LOGO
CENTRE NAME
CENTRE ADDRESS

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AMENDMENT SHEET

Sl. No.	Section No & Page No	Details of amendment	Reasons	Signature of preparatory authority	Signature of approval authority
1.					
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Amendment Record

AMENDMENT		DETAILS OF AMENDMENT	ISSUE STATUS	REV. STATUS
NO	DATE			

A. DEFENITIONS

Nosocomial Infection: Nosocomial infections, also called "hospital-acquired infections", or infections acquired during hospital care which is not present or incubated at admission. Infections occurring more than 48 hours after admission are usually considered nosocomial.

Urinary infection: Positive urine culture (1 or 2 species) with at least 105 bacteria/ml, with or without clinical symptoms.

Respiratory infection Respiratory symptoms with at least two of the following signs appearing during hospitalization:

- Cough
- Purulent sputum
- New infiltrate on chest radiograph consistent with infection.

Septicaemia Fever or rigors and at least one positive blood culture during hospitalization.

B. IDENTIFICATION & CLASSIFICATION OF HIGH RISK AREAS

The hospital has classified the areas into high, medium and low risk to plan for its cleaning, disinfection and surveillance activities under the infection control programme.

Category	Areas	Planned Activities
High Risk	• Panchkarma Theater • Room/Mini Procedure Room • Biomedical waste storage	- Surveillance - Specialized Cleaning Instructions - Audit

	Area	
Medium Risk	• Wards & Rooms • Diet Kitchen • Medicine Preparation Kitchen • Duty Room & Nurse Stations • Pharmacy	- Cleaning Checklists - Audit
Low Risk	• OPD • MRD • General Areas	- General Cleaning

C. SURVEILLANCE OF NOSOCOMIAL INFECTIONS

The nosocomial infection rate in patients in a facility is an indicator of quality and safety of care. The development of a surveillance process to monitor this rate is an essential first step to identify local problems and priorities, and evaluate the effectiveness of infection control activity.

Definition – Surveillance is defined as the continuing scrutiny of all aspects of the occurrence and the spread of a disease that are pertinent to infection control. (CDC)

It is the systematic collection, analysis and interpretation of health data essential to planning, implementation and evaluation of the public health practice closely integrated with timely dissemination of this data to those who need to know.

Nosocomial infection surveillance is a program designed to investigate, control and prevent hospital acquired infections.

Objectives of Surveillance

1. To recognize any unusual level of incidence or outbreak
2. To judge the desirability of introducing special control measures.
3. To assess the efficiency of regular preventive measures.
4. To provide feedback.
5. To reduce the level of avoidable infection.
6. To establish endemic baseline data.
7. To identify high-risk patients.

Methods of surveillance: Active Surveillance and passive surveillance

Passive surveillance refers to the strategy where problems are identified by those other than infection control professionals using data generated in the routine course of patient care. This method requires the fewest resources, but it is inherently unreliable and leads to underestimation of problems. Outbreaks are recognized at a much later stage, often when little can be done to contain them.

Active surveillance refers to the use of multiple data sources to detect problems by trained practitioners at an early stage. It often includes routine patient screening for pathogens of concern and involves a multidisciplinary approach for the management and control of health care-associated infections.

Lab record scrutiny:

1. The infection control nurse examines lab reports received from the outsourced lab if any and discusses it with the HIC Doctor

2. She/ He then visits the relevant patients and gathers necessary information. She determines whether it is hospital acquired or community acquired infection. She encourages the Infection Control Nurse to send samples to the outsourced lab for all patients with suspected infection and report to him/her.

3. Helps in identifying cross infections and outbreaks.

Daily visits to all units

1. Infection control nurse has to visit all the units daily or several times a week and examine all records of all clinical infections.

2. Case definition of Nosocomial infection as described by CDC and the infection rates to be identified for Urinary tract infection rates per thousand catheter days.

    - Appropriate case definitions of each nosocomial infection as described by the CDC are used.

    - Since continuous surveillance of nosocomial infections is often difficult, time consuming and costly, these rates can be determined periodically to define time trends.

Periodical tests done by infection control committee

1. Portability of water - . Microbiology: coliform bacilli - 3 month
2. Food handlers Stool - Salmonella or other parasites –annually
3. Surveillance of Dronis - Microbiology – Every 3 Month
4. Surveillance of Dietary Kitchen table – Microbiology – Every 3 month

D. EMPLOYEE HEALTH POLICY

Employees who come in contact with patients have a risk of acquiring infection in their workplace. However the risk of transmission of microbes to any Health Care Worker (HCW) is negligible provided the recommended Universal Barrier Precautions are practiced. Although immunization is available for few infections, it is not a substitute for good clinical practices. All staff are expected to have been immunized against diphtheria, pertussis, tetanus, polio, measles, rubella and mumps in their childhood, with necessary boosters. For kitchen staff, periodic surveillance for enteric and parasitic carriers will be carried out.

