Belize

NATIONAL GUIDELINES ON INFECTION PREVENTION AND CONTROL FOR HEALTH FACILITIES

Third Edition, January 2011
Second Revision, October 2015

NATIONAL GUIDELINES ON INFECTION PREVENTION AND CONTROL FOR HEALTH FACILITIES

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Belize, March 2016.

"This National Guidelines on Infection Prevention and Control for Health Facilities - Prevention and control of infectious diseases in Health Facilities of Belize-, is possible thanks to the support of the people of the United States through the United States Agency for International Development (USAID). The contents of this material is the sole responsibility of Carlos Quan, MD, MPH, Consultant, and do not necessarily reflect the views of USAID or the Government of the United States of America".

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ACKNOWLEDGEMENTS

The second revision of the third edition of March 2016 of this Manual is through the efforts of several stakeholders in the health system. This is an updated version that has been created for its use in all health facilities of Belize.

The first version of this Guideline was designed to develop an operational guide that would standardize practices in all health facilities and was initiated and guided by personnel from then Ministry of Health (MOH).

Thanks to Dr. Ramón Figueroa, Chief Executive Officer, Dr. Marvin Manzanero, Director of Health Services, Englebert Emmanuel, Director Licensing and Accreditation Unit and Augustina Elijio, Deputy Director of Health Services / Nursing, who were instrumental in redefining the functions of the Infection Control in the Health Facilities and for the initiative in requesting the updating of the third edition of this National Guideline whose policies are prepared for practice in all health facilities of Belize.

We would like to recognize the involvement of a Petit Committee selected to review the document. The Committee members are: Lizzeth Bell, Marilyn Black, Rosalva Blanco, Dr. Cardo Martínez and Dr. Deysi Mendez.

Special recognition goes to the medical, support staff and Infection Control Nurses from the Public Health Facilities, as well as, Quality Assurance Team of the Hospitals, Representative of the National Health Insurance (NHI) and Private Sector who expended valuable time sharing their clinical experiences to support the review and upgrading of this document.

Special appreciation to USAID| Central America Capacity Project, for its support in the second revision of the National Guideline on Infection Prevention and Control for Health Facilities.

FOREWORD

The Ministry of Health (MOH) along with Regional Health Management teams have made great efforts over the past ten (10) years in developing and implementing guidelines for infection prevention and control activities in health care settings in Belize. Infection Prevention and Control Programs were institutionalized with the aim of providing a safe working environment for patients and staff. Though many strides have been made, there is always room for improvement. Health Care Workers therefore, must remain vigilant in their efforts towards breaking the chain of transmission.

The chain of transmission is established when three (3) factors exist in tandem, resulting in healthcare associated infections, these are: high prevalence of pathogens, high prevalence of compromised hosts and the efficient mechanism of transmission from person to person. As demonstrated by Ignac L Semmelweis, mechanisms to break the chain of transmission for some nosocomial infections are as simple as hand hygiene, others require more intense methods of disinfection and sterilization.

Healthcare associated infections are widespread and are major contributors to morbidity and mortality. In the United States these diseases are responsible for 20,000 deaths per year. Ten percent (10%) of patients (about 2 million) per year acquire clinically significant healthcare associated infections. In Belize, the absence of statistics does not indicate the non-existence of, nor reduce the importance of prevention and control of, nosocomial infections. Without clearly defined work processes, nosocomial infections can become an even greater public health problem with increasing economic and human impact due to: overcrowding of health facilities, emergence of new organisms, increasing bacterial resistance and more frequent impaired immunity due to age, treatment and illnesses.

The prevention and control of healthcare associated infections is critical in all health care settings and can be done only through proper engineering and administrative controls as well as, increasing knowledge of health care workers, changing attitudes and behaviors and being focused on and committed to safe work practices.

The upgrading of this manual through the second revision 2015 comes at an opportune time to support the re-emergence of pandemic illnesses, and other bio threats. This manual presents the upgraded guidelines on Infection Prevention and Control for Health Facilities that are to be adhered to by all those involved in management of health facilities and personnel who deliver care to patients.

Dr. Ramon Figueroa, MD, MPH
Chief Executive Officer

INTRODUCTION

Healthcare associated infections pose a major threat of morbidity and mortality to patients hospitalized for the management of diseases. The detection of such infections and the surveillance of their frequency and identification of their predisposing factors are essential prerequisites for the design and implementation of cost effective Infection Control and Preventive Measures.

The principal goal of any infection control program is the prevention of healthcare associated infections in patients, health care workers, students, volunteers and visitors. In order to achieve this goal, the health facilities, despite the level of care, have adopted a comprehensive infection control program involving every setting of the health facilities. This guideline also describes specific infection control policies and procedures developed by the Ministry of Health. All staff members have the responsibility to become familiar and to comply with the information presented in this Manual.

Questions pertaining to the content of this Guideline or any aspect of prevention and control strategies may be forwarded to the Director, Licensing and Accreditation Unit, at the Ministry of Health.

ABBREVIATIONS

ABHR Alcohol Based Hand Rub
ACH Air Changes per Hour
AER Automated Endoscope Reprocessor
AIDS Acquired Immune Deficiency
ICP Infection Control Practitioner
APIC Associate Professionals in Infection
ICU Infection Control Unit Control
ATB Antibiotic
BBV Blood Borne Virus
BHIS Belize Health Information System
CAUTI Catheter Associated Urinary Tract Infections
CLABSI Center Line Associated Blood Stream
CDC Center for Disease Control
CML Central Medical Laboratory
COPD Chronic Obstructive Pulmonary
CRBS Catheter–related Blood Stream
CSU Central Sterilizing Unit
CVC Central Venous Catheter
EPA Environment Protection Agency
EPI Expanded Program for Immunization
ER Emergency Room
EtO Ethylene Oxide Gas
FDA Food and Drug Administration
HA Hospital Administrationppm parts per Million
HAI Hospital Acquired Infection
HBV Hepatitis B Virus
HCV Hepatitis C Virus
HCW Health Care Worker
HEPA High Efficiency Particulate Air
HICAC Hospital Infection Control Advisory Committee
HICC Hospital Infection Control Committee
HIV Human Immune Deficiency Virus
HMC Hospital Management Committee
ICC Infection Control Committee
ICN Infection Control Nurse Syndrome
ID Identification
IV Intravenous
KHMH Karl Heusner Memorial Hospital
LRTI Lower Respiratory Tract Infections
MCH Maternal and Child Health
MO Medical Officer Disease
MOH Ministry of Health
MRO Meticillin Resistant Organisms Infections
MNOP Maeximal Sterile Barrier
NG Nasogastric
OR Operating Room
p.r.n. Whenever Necessary
PAHO Pan American Health Organization
PAPR Powered Air Purifying Respirators
PAR Post Anesthetic Recovery
PH Public Health
PICC Peripherally Inserted Central Catheter
PPE Personal Protective Equipment
QA Quality Assurance
QAC Quality Assurance Coordinator
RN Registered Nurse RPR
Rapid Plasma Reagin
RPR Rapid Plasma Reagin
RTI Respiratory Infections
SARS Severe Acute Respiratory Infections
SCBU Special Care Baby Unit
STI Sexually Transmitted Infections
UV Ultraviolet
VDRL Venereal Disease Research Laboratory
HBV Hepatitis B virus
HBC Hepatitis C virus
HIV Human Immune Deficiency Virus
WHO World Health Organization

DEFINITION OF TERMS

AIRBORNE PRECAUTIONS: The necessary precautions that are to be applied for known or suspected transmission of airborne pathogen.

ANTISEPTIC: Any substance that inhibits the growth of bacteria, in contrast to germicide, which kills bacteria outright.

BODY FLUIDS: Semen, urine, vaginal secretions, or other body fluids (saliva, faecal fluids etc.) contaminated with visible blood.

CLEANING: Procedure for removing dirt or debris from surfaces. It involves use of detergent and water. (Cleaning shall be done before disinfection can be effective.)

COLONIZATION: The presence of micro-organism in or on a host, with growth and multiplication of the microorganism but without overt clinical expression or detected immune reaction at the time it is isolated.

CRITICAL ITEMS: Those invasive devices entering sterile tissue or vascular spaces.

CONTACT PRECAUTIONS: The necessary precautions that are to be applied for known or suspected transmission of through contact.

DECONTAMINATION: Procedure designed to render items safe for subsequent handling and further reprocessing.

DISINFECTION: The process of killing pathogenic microorganisms or rendering them inert.

DROPLET PRECAUTIONS: The necessary precautions that are to be applied for known or suspected transmission through droplets.

EXPOSURE: A percutaneous injury (e.g., needle stick or cut with a sharp object), contact of mucus membrane or non-intact skin (e.g., when the exposed skin is chapped, abraded or afflicted with dermatitis).

EXPOSED STAFF: A staff member who has suffered an exposure to blood or body fluids. SOURCE: the point from which a pathogenic microorganism originates

HEALTH CARE WORKER: Employees who are employed in a Health Care Facility/Service.

HYGIENIC PREPARATION IN FUNERAL PARLOR: Cleaning and tidying the body so it presents a suitable appearance for viewing. Cosmetic work may be included.

NON-CRITICAL ITEMS: Devices that come in contact with intact skin.

NOSOCOMIAL INFECTIONS: Infections that develop within a hospital or are produced by microorganisms acquired during hospitalization.

PATHOGENS: Disease causing microorganisms

SEMI-CRITICAL ITEMS: Those devices coming in contact with mucous membrane or non-intact skin.

STERILIZATION: The destruction and removal of all viable microorganism including spores.

SURVEILLANCE: When applied to disease, the systematic, active, ongoing, observation of the occurrence and distribution of diseases within a population and of the events or conditions that increase or decrease the risk of such disease occurrence.

NEEDLESTICK INJURY: Percutaneous exposure to Blood Borne Pathogen occurs where the skin is cut or penetrated by a needle or other sharp objects (including teeth) which is or may be contaminated with blood or body fluids.

MUCOCUTANOUS EXPOSURE: Occurs when the eye, inside of the mouth or nose, or non- intact skin is contaminated by blood or blood stained fluids.

UNIVERSAL PRECAUTIONS: Blood and body fluid precautions to prevent parenteral mucus membrane and non intact skin exposure to blood born pathogens in health care settings. It includes the careful management of sharps, equipment and infectious waste, hand washing and the wearing of personal protective gear.

NOTE:

This policy to be applied in all levels (Health Centers, Policlinics and Hospitals).

This policy to be applied in Hospitals.

SECTION 1
INFECTION CONTROL PROGRAM

POLICY #1: INFECTION CONTROL PROGRAM (Health, 2011)

1.1 PURPOSE

- Standardize infection prevention and control practices throughout the Health Facility.
- To mitigate the effects of Healthcare Associated Infections.
- Improve quality and safety of Health Care Services.

MANUAL

- Describe the philosophy, goals and objectives of the infection control and preventative measures.
- Introduce infection prevention and control policies and procedures.

1.2 MISSION STATEMENT

To provide a safe environment for patients and personnel at health facilities through the adoption of a program of infection control designed to involve and affect every member of staff in the surveillance, prevention, and control of Healthcare Associated Infections and Procedures.

1.3 GOALS

To objectively and systematically monitor and evaluate the quality and appropriateness of all activities in the health facilities as they relate to infection prevention and control for patients, staff, and visitors.

1.4 OBJECTIVES

- To pursue opportunities to improve the quality and effectiveness of patient care and employee health.
- To ensure the implementation of the relevant system changes to quality assurance and infection control measures.
- To assure that quality assurance and infection control policies and procedures are consistently being adhered to throughout the clinical and non-clinical areas.
- To monitor the implementation of corrective actions taken to address identified problems.
- To act as a resource for quality improvement activities throughout the health facilities in response to quality assurance plan.

1.5 PARTICIPATION

1.5.1 DEPARTMENT

- All facility units / departments, under the leadership of the unit/department head, work with the infection control unit to support an effective quality assurance and infection control measures for their department area. It is the responsibility of the infection control unit to coordinate and monitor with the quality assurance team all infection control activities for the facility´s units/ departments.
- All units or departments heads are responsible to implement and monitor policies and procedures for the prevention and control of infectious related events.
- All units / departments are responsible to assist in organizing annual infection control in- service educational activities for employees in collaboration with the infection control unit.
- All units or departments are responsible for assisting the Infection Control Unit in the follow-up of employees exposed to communicable diseases.
- All units or departments heads are responsible for ensuring compliance of their staff with required

health screenings and immunizations.• All units/departments are responsible to ensure that staff under their supervision, adhere to the facility biosafety measures established by the Ministry of Health and implemented by the infection control unit with support from senior management team at the facility level.

1.5.2 PERSONNEL

- All health facilities employees are responsible for participating in the identification and prevention of Healthcare Acquired Infections in patients and Health Care Workers.
- All employees are responsible to follow Universal Precautions and Isolation Policies.
- All personnel are responsible to monitor their own health as it pertains to communicable diseases.
- All employees are responsible to adhere to all biosafety and infection control measures established and implemented at all health facilities.

…END OF POLICY…

POLICY #2: QUALITY COMMITTEE - INFECTION CONTROL ACTIVITIES (INCORPORATED INTO QUALITY COMMITTEE) (Health, 2011)

2.1 PURPOSE

To provide oversight and guide the development of policies for quality assurance and Infection Control Measures in consultation and guidance from the License and Accreditation Unit.

2.2 POLICY STATEMENTS

- 2.2.1. All Health Facilities shall have a multidisciplinary Infection Control Team that reports to the Quality Committee that oversees the activities for surveillance, Prevention and control of Infections.
- 2.2.2. The Infection Control Team shall review and analyze Infection control data, review preventive and corrective measures designed to minimize infectious hazards, and supervise quality assurance and infection control activities in Health facility areas.
- The Infection Control Team under the supervision of the Quality Committee, shall ensure communication and coordination of infection control activities throughout Health facilities.

> ***The composition of the Infection Control Team and level of resolution of the institution will reflect Human Resources***

2.3 MEMBERSHIP

2.3.1 THE HOSPITAL ADMINISTRATION

- The Hospital Administration with guidance from the Quality Committee Chair, shall appoint the team leader of the Infection Control Team.
- The Team leader shall be a physician whose credentials document knowledge of and special interest or experience in quality assurance and infection control.
- The staff of the Infection Control Unit (ICU) shall be included and be the focal point and go to person, including preparing minutes of meeting, report in the timely manner, events around infection control and biosafety to the Quality Committee.
- Team members shall include representatives from the following levels:

  o Hospital: Nursing administrator or Representative Lab/Microbiology, Central Sterilizing.
  o Unit (CSU), Environmental Health (PH) and other representation made available on a Consultative basis.

2.3.2 POLYCLINICS:

Infection Control Focal Point appointed by PCP Administrator who should lead, report and coordinate infection control prevention activities. The team should be comprised of a Nurse, Doctor, Clinic Administrator and Housekeeping representative.

2.3.3 HEALTH CENTER:

Infection Control Focal Point appointed by the PCP Administrator who should lead, report and coordinate infection control prevention activities. The team to be comprised of a Rural Health Nurse, Doctor and Housekeeping representative.

2.4 DUTIES

2.4.1 SURVEILLANCE

- The Quality Committee determines the type of surveillance and reporting programs to be used. This review shall be an on-going process as base line endemic level assessment continues.
- The Quality Committee approves standard criteria for identifying and reporting of healthcare associated infections and other infectious related events.
- The Quality Committee reviews surveillance data, looking for unusual clusters of infections and epidemics related events and infections due to unusual pathogens, or any other occurrences of healthcare acquired infections that significantly exceed baseline levels.
- The Quality Team recommends corrective actions deemed necessary after reviewing surveillance data and appropriate additional reports or studies. This action is reflected in the minutes of the meetings.
- Recommended interventions are carried out as old business until resolved.

2.4.2 POLICIES & PROCEDURES

- The Quality Committee, in consultation with the Licensing and Accreditation Unit, assists in evaluating and reviewing policies and procedures for Quality Assurance and Infection Control every two (2) years. Recommendations are brought to the Quality Committee and actions are to be taken by the Infection Control Team.
- All committee members will review new policies and procedures that have major impact. The relevant policies are to be vetted by the Licensing and Accreditation Unit, for approval by the Director of Health Services.
- All policies and procedures related to the infection control surveillance, prevention and control are reviewed and approved at least every two (2) years and forwarded to the Director – Licensing and Accreditation Unit and to Local Quality Assurance Office for in-service training, awareness and to all health facilities and staff.

