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Practical Guide Book for HOSPITAL INFECTION RISK ASSESSMENT, PREVENTION & CONTROL



Shishir Basarkar

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4 Infection, Prevention and Control

PATIENT CENTRIC APPROACH

In the modern era of medicine practice, the healthcare entities insist upon health education to their clients. People receiving care increasingly expect that the care-giver provide more and more information to them regarding their condition as per their rights and responsibilities as users of healthcare facility. Though the patient satisfaction varies from facility-wise, however, the experience is not valued and expectations are not met all the time. Best outcome and satisfaction is expected where care is given keeping patient in the center of the priority and their rights and responsibilities are respected.

The accreditation process necessitates the healthcare facility to develop and implement patient's rights and responsibilities facility wide. This makes healthcare giver and receiver both accountable to play their part seriously and with commitment. It is of paramount importance that all caregivers understand the need of understanding patient's rights while receiving healthcare.

Management of healthcare institution should show commitment towards the strict compliance with patient's rights and any violation should be viewed seriously. Following are the rights:

- Right to get medical care in any healthcare institution whether government or private
- Right to get information on identity of the staff giving care
- Right to have confidentiality on care given
- Right to preserve dignity and privacy
- Right to have clinical records
- Right to refuse treatment being given
- Right to have second opinion regarding diagnosis and/or management
- Right to sign or not to sign the informed consent for choice of treatment
- Right to know the procedure of lodging complaint and process of redress of grievance.

RELATION OF INFECTION PREVENTION AND CONTROL TO PATIENT CENTRIC APPROACH

The infection control prevention and control is all about the safety of patient from contacting infection during the care. It is an important component of provision of high quality healthcare.

Once patient is at the center of the program, it enables them to understand the risks associated with treatment also staff considers patient's need at every level and provide them effectively. This may be classified as different points discussed further.

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- Designing of the facility in such a manner that it provides maximum comfort and safety to the patient.
- Actively listening to patient's complaints and act swift on them to improve the system and prevent recurrence.
- Involvement of patient and their family members in decision making at each and every step.
- Health education to patients and their family members.

Infection prevention and control is a two-way approach involving patient at one end while caregiver at another end. This approach makes the prevention and control program more effective; thus, minimizing the cross infection and transmission. However, it is important to:

- While developing policies, procedures and SOPs then patient's perspective should be taken into the account.
- Patients, family members and caregivers should be made familiarize with infection control and prevention strategies which are employed the facility wide. This will protect them from infection by virtue of awareness towards infection control and prevention.
- Patient should be encourage to disclose any potential infection or any risk they are harboring which may pose health problem to the caregiver.
- Keep provision to health education and infection prevention and control using various media like videos, posters, pamphlets, standees, etc.
- Have the system of providing feedback or concerns by patient about infection control and prevention.
- Healthcare facility should have system of giving opportunities to patients to identify and communicate about the risks related to infections.
- Encourage discussion with patient about specific risks which are associated with their medical or surgical treatment.
- Patient should be given timely information about the protocols which the hospital is following for protecting their confidentiality and privacy.

BASIC PRINCIPLES OF INFECTION CONTROL PROGRAM

Hospital-associated infection (HAI) is a worldwide problem and cause significant morbidity among admitted patients. Also, these infections consume hospital resources heavily because they need repeated investigations, use of higher antibiotics and supportive care leading to prolonged hospital stay. So, the infection control is therefore cost-effective and achievable even when there are limited resources. Two basic principles govern the IPC program and these are:

1. *Isolation of known infected patients from others:* It includes the separation of infected patient from other noninfected patients and creating a barriers between contamination and general environment, which include caregivers and other noninfected patients.
2. Barrier nursing (BN) is second principle of IPC program. It is use of infection control practices in order to control of, and eradicating pathogenic organisms. As mere isolation of infected patient is not successful in control and preventing infection unless due precautions are taken in patient's own room or at home. These precautions are subclassified into two standard precautions and

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transmission-related precautions. Standard precautions are applicable to all patients regardless of their diagnoses or presumed infectious status. Second set of precautions which are taken based on the route of transmission (contact, airborne, droplet, vector borne, etc.). Basically there are two types of barrier nursing:

1. Standard barrier nursing which prevent transfer of infection from patient to other. This is also known as *Source isolation*.
2. Reverse barrier nursing which on the other hand prevents transfer of infection to other susceptible person. This is also known as *Protective isolation*.