IMMUNIZATION FOR HEALTH CARE WORKERS

Hepatitis B immunization

- All health care workers including temporary workers should receive Hepatitis B immunization.
- The dose and schedules is 1 ml (20mg) IM deltoid at 0.1 and 6 months
- If the schedule has been interrupted there is no need to restart the dosing.
- Ideally all health workers should be checked for anti HBs levels 1 month after completion of the schedule.
- If anti HBs is more that 10 IU/ml then they are responders and do not need further testing of anti HBs levels following exposure of any boosters in future.
- If anti HBs level is <10 IU/ml then they are non responders and should be checked for HBs Ag seropositivity
- If HbsAg negative then they should receive one more course of the vaccine (3doses). 50% of original non responder respond to the second course
- Those who do not respond to the second course are considered permanently susceptible and may need HBIG following exposure.

Pre-employment protocol:

All HCW will be given a copy of the Universal barrier precautions to be practiced in the hospital.

Post- occupational exposure protocol:

Occupational exposure: An exposure that may place a HCW at risk of acquiring HBV /HIV could be:

- A percutaneous injury with an infected needle/infected sharp instrument
- Infected body fluids coming in contact with mucous membrane (MM) or contact with non-intact skin (abraded/dermatitis patch/chapped skin)
- Infected body fluids coming into contact with intact skin when the duration of contact is prolonged. (In minutes/hours).

Immediate management: treat such exposures as emergency.

- Do not squeeze or suck the area and wash under running water with soap or an antiseptic solution
- For mucosal exposure- eyes should be irrigated with clean water, saline or sterile irrigants designed for this purpose. Exposed oral and nasal mucosa should be decontaminated by rigorous flushing with water
- Report to the RMO and give all details of exposure to RMO about exposure/source and your own immunization status.

- The infection control nurse shall maintain a register for follow up. The ICN reports the incident to the HICC chairperson.
- If source HBV/HCV and HBsAg status is unknown then send source blood samples for estimation of HIV/HCV/HBV.
- Exposed Health Care worker (HCW) also submits the blood for HBV, HCV and HIV, which is not immediately processed.
- If source is negative for HIV/HBV/HCV the files should be closed immediately.

Hepatitis B

- If the source patient is negative, no further action need be taken.
- If source is HBV positive:
- Test exposed for HBsAg and anti HBs level.
- Decide on appropriate prophylaxis

STATUS	PROPHYLAXIS
Exposed is not vaccinated.	Give HBG 0.06 ml/kg; Vaccinate with HBV vaccine 0.1.6
Exposed has received one/ two doses of vaccination	Check the anti HBs level; Continue the vaccination schedule; Give HBIG if the anti level is <10 IU/ml.
Exposed has received ¾ doses. But no anti HBs level in past OR level < 10 IU/ml.	Check anti HBs level. If level > 10 IU/ml – no intervention If level < 10 IU/ml give booster dose of vaccine.
Exposed has completed vaccination and anti HBs level in past > 10 IU/ml	No intervention.

HIV

Starting of Post-exposure prophylaxis (PEP) depends on the degree of exposure (Exposure code) and HIV status of the source from whom the exposure has occurred.

PEP is advised to be taken within 72 hrs of exposure. Before this a baseline HIV test of the HCW is to be done. If the test is positive, PEP is not indicated as the individual is already infected. The employee is referred to nearby allopathic hospital.

HCV

- If source is HCV positive:

  - Test the exposed for Anti-HCV and baseline LFT
  - Refer to Gastroenterologist
  - Repeat anti HCV and SGPT of exposed at 4-6months

Repeat HIV/HBsAg& HCV at 6weeks, 12 weeks and 6 months post exposure.

Records of Needle stick injuries and other occupational exposures within the Hospital

Records of Needle stick injuries and other occupational exposures within the hospital		
Name of employee	No.	
Designation	Department/ Ward/ Section	
Age and Gender	Dated	
Time of incident		
Nature of incident: Prick with solid needle/ Prick with hollow needle/ eye splash/ face splash/ torn gloves while examination, surgery.		
Duration of exposure.		
Clinical site		
Vaccinated for Hepatitis B:	Yes/ No	If so, when
HbSAg titre		
Patient details		
Recommendations		
Whether complied		
Surveillance of dietary workers for carriers.		

Prepared By	Approved By
DY MEDICAL SUPERITENDENT	MEDICAL SUPERITENDENT

All kitchen staff who are directly involved in handling food items will be screened once in six months for parasitic ova, cysts and Salmonella carrier state.

E. UNIVERSAL BARRIER PRECAUTIONS

Barrier precautions intended to prevent parenteral, mucous membrane, and non- intact skin exposures of health care workers (HCW) to blood borne pathogens from all patients is referred to as **'Universal barrier Precautions' (UBP).** Universal barriers are intended to supplement rather than replace recommendations for routine infection control, such as hand washing and using gloves to prevent gross microbial contamination of hands. These precautions apply to blood and any other body fluids containing visible blood, although, the risk of transmission of HIV and HBV from other fluids and excretions is extremely low or non-existent, they represent a potential source for nosocomial and community acquired infections with other pathogens. Therefore, for these fluids and excretions also, appropriate hand care and disposal is recommended.