2.4.3 PRODUCT REVIEW

Request for approval of any germicidal agents, hand washing agents, and other products which play significant role in the prevention of infection in both patients and HCWs will be presented to and approved by the Quality Committee under the advice of the Infection Control Team.

2.4.4 ADMINISTRATION

- The Infection Control Team shall meet twice quarterly. More frequent meetings shall be called according to need.
- Findings and recommendations will be reported to the Quality Committee (QC) who will share the report to the Health Facilities Senior Management Team for action.
- The responsibility for taking action on the recommendations documented in the minutes is assigned and defined in writing and monitored by the Quality Committee.
- Written minutes of all meetings shall be documented and maintained on an official file for reference

…END OF POLICY…

POLICY #3: INFECTION CONTROL UNIT (Health, 2011)

3.1 STRUCTURE

The Infection Control Unit consists of a full time Infection Control Nurse who has training in epidemiology, microbiology and has completed a course in management. The Infection Control Nurse is involved in a number of professional activities including but not limited to:

- Program evaluation
- Liaison between the medical staff, and the Infection Control Team and Quality Committee on issues involving prevention and control of communicable diseases and events in health care facilities.
- Epidemiological investigation and epidemic control in the health care facilities.
- Education, research, analysis of surveillance data, analysis of the effectiveness of prevention and control measures.

- The Infection Control Nurse has the major responsibility for collecting and reporting surveillance data; this involves ward rounds and case consultations. The Infection Control Nurse represents the Infection Control Unit on various multi- disciplinary committees. He or She also has the responsibility of reporting communicable diseases and events, maintaining the surveillance database and its records and conducting outbreaks investigation in health facilities.
- All department members are encouraged to attend professional meetings, conferences or seminars, and shall participate in research, education, revention and control activities of different settings who are pursuing infection prevention measures.
- The unit head is expected to lead activities related to infection control and quality assurance.

3.2 PURPOSE

To define the lines of authority of the Infection Control Unit and Team within the Health Facility.

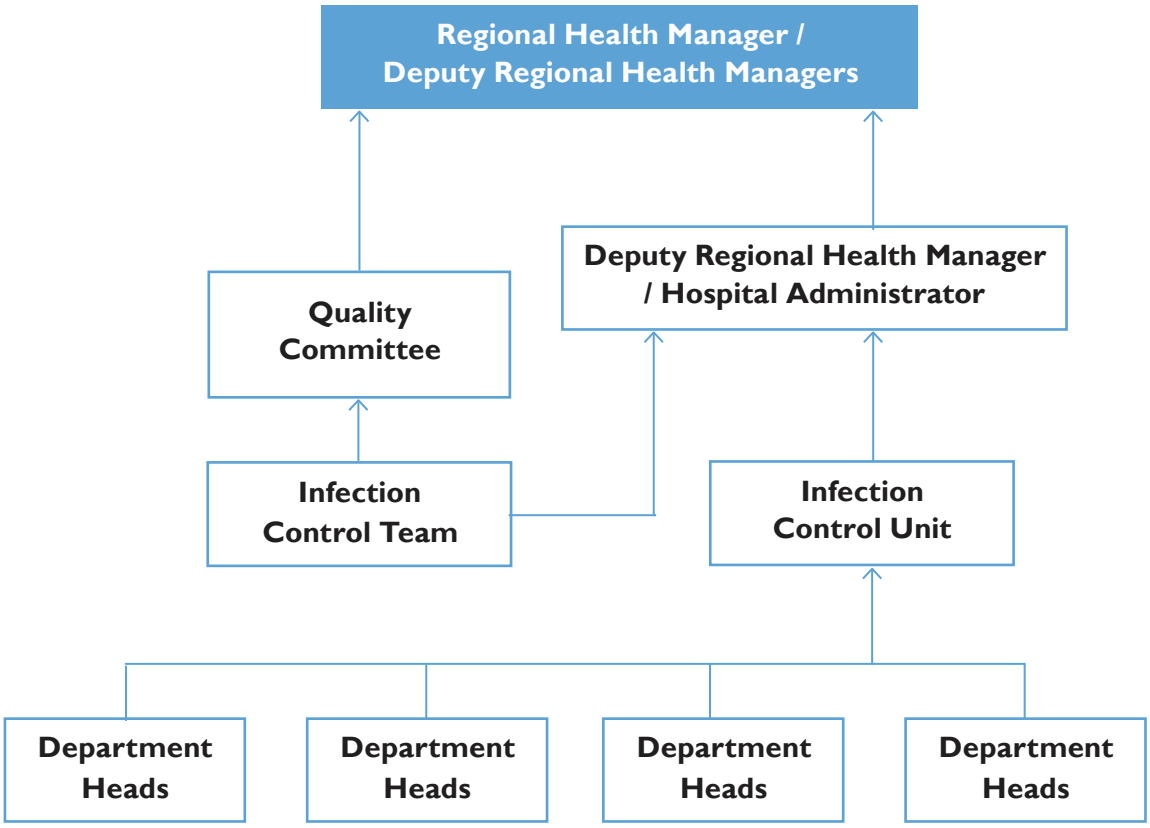
3.3 POLICY STATEMENTS

The Infection Control Program is a component of the Facility´s Quality Assurance Program. The Quality Committee guides the Infection Control Staff on clinical infection prevention and control measures.

3.4 LINES OF AUTHORITY

- All unit or department heads report issues/problems relevant to infection prevention and control to the Head of the Infection Control Unit.
- Infection Control Staff reports to all quality assurance events to the Quality Committee.
- Quality Committee reports quality assurance and infection control issues to the Regional Health Manager. The Infection Control Unit will perform its activities within the scope of authority of the Quality Assurance Programs in order to ensure compliance with the infection control policies as approved by Quality Committee.

DIAGRAM 1
ORGANOGRAM QUALITY ASSURANCE AND INFECTION CONTROL REPORTING



…END OF POLICY…

POLICY #4: COVERAGE AND CONSULTATION (Health, 2011)

4.1 PURPOSE

To describe the consultative coverage provided by the Infection Control Unit.

4.2 POLICY STATEMENTS

- 4.2.1. The Infection Control Unit shall be available for consultation weekdays 8:00 A.M. - 5:00 P.M. On weekends and public and bank holidays, Shift Supervisors respond/resolves issues/ problem related to infection prevention and control.
- 4.2.2. Staff of the Infection Control Unit shall report to the Regional or Deputy Health Manager during outbreaks of communicable diseases and events and during disasters outside of working hours. A report in duplicate of activities signed by the leader Infection Control Team and forwarded to the Chair of Quality Committee or Hospital Administrator and Regional Health Manager or Deputy Regional Health Manager.

…END OF POLICY…

POLICY #5: ENVIRONMENTAL ROUNDS (Health, 2011)

5.1 INTRODUCTION The Infection Control Nurse participates in monthly environmental rounds that include representatives from Health Administration, medicine, environmental health, laboratories and nursing. Various service areas are visited on a rotating basis.

5.2 PURPOSE

- To describe the consultative coverage provided by the Infection Control Unit.
- To describe the environmental rounds and the role and participation of the Infection Control Unit.
- To evaluate, identify and document environmental safety hazards that include infection risks;
- To develop and recommend corrective actions to eliminate or at least minimize these risks.
- To provide a continuing communication between settings and departments heads and personnel.
- To provide a report of identified infection risk and recommended corrective actions to the health facility and the Health Administration.
- To identify trends and patterns of Infection control risk among units or departments.
- To identify and implement infection control training needs for the various units or departments, related to environmental issues.

…END OF POLICY…

SECTION 2
EPIDEMIOLOGY & SURVEILLANCE

POLICY #15: REPORTING AND INVESTIGATING THE COMMUNICABLE DISEASES

15 EPIDEMIOLOGY

15.1 INTRODUCTION

For the transmission of any communicable disease to occur there shall be agent, environment and susceptible host. Outpatient and inpatient settings bring all components together, therefore early identification followed by notification to relevant health authorities are of paramount importance. Early identification prior to admission will determine the need for isolation and control measures.

15.2 PURPOSE AND APPLICABILITY

- To accurately monitor trends and unusual occurrences of infectious diseases within the facility.
- To implement effective intervention measures.
- To comply with Ministry of Health's Policy on Communicable Diseases Notification ensuring prompt and accurate reporting of communicable diseases and events to the relevant health authorities for assimilation and actions.
- This policy applies to all health care professionals.

15.3 POLICY STATEMENTS

- 15.3.1 Reporting of communicable diseases is mandated by the Public Health Laws of Belize.
- 15.3.2 All patients accessing health care facilities with any of the communicable diseases (Table 4) shall be notified to the Infection Control Nurse by the attending medical and nursing professional immediately after clinical, radiological and laboratory confirmation.

15.4 PROCEDURES

15.4.1 REPORTING OF COMMUNICABLE DISEASES WITHIN THE HEALTH FACILITIES

All patients diagnosed with communicable diseases either by clinical, radiological or laboratory evidence shall be immediately reported to the Infection Control Unit following diagnosis, and in their absence, to the Shift Supervisor on duty who will inform the Infection Control Nurse when they become available.

The Infection Control Nurse shall inform (verbally and in writing) to the relevant Regional and Public Health authorities, all confirmed cases of communicable diseases recorded at their facility.

15.4.2 REPORTING OF COMMUNICABLE DISEASES TO EXTERNAL HEALTH OFFICIALS

- Reporting of communicable diseases, from outpatient and inpatient units not utilizing the Belize Health Inform System (BHIS), shall be done by the attending physicians using the appropriate
- Communicable Disease Notification Form [SEE FORM 1IN THIS SECTION].
- The Infection Control Nurse shall also assist in identifying and reporting of communicable diseases identified at health facilities.
- Notifications of communicable diseases will be forwarded on a weekly basis so to the Quality and Surveillance Committees and on a daily basis to the Health Information Unit.

15.4.3 REPORTING OF EMERGENCY REPORTABLE CASES AND OUTBREAKS OF COMMUNICABLE DISEASES

The relevant Health Care Workers in collaboration with the Infection Control Nurse, upon receipt of any confirmed case of communicable disease shall immediately inform:

- Epidemiologist MOH stationed in Belmopan by pone, email or fax followed by written notification.
- The appropriate head of the relevant Public Health Programs via pone or email, followed by written notification.
- Outpatient and inpatient health facilities authorities or any other related office.
- Whenever a member of the Infection Control Team is unavailable, Shift Supervisor or shall report cases to the relevant authorities and relay information to Infection Control Nurse when they become available.

15.5 FORMS

Ministry of Health Communicable Diseases Notification Form [SEE FORM 1IN THIS SECTION].

15.6 RESPONSIBILITIES

- Physicians are responsible to notify verbally followed in writing, suspected or confirmed cases of communicable diseases to the relevant Public Health Authorities.
- Nurses and support staff are responsible to verbally report diagnosed or suspected cases of communicable diseases to the Infection Control Nurse, where necessary, and in their absence, Supervisors on duty.
- Infection Control Unit is responsible to collate and forward weekly reports of incidence of communicable diseases to the Quality Committee who will further submit reports to Health Facilities Administration and Epidemiologist, MOH.
- Quality Committee or other related office will analyze trends of reported cases and submit monthly reports with recommendations to Health Facilities Administration for future actions.

15.6.1 INVESTIGATION OF REPORTABLE CASES AND OUTBREAKS OF COMMUNICABLE DISEASES AND MICROBES

Refer to the ten steps of outbreak investigation.

1. Identify investigation team and resources
2. Establish existence of an outbreak
3. Verify the diagnosis
4. Construct case definition
5. Find cases systematically and develop line listing
6. Perform descriptive epidemiology/develop hypotheses
7. Evaluate hypotheses/perform additional studies as necessary
8. Implement control measures
9. Communicate findings
10. Maintain surveillance

TABLE 1: REPORTABLE COMMUNICABLE DISEASES FROM LIST ISSUED BY THE MOH

Notifiable Communicable Disease & Other Events

*** All conditions require a communicable disease notification card except those noted**

Class I - Immediate Notification to National Level

1. Cholera
2. Human Influenza caused by a new subtype
3. Measles
4. Pneumonic Plague
5. Poliomyelitis
6. Rubella
7. Severe Acute Respiratory Syndrome (SARS)
8. Smallpox
9. Viral Hemorrhagic Fevers
10. West Nile Fever
11. Yellow Fever
12. Severe Illness or Death potentially due to infectious disease
13. Outbreaks / clusters / unusual events*

Class II - Immediate Notification to Regional Level

1. Acute Flaccid Paralysis (PHN)
2. Congenital Rubella Syndrome (PHN)
3. Dengue Fever* (PHI/VC)
4. Dengue Hemorrhagic Fever/Dengue Shock Syndrome* (PHI/VC)
5. Diphtheria (PHN)
6. Fever and Rash (PHN)
7. Leprosy (Hansen's Disease) (PHI)
8. Leptospirosis (PHI)
9. Maternal Death* (PHN)
10. Meningitis due to Haemophilus Influenzae (PHI/PHN)
11. Meningococcal Infection due to Neisseria Meningitidis (PHI/PHN)
12. Ophthalmia Neonatorum due to Chlamydia Trachomatis* (PHN)
13. Ophthalmia Neonatorum due to Neisseria Gonorrhea* (PHN)
14. Ophthalmia Neonatorum not otherwise specified* (PHN)
15. Neonatal Tetanus (PHN)
16. Pertussis (PHI)
17. Pneumonia due to Haemophilus Influenzae (PHI)
18. Pneumonia due to streptococcus Pneumonia (PHI)
19. Rabies in Humans (PHI)
20. Typhoid and Paratyphoid Fevers (PHI)
21. Tetanus (PHN/PHI)

Class III

1. Acquired Immune Dificiency Syndrome*
2. Amoebiasis
3. Bacterial Vaginosis*
4. Chancroid*
5. Chicken Pox
6. Chlamydia*
7. Ciguatera Poisoning
8. Congenital Syphilis*
9. Conjunctivitis
10. Fever and Hemorrhagic Symptoms
11. Fever and Neurological Symptoms
12. Fever and Respiratory Symptoms ARI
13. Gastroenteritis
14. Genital Discharge Syndrome*
15. Genital Herpes*
16. Genital Ulcer Syndrome*
17. Gonorrhoea*
18. HIV*
19. Lower Abdominal Pain*
20. Malaria*
21. Mumps
22. Severe Acute Respiratory Infection (SARI)
23. Syphilis*
24. Trichomonas*
25. Tuberculosis (Pulmonary)*
26. Tuberculosis (ALL Other)*
27. Undifferentiated Fever
28. Vaginal Discharge Syndrome*
29. Viral Encephalitis/Meningitis
30. Viral Hepatitis A
31. Viral Hepatitis B
32. Viral Hepatitis unspecified

OTHER NOTIFIABLE EVENTS

33. Abortions*
34. Still Births*
35. Early Neonatal Deaths*
36. Late Neonatal Deaths*
37. Post Neonatal Deaths*
38. Child Deaths (<5yr of age)*

Class I - Immediate notification upon diagnosis or suspicion by email, telephone, or fax to the Epidemiology Unit & Regional or Deputy Regional Manager. Confirmed cases are reported daily.

Class II - Immediate notification upon diagnosis or suspicion by email, telephone, or fax to the appropriate authority (e.g. PHN, PHI, VC,) & Regional or Deputy Regional Manager. Confirmed cases are reported daily.

Class III - Other conditions under routine surveillance. Confirmed cases are reported daily at the local level and national level.

…END OF POLICY…

FORM 1 – COMMUNICABLE DISEASE NOTIFICATION FOR

Communicable Diseases Notification card

Date: _____

Name: _____

_____

_____

Addres: _____

_____

Disease: _____

_____

_____

Ministry of Health

COMMUNICABLE DISEASES NOTIFICATION CARD

District: _____ ☐☐☐

Health Unit: _____ ☐☐☐

Notification date:

☐☐☐☐☐☐

day / month / year

Name: _____

_____

Age: _____ ☐☐☐

Sex: ☐ **MALE** ☐ **FEMALE**

Addres: _____

Medical Practitioner / Nurse Npotifying the Case

Name: _____

Signature: _____ MARK DISEASE ON THE BACK.