Infection control nurse should overview the activities of barrier nursing and should ensure to make available all required resources and also be able to manage the risks faced at various level of the management of patient.

The decision of giving barrier nursing must not be taken lightly and one side. The involvement of patient, family members and head nurse along with treating physician is necessary. Following points must be considered before putting patient for BN because isolation of a confused or distressed patient may be dangerous to their wellbeing and safety.

- Assessment of psychological and emotional wellbeing of patient.
- Availability of all required resources along with contingency stocks.
- Risk assessment of spread of infection to other staff members and service users.
- Mode of transmission of infection (contact, airborne, droplets, feco-oral route, etc.).

Following precautions should be observed while patient is isolated and barrier nursing is being given:

- Barrier nursing precautions should be displayed on the front side of the room door
- Maintenance of regular thorough hand hygiene by all caregivers
- Alcohol rub should be available at the "point of care"
- Staff should follow the principle of "Bare Below the Elbow"
- Strict compliance to use of personal protective equipment (PPE)
- Cleaning of environment in terms of daily and terminal cleaning
- Movement of the staff to BN should be restricted to maximum possible limit to reduce the chances of infection spread
- Caregivers should be advised not to feed patients
- Patient care articles like bedpans, urinals, wheelchairs should be kept inside the room and after each use should be cleaned
- There should be strict visitor's policy and all visitors should be encouraged to have proper hand hygiene
- Any family member and/or visitor which to give care to patient then they should be educated about the proper use of PPE and their disposal.

COMPONENTS OF INFECTION CONTROL PROGRAM (TABLE 4.1)

Joint Commission Standard (JCI) IC.01.0501 necessitates organization to have a documented infection control program. This includes establishing priorities and

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Table 4.1 Suggested components for IPC program

Background information	Organization's vision and mission
	Scope of services
	Credentialing of the staff members
	Conferring authority for decision for IPC
	Forming committee and charting out its role and responsibilities
	Training the team members on all aspects of IPC
	Defining role and responsibility of each member in case of emergency
	Compliance to all rules and regulations applicable to healthcare facility
	Any specific patient care related issue
	Any other relevant information
Plan of action	Assessment and prioritization of risks
	Goals and measurable objective elements
	Action plan to be decided that coinciding with goals and objective achievements
	Conferring responsibility of tasks
	Development of evaluation methods
Subcomponent plans	Organogram for decision making process authority
	Disease outbreak investigation plan
	Surveillance plan
	Education and training plan
	Laid down policies and procedures
	Incident monitoring
	Antibiotic use
	Protection of healthcare workers through immunization program
Miscellaneous	Budget allocation for such program
	Resource allocation
	Encouragement for research activities
	Performance improvement activities
	Networking with other similar facilities

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activities in order to prevent and mitigate the incidences of hospital-acquired infections. This program is a multidisciplinary approach addressing followings:

- Leadership for effective management of program
- Probability of risk of infection
- Infection prevention and control strategies
- Emergency as well as contingency plans
- Appropriate resource allocation
- Effective communication among team members and top management
- Abiding to the government rules and regulations
- Evaluation process.

Once in place, the program will reduce the risk of infection thus promoting the quality of care, safety and wellbeing of patients, attendants and caregivers. The program formation should include participation from all disciplines and strong leadership support. An ideal program can be divided into two sections one is basic information about program itself and second is action plan, so first one is plan and second one is execution. Followings are the guidelines for writing IPC program:

- Development of outline and content table.
- Identification of institutional, local, regional, state, national and accreditational specifications which are applicable to healthcare settings.
- Establishment of goals and measurable objective elements.
- Perform risk assessment facility wide.
- Develop the appropriate strategy to meet the goals and objectives.
- All the members in consensus should develop timeline for assigned task for periodic review.
- Develop system of 360° information dissemination, so that any new service or procedure started in facility is notified in time.
- Networking with similar facilities and professional for exchange of views helpful in development of program.

PRECAUTIONARY STEPS IN INFECTION PREVENTION AND CONTROL PROGRAM

It is very important to give first hand consideration to the elements which may retard the progress of the program in the entity. Infection prevention and control (IPC) is an ongoing process hence the risks in its smooth progress must be identified and necessary precautionary steps taken.

- All the team members should be empowered to take spot decision.
- Elimination of lack of knowledge about the assigned task and how to perform and its importance.
- Regular motivation of the staff through training and evaluations.
- Management reinforcement towards correct performance of the task using correct methodology, instrument, equipment.
- Adequate system support (consumables and equipment) to perform task correctly.