Examples of protective barriers include gloves (two pairs), gowns (water proof), masks, boots (according to situation) and visors. Specifying the types of barriers needed for every possible clinical situation is impractical and, therefore, some judgment must be exercised. Other general guidelines include the following:

- Take care to prevent injuries when using needles, scalpels and other sharp instrument and devises; when handling sharp instruments after procedures; when cleaning used instruments; and when disposing off used needles.
- Do not recap used needles by hand; do not remove used needles from disposable syringes by hand; and do not bend, break, or otherwise manipulate used needles by hand.
- Do not pass sharps hand to hand. Place used disposable syringes and needles, scalpel blades, and other sharp items in puncture resistant containers for disposal. Locate the puncture- resistant containers as close to the use area as is practical. Needle incinerators when available are placed similarly.
- Use protective barriers to prevent exposure to blood, body fluids containing visible blood, and other fluids to which universal precautions apply. The type of protective barrier(s) used should be appropriate for the procedure being performed and the type of exposure anticipated.

- Use sterile gloves for procedures involving contact with normally sterile areas of the body.
- Use examination gloves for procedures involving contact with mucous membranes, unless otherwise indicated, and for patient care or diagnostic procedures that do not require sterile gloves.
- Change gloves between patient contacts.
- Immediately and thoroughly wash hands and other skin surfaces that are contaminated with blood, body fluids containing visible blood, or other body fluids to which universal precautions apply.

Waste management:

Policies for defining, collecting, storing, decontaminating, and disposing of infectious waste are determined in accordance to state regulations

F. INVESTIGATION OF AN OUTBREAK

When numbers of isolates or infection rates increase above the baseline, or when an isolate of a rare or potential bio-terrorism agent is recovered, an outbreak may have occurred. The Microbiology laboratory may be the first to recognize the event and will likely participate in the outbreak investigation. The HICC can delegate other staff if needed and deemed fit according to the situation. The following are the steps followed.

STEPS OF AN OUTBREAK INVESTIGATION		
S.N	**STEPS**	**DESCRIPTION**
1	Verify diagnosis of suspected cases.	Establish a case definition
2	Confirm an outbreak exists	Be certain all suspected cases meet the definition
3	Find additional cases	Investigate to determine whether additional cases exist
4	Characterize cases	Collect as much information as possible about the cases, including people, place and time elements. Develop an epidemiologic curve to assist in the visualization of an outbreak numbers over time

5	Form hypothesis	Establish a "best guess" hypothesis about the outbreak i.e. what are the likely reservoir, source and means of transmission.
6	Test hypothesis	Test the hypothesis with the control group and data collected and compare the events.
7	Institute control measures	Implement intervention activities to control the outbreak. Even thought the hypothesis may not be developed and tested, interventions of some type are introduced early in the investigation.
8	Evaluate effectiveness of control measures.	Determine whether the implemented activities have an impact on the outbreak. Did the number of cases diminish or disappear?
9	Communicated findings	Write up the investigation, file and communicate with all the involved parties.

G. DISINFECTION AND STERILISATION

Disinfection

Sterilization is defined as a process where all microbes are removed from a defined object, inclusive of bacterial end spores.

Disinfection is a process where most microbes are removed from a defined object or surface, except bacterial end spores.
Disinfectants can be classified according to their ability to destroy these categories of microorganisms. The agent which destroys only vegetative bacteria is termed low level disinfectant. If the agent is capable of rendering mycobacteria non-viable, it is termed an intermediate level disinfectant. It is a safe assumption that all the other categories of microbes which are classified more susceptible e.g. fungi, are also destroyed if efficacy against mycobacteria can be demonstrated. High level disinfection is in other words sterilization where in all microbial life is destroyed, inclusive of endospores.
Following disinfectants are used in our hospital:

1. Betadine / Povidone iodine
2. Lysol (3%)
3. Gluteraldehyde 2 %
4. Incidur
5. Sodium Hypochlorite Solution

Floor cleaning

Items	**Cleaning / disinfection**	**Remarks**
Ambu bag	If uninfected patient 70% Alcoholic swab. Infected patient- 2%	
Bed pans & Urinals	Soap and water and immerse in 3% Dettol	
Bed side lockers	Every week – soap & water and wipe with 3% Dettol	
Bowls	Wash with soap & water and store Inverted	
BP apparatus	Wipe with 70% alcoholic wipes	
Buckets	Soap & water and store dry	
Cupboards , shelves , beds, lockers, stools, IV & other Fixtures	Soap & water once a week	
Fans & light	Clean with soap & water once a Month	**Never dry dust**
Hand wash Dispenser	Wash every week with hot water, Rinse & dry. Use fresh containers of solutions every time	
Macintosh	Cleaned with soap & water disinfected with 3% Dettol, dried in the sun, powdered, rolled and stored.	
Measuring cup	Soap and water	
Medicine Container	Soap and water	
Oxygen masks	70% Alcohol swab	
Razors	Safety razors – use disposable /	

	autoclavable Electric razors – Immerse the razor head in 70 % alcohol for 5mins	
Spillage of blood & body fluids	Area should be covered with absorbent material , saturated with 1% Sodium hypochlorite for 10 Mins	
Stethoscope	70% Alcohol swab	
Thermometer	70% Alcohol swab / 70% Isopropyl alcohol.	**Individual for each Patient. Clean after each use.**
Toilet seats	Wash with soap & water	
Trolleys	a. Wash with soap & water before the first use b. Terminal cleaning with soap & water,	
Wash basins	Cleaned with detergent every morning and with hypochloric acid once a month	
Wheel chair	Wipe with soap & water and dry	

ENVIRONMENTAL CLEANING AND DISINFECTION IN PANCHKARAMA THEATER

Method of Disinfection

- Surface cleaning

Disinfectants used

- Dettol
- Phenol
- Preparation and concentration of Disinfectants

For blood spills - 75 ml in 12 liters water (1%)

PANCHKARMA THEATRE

Procedures to be followed by health care personnel

- Every member entering the PT area should wash their hands properly.
- The street footwear should be removed outside the changing room and placed on the racks provided.
- Appropriate PPE's to use
- Hand to hand passing of sharps should be avoided. Receive and pass sharps only in receptacle.
- Utmost care is taken in disposal of sharps.