Communicable Diseases

- ☐ 01) Acquired Immunodeficiency Syndrome - AIDS
- ☐ 02) Acute Faccid Paralysis
- ☐ 03) Acute Respiratory Infection in <5 years
- ☐ 04) Amoebiasis
- ☐ 05) Chicken Pox
- ☐ 06) Chlamydial Infection
- ☐ 07) Cholera
- ☐ 08) Ciguatera Poisoning
- ☐ 09) Congenital Rubella Syndrome
- ☐ 10) Congenital Syphillis
- ☐ 11) Conjunctivitis
- ☐ 12) Dengue Fever
- ☐ 13 Dengue Haemorrhagic Fever/Shock Syndrome
- ☐ 14) Diphtheria
- ☐ 15) Foodborne Illness
- ☐ 16) Gastroententeritis in <5 years
- ☐ 17) Gastroententeritis in >5 years
- ☐ 18) Genital Discharge Syndrome (not otherwise specified)
- ☐ 19) Genital Ulcer Syndrome (not otherwise specified)
- ☐ 20) Gonococcal Infection
- ☐ 21) Herpers Genitalis
- ☐ 22) Influenza
- ☐ 23) Leprosy (Hansen´s Disease)
- ☐ 24) Leptospirosis
- ☐ 25) Malaria
- ☐ 26) Measies
- ☐ 27) Meningitis (due to Haemophilus Influenzae)
- ☐ 28) Meningoccocel Infection (due to Neisseria meningitidis)
- ☐ 29) Mumps
- ☐ 30) Neonatal Conjuctivitis (Not otherwise specified)
- ☐ 31) Neonatal Conjuctivitis (due to hlamydial Trachomatis)
- ☐ 32) Neonatal Conjuctivitis (due to Neisseria gonorrhea)
- ☐ 33) Pertussis (Whooping Cough)
- ☐ 34) Plague
- ☐ 35) Poliomyelitis acute
- ☐ 36) Rabies (In Humans)
- ☐ 37) Rubella (Gerran Measles)
- ☐ 38) Salmonellosis
- ☐ 39) Scabies
- ☐ 40) Shingellosis
- ☐ 41) Syphilis
- ☐ 42) Tetanus (excluding neonatal)
- ☐ 43) Tetanus neonatorum
- ☐ 44) Tuberculosis (Pulmonary)
- ☐ 45) Tuberculosis (all other forms)
- ☐ 46) Typhoid and Paratuphoid Fevers
- ☐ 47) Viral Encephaitis
- ☐ 48) Vitral Hepatitis A (Clinical)
- ☐ 49) Viral Hepatitis A (Lab Confirmed)
- ☐ 50) Viral Hepatitis B (Clinical)
- ☐ 51) Viral Hepatitis B (Lab Confirmed)
- ☐ 52) Viral Hepatitis C Inspecified
- ☐ 53) Viral Meningitis
- ☐ 54) Yellow Fever
- 55) Zika

MICROBIOLOGY

DEFINITION:

Microbiology is the study of microscopic organisms, those being unicellular (single cell), multicellular (cell colony), or acellular (lacking cells). Microbiology encompasses sub-disciplines including numerous virology, mycology, parasitology, and bacteriology.

The branches of microbiology can be classified into Pure and Applied sciences. [7] Also Microbiology can be classified based on taxonomy, in the cases of bacteriology, mycology, protozoology, and phycology. There is substantial overlap between the specific branches of microbiology with each other and with other disciplines, and certain aspects of these branches can extend beyond the traditional scope of microbiology.

PURPOSE:

- To contribute in reducing the prevalent of morbidity and mortality related infectious diseases.
- To analyze results related to the most common microbes, to contribute to better clinical decision making at local, regional and national level.
- To support health care response and clinical processes to strengthen the structure of communicable disease and microbe reporting.

POLICY STATEMENT:

- All health facilities and personnel must be aware of the identification of mandatory identification and report in accordance with established system for epidemiological surveillance.
- All health facilities must perform epidemiological surveillance of established notifiable events.
- All health facilities are to report and analyze in collaboration with the Quality Team, microbes under surveillance.
- All health facilities must comply with the epidemiological surveillance of microbes at the local level.
- The regional and national health authorities should support the health facilities with surveillance resources (clinical and laboratory).

PROCEDURES:

- National Guidelines on Infection, Prevention and Control of Infectious Diseases should be implemented in all health facilities.
- All health personnel should receive training of the specific Procedures for the Prevention and Control of Infectious Diseases.
- The Quality Committee should ensure follow-up after training and provide supervision to ensure the compliance of processes as per the National Guideline on Infection, Prevention and Control of Infectious Diseases in Health Facilities.
- The Quality Committee should ensure the monitoring of prevalent diseases caused by microbes.
- Construction of a "health situation room" to monitor, analyze and make decision in response to the prevention and reduction of microbes.
- The local level shall monitor supply resources needed for the surveillance of microbes related with communicable diseases.
- Health personnel (laboratory and physicians) should register all cases of communicable diseases, record data according to requirement and communicate the information in a timely manner to

the relevant health authorities for quick response and decision making.

- The health authorities should support with the relevant finance resources to ensure that the expected results are achieved.

... END OF POLICY ...

SURVEILLANCE OF HEALTHCARE ASSOCIATED INFECTIONS

INTRODUCTION

Healthcare associated infections that have not been diagnosed or are incubating at the time the patient is being attended or has been admitted to a hospital, occurring after 48 hours of hospitalization; and are classified according to location in the body (e.g., urinary tract infections, lung, etc.). They can be based on clinical and biological criteria and are comprised of about 50 sites of potential infection. Nosocomial infections can be considered endemic or epidemic with common outbreaks. These definitions have been published by the Center for Disease Control and Prevention (CDC) in the United States or during international conferences and are used for surveillance of nosocomial infections.

The term Healthcare Associated Infections should include infections in patients in health care facility and include the infections contracted by staff or visitors to the health facilities.

The most common sites of hospital acquired infections are urinary tract infections (80%), surgery site infection (0.5 to 15%), nosocomial pneumonia (3%), nosocomial bacteriemias (5%) and other healthcare associated infections: skin and soft tissue, open sores (common decubitus sores and burns).

All clinical and administrative staff in the health system should be aware of the importance of surveillance of infectious diseases such as antimicrobial resistance, prevention and infection control, especially healthcare associated infections. All surveillance personnel should monitor trends in the incidence and prevalence rates of healthcare associated infections.

A surveillance system must adhere to the following criteria:

TABLE 2: SURVEILLANCE SYSTEM CRITERIAS

Surveillance attribute	Meaning
Simplicity	The simplicity of a public health surveillance system refers to both its structure and ease of operation. Surveillance systems should be as simple as possible while still meeting their objectives.
Flexibility	A flexible public health surveillance system can adapt to changing information needs or operating conditions with little additional time, personnel, or allocated funds.
Data Quality	Data quality reflects the completeness and validity of the data recorded in the public health surveillance system.
Acceptability	Acceptability reflects the willingness of persons and organizations to participate in the surveillance system.
Sensitivity	The sensitivity of a surveillance system can be considered in two levels. First, at the level of case reporting, sensitivity refers to the proportion of cases of a disease (or other health-related event) detected by the surveillance system (43). Second, sensitivity can refer to the ability to detect outbreaks, including the ability to monitor changes in the number of cases over time.
Predictive Value Positive	Predictive value positive (PVP) is the proportion of reported cases that actually have the health-related event under surveillance.

Surveillance attribute	Meaning
Representativeness	A public health surveillance system that is representative accurately describes the occurrence of a health-related event over time and its distribution in the population by place and person.
Timeliness	Timeliness reflects the speed between steps in a public health surveillance system.
Stability	Stability refers to the reliability (i.e., the ability to collect, manage, and provide data properly without failure) and availability (the ability to be operational when it is needed) of the public health surveillance system.

OBJETIVES OF SURVEILLANCE OF HEALTH ASSOCIATED INFECTIONS

AIRBORNE TRANSMISSION

- To contribute to the prevention and control of infections acquired in outpatient and inpatient of health facilities.
- To measure patterns and trends of associated healthcare associated infections that have a prevalent behavior in outpatient and inpatient.
- To monitor the quality of care and timely identification of healthcare associated infections of outpatient and inpatient services.
- To establish the functions for the prevention and control of healthcare associated infections in outpatients and inpatients services.
- To establish baseline for the surveillance of healthcare associated infections.

SURVEILLANCE METHODOLOGY

Active and passive surveillance are important to identify patterns and trends through surveillance processes and are presented in the definitions bellow:

Passive Surveillance: While reporting is required by law, there is no practical way of enforcing adherence, so disease frequency is under reported. Nevertheless, this system has proven to be useful in identifying outbreaks and trends over time. Health care providers report notifiable diseases on a case-by-case basis. Passive surveillance is advantageous because it occurs continuously, and it requires few resources. However, it is impossible to ensure compliance by health care providers; moreover, cases occurring in people without access to care will frequently go unreported. Consequently, passive systems tend to under-report disease frequency.

Example of Selected Diseases for passive surveillance: Diphtheria, Hepatitis B, Mumps, Pertussis, Tetanus, Yellow Fever.

Active Surveillance occurs when a health department is proactive and contacts health care providers or laboratories requesting information about diseases. While this method is more costly and labor intensive, it tends to provide a more complete estimate of disease frequency.

Examples of active surveillance:

- Active surveillance to decrease methicillin-resistant Staphylococcus aureus (MRSA).
- Active surveillance to decrease surgical site infections.
- Active surveillance of device-associated infections.

The incidence and prevalence of healthcare associated infections are described as follows through:

- Active epidemiological surveillance (prevalence and incidence studies).
- A setting or a priority.
- Sentinel surveillance (establishing surveillance site base on specific criteria).
- Properly trained researchers.
- Epidemiological methodologies.
- Adjusted rates according to the risk comparison.

"CASE DEFINITION" SURVEILLANCE CHARACTERISTICS FOR HEALTHCARE ASSOCIATED INFECTIONS

WHO defines characteristics for the most common healthcare associated infections to identify and prompt treatment. These characteristics are presented in the table below:

TABLE 3: WHO DEFINITION OF MOST COMMON HEALTHCARE ASSOCIATED INFECTIONS

Nosocomial infection	Characteristics
Urinary infection	Causes less morbidity than other infections, but sometimes can cause bacteriemia and death. Definition according to microbiological criteria: quantitative positive urine culture (≥105 organisms / ml, 2 cultivated microbial species, maximum). Bacteria that cause these infections may come from the intestinal flora and are normally acquired such as Escherichia coli or acquired in the hospital treatment as Klebsiella polipharmalogical resistant.
Surgical site infection	Clinical definition: purulent discharge around the wound or around drainage tube or diffuse cellulite around the wound. The surgical wound infections (above or below the fascia) and deep infections of the organs or body cavities are separately identified. The infection is usually acquired during the surgical procedure, either exogenously (i.e., air, medical staff, surgeons and other medical staff), endogenous (from the skin flora or the site of operation) or, rarely, from blood transfusion used in surgery. Infectious agents vary depending on the type and site of surgery and antimicrobials received by the patient. The main risk factor is the type of contamination during the procedure (clean, clean-contaminated, contaminated, dirty wounds), which largely depends on the duration of the operation and the general state of the patient wound. Other factors include the quality of the surgical technique, the presence of foreign bodies, including drains, virulence of microorganisms, concomitant infection from other sites, the practice of shaving the patient before the operation and the experience of the surgical team.
Healthcare Associated Infection pneumonia	The most frequent cases are patients on ventilators in intensive care units. Microorganisms colonize the stomach, upper airway and bronchi and cause infection of the lungs (pneumonia): they are often endogenous (digestive system or nose and throat), but may be exogenous, often from contaminated respiratory equipment. The definition of pneumonia may be based on clinical and radiological criteria available but nonspecific, evident of purulent sputum and recent onset of fever. The diagnosis is more specific when quantitative microbiological samples are obtained using methods of specialized bronchoscopy. Patients with seizures or decreased consciousness are exposed to the risk of nosocomial infection, even without intubation. Viral bronchiolitis caused by the respiratory syncytial virus (RSV) and influenza are common in pediatric wards, also secondary bacterial pneumonia can be contracted in nursing homes.

Nosocomial infection	Characteristics
Healthcare Associated Infection bacteriemia	The incidence increases, particularly in the case of certain microorganisms such as Staphylococcus coagulated negative and Candida s.p.p. resistant to drugs. Infection can occur at the site of entry to the skin of intravascular device or subcutaneous catheter (tunnel infection).The colonizing microorganisms of catheter within the vessel may cause bacteriemia without visible external infection. The resident or transient cutaneous flora is the source of infection. The main risk factors are the length of catheterization, lack of hygiene at insertion, and poor continuing catheter care.

The following table shows the simplified definitions that can be useful for some facilities without access to full diagnostic techniques and are described below:

TABLE 4: SIMPLE DEFINITIONS OF HEALTHCARE ASSOCIATED INFECTIONS

Type of nosocomial infection	Simplified approach
Urinary infection	Urine culture with positive result at least 105 bacteria / ml with or without symptoms.
Infection of surgical incision	Any purulent discharge, abscess of diffuse cellulites in surgical site following a month after operation (clinical observation).
Intravascular catheter related infections	Inflammation, lymphangitis or purulent discharge from catheter insertion area.
Septicemia	Fever, chills and at least one blood culture positive.

MICROORGANISMS MORE COMMON IN HEALTHCARE ASSOCIATED INFECTIONS

TABLE 5: COMMON MICROORGANISMS IN HEALTHCARE ASOCIATED INFECTIONS

Commensally bacteria (normal flora of healthy people)	Staphylococcus negative coagulase Escherichia coli
Bacterial pathogens	Gram positive: anaerobic gram positive bacilli (Clostridium) and staphylococcus aureus Gram negative: Escherichia coli, Klebsiella, Enterobacter, Serratia marcescens, Pseudomona Others: Legionella
Virus	HIV, hepatitis B and C, syncytial respiratory virus, rotavirus, enterovirus, cytomegalovirus, Ebola, influenza, herpes simplex and zoster
Fungi and parasites	Fungi: Candida albicans, Aspergillus s.p.p., Crytococcus neoformans, Cryptosporidium, Aspergillus s.p.p. Parasites: Giardia lamblia and Sarcoptes scabiei (ectoparasite)

- Surveillance for the prevention in healthcare associated infections indicators have been designed. In table 6 the procedures to measure the set indicators are described.
- All health facilities should measure a group of surveillance indicators with emphasis in prevalent health care associated infections, from 48 hours of hospitalization.

The percentage of facilities measuring the prevalence of health care associated infections.

TABLE 6: SURVEILLANCE INDICATORS OF PREVALENT HEALTH CARE ASSOCIATED INFECTIONS

Prevalent healthcare associated infections	Rates	Example	Measure-ment fre-quency	Responsable
1. Urinary infections 2. Surgery site infection 3.Pneumonias acquired in health care facilities 4.Intravascular catheter related infections 5. Others: 5.1. Skin and soft tissues 5.2. Open wounds (common skin ulcers due to bedsores and burns)	**Incidencia rate**			
	Number of infections of patients in admission	Incidence of infections in admission		
	Number of infections in 1,000 patients in admission	Incidence of infections in 1,000		
	Number of new nosocomial infections acquired in a period of time / Total of days – patient in the same period X 1,000	Incidence of blood infection for each 1,000 days -patient		
	Number of new nosocomial infections related with the use of devices in a period of time / Total of days –devices in the same period of time X 1,000	Incidence of pneumonia related with the use of mechanical ventilation by each 1,000 days – mechanical ventilation		
	Attack rate (cumulative incidence rate)			
	Number of new infections acquired in a period of time / Number of patients observed in the same period X 100	Rate attack (%) of urinary infections per each 100 hospitalized patients	Daily	Epidemiology nurse or physician
	Number of new infections acquired in a period of time / Number of new patients exposed in the same period X 100	Rate attack (%) of infections in surgical incisions per each 100 operated patients		

…END OF POLICY…

SECTION 3
STANDARD PRECAUTIONS

STANDARD PRECAUTIONS [POLICY #6]

HAND HYGIENE [POLICY #7]

PERSONAL PROTECTIVE EQUIPMENT [POLICY #8]

RESUCITATION [POLICY #9]

LINEN MANAGEMENT [POLICY #10]

POLICY #6: STANDARD PRECAUTIONS

6 STANDARD PRECAUTIONS

6.1 INTRODUCTION

Standard Precautions are practices used every day to prevent transmission of infections between Health Care Workers and their patients, clients or other Health Care Workers, and from patient to patient. This precaution applies to all persons who may be affected such as Health Care Workers, patients, staff and visitors. These practices are directed to all body substances including blood, secretions, and excretions, as well as mucous membranes and non-intact skin.

