

CHAPTER XIV

HOSPITAL INFECTION CONTROL

INFECTION CONTROL ORGANIZATION IN A HOSPITAL

Each Hospital should have the following organization for the prevention and control of Hospital Associated Infection (HAI):

14.1 Infection Control Committee

This committee formulates the policies for control of infection. Head of Hospital/Health Care Facility should be the chairman of this committee. The secretary should be Infection Control Officer. Members are representative of medical/surgical (HODs of all units), nursing, engineering, administrative, domestic, pharmacy, CSSD Departments. Committee should meet every 3 months or earlier if required.

A separate sub-committee chaired by the Medical Superintendent should deal specifically with Hospital Waste Management.

14.2 Functions

Polycymaking regarding :

- a) Provision of adequate building, equipment, isolation facilities etc.
- b) Ventilation of operation theatre, wards and other units.
- c) Standardization of procedures for operation theatre, wards, housekeeping, kitchen, laundry and CSSD.
- d) Preparation of manuals for procedures like preparative skin preparation, I/V infusions, and catheterisation, lumbar puncture, wound dressing.
- e) Formulation of disinfection policy.
- f) Antibiotic policy for rational use of antibiotic in therapy and prophylaxis.
- g) Implementation of Bio Medical Waste Management Rules in the hospital.

14.3 Infection Control Team

Its Member should be Infection Control Officer and Infection Control Nurse. The team can also include the in charge of CSSD, In charge ICU, Operation Theatre. The team carries out day-to-day measures for the control of infection.

Infection Control Officer is usually a Microbiologist.

14.4 Functions of Infection Control Team

- a) Surveillance of infection to give base line information about the level of endemic infection in the hospital.
 - b) Investigation of outbreaks of infection, including detection of sources of infection with the help of typing procedures and epidemiological information.
 - c) Controlling the outbreak by rectifying technical lapses if any.
 - d) Monitoring of procedures (Wound dressings, I/V injections etc.) sterilization and disinfection processes. Bacteriological monitoring of environment and hazardous equipment.
 - e) Monitoring of hospital staff carriers.
 - f) Training of staff in control of hospital infection.
 - g) To ensure implementation of Universal Precautions in the hospital
- (i) Infection Control Officer (ICO)

Functions :

- Secretary of Infection Control Committee (ICC).
- Identification and reporting of pathogens and their antibiotic sensitivity.
- Regular analysis and dissemination of antibiotic resistance data, emerging pathogens and unusual laboratory findings.
- Initiating surveillance of hospital infections and detection of outbreaks.
- Investigation of outbreaks.
- Training and education in infection control procedures and practice.

(ii) Infection Control Nurse (ICN)

Functions :

- Liaison between microbiology department and clinical departments for detection and control of hospital infection.
- Surveillance of infection and detection of outbreaks.
- Collection of specimens and preliminary processing.
- Training and education of staff in infection control procedures and practice under supervision of ICO.
- Awareness among patients and visitors about infection control.

Universal Precautions

14.5 Universal precautions are essential while dealing with all patients irrespective of the diagnosis.

14.6 Practicing universal precautions is the most effective and efficient method of preventing hospital-acquired infections.

14.7 Basic principles :—

- Consider all patients as potentially infective.
- Use appropriate barrier precautions routinely (gloves, masks, aprons and eye protection).

14.8 Universal precautions should be applied to all patients, all samples.

14.9 Procedures :

- (i) Hands should be washed before and after all patient or specimen contact.
- (ii) Blood of all patients should be handled as potentially infectious.
- (iii) Gloves should be worn for potential contact with blood and body fluids.
- (iv) Used syringes should be immediately placed in nearby impermeable container, do NOT recap or manipulate needle in any way by hand, use syringe and needle destroyers.

- (v) Protective eyewear and mask should be worn if splatter with blood or body fluids is possible (e.g. bronchoscopy, oral surgery).
- (vi) Gowns should be worn when splash with blood or body fluids is anticipated.
- (vii) All linen soiled with blood and/or body secretions should be handled as potentially infectious.
- (viii) All laboratory specimens should be processed as potentially infectious.
- (ix) Mask should be worn when handling patients of TB and other respiratory organisms.

PROTECTION AGAINST BLOOD BORNE INFECTIONS (HBV AND HIV)

14.10 Specific measures in laboratories :

- (i) Mechanical pipetting aids should be used.
- (ii) Spills and breakage should be immediately decontaminated
- (iii) Gloves should be worn during handling of blood, blood products and body fluids.
- (iv) All open wounds on hands and arms should be covered with watertight dressing.
- (v) Hands should be washed with soap and water immediately after exposure to specimens.
- (vi) Working surfaces should be made of non-penetrative material that is easy to clean. Use sodium hypochlorite 1% to decontaminate surface.
- (vii) Specimens should be decontaminated with 1% sodium hypochlorite before disposal.

14.11 Specific measures in Hospital Wards

A Injection :

- (i) By sterile disposable needles and syringe or autoclaved glass syringes.

- (ii) Used needles and syringes should be discarded in disinfectant (1% hypochlorite, bleaching powder 14 g/1L).
- (iii) Disposable and reusable needles and syringes should be collected in separate puncture proof containers.
- (iv) Disposable syringes and needles should be disinfected and shredded/mutilated.
- (v) Reusable syringe should be disinfected, cleaned and autoclaved.

B Surgical Procedures :

- (i) All instruments, equipment and material used must be sterile
- (ii) Used instruments, equipments should be cleaned and sterilized according to specific recommendation for each.

14.13 Spillage or surface contaminated by blood or blood product :

- (i) Spillage should be covered with absorbent material after which disinfectant should be (1% hypo chlorite/bleaching power 14g/1L) poured over it and left for 20 minutes. Waste disposal to be dealt with separately.
- (ii) Tissues, organs, or limbs removed during surgery should be incinerated or buried deep with bleaching powder/lime.