Infectious cases in PT

- Minimize equipment to be used.
- Use disposable sets and sheets.

PRECAUTIONS.

Health care workers with any open wounds or weeping skin lesions should refrain from activities which may result in exposure to blood or infectious body fluids.

Disinfection and sterilization.

a. Prior to commencement of the day.

- All the surfaces of walls and equipments are cleaned with 2% gluteraldehyde solution/Incidur 1 hour prior to the entry of theatre suits.

Cleaning in Between Cases

- Used linen is collected in the bag as per hospital policy, and sent to laundry.
- Garbage is collected in the bag as per hospital policy, and sent to the garbage hub at the end.
- Sharps are discarded in the puncture proof containers.
- Attachments to the equipment are removed, cleaned and replaced.
- Used equipment i.e. drug trolley, operation table is wiped with wet mop of 2% glutaraldehyde/Incidur.
- Wall surfaces are mopped to remove bloodstains.
- If there is blood spillage cover the area with absorbent material and pour 1% sodium hypochlorite for proper disinfection.

Terminal Cleaning

- Wall surfaces are cleaned with proper percentage of disinfectant.
- Surfaces of equipment i.e. operating tables, lamps, suction units (after emptying), etc are clean with glutaraldehyde/Incidur solution.
- Floor mopping inclusive of sub rooms and lounges are washed first with soap and water and cleaned with 2% glutaraldehyde/Incidur.
- Footwear is washed with detergent solution under running tap water and kept for drying.
- Bathrooms and toilets are cleaned in each shift and as required.

Weekly Cleaning

- Currently it is performed on Sunday
- Equipment and furniture is removed out from the PT.
- Glass cupboards are emptied.
- Exhausts are cleaned with dry vacuum cleaner.
- Walls are washed and cleaned with proper percentage of disinfectant solution.
- Entire floor is scrubbed and moped by housekeeping under the supervision of on duty Sr. Staff Nurse.
- Scrub sinks are cleaned with detergent solution under running tap water.
- Fumigation is done on monthly basis in entire theatre and as per requirement

Fogging

Procedure

- Fogging shall be done using formalin Solution or similar disinfectants or by Using agents containing silver Nitrate & Hydrogen peroxide.
- The dilution and mode of usage is according to the manufacturer's instructions.
- The volume for fogging shall be in accordance with dimensions of the facility.
- The room must be kept closed for 6 hours before use by housekeeping personnel.

Periodical Cleaning

- Cleaning is done with the help of Housekeeping and Engineering dept.
- Ceiling and the ducts above the ceiling are sprayed with proper percentage of disinfectant.

Instruments.

1. All tubings, canula, needles, aspiration needle, clip applicator etc. are sterilizing.
2. In between cases when sterilization is not possible, high level disinfection is done by soaking the instruments in 2.5% alkaline gluteraldehyde solution (cidex)/Incidur for 20mts.
3. Then the instruments are washed 3 times in sterile water and used for cases.

Engineering control

- AC inlets and outlets in all areas are cleaned regularly.
- Water is also treated with chlorine after filtration.
- Drinking water is treated with aqua guard.

EMERGENCY DEPARTMENT

- Standard precautions are to be strictly adhered to and all patients are to be treated as potentially infected with blood borne pathogens.
- Wash hand before and after patient contact.
- Wear gloves for all patient contact. This is mandatory for all invasive procedures. Discard gloves appropriately after each use.
- Protective eye wear for the emergency staff whenever body fluid spills and splashes are expected

- Wear mask for all situations where a splash is expected.
- Discard all the needles in the puncture proof sharp container after burning. Also discard all the scalpel blades, razor blades etc into sharp container after use.
- Ambu bag and mask contaminated with blood and body fluids are washing under running water.
- All the beds and surfaces contaminated with blood and body fluids are to be washed with hypochlorite 1% solution. Mass blood spills are to be treated appropriately with hypochlorite solution.
- Attenders and sweepers must wear gloves when handling lab samples and performing other cleaning works.