6.2 PURPOSE AND APPLICABILITY

- Prevent the transmission of infectious diseases and blood borne pathogens in our health care settings.
- This policy applies to all employees.

6.3 POLICY STATEMENTS

Standard Precaution consists of the following nine (9) areas of precaution. All Health Care Workers shall comply with these precautions during administration of patient care:

- Hand Hygiene
- Personal Protective Equipment
- Occupational Health and Blood Borne Pathogens
- Patient Resuscitation
- Patient Placement
- Patient Care Equipment
- Environmental Control
- Linen Management

All employees with evidence of any infectious process that may compromise their ability to safely provide care shall be evaluated medically.

Personnel who experience exposures to blood and body fluids including needle stick injuries shall reprt and comply with the Reporting Exposures to Blood and Body Substance Policy [SEE SECTION XI – POLICY #36]

…END OF POLICY…

POLICY#7: HAND HYGIENE (CDC-HICPAC/SHEA/APIC/IDSA, October 25, 2002 / Vol. 51 / No. RR-16)

7.1 INTRODUCTION

The hands of the Health Care Workers are the most useful tool in the delivery of patient care; likewise it could be the most detrimental if not cared for adequately. Hand hygiene is the single most preventive method in the control of infection. Policies and procedures relating to hand hygiene shall be strictly adhered to for the program to be effective. Careful attention shall be given to the immuno-compromised hosts since they are the ones most likely to acquire hospital infection.

7.2 PURPOSE AND APPLICABILITY

- To mitigate the effects of cross contamination during performance of duties.
- To control the transmission of pathogenic organisms via the hands of Health Care Workers
- This policy applies to ALL employees.

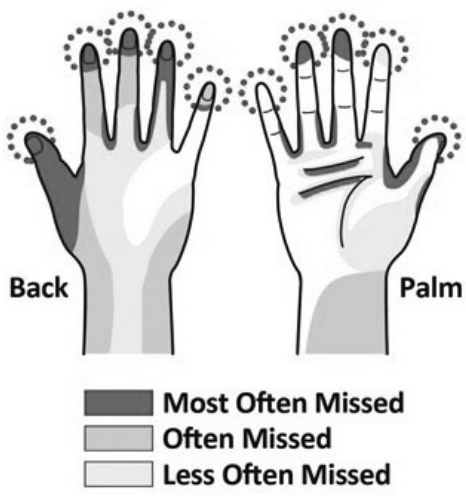
7.3 GENERAL PROVISIONS

Hand washing accomplishes the physical removal of microorganisms and a chemical inactivation of residual microorganisms on the surfaces of the skin. Fingers are thought to be the most important part of the hand in terms of the transfer and spread of pathogenic microflora (See diagram 2).

Hand hygiene procedures are divided into four (4) major categories related to work areas namely:

- Routine Hand Washing.
- Hand Washing For Invasive Procedures.
- Surgical Hand Scrub.
- Alcohol base hand rubs.

DIAGRAM 2:
AREAS FOR SPECIAL ATTENTION



Reference: Google Images for hand washing gobrandstand.com

7.4 POLICY STATEMENTS

- 7.4.1. Patients and families members shall be instructed about proper hand measures.
- 7.4.2. Only health care facility approved soap or alcohol hand rub shall be used for hand hygiene.
- 7.4.3. Hands shall be washed under running water.
- 7.4.4. Hands shall NOT be dried on personal clothing or on wet and soiled towels. Paper dispenser should be made available and equipped with paper to ensure proper hand hygiene.
- 7.4.5. Air blow dryers shall not be used in health facilities for hand drying.

7.4.1 HAND HYGIENE SHALL BE PERFORMED

- Between handling of individual patients.
- During performance of normal duties, handling dressings, urinals, bedpans, catheters, sputum, etc.
- After sneezing or coughing.
- Before eating.
- On completion of duties.
- Before and after using bathroom.
- When in doubt.
- Before the entry of Intensive Care Unit and upon exiting.

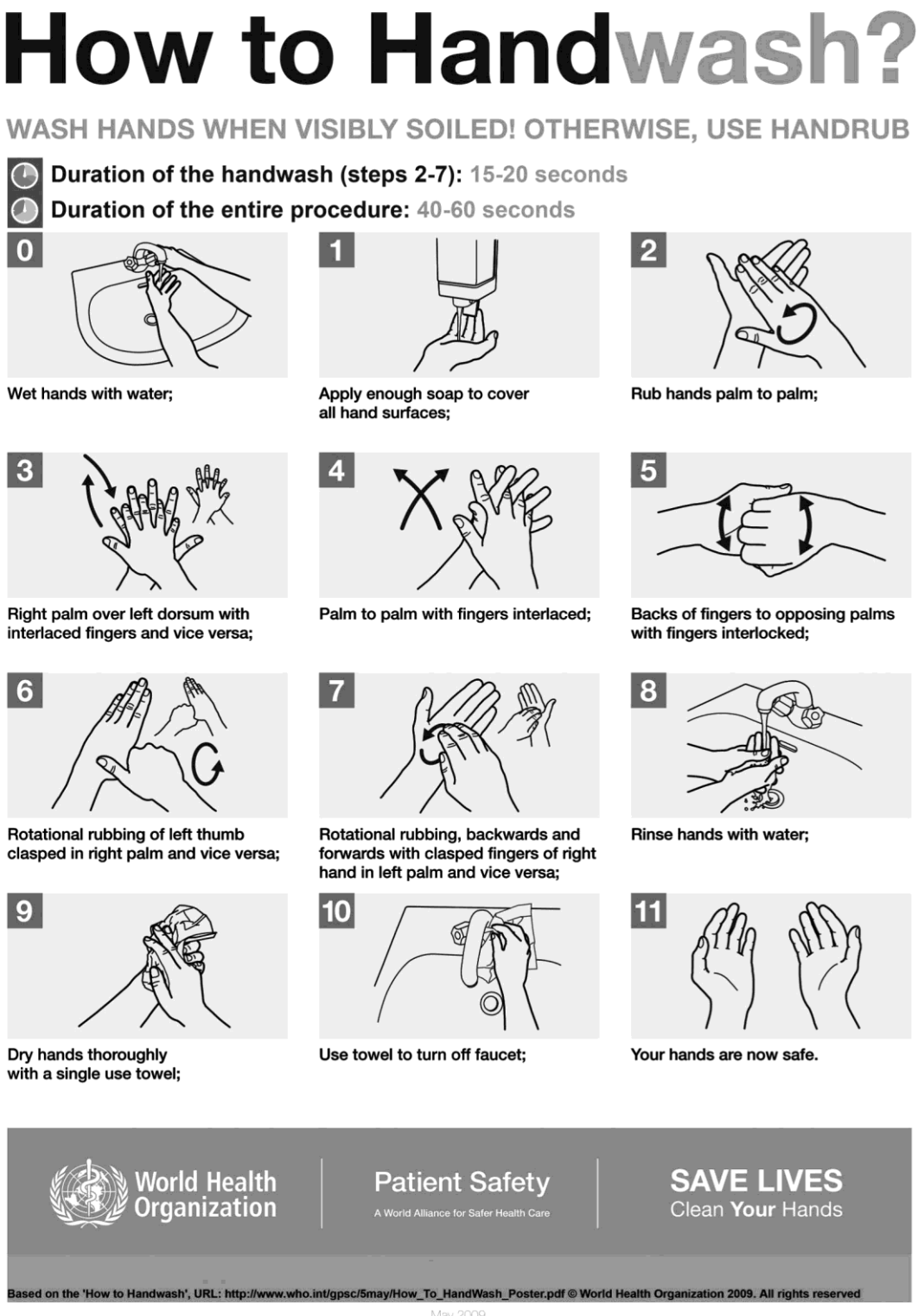
> The wearing of glove does not replace the need for hand washing – hands must be washed after the removal of glove

7.5 PROCEDURES

7.5.1 STEPS FOR ROUTINE HAND WASHING

- Remove all jewelry.
- Adjust facet to desire temperature and flow.
- Wet hands with water.
- Apply enough soap to cover all hand surfaces.
- Rub hands palm to palm.
- Right palm over left dorsum with interlaced fingers and vice versa.
- Palm to palm with fingers interlaced.
- Backs of fingers to opposing palms with fingers interlocked.
- Rotational rubbing of left thumb clasped in right palm and vice-verse.
- Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa.
- Rinse hands with water.
- Dry hands thoroughly with a disposable towel.
- Use disposable towel to turn off faucet.
- Discard used paper towel in appropriate waste receptacle.
  SEE FIGURE 1 FOR PICTORIAL VIEW

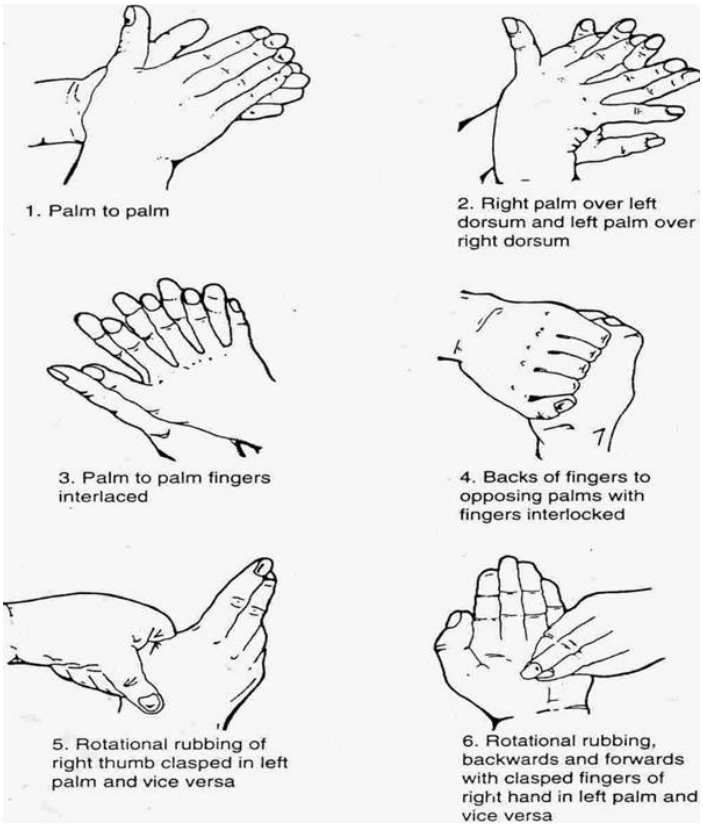
FIGURE 1: ROUTINE HAND WASHING



7.5.2 STEPS 4 VIGOROUS AND INVASIVE HAND WASHING TO BE APPLIED IN HOSPITALS

- Remove all jewelry.
- Adjust water to desired temperature and flow.
- Wet both hands thoroughly.
- Apply anti-microbial soap (Iodine) into palm of hands.
- With both hands work up a rich lather, working from palms of hands move with a circular motion upwards toward just 2 inches above the elbows.
- Rinse both hands thoroughly, holding hands upwards.
- Apply alcohol 70% to both hands and rub briskly up to wrist until hands are almost dry.
- Complete drying of hands using sterile towel provided in the sterile trays.
  SEE FIGURE BELOW FOR VIGOROUS AND INVASIVE HAND WASHING

FIGURE 2: VIGOROUS AND INVASIVE HAND WASHING



Reference: Images for vigorous and invasive hand washing, www.emed.ie

The 1995 APIC Guideline for Hand Washing and Hand Antisepsis in Health Care Settings recommends a vigorous rubbing of all surfaces of lathered hands and fingers for 10 to 15 seconds, followed by thorough rinsing under a stream of water.

7.5.3 STEPS FOR SURGICAL HAND SCRUB TO BE APPLIED IN HOSPITALS

The purpose of the surgical hand scrub is to reduce resident and transient skin flora (bacteria) to a minimum. Resident bacteria are often the result of organisms present in the hospital environment. Because these bacteria are firmly attached to the skin, they are difficult to remove. However, their growth is inhibited by the antiseptic action of the scrub detergent used. Transient bacteria are usually acquired by direct contact and are loosely attached to the skin. These are easily removed by the friction created by the scrubbing procedure. Proper hand scrubbing and the wearing of sterile gloves and a sterile gown provide the patient with the best possible barrier against pathogenic bacteria in the environment and against bacteria from the surgical team. The following steps comprise the generally accepted method for the surgical hand scrub. Before beginning the hand scrub, put on a surgical cap or hood that covers all hair, both head and facial, and a disposable mask covering your nose and mouth.

STEPS:

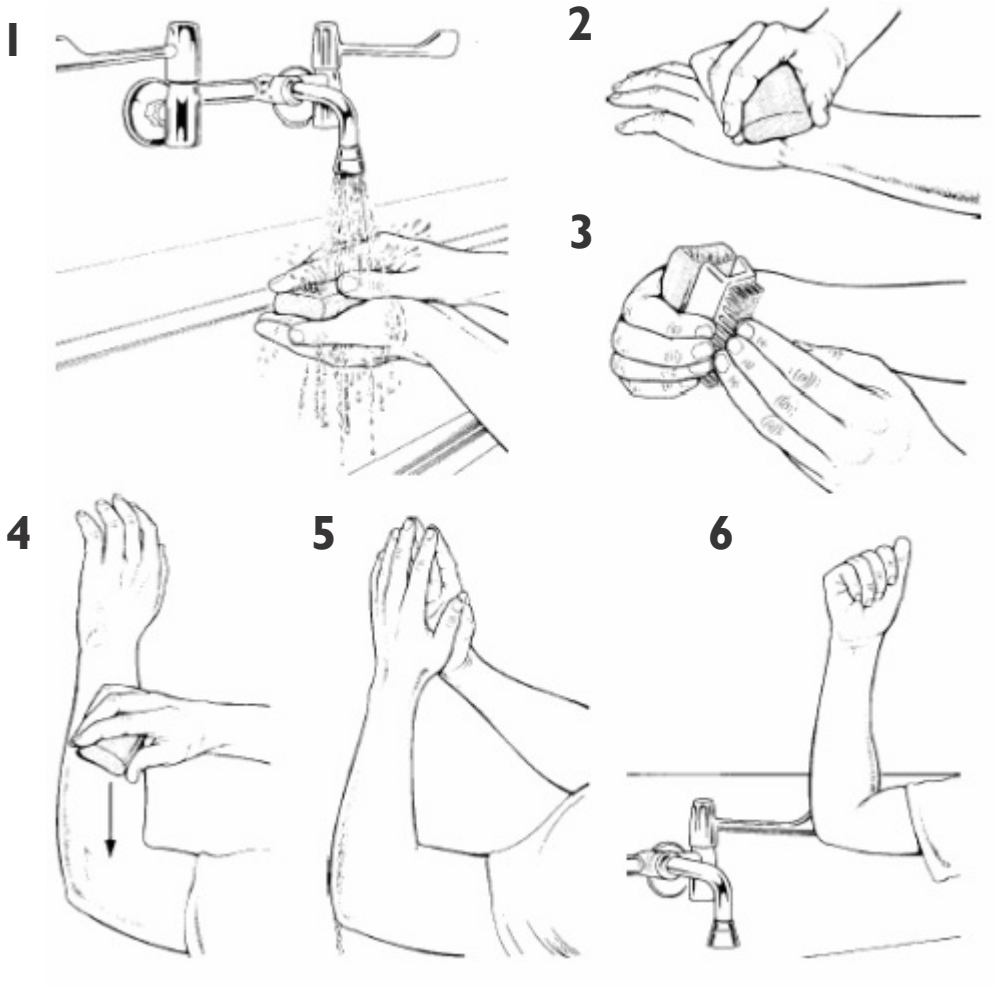
- Remove all jewelry.
- Turn on faucet and adjust temperature and flow. Wet hands and forearm thoroughly twice.
- Using approximately 6 ml or 6 pumps of anti-microbial soap, lather your hands and arms to 2 inches above
- The elbow. Leave detergent on your arms and do not rinse.
- Under running water, clean your finger nails and subungual spaces using a nail file.
- Starting with your fingertips, rinse each hand and arm by passing them through the running wáter. Always keep your hands above the level of your elbows, avoid splashing.
- With one hand reach for the hand brush from a sterile container and dispense approximately
- 6 ml of antimicrobial soap unto the brush and begin scrubbing your hands and arms. If the brush is impregnated with anti- microbial soap, it shall be moistened before scrubbing begins.
- Begin with the fingertips. Bring your thumb and fingertips together and, using the brush, scrub across the fingertips using 30 strokes.
- Now scrub all four (4) surface planes of the thumb and all surfaces of each finger, including the webbed space between the fingers, using 20 strokes for each surface area.
- Scrub the palm and back of the hand in a circular motion, using twenty (20) strokes each.
- Visually divide your forearm into two (2) parts, lower and upper. Scrub all surfaces of each division twenty (20) strokes each, beginning at the wrist and progressing to the elbow.
- Scrub the elbow in a circular motion using 20 strokes.
- Scrub in a circular motion all surfaces to approximately 2 inches above the elbow. Do not rinse this arm when you have finished scrubbing. Rinse only the brush. Pass the rinsed brush to the scrubbed hand and begin scrubbing your other hand and arm, using the same procedure outline above.
- Drop the brush into the sink when you are finished.
- Rinse both hands and arms individually working from fingertips to elbow, keeping your hands above the level of your elbows, and allow water to drain off the elbows.
- When rinsing, do not touch anything with your scrubbed hands and arms.
- After scrubbing both hands and forearm, apply anti-microbial solution to both hands; work up a good lather, interlacing fingers, including webs, sides and back of hands up to the wrist.
- Rinse both hands.
- Taking careful attention not to contaminate hands, turn off water flow using elbows. Apply alcohol 70% to both hands from fingertips to wrists.

