned using a neutral detergent and warm water.

Cleaning Spills of Blood and Body Fluids

Large blood spills in 'dry' areas (such as clinical areas)

- Where possible, isolate spill area
- The area must be vacated for at least 30 minutes.
- Wear protective equipment like disposable cleaning gloves, eyewear, mask and plastic apron
- Cover the spill with paper towels

Cleaning Spills of Blood and Body Fluids

Large blood spills in 'dry' areas (such as clinical areas)

- Place all contaminated items into yellow plastic bag or in sharp container for disposal .
- Pour (3.5 tab Presept in 1 water liter) solution and allow 10 minutes to react then wipe up
- Decontaminated areas should then be cleaned thoroughly with warm water and neutral detergent .

Cleaning Spills of Blood and Body Fluids

Large blood spills in 'dry' areas (such as clinical areas)

- Follow this decontamination process with a terminal disinfection.
- Discard contaminated materials (absorbent toweling, cleaning cloths, disposable gloves and plastic apron).
- Wash hands

Evaluation of infection control practices

- Checklists
- Surveillance

Evaluation of infection control practices

Checklists

- Used to evaluate everyday performance and compliance to infection control practices
- Provide feedback to OT staff to rapid intervention.

Evaluation of infection control practices

Surveillance IB

- Use CDC case definitions to identify SSIs and all other HAIs either during hospital stay or after patient discharge.
- Provides incidence rate of infection
- Stratifies risk factors HAIs that need strong intervention.