Wound dressing

- Whenever a wound is inspected or a dressing touched, full aseptic precautions must be taken
- Equipments & dressings must be sterile
- Cheatle forceps must not be used. If they must be used, it must have been sterilised using dettol solution with its container after every dressing. Such forceps are not to be left standing in disinfectant solutions.
- Cleaning activities & bed making should cease one hour before the time of the dressing round
- Before each dressing procedure the dresser's hands should be prepared by hand washing
- If gloves are used, a fresh pair should be taken before each dressing. If gloves are not used, the hands should wash before each dressing
- The dressing trolley top must be completely clear.
- Dressing packs, suture removal sets, drains etc. should be individually wrapped or put in sets pre sterilized.
- Preferably two persons should form the dressing team. One carries the sterile procedure, the second assists by doing the non sterile work. This includes preparing the patients, opening jars, bottles, securing the dressing and making the patient comfortable
- Include a receptacle for disposing infectious waste.
- Contaminated instruments to be put into a separate receptacle for processing &recycling.
- Record of wound

- The following should be recorded

- Date & time of dressing
- Condition of wound – example
- Wound clean no evidence of tenderness & Swelling
- Wound clean, some redness, no pus
- Wound clean, but patient complains of recurring pain
- Wound shows signs of inflammation. Swab taken for culture

LABORATORY

- Always adhere to the standard precautions.
- All clinical material and samples are considered to be infectious.
- Gloves are to be worn for all procedures handling the infectious material. Do not perform any other activities while wearing gloves.
- Protective eye wear must be worn whenever performing splash elicited procedures.
- Staffs with any open wounds, exudates, are not allowed to handle specimens contaminated with blood and body fluids.

H. GENERAL GUIDELINES FOR REDUCING GROSS MICROBIAL CONTAMINATION AND CROSS INFECTIONS.

Hand washing:

Hand washing & drying is the most important element in infection control. The most common way organisms are transferred from one person or place to another is by hands. Ideally hand basins should have an elbow / knee / foot operated water taps high enough to permit safe rinsing of hands and forearms. The nails are to be kept short and rounded. Except the wedding band, rings should not be worn on duty. At the start of the shift a 2 minute scrub is considered the shortest acceptable duration for hand washing. A 30 second scrub in between patients who are not grossly contaminated is acceptable. The general principles of hand wash before and after each shift, between patient contacts, when leaving a unit to go to another unit and after attending to personal toilet are to be observed.

Wound dressing

- Whenever a wound is inspected or a dressing touched, full aseptic precautions must be taken
- Equipments & dressings must be sterile
- Cheatle forceps must not be used. If they must be used, it must have been sterilized with its container after every dressing. Such forceps are not to be left standing in disinfectant solutions.
- Cleaning activities & bed making should cease one hour before the time of the dressing round
- Before each dressing procedure the dresser's hands should be prepared by hand washing
- If gloves are used, a fresh pair should be taken before each dressing. If gloves are not used, the hands are disinfected with an alcohol rub before each dressing
- The dressing trolley top must be completely clear. Before commencing the dressing, wash trolley top with detergent. Between dressings apply 3.5savlon, 70% ethyl alcohol, spread & dry.
- Dressing packs, suture removal sets, drains etc. should be individually wrapped or put in sets pre sterilized.
- Preferably two persons should form the dressing team. One carries the sterile procedure, the second assists by doing the non sterile work. This includes preparing the patients, opening jars, bottles, securing the dressing and making the patient comfortable
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I. HOUSEKEEPING

Microbes in the hospital environment can find their way into the patient's body through various routes. Therefore, housekeeping policies are aimed at reducing the bacterial load in the hospital environment on a regular basis. Dry sweeping/mopping/ dusting in patient rooms is strictly prohibited. Chemical disinfectants are no substitute for good cleaning with detergent and hot water. This approach to cleanliness is the basis of good hospital hygiene.

1. All patient rooms/ units to be cleaned by wet moping only:

   - With detergent and water at least once a day
   - With Lysol at least two more times in 24 hours

2. If floors are soiled with blood/blood tinged secretions, cover with disposable paper/waste linen, pour sodium hypochlorite 1%, let it stay for 30 minutes, remove and dispose. Clean with detergent and water.

3. Fresh working solutions of disinfectants are to be made daily

4. When using chemical disinfectants, it is important to use the specified dilutions. Higher concentrations are not necessarily better, but on the contrary they may be less effective, may have toxic effects on the user and damaging effects on the object used.

5. Toilets to be cleaned with detergent and water and a final rinse with Lysol twice a day. Liquid bleach may be used once a week for disinfection. Use hydrochloric acid once a month to remove stains.

6. Wash basins are to be cleaned with scouring powder and bleach daily.

7. Walls are to be wet mopped with detergent and water once a week and ceilings once a month.

8. All work surfaces (hand contact) are to be cleaned with detergent and water.

9. Bed pans and urinals are to be cleaned with scouring powder and water and disinfected with Lysol after patient use.

10. Buckets in the wash room are to be cleaned with scouring powder and water every day.

1 Machinery and equipment should be checked, cleaned and repaired routinely on Sundays
Urgent repairs should be carried out at the end of the days list.
2 Air-conditioners and suction points should be checked, cleaned and repaired on a weekly basis.
3 Preventive maintenance on all theatre equipment should be be carried out every Saturday, and major work to be done at least once a year.
4 Surveillance of housekeeping procedures should be done on a routine basis every month by the HIC Nurse as defined by the SSCASRH.

J. ENGINEERING CONTROLS TO PREVENT INFECTIONS

Ensuring efficacy and reducing chances of contamination of air and water can be done by preventive maintenance of equipments. Proper care and maintenance of the equipments can also reduce accumulation of dust and spores on them.