- The total scrub procedure shall include all anatomical surfaces from the fingertips to approximately
- 2 inches above the elbow. After both hands have been scrubbed, proceed to drying hands with a sterile towel. Do not allow the towel to touch anything other than your scrubbed hands and arms.
- Between operations, follow the same hand-scrub procedure.

7.6 SURGICAL HAND SCRUB TO BE APPLIED IN HOSPITALS

SEE FIGURE 3 FOR SURGICAL FOR PICTORIAL VIEW OF SURGICAL HAND SCRUB PROCEDURES.

FIGURE 3: SURGICAL HAND SCRUB



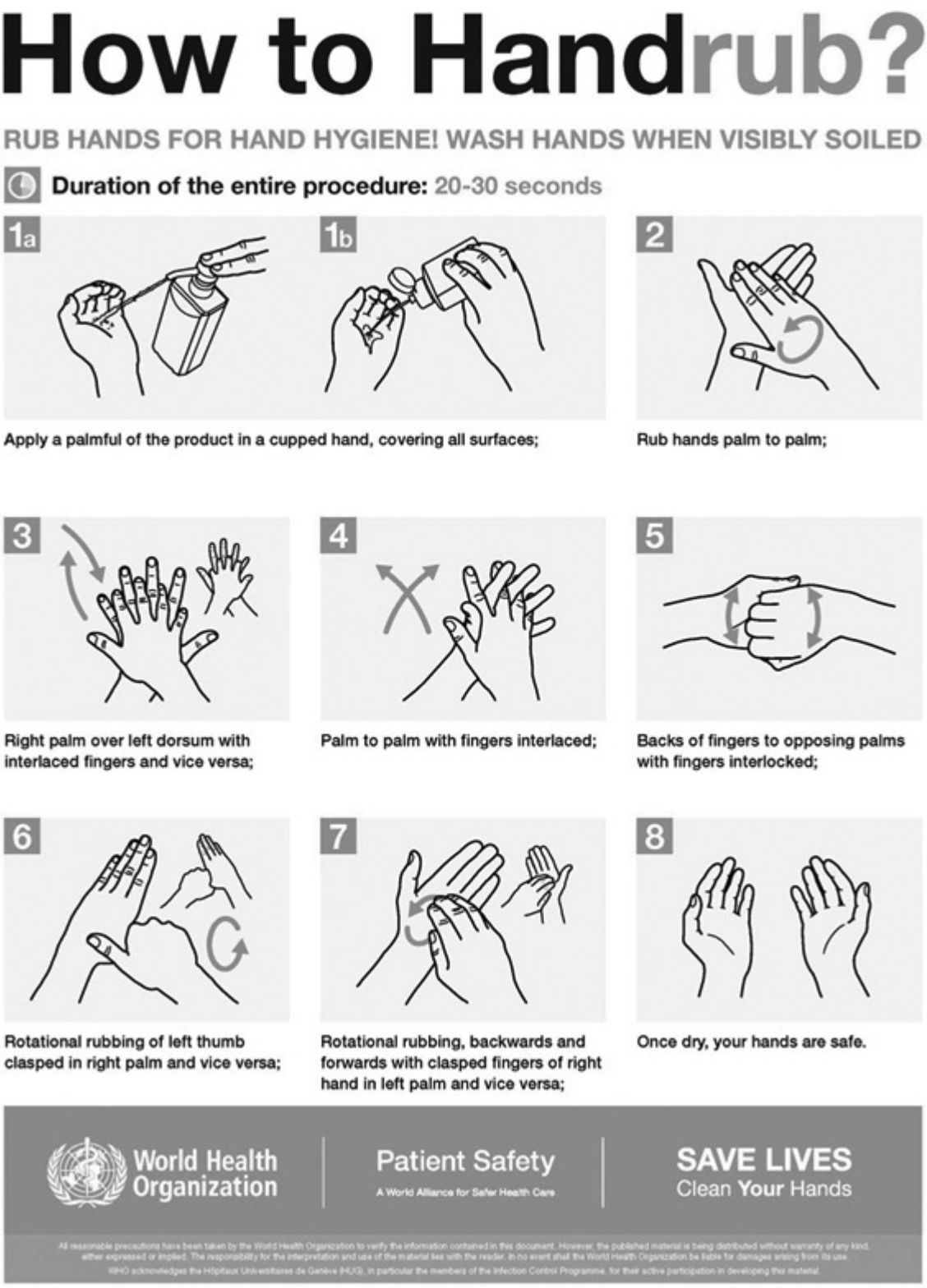
Reference: Surgical hand scrub. National Guidelines on Infection, Prevention and Control of Health Facilities of Belize, 2011.

7.6.1.1 ALCOHOL-BASE HAND RUB

- Apply a palmful of the product in a cupped hand, covering all surfaces.
- Rub hands palm to palm.
- Right palm over left dorsum with interlaced fingers and vice versa.
- Palm to palm with fingers interlaced.
- Backs of fingers to opposing palms with fingers interlocked.
- Rotational rubbing of left thumb clasped in right palm and vice versa.
- Rotational rubbing, backwards forwards with clasped fingers of right hand in left palm and viceversa.
- Once dry, your hands are safe.

SEE FIGURE 4 FOR PICTORIAL VIEW OF ALCHOHOL-BASED HAND RUB PROCEDURES

FIGURE 4: ALCHOHOL-BASED HAND RUB



POLICY #8: PERSONAL PROTECTIVE EQUIPMENT -PPE- (WHO, 2007)

8.1 INTRODUCTION

Personal protective equipment -PPE-, is designed to protect workers from serious workplace exposures or illnesses resulting from contact with biological hazards. PPE includes a variety of devices and garments such as goggles, coveralls, gloves, aprons, gowns and respirators.

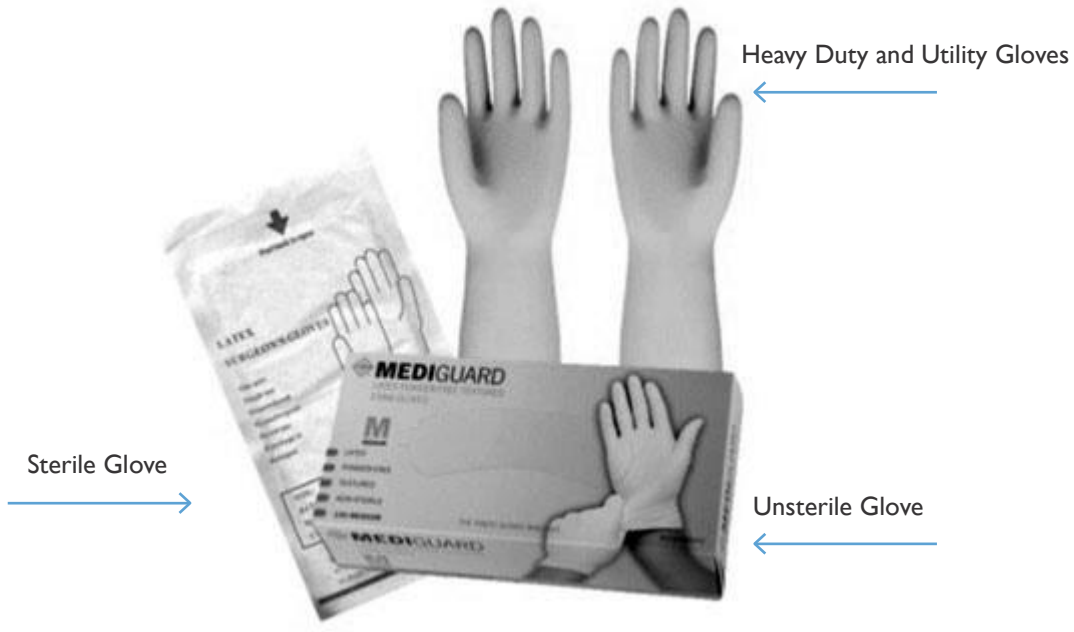
GLOVES

- Gloves are used to protect the hands of Health Care Workers. They prevent infection by preventing the transmission of secretions/excretions from client to personnel or from personnel to client.
- Check to ensure gloves are intact i.e., no tears or holes. Check for size appropriate to user
- Use gloves based on intended procedure.

Types of Gloves:

- Sterile Glove: single use, disposable surgical gloves used for invasive procedures (e.g. surgery).
- Unsterile Glove: single use, disposable examination gloves used for routine care e.g., throat examination.
- Heavy Duty and Utility Gloves: reusable rubber gloves used for decontamination of large equipment and cleaning purposes. (E.g. Housekeeping).

FIGURE 5: GLOVES



Reference: Surgical hand scrub. National Guidelines on Infection, Prevention and Control of Health Facilities of Belize, 2011.

8.2 POLICY STATEMENTS

8.2.1 GLOVES SHALL BE WORN

- As an additional measure but not as a substitute for hand hygiene.
- When touching blood and or body fluids, mucous membranes, or non-intact skin of all patients.
- When handling items or surfaces soiled with blood and or body fluids, and for performing invasive procedures.
- By Health Care Workers who suffer cuts, scrapes, scratches or other breaks on the skin.

8.2.2 GLOVES SHALL BE USED FOR

- Prevention of contact with blood, body fluids, mucous membranes and non-intact skin (e.g. when doing physical assessments).
- Venipuncture, collection of blood samples, urinary catheterization, collection of other body fluid specimens, invasive procedures and direct client care, including first aid.
- Handling soiled linens.
- Dressing changes. (Use one set of gloves for removing the dressing and another set of gloves for applying the new dressing. Never touch a soiled dressing or open wound without gloves.)
- Handling and disposing of contaminated items, supplies, or equipment (e.g. sanitary napkins, disposable diapers).
- Cleaning up blood or body fluids from soiled surfaces and when cleaning soiled supplies and equipment.

8.2.3 GLOVES SHALL BE USED ONLY ONCE AND DISCARDED (CHANGE GLOVES AFTER EACH CLIENT CONTACT AND BETWEEN PROCEDURES ON THE SAME CLIENT.)

8.2.4 DISCARD ANY TORN GLOVE

8.3 PROCEDURES

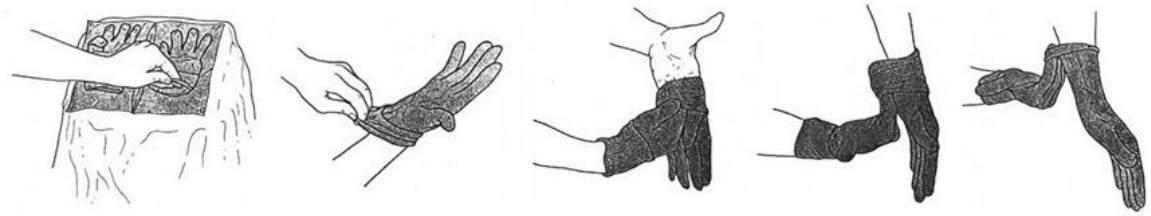
8.3.1DONNING STERILE GLOVES

- Wash and dry hands, using aseptic hand washing technique.
- Open a sterile glove package; grasp the upper two (2) edges of the glove package and pull apart laterally; and remove the wrapper containing the sterile gloves.
- Place the wrapper on a clean, flat surface and open it.
- Grasp the cuffed end of one sterile glove with non-dominant hand, touching only the inner (skin-side) glove surface.
- At this point, do not try to position fingers completely into the glove.
- Place dominant hand into glove; gently pull the glove into place with non-dominant hand, touching only the inner (skin-side) glove surface.
- Using dominant-gloved hand, place sterile glove liners under the folded cuff of the second sterile glove; lift the glove from the wrapper.
- Touching only the sterile outer surface of second glove with the sterile gloved hand, place ungloved.
- fingers into the second glove. Gently pull the glove into place with your dominant-gloved hand.

• Adjust the fitting of both gloves, touching only the sterile, External surface of each glove with the sterile gloved fingers. To prevent accidental glove contamination, keep sterile, gloved hands in full view in front of body, when applicable.

> If the isolation type requires a gown, place the gloves to cover the gown wristlets. If the isolation type does not require a gown, place the gloves so they cover the wrists.

FIGURE 6A: DONNING STERILE GLOVES

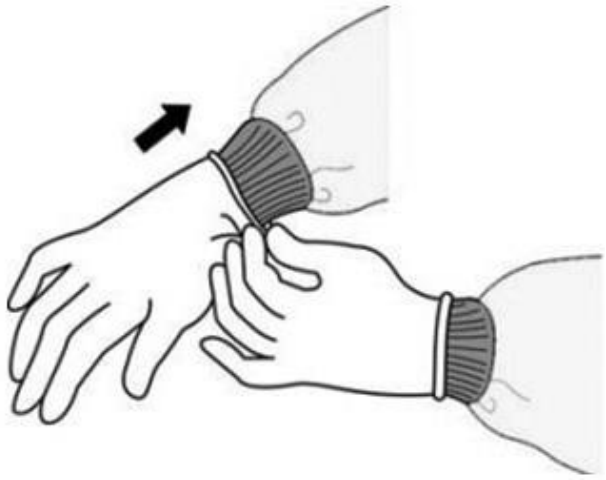


Reference: National Guidelines on Infection, Prevention and Control for Health Facilities. Second Edition-January 2011.

8.3.2 DONNING UNSTERILE GLOVES

- Wash hands.
- Slip fingers into the glove opening and pull the gloves up to wrist. Repeat for the second glove.

FIGURE 6B: DONNING UNSTERILE GLOVES



Reference: National Guidelines on Infection, Prevention and Control for Health Facilities. Second Edition-January 2011.