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- Commitment from the top management towards effective IPC.
- Education and competency verification for those involved in IPC program.
- Regular monitoring and periodic evaluation of program.

INFECTION CONTROL MANUAL

It is an important tool in hospital-associated infection prevention and control. The manual is prepared by the infection control team then reviewed and approved by infection control committee.

The contents of manual are in consonance with the functioning of the hospital and may vary from institution to another.

- It outlines the method of surveillance in high-risk areas and moreover mode and frequency of surveillance is also defined in it. The surveillance methodology should be simple, flexible, consistant, acceptable and cost effective.
- Considering surveillance manual identifies high-risk areas in the hospital as well as high-risk procedures being performed in the hospital.
- Manual identifies the practice which are used for cleaning of equipment and sterilization.
- Manual guides in details about equipment maintenance and air-conditioning plant maintenance.
- It provides the guidelines about linen management and catering services management.
- Manual has standard precautions laid down for mortuary practices and procedures.
- The organizational antibiotic policy is dealt in infection control manual.
- The manual provides guideline for functioning of caregivers at all levels. It also provide details about the job role and responsibility of each one involved in infection control practices in the particular facility.
- The manual must be readily available for healthcare workers and be updated periodically.

CORRECTIVE AND PREVENTIVE ACTIONS

The most essential part of the infection prevention and control program in hospital-acquired infection is troubleshooting, identifying and preventing potential problems so that there is no recurrence of the same in future. The reason of keeping corrective and preventive action (CAPA) in place is that every infection, which occurs in hospital, has financial impact on institution's budget. By implementing CAPA, the institution attempts for continued customer satisfaction and efficient business. Thus, the CAPA is a fundamental management tool which is used in every quality system.

The gap in the effective process is inadequate documentation of the action taken against the problem. The proper documentation provides the data for continuous quality improvement plan so that the process meet all the regulatory requirements laid down by institution (Table 4.2).

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Table 4.2 Corrective and preventive actions

Corrective action	*Preventive action*
It consists of reacting to service or product problem, customer grievance or process non-compliance and correcting the gaps	It is the process of identifying potential problems or noncompliances in advance and eliminating them
It is reactive in nature	It is proactive in nature
Review the problem and finding out root cause of problem	Identification of potential problem and its basic cause based on anticipation
Developing and implementation plan to correct problem and prevent its recurrence	Development and implementation of plan so that problem does not arise
Evaluating the effectiveness of the correction	Review of plan for its effectiveness
Corrective action evidence shows that the problem was recognized, corrected and proper control has been place to ensure there is not repetition of the same	Preventive action evidence shows that potential problem has been anticipated identified and eliminated
Example: In ward it is found that caregivers are not complying to hand washing practices which are resulting in nosocomial infections. To ensure hand washing compliance, the supervisors have been made responsible	*Example:* The staff being given training lectures and retraining on impact of hand washing and infection control so that the compliance to hand hygiene becomes optimal

The CAPA provides the evidences for root cause of noncompliances, process or system failures, correction of problems and their prevention from recurrence so that it gives idea about what went wrong in particular incidence and what has been done to make sure that it does not happen again in same type or related incidences.

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Practical Guide Book for
HOSPITAL INFECTION RISK ASSESSMENT, PREVENTION AND CONTROL

Salient Features

- It is written with the objective of providing all the essential information, which are of utmost importance to healthcare workers at all levels
- The risk associated with hospital-acquired infection is the topic of the global concern and gaining importance day-by-day, as it is invading the valuable resources
- Attempts to simplify the subject of infection risk and its prevention and control at different levels, and once the reader has gone through, one can check the knowledge gained in the form of solving review questions
- Gives the supplements at the end of book to compile the various topics in short and acts as ready-reckoner for the readers
- Addresses the various dimensions of hospital infection in sequential manner in this comprehensive text, thus allowing reader to understand each step in detail
- The book will surely bring changes in terms of knowledge, belief and attitudes of the healthcare workers, who are closely associated with patient care.



Shishir Basarkar is an experienced Hospital Manager, who has various scholastic qualifications to his credit. He has been trained in various fields of hospital management through different special training and workshops. He has experienced various areas of hospital operations, and has special interest in infection control, quality management, hospital waste management, and training and development of the healthcare workers. He has presented papers in various national and international conferences, and has many publications in his name as well. Presently, he is working as the Chief Operating Officer, Marble City CARE Hospital, Jabalpur, Madhya Pradesh, India.

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