GENERAL GUIDELINES:

- Prior to commencing and upon completion of work the engineering personnel shall report to the maintenance Incharge.
- Engineering employees shall maintain proper personnel hygiene.
- Engineering personnel must be aware of all the universal precautions.
- Engineering employees shall wear the prescribed clothing prior to entering areas requiring special attire.
- Hand washing should be followed before and after leaving the patient care area.

Plumbing job guidelines:

1. Hospital water supply systems shall not be connected with any other piping system or fixtures that could allow contamination without the use of adequate air gaps or approved back flow preventers or vacuum breakers.

2. When using implements to unstop faulty drains, wear rubber gloves.

3. When Roding out main sewer lines, or when exposed to gross contaminated wastes, wear rubber boots and rubber gloves, goggles and mask.

4. After exposure to sewer lines or gross contaminated waste, clean the exposed areas of body with soap and water. Change uniform if necessary. Do not return to patient care areas before cleaning up.

Physical barriers between repair area and patient care

When any construction or repair work is carried out in patient care areas the supervisors must inform the Medical Superintendent, who will inform the heads of the concerned departments so that patients may be shifted, if required.

When work is carried out in areas with immune compromised patients or that require a sterile atmosphere, adequate physical barriers must be present to prevent the spread of fungus and other such microbes, through dust and debris generated.

All areas that require a sterile atmosphere must be fogged with the HICC approved disinfectant before use following construction work.

Ventilation system

Regular cleaning of all window AC filters must be carried out in systematic manner throughout the hospital. In areas such as the microbiology lab where handling of infected material is carried out, more frequent checks and cleaning of AC filters is required. In areas where central air-conditioning is used, the moisture of the air and the ventilator air changes must be carefully monitored.

A. BIOMEDICAL WASTE MANAGEMENT

CATEGORIES OF MEDICAL WASTE		
Category	**Type of waste**	**Treatment and disposal**
Category No 1	Human anatomical waste	Incineration/ deep burial
Category No 2	Animal waste from animal house	Incineration/ deep burial
Category No 3	Microbiology waste- cultures and devices used for transfer of culture	Local autoclaving/ Incineration
Category No 4	Waste sharps	Autoclaving and mutilation/ shredding
Category No 5	Discarded medicines	Incineration/ disposal in secured landfills
Category No 6	Soiled waste- soiled cotton, plaster Casts, beddings, others contaminated with blood	Incineration
Category No 7	Soiled waste- disposable waste other than waste sharps- tubing, catheters, IV sets.	Disinfection by chemical treatment, autoclaving and mutilation/ shredding
Category No 8	Liquid waste from the labs, housekeeping and disinfecting activities.	Disinfection by chemical treatment and discharge into drains.
Category No 9	Incineration ash	Municipal landfills
Category No 10	Chemical waste	Chemical treatment and discharge into drains for liquids and secured landfill for solids

Colour coding and type of container for disposal of biomedical waste

A color code is followed for the segregation of waste.

Color	Yellow	Red	White/ blue	Black
Type of bag	Plastic bag	Disinfected container/ plastic bag	Puncture proof container/ plastic bag	Plastic bag
Content Category	1,2,3,6	3,6	4,7	5,9,10

Content detail	Human anatomical waste, animal waste, lab waste	Devices used for the transfer of infectious material, soiled dressings, plaster casts, beddings.	Waste sharps, tubing's, catheters, IV sets.	Discarded medicines, incinerated ash, Chemical waste
Treatment options as per schedule	Incineration	Autoclaving and shredding/ incineration.	Autoclaving/ chemical treatment and destruction/ shredding	Disposal in secured landfills.

Note:

Chemical treatment using 1% hypochlorite / other equivalent.
Mutilation and shredding should be to prevent unauthorized reuse
No chemical treatment is indicated before incineration

B. LAUNDRY SERVICES.

Although the risk of infection appears to be low soiled linen can be a source of large amounts of microbial contamination which may cause infections in hospital patients and personnel. In addition improperly processed linen can cause chemical reactions or dermatitis in those who come in contact with them. A hospital's linen service should process soiled linen so that the risk of disease to patients who may be usually susceptible or to employees who may handle linen is avoided. Adequate procedures for collecting, transporting, processing, and storing linen should therefore be established. Washing with hot water and detergent has been shown to result in adequate cleaning of laundry. If needed for other reasons, bleach or ironing will reduce microbial contamination. Textile softeners added in the final rinse, though of no value in preventing infections, make linen easier to handle & rewash and they reduce lint.

Handling of soiled linen

a. Soiled linen should be handled as little as possible and with a minimum amount of agitation to prevent gross microbial contamination of the air and of persons handling the linen.

b. All soiled linen should be bagged at the location where used.

c. Linen soiled with blood or body fluids, and all linen used by patients diagnosed to have HIV, HBV, HCV, and MRSA is to be decontaminated by soaking in 1% Na hypochlorite for at least 1 hour and then sent to the laundry.

Sorting soiled linen

In the laundry, hand washing facilities and protective apparel (e.g., gowns and gloves) are available to personnel who sort laundry. Sorting of laundry should be done only in the assigned area.