8.3.3 DOFFING OF STERILE OR UNSTERILE GLOVES

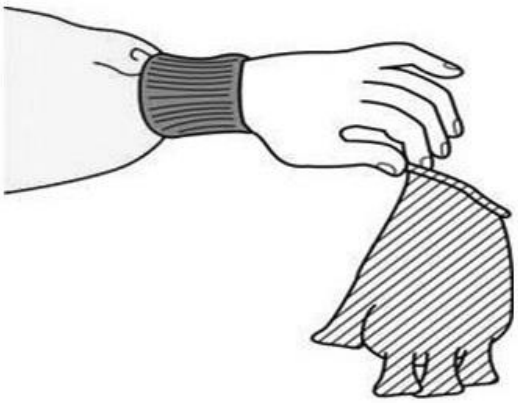
- Pinch one glove below the top edges.
- Pull glove so that it turns inside out as you remove it. Place removed gloved into the palm of the gloved hand.

FIGURE 7A: DOFFING OF STERILE OR UNSTERILE GLOVES

Reference: National Guidelines on Infection, Prevention and Control for Health Facilities. Second Edition-January 2011.

- Pull down toward finger tips and off hands over removed glove ensuring both gloves are contained.
- Discard contaminated gloves in accordance with facility policy.
- Wash hands.

FIGURE 7B: DOFFING OF STERILE OR UNSTERILE GLOVE



Reference: National Guidelines on Infection, Prevention and Control for Health Facilities. Second Edition-January 2011.

MASKS

- The mask protects against droplets of blood or body fluids to prevent exposures to mucous membranes of mouth and nose.
- Masks block the transmission of infection via exhaled droplets and air currents.

Types of Masks:
- Surgical mask
- N95 Mask/Respirators

SEE FIGURE 8 FOR PICTORIAL VIEW OF MASK

FIGURE 8: MASKS

Surgical masks

Reference: Google Images for surgical mask
www.dreveterinary.com

N95 masks

Reference Google Images for N95 mask
www.aladybuzz.com

8.4 POLICY STATEMENTS

Masks shall be worn when exposure to splash, aerosols, or body fluids, substances or discharges is anticipated. Masks shall completely cover the nose and mouth. The mask shall be used once and discarded or changed when moist (follow manufacturer's recommendations for use). The mask may be combined with eye protection or goggles as a face shield. Wash hands after removal.

8.5 PROCEDURES

8.5.1 DONNING SURGICAL MASK IN HOSPITALS

- Position the mask to cover both mouth and nose.
- Bend the nose bar, if applicable, over the bridge of the nose.
- For tie-string masks, tie the top strings over ear and around the back of the neck. Tie the bottom strings on top of the head forming an x in front of both ears.
- For mask with loops, slide loops over each ear lobe.

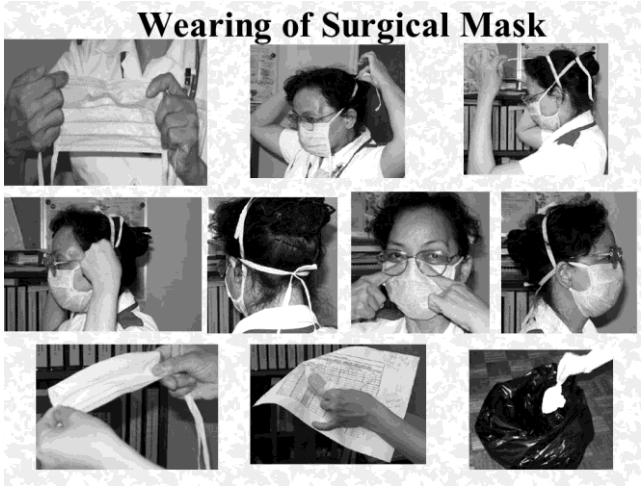
> Masks are ineffective when moist and after forty-five (45) minutes of wear.

8.5.2 DOFFING SURGICAL MASK IN HOSPITALS

- Untie mask strings or release the elastic. Remove the mask away from the face.
- Discard it into an appropriate waste container.
- Donning N95 mask.
- Cup mask in palm of hand with nose piece at your fingertips. Allow head bands to hang freely below your hand.
- Position the N95 Mask under your chin with the nose piece up.
- Pull the top straps over your head resting it high at the back of your head.
- Pull the bottom strap over your head and position it around the neck below the ears.
- Place finger tips of both hands at top of metal nose piece. Mold nose piece to the shape of your nose pinching the nose piece using one hand may result in less effective N95 performance.
- Cover the front of the N95 mask with both hands being careful not to disturb its position.

SEE FIGURE 9 FOR PICTORIAL VIEW OF DONNING AND DOFFING SURGICAL MASK

FIGURE 9:DONNING AND DOFFING SURGICAL MASK



Reference: Google Images for DONNING AND DOFFING SURGICAL MASK, slideplayer.com

8.5.3 PERFORMING A POSITIVE SEAL CHECK

- Exhale sharply causing a positive pressure inside the N95 mask.
- If leakage, adjust position and tension straps. Re-test the seal.

8.5.4 PERFORMING A NEGATIVE SEAL CHECK

- Inhale deeply.
- If no leakage negative pressure will make the N95 cling to your face.
- Leakage will cause air entry and result in loss of negative pressure in the N95 Mask. Repeat the steps until respirator is sealed properly.

8.5.5 DOFFING N95 MASK

- Lift both straps from behind head
- Pull upwards, forward and away from the face
- Discard it into an appropriate waste container.

8.5.6 PROTECTIVE EYEWEAR

- Protective eyewear are also important pieces of Personal Protective Equipment and are used to protect the eyes, nose or mouth mucosa of the Health Care Workers from any risk of contact with a patient's respiratory secretions or splashes of blood, body fluids, secretions or excretions.

- Face shields cover mouth, nose and eyes, and if available, can be used instead of a mask plus eyewear.

Types of Eyewear:

- Goggles
- Face Shield
- Visor

FIGURE 10: PROTECTIVE EYEWEAR

Reference: Google Images for types of face shield for use in health

8.6 POLICY STATEMENTS

Goggles or face shields shall be worn during procedures where there is a potential for splashing of blood and body fluids.

8.7 PROCEDURES

8.7.1 DONNING VISOR

- Place the eye wear in front of the eyes and loop the handles behind each ear.

8.7.2 DOFFING VISOR

- Lift the eye wear handles carefully from behind the ears and pull forward and away from the face.

8.7.3 DONNING GOGGLES

- Position goggles to cover both eyes and nose.
- Hold the goggles in one hand, allowing head straps to dangle. Place goggles above the nose and over the eyes.
- Raise top strap to back of head. Pull bottom strap over head, below ears, to around neck.
- Adjust for comfort.

8.7.4 DOFFING GOGGLES

- First carefully lift the top strap from the back of the head to the front.
- Holding goggles with one hand lift the bottom strap from the back of the head to the front.

8.7.5 DONNING FACE SHIELD

- Read the manufacturer's instructions if the face shield needs assembling.
- Be sure the face shield covers the face.

8.7.6 DOFFING FACE SHIELD

- Lift the face shield carefully from behind the ears and pull forward and away from the face. If the face shield has an elastic band, lift the face shield carefully from behind the ears and pull upwards, forward and away from the face.

8.7.7 GOWNS

- Gowns are another important piece of PPE and are used to provide a barrier to prevent the HCWs' clothing being exposed to blood or other body fluids.

8.8 POLICY STATEMENTS

- 8.8.1. Gowns shall be worn during procedures that are likely to generate splashes of blood and body fluids. Gowns shall be worn once and discarded. Wash hands after removal

8.9 PROCEDURES

8.9.1 DONNING A GOWN

- Unfold the gown.
- Hold the gown so that the opening faces you. Insert one arm at a time into each sleeve.
- Pull the gown up over the shoulders. Tie the neck strings so that the gown overlaps.
- Tie the waist strings so that the gown ends overlap.

8.9.2 DOFFING A GOWN

- With gloved hand untie the waist strings of the gown first.
- With ungloved hands, untie the neck strings of the gown. Insert hand inside the neck of the gown and grasp inner shoulder of gown and pull away from body removing hand from sleeve.
- Insert freed hand into the inner shoulder of the remaining sleeve and proceed to pull the gown away from the body.
- Ensure that the outer aspects of the gown are folded inwards.
- Roll gown and discard it carefully in the appropriate receptacle. Wash hands.

FIGURE 11A: PUTTING ON AND REMOVING PPE

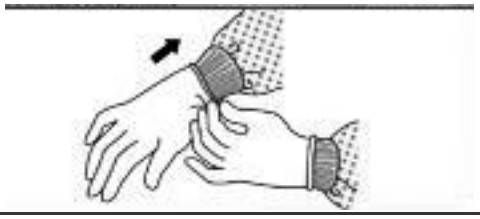
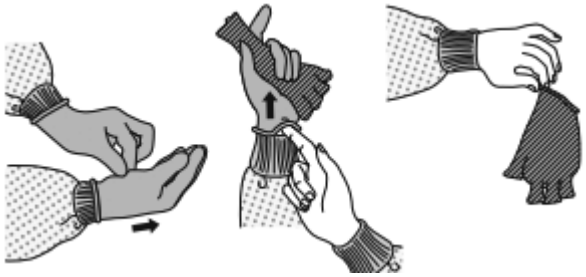
SEQUENCE FOR PUTTING ON PPE	
GOWN • Fully cover torso from neck to knees, arms to end of wrist, and wrap around the back. • Fasten at the back of neck and waist.	1 2 
MASK • Secure ties or elastic bands at middle of head and neck.	
PROTECTIVE EYEWEAR OR FACE SHIELD • Place over face and eyes and adjust to fit.	
GLOVES • Extend to cover wrist of isolation gown.	

FIGURE 11B: REMOVING PPE

SEQUENCE FOR REMOVING PPE	REMOVE PPE AT DOORWAY OR IN ANTEROOM
GLOVES • Outside of gloves is contaminated! • Grasp outside of glove with opposite gloved hand; peel off. • Hold removed glove in gloved hand • Slide fingers of ungloved hand under remaining glove at wrist. • Peel glove off over first glove. • Discard gloves in waste container.	
PERFORM HAND HYGIENE	
PROTECTIVE EYEWEAR OR FACE SHIELD • Outside of eye protection or face shield is contaminated! • To remove, handle by head band or ear piece. • Place in designated receptacle for reprocessing or in waste container.	
GOWN • Gown front and sleeves are contaminated! • Unfasted ties. • Pull away from neck and shoulders, touching inside of gown only. • Turn gown inside out. • For or roll into a bundle and discard.	
MASK • Front of mask is contaminated - DO NO TOUCH! • Grasp bottom, the top ties or elastic and remove. • Discard in waste container.	
PERFORM HAND HYGIENE IMMEDIATELY AFTER REMOVING ALL PPE	

Source: Adapted from http://www.cdc.gov/hicpac/2007ip/2007isolationprecautions.html.

…END OF POLICY…

OCCUPATIONAL HEALTH & BLOOD BORNE PATHOGENS

Health Care Workers are at risk of exposure to a variety of infectious agents which may cause them illness and which they in turn may transmit to other staff and patients. This risk maybe minimized through the promotion of safe work practices to include established policies and staff education. [SEE SECTION XI – POLICY #33]

POLICY #9: PATIENT RESUSCITATION

9.1 INTRODUCTION

Medical emergencies may arise in which a patient may demand immediate attention and quick responses, however, health care personnel are responsible to ensure that all the necessary precautions are taken to prevent them from exposure. In the event that an exposure occurs, then reporting of such shall be done immediately as per policy. [SEE SECTION XI – POLICY #36]

9.2 PURPOSE AND APPLICABILITY

- To provide guidelines that delineates Health Care Workers' responsibilities during patient resuscitation.
- This policy shall be applied to all Health Care Workers involved in the resuscitation of patients.

In the event of accidental exposures during patient resuscitation,
refer to [SECTION XI – POLICY #36]

9.3 POLICY STATEMENTS

- 9.3.1 In emergency situations, when health care professionals are required to resuscitate patients, they shall at all times apply the appropriate PPE to protect themselves from exposures with potentially infectious blood and other body substances.
- 9.3.2 Manual respiratory resuscitation equipment shall be available as standard equipment on emergency carts.
- 9.3.3 All personnel responsible for responding to emergency situations shall be trained in the proper use of these resuscitation devices.

…END OF POLICY…

PATIENT PLACEMENT

Appropriate or selective placement of patients is important in preventing the transmission of infections in the health facility setting. [SEE SECTION IV – POLICY #12]

PATIENT CARE EQUIPMENT

The successful implementation of this disinfection and sterilization policy requires an understanding of the general principles. In general, thorough cleaning with detergent and hot water and thorough drying often provide adequate disinfection. However, there are instruments/equipment that require more careful attention. [SEE SECTION VII – POLICY #22]

ENVIRONMENTAL CONTROL

The health-care facility environment is rarely implicated in disease transmission, except among patients who are immunocompromised. Nonetheless, inadvertent exposures to environmental pathogens or airborne pathogens can result in adverse patient outcomes and cause illness among Health Care Workers. Environmental infection-control strategies and engineering controls and infection prevention and control strategies can effectively contribute to a safe working environment. [SEE SECTION VIII]

POLICY #10: LINEN MANAGEMENT

10.1 INTRODUCTION

Soiled linens have been associated with the transmission of pathogenic micro-organisms and to protect Health Care Workers, the Infection Control Team has outlined some precautionary measures to prevent and control transmission of potentially infectious organisms likely to be present on these fomites.

10.2 PURPOSE AND APPLICABILITY

To prevent or control transmission of potentially infectious organisms through airborne and direct contact. This Policy applies to all nurses and ancillary staff.

10.3 POLICY STATEMENTS

- 10.3.1 All employees charged with responsibilities to handle soiled and contaminated linens shall be instructed on Infection Control procedures prior to initiation of duties.
- 10.3.2 Bed linen shall be changed at least once daily.
- 10.3.3 Only personnel identified and trained for such activities shall be responsible to handle soiled linens.
- 10.3.4 Linen bags shall be tied securely and removed when ¾ full.
- 10.3.5 Soiled linen shall be laundered following approved National Guideline on Infection, Prevention and Control for Health Facilities.

10.4 PROCEDURES

- The following procedures for the handling of clean and soiled linens shall be adhered to.

10.4.1 HANDLING CLEAN LINENS OR SCRUBS

- Hands shall be washed before handling of clean linens
- Clean linens shall be handled as little as possible and shall be stored in a clean closed area.
- No eating or congregation will be allowed in linen storage areas.
- Upon delivery by laundering personnel, clean linen will be taken to the main linen room for storage and preparation for delivery to the different units.
- There shall be an identified room or storage closet to store linens on patient care units and this designated storage area shall be communicated with linen personnel.
- Storage area shall be maintained clean and closed.
- Clean linens shall be transported in clean closed linen cart labeled “Clean Linens”.

10.4.2 HANDLING OF SOILED LINENS AND SCRUBS

- Personnel with open skin irritation, wounds etc. shall not be allowed to handle soiled linens until approval from attending physician is given.
- Linen trolley shall be used to transport soiled linen during time of bed making.
- Soiled linens shall be folded off beds, trolleys and examination tables.
- Heavily soiled linen shall be rolled or folded to contain the heaviest soil in the center of the bundle.
- Linens used on examination tables, trolleys shall be changed as needed (dependent on service area).
- Hands shall be washed after handling soiled linens.

- Soiled linens shall be transported away from person's body, and placed in soiled linen hamper immediately after removal from patient beds.
- Soiled linens shall NOT be thrown on floor or on top of hamper in the dirty utility area.
- Segregation of soiled linen shall be done in user areas and shall be placed in appropriately labeled linen bags.
- Impervious biohazard linen bag shall be used to store linen soiled with Blood and or body fluid.
- Green labeled linen bag shall be used to store regularly soiled linens.
- NO sluicing of soiled linen shall be done in patient units.
- Linens used in Isolation rooms shall be bagged inside the isolation rooms, secured labeled and transported to soiled utility room where it shall be placed in the BIO- HAZARD linen bag.
- All soiled linen shall be stored ONLY in dirty utility rooms.
- Mattresses and pillows shall be covered with impervious plastic covers and shall be disinfected and allowed to dry after each use.
- Blankets shall be placed in soiled linen bag for laundering after each patient's use.
- Personnel handling, collecting or sorting soiled linens shall follow Infection Control
- Guidelines on personal protective wear.
- Soiled linens shall be collected at a minimum of three (3) times daily from patients units.
- Carts used for transporting soiled linens shall not be allowed to enter patient's units.
- Employees who handle soiled linens shall be instructed to shower and change clothes as soon as possible after work.

