

Certificate Course in Hospital Infection
Control for Doctors
Department of Microbiology



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Syllabus for Certificate Course in Hospital Infection Control for Doctors

Introduction:

Infection is one of the most dreaded adverse events associated with healthcare delivery, accounting for considerable morbidity, mortality and cost. Although sometimes unavoidable, a significant proportion of healthcare associated infections could be prevented by better quality clinical practice. Though all healthcare practitioners are responsible for ensuring consistent delivery of high quality clinically effective care and protect patients from the risk of infection, the support of an “Infection Control Practitioner” can play a vital role in ensuring that all Health Care Workers (HCW) adhere to the correct infection control practices. Thus one can prevent a large number of infections with improved healthcare delivery and patient outcome. In view of the improved quality conscious society and the necessity of NABH accreditation, an Infection Control Nurse (ICN) is a mandatory requirement. HCWs trained as “Infection Control Practitioner” will be able to function effectively in hospitals or any healthcare institutions as far as prevention and control of healthcare associated infections are concerned. During this course all the aspects of HIC will be covered.

Aim of the training:

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The aim of the course is to train the healthcare workers so as to provide a well-supervised expertise in the field of hospital infection control.

Objective: This program is an endeavour to prepare healthcare professionals for implementation of hospital infection control activities in their day to day practices to prevent hospital acquired infections.

Organization of Training:

Course Content:

The course consists of 6 week which includes theoretical and practical training in the following aspects of hospital infection control:

Background: Historical journey, organization of hospital infection control, journey of antimicrobials, current scenario and challenges in hospital infection control. Immunocompromised host and special scenarios. Candidates will be introduced to the basics of hospital acquired infections (HAI). The available data on the rate, incidence of hospital acquired infections, their common causes, other epidemiological aspects, their influence of patient outcome and financial implications in developing countries like India will be discussed with them. The overview of the course will be given to the candidates.

Routes of transmission and their prevention: Various routes of transmission of infection and methods of prevention of infectious diseases in hospital settings.

Infection control programme organization: Role of hospital administration in hospital infection control, hospital infection control committee, infection control team, role of ICN, other staff, infection control manual, introduction to surveillance of hospital infection control.

Surveillance: Different principles and practices of surveillance of hospital acquired infections such as device associated infections (Ventilator associated pneumonia [VAP], Catheter associated urinary tract infections [CAUTI], and Central line associated blood stream infections [CLABSI]), surgical site infections (SSI), *Clostridium difficile* infection (CDI) and their routine surveillance. Hands on training in surveillance of hospital acquired infections will be provided.

Needle stick injury and post exposure prophylaxis: Needle stick injury (NSI), safe injection practices and post exposure prophylaxis (PEP) protocols among hospital staff, exposure reporting, evaluation of occupational exposure sources.

Sterilization and disinfection: Various physical and chemical methods of sterilisation and disinfection will be taught to the candidates. Cleaning and reprocessing of medical equipment, disinfection of Hepatitis B virus, Hepatitis C virus, HIV or TB contaminated devices. Practical hands on training will be conducted in the department of microbiology.

Personal protective equipment and standard precautions: Correct method of use of personal protective equipment (PPE), the significance of taking standard precautions, elements of standard precautions, supportive measures, administrative

responsibilities, education and training of healthcare workers, patients and families will be taught to the candidates.

Isolation protocols: Protocols regarding indications of isolation in relation to infectious diseases such as swine flu, managing a patient during isolation, standard precautions to be taken in these patients will be taught to the candidates

Biomedical waste management: BMW rules 2016 update will be given to the candidates along with hands on training.

Central Sterile Services Department (CSSD): Visit to the central sterile services department along with infection control practices being followed in CSSD. Location and organization of CSSD in a hospital, workflow, transport and reception of non sterile items, cleaning of devices and items, drying, assembling and packaging, sterilization will be discussed in detail.

Laundry: Training on method of collecting and processing used hospital laundry such as linens, towels and other material along with segregation of such articles for sterilization and reuse based on pre-defined criteria will be imparted.

Kitchen: Hospital infection control practices to be followed in the kitchen along with surveillance techniques followed in the kitchen such as cultures of various work surfaces and food items, pest control, waste management, inspection and supervision, cleaning of kitchen, special precautions in food preparation and storage.

Housekeeping: Candidates will be sensitized towards the importance of training and educating the house keeping staff in prevention of hospital acquired infections.

Device associated infections: Comprehensive teaching along with hands on training on various device associated infections such as VAP, CAUTI, CLABSI, their bundle care protocols and related aspects, prevention bundles, safe handover, inventory management, checklist and kits for different protocols such as lumbar puncture kit, central line kit etc.

Antimicrobial resistance (AMR): General aspects of AMR, control of antimicrobial resistance in health care facilities, Extended Spectrum Beta Lactamase producing Gram negative bacteria, Methicillin Resistant Staphylococcus aureus, Vancomycin Intermediate Staphylococcus aureus, CDI, Vancomycin resistant Enterococci, *Mycobacterium tuberculosis*, incidence of multidrug resistant organism infections,

challenges in routine patient care, antimicrobial stewardship, antibiotic policy and its significance in reducing AMR in hospital.

Vaccination: Role of vaccination in reducing severe HAI such as Hepatitis B, H1N1 and other hospital acquired infections. Important vaccines in HIC such as Hepatitis B, H1N1, MMR, chickenpox.

Blood spill: Management of blood spill with practical demonstration using simulated conditions.

Hand hygiene: The role of hand hygiene in hospital acquired infection. Steps of hand washing and related topics will be dealt in detail.

Environmental surveillance: Disinfection of OT & ICU and taking surveillance cultures from critical areas, setting up surgical site infection surveillance in hospital.

Assessment of Training: -

Exit Examination :-

As per the Institutional guidelines

The certificate is awarded after a final exit examination, at the end of the 6 weeks training period.

Supervision:

Initially, the trainee will be fully supervised by the Faculty posted in the area.

The academic activities of the program in the hospital would include :-

Regular academic sessions

Bedside practical training

Onsite Surveillance Activity

To sum up:

The goal of the Certificate Course in Hospital Infection Control is to train healthcare workers to undertake infection control practices so as to:

1. Reduce the menace of hospital acquired infections.
2. Reduce associated increased antimicrobial use and consequent resistance.
3. Reduce associated morbidity and mortality
4. Reduce the treatment costs

5. Overall improvement in patient care and their outcomes.

Recommended reading:

1. Hospital Acquired Infections- Prevention and Control by Purva Mathur. Publisher: Lipincott Williams & Wilkins.

2. National, CDC, WHO guidelines on Hospital Infection Control.

3. Journals:

Journal of Hospital Infection.

Journal of patient safety and infection control.

American Journal of Infection Control.

Waste Management Journal Elsevier