Hot- water washing

Linen is washed at 80-90o C for over 30 minutes with a detergent in water since this is an effective method for cleaning and killing most vegetative bacteria.

Clean Linen

The clean linen section should be cleaned every day. Cupboards and walls are damp dusted and the floor mopped.

Clean linen is delivered to the user in such a way as to minimize contamination from surface contact or air born deposition.

There is to be a functional separation of clean and soiled linen during storage and transport.

C. DIETARY DEPARTMENT

The dietary department ensures that food prepared and served to patients, visitors and employees is received, stored, assembled and served in a manner that avoids contamination. The aim is to prevent food / water borne infections. Periodic surveillance of water, food and storage areas will be conducted for microbial growth.

Food Temperatures

Uncooked food items are maintained in refrigeration at a temperature of 4-8 ºC or below. Refrigerated facilities are maintained at the following temperatures. The temperatures are checked daily and a log is maintained of the temperature.

- Vegetables and fruits 4-8 º C
- Dry stores Room temperature

Foods prepared to be served cold are cooled from their preparation temperature to 4 º C or below. The cooling period shall not exceed 4 hours.
Hot foods are held at an internal temperature of 63º C or above.
Both hot and cold food items will be transported in such a manner that appropriate temperatures will be maintained during the transportation of the food.

Preparation of food

All food is prepared and served into containers/trays in the main kitchen and then sent to patient rooms

In- patient Food

Trays of patient food are assembled in the Kitchen, supervised by professional and trained personnel. They are taken to floors and served by dietary personnel.

The returned trays are heat treated to render the items sanitized (wash temperature 65-70º C rinse temperature 85-95º C).

Dietary personnel

Dietary personnel are taught to protect food consumers from the body substances of dietary personnel. Barriers are provided for the use of dietary personnel, and the following practices are taught and supervised.

For details regarding health care of the workers, refer to the chapter on Employee health policies.

Hand washing

Personnel should wash exposed portions of their arms and hands with soap and water before starting work. Hand washing includes special attention to the fingernails and areas between the fingers.Hand washing should be mandatorily repeated after using the toilet, eating or drinking, arranging or combing the hair, touching the face, nose or eyes, contact with unclean equipment and work surfaces and after handling raw food

Personal habits

i) Keep clothing free from obvious dirt and food spills
ii) Use hair nets (hair restraints) while on duty
iii) Use utensils to handle food whenever possible
iv) Do not consume food or drinks in the food preparation or serving areas
v) Do not use tobacco products in any form while engaged in the preparation or serving of food.

Disposal of waste from the dietary department

Food returned to the kitchen is discarded. These and other dietary wastes are kept in bins lined by plastic bags outside the dietary department which are removed regularly.

Outbreaks

When a food borne illness is suspected in patients, the HICC is notified. The microbiology department will obtain specimens from the symptomatic individuals and from suspected food. The HICC will be responsible for obtaining significant histories and conducting the investigation of a suspected food borne illness.

Equipment Maintenance
All equipments needs to be serviced regularly and maintained in good working conditions. The external surface of these instruments should be cleaned with soap & water.

D. HOSPITAL VISITORS POLICY

- The visiting hours permitted in our hospital are from 9.00 am to 6.00 pm.
- Visitors who have experienced fever, cough, sore throat, vomiting should be discouraged from visiting the hospital.

- Visitors should maintain the “No Smoking’ policy

- Visitors must maintain a quiet environment and avoid unnecessary noise.
- Visitors are not allowed in patient rooms/wards during rounds time.

E. HIV CARE

Recommendations for patients known to harbour blood borne pathogens (HIV, HBV & HCV)

The occupational risk with blood borne pathogens among health care workers has been recognized for a long time. Many countries have developed comprehensive guidelines for prevention of blood borne infections. The rate of transmission of HBV infections by percutaneous injury is estimated to be around 30%, HCV 10% and HIV 0.3%. The risk of transmission of HIV from mucous membrane exposure is considerably less than with percutaneous injury. Data from prospective studies have documented only 1 seroconversion from 1107 mucous membrane exposure (0.09%).

What fluids are potentially infectious?

The Centre for Disease Control considers the following body fluids as potentially infectious: blood, semen, vaginal fluid, cerebrospinal fluid, synovial fluid, peritoneal fluid, pleural fluid, pericardial fluid, amniotic fluid, saliva in dental procedures, breast milk in breast milk banking procedures, any body fluid that is visibly contaminated with blood, all body fluids in situation where it is difficult to differentiate between body fluids and all unfixed tissue or organs from humans.

Universal precautions may not apply to the following unless they contain visible blood: Faces, urine, saliva, nasal secretions, sweat, tears, vomitus and human breast milk.

Recommendations

1. **Vaccination**

   The most important approach for the prevention of occupational HBV infection is the use of hepatitis B vaccine among HCWs (refer immunization).

2. **Universal precautions: (refer to section on universal precautions)**

3. **Post exposure prophylaxis:**

For details of management after accidental exposure to blood or potentially infectious body fluids, please refer to the specific section on employee health policy.

1. Admission:

According to NACO, it is safer to care for HIV +ve patients to be in the general rooms, provided sterilization and disinfection of invasive instruments/equipments is being done. Gloves are not to be used for routine patient examination. Patients with HIV disease but presenting with unrelated illnesses may be admitted in any room as per existing rules.