Staff in care areas needs to be aware of sharps when placing soiled linen in bags as workers are at risk from contaminated sharps, instruments or broken glass that may be contained with the linen.

…END OF POLICY…

WASTE MANAGEMENT

Due to the nature of its constituents, Medical Waste requires special treatment in order to assure the safety of the people handling it and the people that are involuntarily exposed. Therefore, all generators of Medical Waste shall have a Waste Management Program to address the problems associated with the mismanagement of the waste. [SEE SECTION X – POLICY #32]

SECTION 4
ISOLATION PRECAUTIONS

POLICY #11: ISOLATION (CDC-HICPAC, 2007)

11.1 INTRODUCTION

To assist all health facilities and specifically hospitals in maintaining up-to-date isolation practices, Centers for Disease Control (CDC) and the Hospital Infection Control Advisory and Committees (HICAC) have recommended the introduction of two (2) tiers of isolation precautions, Standard Precaution and transmission based Precautions. Placing a patient on isolation precaution may require specialized equipment and environmental modifications of the health facility or unit. Patients under isolation precautions require frequent visits by Health Care Workers. The use of single room may provide for solitude and deprive patients of normal social relationships and may be psychologically harmful. The use of multi-patient room uses valuable space and may not be convenient. The aim however in isolation precaution is to prevent the spread of serious and epidemiologically important microorganisms in the health facilities.

The fundamentals of isolation precautions include decreasing the risk of transmission of microorganisms in health facilities.

The following measures make up the fundamentals of isolation precautions:

- Hand washing and gloving
- Patient placement
- Transport of infected patient
- Mask, respiratory protection, eye protection,
- Face shield
- Gown and a protective apparel
- Patient care equipment and articles
- Linen and laundry
- Dishes, glasses, cups and eating utensils
- Routine and terminal cleaning

Implementation of "Standard Precautions" is the primary strategy for successful healthcare acquired infection control.

Implementation of "Standard Precautions" is the primary strategy for successful healthcare associated infection control.

Standard precautions are designed to reduce the risk of transmission of microorganism from both recognized and unrecognized sources of infection in the hospital.

"Transmission Based Precautions" are used for patients known or suspected to be infected or colonized with highly transmissible or epidemiologically important pathogens that can be transmitted by airborne or droplet transmission or by contact with dry skin or contaminated surfaces.

11.2 PURPOSE AND APPLICABILITY

- Prevent the transmission of microorganism among patients in outpatients, inpatients, hospital staff and visitors.
- Provide a safe environment for patients who are at risk of acquiring infection due to conditions that increased their susceptibility.
- Provide an environment that reduces the risk of cross-infection.
- This policy applies to all employees.

11.3 POLICY STATEMENTS

- 11.3.1 Infection Control Team shall outline different categories of isolation practices for patient with specific infectious diseases to facilitate identification and management. All Health Care Workers shall adhere to the isolation precautionary standards.
- 11.3.2 In addition isolation precaution standards, Universal Precautions for blood and body substances shall be in place throughout the entire hospital and outpatient's settings.
- 11.3.3 Staff members involved in the management of cases diagnosed with or suspected of having a communicable disease(s) shall observe the recommended isolation practices.

11.4 PROCEDURES

11.4.1 INITIATING ISOLATION PRECAUTIONS

Isolation precautions shall be instituted as soon as indicated by a triggering mechanism such as:

- Findings from thorough Physical Assessment.
- Symptoms of Infection
- Medical Diagnosis
- Laboratory and or Radiological Confirmations

Patients shall be thoroughly assessed for infections or potential infections upon consultation upon admission and regularly throughout their hospitalization.

- An assessment procedure shall be in place for all patients admitted with signs of infection and information shall be communicated to other personnel coming in contact with patient both verbally and by documentation in patient's record.
- The attending Physician is ultimately responsible for placing patient in isolation and it shall be the Physician's
- Responsibility to discontinue the isolation procedures.
- All Health Care Workers shall be responsible to comply with isolation precautions i.e. placement of patients, dress code, handling of patient care equipment and environment.
- Physicians and nurses shall explain the appropriate isolation and precautions measures to patients and guardians before initiating isolation precautions.
- Relatives of patients requiring isolation precaution shall be educated as to reason(s) for isolation Precautions and their role in the management of patients.

Hand Hygiene shall be strictly adhered to when dealing with potentially infective and infectious conditions.

11.4.2 TECHNIQUES FOR ISOLATION PRECAUTIONS

- Admitted patients suspected of or diagnosed with an infectious disease shall be placed under appropriate isolation precautions.
- If infected or colonized patients are not placed in single rooms, they shall be placed with other patients infected with the same organism or other appropriate roommates.
- Infected patients shall not be allowed to share rooms with uninfected patient(s) who are likely to acquire an infection.

- A single room shall be used for patients with:

    - o Infections that is highly infectious. [SEE SECTION VI – POLICY #15]
    - o Poor hygiene that does not comply with precautionary standards.
    - o Colonization of microorganism of special epidemiological significance.
    - o Profuse bleeding likely to cause contamination.
    - o Disease conditions that is likely to suppress the immune system.
    - o Burn cases.

11.4.3 ISOLATION ROOM REQUIREMENTS

Single rooms designated for isolation purposes shall contain the following facilities:

- o Hand Washing Basins.
- o Bath Tub or Shower Stall.
- o Toilet, connected to sewer system.
- o Ventilation (with negative pressure ventilation in relation to anteroom and hall)
- o Anteroom between the isolation room and the hall providing storage space for supplies such as gowns, gloves and mask, and hand washing facilities.

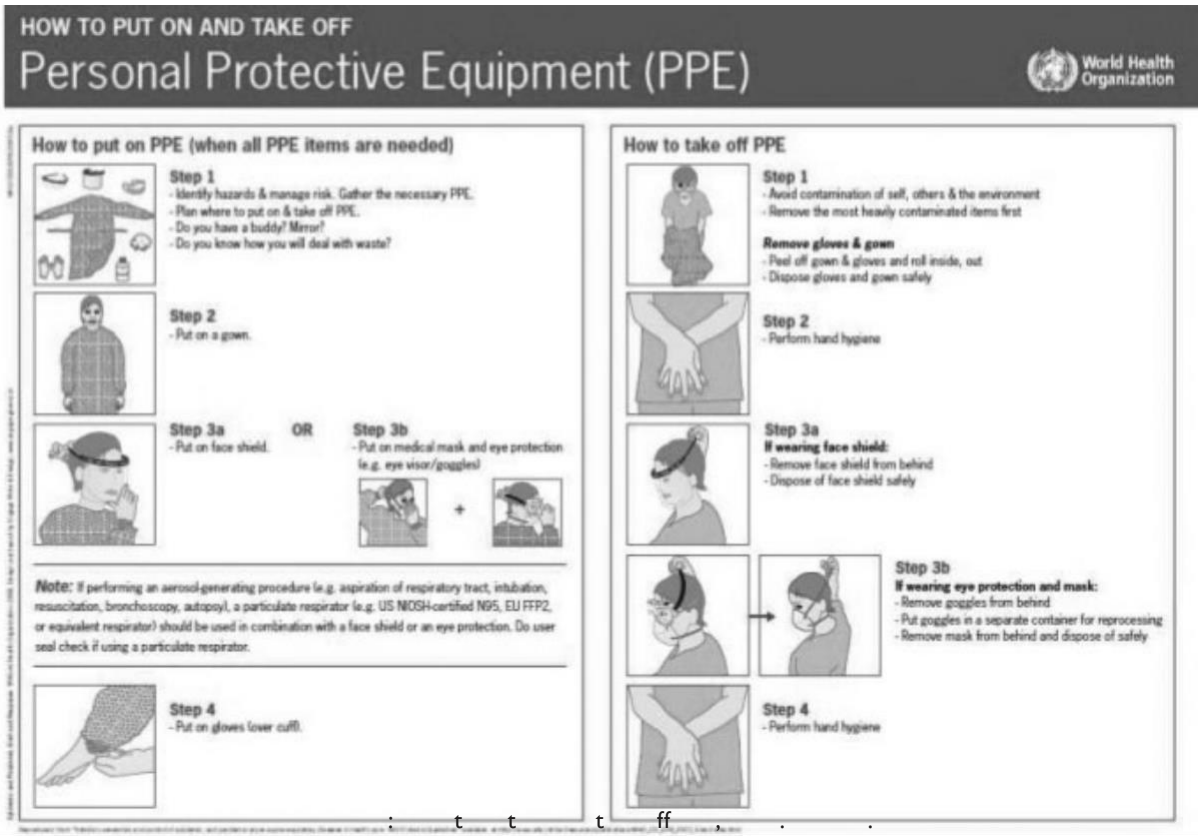
- Routine cleaning of isolation rooms shall be done daily by housekeeping staff according to guidelines on cleaning and disinfection of Isolation Rooms.
- Terminal cleaning shall be carried out at discharge, referral or demise of the patient. In cases of burn patients under isolation precautions, terminal cleaning shall be done weekly and at discharge, referral or demise of the patient.
- All disposable items not sent to Central Sterilization Unit shall be discarded using the red coded double-bagging technique before.
- All non-critical re-usable equipment shall be decontaminated, washed and disinfected in designated dirty utility room using recommended agent after use, bagged and placed in appropriate storage cabinet. [SEE SECTION VIII - TABLE 6]
- All patients placed under isolation precautions shall not be allowed to come in contact with infective material or objects that may be contaminated.
- Contact Precautions shall be adhered to at all times when coming in handling infective patients, materials and objects.
- Infected patients shall not be allowed to leave their room unless ordered by a physician for essential purposes.
- Appropriate PPE is applied when transporting patients outside of isolation room or unit. Personnel in the area to which patients are transported shall be notified of the impending arrival of the patient and of precautions to be used to prevent transmission of infection.
- Disposal of excretions, blood or body fluids shall be flushed down the toilet. Visitors shall consult with the nurse before entering the isolation room or unit of a patient suspected or diagnosed of having an infectious condition and shall be instructed of the appropriate protective clothing that is to be worn before entering the room.
- Visitors shall consult with the nurse before entering the isolation room or unit of a patient suspected or diagnosed of having an infectious condition and shall be instructed of the appropriate protective clothing that is to be worn before entering the room.

11.5 RESPONSIBILITIES

- Physicians shall be responsible to institute and terminate isolation precautions.
- All Health Care Workers shall adhere to Isolation Precaution Guidelines.

DIAGRAM 3: PROPER SEQUENCE OF PROCEDURES UPON ENTERING AND LEAVING ROOM WITH PRECAUTIONS REQUIRING GOWN, GLOVES OR MASK

The following is the proper sequence of procedures to follow when entering and existing a room with special precautions. The specific attire used depends on the type of isolation.



…END OF POLICY...

POLICY #12: PATIENT PLACEMENT (CDC-HICPAC, 2007)

12.1 INTRODUCTION

Appropriate patient placement is a significant component of isolation precautions. A private room is important to prevent direct and indirect contact transmission when the source patient has poor hygienic habits, contaminates the environment, or cannot be expected to assist in maintaining infection control precautions to limit transmission of microorganisms (i.e., infants, children, patients with altered mental status). When possible, a patient with highly transmissible or epidemiologically important microorganisms is placed in a private room with hand washing and toilet facilities, to reduce opportunities for transmission of microorganisms.

When a private room is not available, an infected patient is placed with an appropriate roommate. Patients infected by the same microorganism usually can share a room, provided they are not infected with other potentially transmissible microorganisms and the likelihood of re-infection with the same organism is minimal. Such sharing of rooms, also referred to as cohosting patients, is useful especially during outbreaks or when there is a shortage of private rooms. When a private room is not available and cohosting is not achievable or recommended, it is very important to consider the epidemiology and mode of transmission of the infecting pathogen and the patient population being served in determining patient placement. Under these circumstances, consultation with infection control professionals is advised before patient placement. Moreover, when an infected patient shares a room with a non-infected patient, it also is important that patients, personnel, and visitors take precautions to prevent the spread of infection and that roommates are selected carefully.

A private room with appropriate air handling and ventilation is particularly important for reducing the risk of transmission of microorganisms from a source patient to susceptible patients and other persons in health facilities when the microorganism is spread by airborne transmission. The use of an isolation room with an anteroom is an extra measure of precaution to prevent airborne transmission.

General principles in relation to the placement of patients include the following:

- Spacing between beds
- Single rooms
- Anterooms
- Cohosting
- Transportation of patients

12.2 PURPOSE AND APPLICABILITY

- To reduce the risk of transmission of micro-organisms to other patients, Health Care Workers or the health facility environment.
- This policy applies to all Health Care Workers.

12.3 GENERAL PROVISIONS

- Single rooms reduce the risk of transmission of infection from the source patient to others by reducing direct or indirect contact transmission.
- In open-plan wards there shall be adequate spacing between each bed to reduce the risk of cross contamination or infection occurring from direct or indirect contact or droplet transmission.

12.4 POLICY STATEMENTS

- 12.4.1 Spacing between patient beds in open plan wards shall be 3.5 to 6.5 feet or 1-2 meters.
- 12.4.2 Single rooms used for isolation purposes shall include hand washing facilities; toilet and bathroom facilities and an anteroom to support the use of PPE.
- 12.4.3 Patients infected or colonized by the same organism shall be cohorted.
- 12.4.4 When cohorting is used during outbreaks rooms shall be in a well-defined area which can be clearly segregated from other patient care areas used for non-infected or colonized patients.
- 12.4.5 Movement or transport of patients shall be limited to essential purposes only, but if required, suitable precautions shall be taken to reduce the risk of transmission of micro-organisms to other patients, Health Care Workers or the hospital environment.

…END OF POLICY…

SECTION 5
TRANSMISSION BASED PRECAUTIONS

TRANSMISSION BASED PRECAUTIONS [POLICY #13]

EMPIRIC PRECAUTIONS [POLICY #14]

POLICY #13: TRANSMISSION-BASED PRECAUTIONS (CDC-HICPAC, 2003)

13.1 INTRODUCTION

Transmission-Based Precautions are designed for patients documented and suspected to be infected or colonized with highly transmissible or epidemiologically important pathogens for which additional precautions beyond Standard Precautions are needed to prevent transmission in health care facilities.

There are three (3) types of Transmission-Based Precautions namely:

- Droplet Precautions
- Contact Precautions
- Airborne Precautions

13.2 PURPOSE AND APPLICABILITY

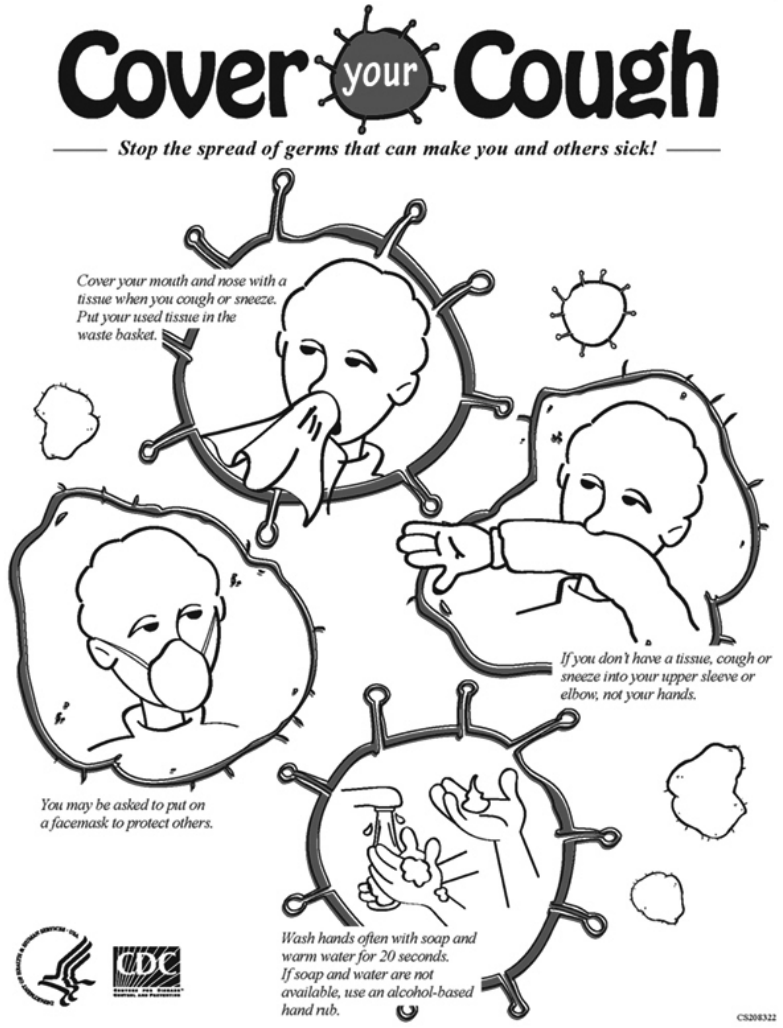
- Prevent the transmission of microorganism among patients, health facilities staff and visitors.
- Provide a safe environment for patients who are at being admitted.
- Provide an environment that satisfied complete disinfection.