Patients with AIDS requiring isolation on account if secondary infectious diseases will be isolated as recommended. Confidentiality shall be maintained. Appropriate precautions are to be taken to prevent nosocomial transmission.

2. Nurses / HCW with cuts/ injuries or dermatitis should have water proof dressing on it. Preferably they should not work with HIV patients as long as broken skin on hand, and forearm or other vulnerable areas are there.

The nursing staff will explain to patients, attendants and visitors (when necessary), the purpose and methods of hand washing, and excretions/secretion precautions, and other relevant precautions.

Glass thermometers should be soaked in 70% ethyl alcohol for 30 minutes, and then rinsed under a stream of warm water between each use.

4. Waste disposal:

A bin lined by a Yellow plastic bag is placed in the patients' room for infectious waste.

Non-infectious waste does not require special precautions and is disposed in a manner similar to non-infectious waste generated from any other patient.

Sharps are discarded into the sharps container.

5. What should be done following an exposure?

The proforma is to be filled in by the concerned nurse. The proforma shall be available in the nursing station. The filled up proforma should reach the HIC Nurse's office on the same day if the incident has happened within the working hours and working days of the hospital or the next working day if it is a holiday or during the night.
The Infection Control Nurse shall maintain a register for follow up.
The ICN reports the incident to the HICC.
The proforma copy to other areas should reach by the next day.

PATIENT - If the infection status of the patient is unknown, please collect 10 ml blood from the index in plain tube for clotted sample and send for HIV, HBsAg and HCV. The investigation shall be done free of cost and the request form shall be initialed by the Medical Director. During off duty hours, oral permission may be obtained from Medical Director.

EMPLOYEE - Blood from the employee who was exposed shall be taken for base line serology. The investigation shall be done free of cost and the request form shall be initialed by the RMO. During off duty hours, oral permission may be obtained from Chief Physician.
Treatment shall be initiated as the protocol.
The employee shall meet the RMO for counseling.

1. Protocol for managing exposure to blood or potentially infectious body fluid

Parenteral (Needle stick) exposures to HIV infection are estimated by the Centre for Disease Control, Atlanta, Georgia to have a 0.3% risk of transmission of HIV. This is because of the low concentration of virus in the blood of infected patients. The risk in the case of HBV infected specimen in similar situations is 5-30%.

A . Immediate Care

- For needle-stick injury: Briefly induce bleeding from wound; Wash for 10 minutes with soap and water, or a disinfectant.
- For non-intact skin exposure; Wash with soap & water or antiseptic
- For mucosal exposure (eg Splash into eyes); Irrigate copiously by running a pint of normal saline over ten minutes, the eye being held open by another person.

B Reporting

All sharps injury (break of skin with any sharp instrument such as hypodermic needle previously used on a patient) and mucosal exposure (blood or body fluids coming into contact with eyes, mouth etc) should be reported to the immediate superior and the , immediately following exposure, in the proforma given.
All blood and body fluids with visible blood are considered infectious.
Other body fluids may be potentially infectious (see section on Universal Precautions in the chapter 'Prevention of transmission of blood borne pathogens') and must be evaluated on case-to-case basis.

C Management

Assessing the risk of transmission of HBV or HIV infection

For ALL exposures the following investigations need to be done:
Index Patient should be checked for the following: if not already done:

- Human Immunodeficiency Virus Antibody
- Hepatitis B Surface Antigen
- Hepatitis C Virus Antibody

Health Care Worker: After obtaining consent, blood of the health care worker is checked for:

- HBsAg
- HIV
- Anti-HBs Antibodies

The blood samples for the investigations listed above are sent for 'rapid' testing.

A. HbsAg Negative	
1. Antibodies >100MIU	Reassure
2. Antibody Negative or <10 MIU	First dose of HBV vaccine and HBV
3. Antibody between 10-100 MIU	Immunoglobulin (0.6ml/kg-I.M.)*
	Booster dose of vaccine
B. HBsAg Positive	Counseling

PROFORMA FOR NEEDLE STICK INJURIES AND ACCIDENTAL EXPOSURE TO BODY FLUIDS OF PATIENTS

(To be filled by the nurse Incharge. Please send the blood sample to s lab as soon as possible.)

Name of employee: Age: Sex:
Designation: Employee ID no :
Hepatitis vaccination status:

Very brief description of the incident with time & date
(Time and date of incident – mandatory)

TIME- DATE-

DESCRIPTION -_____
_____
Exposure Code: EC1 / EC2 / EC3

Name of the patient: MR No:

Current Diagnosis of the patient -
HIV status: Positive / Negative / Unknown HIV Status Code: HIVSC1/HIVSC2
Hepatitis B: Positive / Negative / Unknown
Hepatitis C: Positive / Negative / Unknown
If status unknown blood of the patient sent for serology: Yes / No
Blood taken for baseline serology from the employee: Yes / No

Signature of Nurse In charge Remarks of RMO with Signature

P. Mandatory Documents/Forms/Registers Maintained

- ICN – Daily activity register
- Proforma for Needle stick
- Hand wash audit tool
- Environment Surveillance Register
- Employee Immunization Register
- Employee Medical Check-up Register