13.3 GENERAL PROVISIONS

DROPLET PRECAUTIONS

- Typically, droplets travel only a short distance through the air but have the potential to land in the eyes, mouth or nose of an unprotected person or on an environmental surface. Droplets do not stay suspended in the air.
- Some common respiratory pathogens can spread through the contamination of the hands of patient's Health Care Workers or an environmental surface.
- Hands can transmit these diseases by having direct contact with contaminated surface, followed by contact with either another body surface such as conjunctival or nasal mucosa or by contaminating another intermediate area.

DIAGRAM 4: RESPIRATORY HYGIENE AND COUGH ETIQUETTE

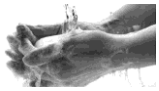
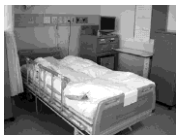
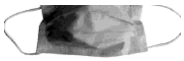


Reference: Google Images for RESPIRATORY HYGIENE AND COUGH, www.dentalcare.com

AIRBORNE PRECAUTIONS

- Airborne pathogens require special precautions to avoid their transmission. Diseases such as pulmonary tuberculosis, measles, and chickenpox are transmitted by this route.
- When a new, not yet reported, respiratory disease first appears, the mode of transmission may not be clear, and the potential for airborne transmission shall always be taken into consideration.
- Transmission of droplet nuclei at short range may also occur with diseases normally transmitted mainly through droplets, such as human influenza, or through droplets and contact, such as SARS, when carrying out some procedures that may result in aerosols being generated in inadequately ventilated rooms and with inappropriate PPE. In such situations the HCW shall wear a N95 mask approved instead of a surgical mask, an eyewear and perform the procedure in an adequately ventilated room.

TABLE 7: RECOMMENDATIONS FOR TRANSMISION-BASED PRECAUTIONS FOR HOSPITALIZED PATIENTS

Category of Precautions					
Airborne		a			
Droplet		b	c		
Contact		b			

Reference: National Guidelines on Infection, Prevention and Control for Health Facilities. Second Edition-January 2011. Belize.

DESIGNATING AREAS FOR PPE DONNING AND DOFFING IN EBOLA

- Ensure that areas for donning and doffing are designated as separate from the patient care area (e.g., patient's room) and that there is a predominantly one-way flow from the donning area to the patient care area to the doffing area.
- Confirm that the doffing area is large enough to allow freedom of movement for safe doffing as well as space for a waste receptacle, a new glove supply, and ABHR used during the doffing process. If using a PAPR with external belt-mounted blower, confirm that there is an area or container designated for collecting PAPR components for cleaning and disinfection, as well as routine maintenance.
- Facilities should ensure that space and layout allow for clear separation between clean and contaminated areas. Separate the space into distinct areas and establish a directional, one-way flow of care, moving from clean areas (e.g., area where PPE is donned and unused equipment is stored) to the patient room and to the PPE removal area (area where potentially contaminated PPE is removed and discarded). The direction of flow should be marked (e.g., signs on the floor) with visible signage; temporary plastic enclosures can be added if necessary. Existing anterooms to patient rooms have been used for doffing but in many cases are not ideal because of their small dimensions. As an alternative, some steps of the PPE removal process may be performed in a clearly designated area of the patient's room near the door, provided these steps can be seen and supervised by a trained observer (e.g., through a window) and provided that the healthcare worker doffing PPE can hear the instructions of the trained observer.
- Whenever possible, close the end of the hallway of a ward or ICU to through traffic, thereby restricting access to the patient's room to essential personnel who are properly trained in recommended infection prevention practices for caring for patients with Ebola. Designate two adjacent rooms, located on either side of the patient's room, to be cleared of equipment and furniture and used as donning and doffing areas. Glass-enclosed rooms or other designs (e.g., wide glass doors, windows, video monitoring) to observe ongoing care in the patient room and activity in the doffing area are preferred. The path from the room of the patient with Ebola to an external doffing room should be as short as possible and clearly defined and/or enclosed as a contaminated area that is cleaned frequently along with the doffing area. If areas are reconfigured,

the facility should make certain the space remains compliant with all applicable building and fire codes.

- Post signage to highlight key aspects of PPE donning and doffing, including
- Designating clean areas vs. contaminated areas
- Reminding healthcare workers to wait for a trained observer before removing PPE
- Listing each step of the doffing procedure
- Reinforcing the need for slow and deliberate removal of PPE to prevent self-contamination
- Reminding healthcare workers to disinfect gloved hands in between steps of the doffing procedure, as indicated below.

13.4 POLICY STATEMENTS

- 113.4.1 Droplet precaution will be applied whenever providing care to all patient with respiratory conditions.
- 13.4.2 Contact precaution will applied to all patients admitted to all health care facilities.
- 13.4.3 Droplets Airborne precaution will be applied whenever providing care to a patient suspected or confirmed of having a disease spread by airborne pathogens.

> Transmission-based precautions used singularly or in combination, are to be used in addition to Standard Precautions.

13.5 PROCEDURES

13.5.1 TECHNIQUES FOR DROPLET PRECAUTIONS

Droplet Precautions shall be followed as a complement and in addition to Standard Precautions.

- Wear a medical mask when within a 1 meter range of the patient.
- Place patient in a single room or cohort with patients of the same diagnosis/similar risk factors, and ensure that every patient is separated by at least 1 meter.
- Ensure that transportation of patient outside of the designated room is kept to a minimum.
- Perform hand hygiene immediately after removing any item of PPE.

> Some pathogens are transmitted through inhalation of droplet nuclei that can remain infectious over a long distance in excess of 1 meter. Diseases which are spread via droplets can be transmitted by an infected person when talking, coughing or sneezing.

13.5.2 TECHNIQUES FOR CONTACT PRECAUTIONS

- Contact Precautions shall be followed as a complement and in addition to Standard Precautions.
- Use clean, unsterilized gloves and a disposable level II gown whenever you have direct contact with a patient.
- Remove safely the gloves and gown immediately following any contact with a patient. Perform hand hygiene immediately after removing any item of PPE.
- Dedicate specific equipment for use with a single patient, all at reusable equipment clean and disinfect shared equipment between patient uses.
- Avoid touching your face, eyes or mouth with either gloved or un-gloved hands as these may be contaminated.
- Place patients in a single occupancy room whenever possible or alternatively with other patients with the same diagnosis.

Double-gloving provides an easy way to remove gross contamination by changing an outer glove during patient care and when removing PPE. Beyond this, more layers of PPE may make it more difficult to perform patient care duties and put healthcare workers at greater risk for percutaneous injury (e.g., needle-sticks), self-contamination during care or doffing, or other exposures to Ebola. If healthcare facilities decide to add additional PPE or modify this PPE guidance, they must consider the risk/benefit of any modification and train healthcare workers on how to correctly don and doff for the modified procedure. Donning and doffing steps may need to be adapted on the basis of the specific PPE that is purchased by the hospital. If adaptations are made, facilities must select appropriate PPE that offers a similar or higher level of protection than what is recommended here, train healthcare workers in its use, and ensure they demonstrate competence in its use before caring for a patient with Ebola.

13.5.3 TECHNIQUES FOR AIRBORNE PRECAUTIONS

Airborne Precautions shall be followed as a complement and in addition to Standard Precautions.

- Use a N95 OSHA approved mask whenever entering/providing care within the isolation facilities ensuring that the seal of the respirator is checked before every use.
- Limit patient movement and ensure patient wears surgical mask outside their room.
- Perform hand hygiene upon entering immediately after removing any item of PPE.

TABLE 8: TRANSMISSION BASED PRECAUTIONS FOR HOSPITALIZED PATIENTS

STANDARD PRECAUTIONS

AIRBORNE PRECAUTIONS

Add airborne precautions for patients known or suspected to have serious illnesses transmitted by airborne droplet nuclei such as:

» Measles
» Varicella (including disseminated zoster)[b]
» Tuberculosis[c]

DROPLET PRECAUTIONS

Add droplet precautions for patients known or suspected to have serious illnesses transmitted by large particle droplest such as:

» Invasive Neisseria meningitidis disease, incluiding meningitis, pneumonia, sepsis
» Other serious bacterial. RTI's spread by droplet transmission, including:
  • Diphteria (pharyngeal)
  • Haemophilus /Streptococcus pneumonia
  • Pertussis
  • Pheumonic Plague
    • Streptococcal pharingitis, pneumonia, or scarlet fever in infants/young children
» Serious viral infections spread by droplet trasnmission, incluidin those caused by:
  • Influenza
  • Mumps
  • Rubella
    • SARS

CONTACT PRECAUTIONS

Add contact precautions for patients known or suspected to have serious illnesses easily transmitted by direct patient contact or by contact with items in the patient's environment such as:

» Gastrointestinal, respiratory, skin, or wound infections or colonization with multidrug-resistant bacteria.
» Enteric infections with a low infectious dose or prolonged environmental survival, incluiding those caused by:
  • Clostridium difficile
  • Shigella, hepatitis A, or rotavirus (for diapered or incontinent patients)
» Respiratory syncytial virus, parainfluenza virus, or enteroviral infections in infants/young children
» Skin infections that are highly contagiuis or that may occur on dry skin, incluiding:
  • Diphtheria (cutaneous)
  • Herpes simplex virus (neonatal/mucocutaneous)
» Viral/hemorrhagic conjunctivitis
» Viral/hemorrhagic infections (Ebola, Lassa or Marbung)
  » MRSA
  » VRE
  » Klebsiella
  » Pseudomona serratia
  » Salmonella
  » Aurasma ulcerans

a Reprinted from Gamer JS and the Hospital Infections Control Practices Advisory Committee.1.
b Certain infections requise more than one (1) type of precaution.
c See CDC and Preventions. 2

…END OF POLICY…

POLICY #14: EMPIRIC PRECAUTIONS (CDC-HICPAC, 2003)

14.1 INTRODUCTION

The risk of healthcare associated infections occurs when standard precautions are not properly implemented with inappropriate cleaning and when disinfection or sterilization are not implemented. The routine use of Standard Precautions for all patients will reduce greatly this risk for conditions other than those requiring Airborne, Droplet, or Contact Precautions. While it is not possible to prospectively identify all patients needing these enhanced precautions, certain clinical signs and symptoms carry a sufficiently high risk to warrant the empiric addition of enhanced precautions while a more definitive diagnosis is pursued.

14.2 POLICY STATEMENTS

- 14.2.1 The appropriate Transmission-Based Precautions shall be used on an empiric, temporary basis for both adult and pediatric patients presenting with specific clinical signs and symptoms with high suspicion of infection until a diagnosis can be made.
- 14.2.2 Empiric, temporary precautions shall be used in addition to Standard Precautions.
- 14.2.3 Empiric use of Airborne / Droplet, or Contact Precautions.

14.3 PROCEDURES

- The organisms listed under the column "Potential Pathogens" are not intended to represent the complete or even most likely diagnoses, but rather possible etiologic agents that require additional precautions beyond Standard Precautions until they can be ruled out.
- To ensure that appropriate empiric precautions are always implemented, Health Facilities shall have systems in place to evaluate patients routinely according to these criteria as part of their preadmission and admission care.

TABLE 9: CLINICAL SYNDROMES OR CONDITIONS WARRANTING ADDITIONAL EMPIRIC PRECAUTIONS TO PREVENT TRANSMISSION OF EPIDEMIOLOGICALLY IMPORTANT PATHOGENS PENDING CONFIRMATION OF DIAGNOSIS

Clinicar Syndrome or Condition[a] Diarrhea	Potential Phatohens[b]	Empiric Precautions
Avcute diarrhea with a likely infectious cause in an inconthent or diapered patient	Enteric pathogens[c]	Contact
Diarrhea in an adult with a history of recent antibiotics	*Clostridium difficile*	Contact
Meningitis Rash or exanthems, generalized, etiology unkwon	*Neisseria meningitidis*	Droplet
Petenchial/ecchymotic with fever	*Neisseria meningitidis*	Droplet
Vesicular	Varricella	Airborne & Contact
Maculopapular with coryza and fever Respiratory infectios	Rubeola (measies)	Airborne
Cough/fever/upper lobe pulmonary infiltrate in an HIV patient or a patient at low risk for HIV^{+} infection	*Mycobacterium tuberculosis*	Airborne
Cough/fever/pulmonary infiltrate in the lung in a HIV patient/patient at high risk for HIV^{+} infection (23)	*Mycobacterium tuberculosis*	Airborne
Paroxysmal or severe persistent cough during periods of pertussis activity	*Bodetella pertussis*	Droplet
Respiratory infectios, particulary bronchioltis and croup, in infants and young children Risk of multidrug-resistant microorganisms	Respiratory syncutial or parainfluenza virus	Contact
History of infection/colonization with MRO[d]	Resistant bacteria[d]	Contact
Skin, wound or urinary tract infection in patient with recent stay in facility with prevelant MRO Skin or wound Infectio	Resistant bacteria[d]	Contact
Abscess or draining wound that cannot be covered	*Staphylococcus aureus,* group A steptococcus	Contact

a Patients with the syndormes or conditions listed below may present with atypical signs or symptoms (e.g. pertussis in neonates and adults may not have paroxysmal or severe cought). Index of suspicion shall be guided by the prevelence of specific conditions as well as clinical judgment.
b The organisms listed under the column "Potencial Pathogens" are not entended to represent the complete, or even most likely, diagnoses, but rather possible etiologic agents that require additional precautions beyond Standard Precautions until they can be ruled out.
c Includes enterohemorrhagic *Escherichia coli* O157-H7, *Shingelia* hepatitis A & rotavirus.
d Resistant bacteria - on national recommendations, special clinical/epidemiological significance.

Reference: National Guidelines on Infection, Prevention and Control for Health Facilities. Second Edition-January 2011. Belize.

…END OF POLICY…

SECTION 6
PATIENT MANAGEMET

CATHETER RELATED BLOOD STREAM INFECTION -CRBSIs- [POLICY #16 AND POLICY #17]

Urethral Catheterization [POLICY #18]

Respiratory Therapy [POLICY #19]

Wound Care [POLICY #20]

Injection Safety [POLICY #21]

POLICY #16 AND POLICY #17: CATHETER RELATED BLOOD STREAM INFECTION -CRBSIs- (CDC-HICPAC, 2011)

16.1 INTRODUCTION

Intravenous (IV) therapy is an integral part of patient care. It offers a means of direct access to the patient's vascular system for hemodynamic monitoring and for administration of pharmaceutical agents that cannot be administered by any other means. However, these intravascular devices also provide a potential route for microorganisms to enter the vascular system by bypassing the normal skin defense mechanism and are therefore a potential cause for serious illnesses or death for patients in whom such therapy is used.

16.2 PURPOSE AND APPLICABILITY

- To ensure safe and effective management of patients requiring use of IV devices.
- To prevent the development of IV therapy related infections.
- This policy applies to all licensed medical and nursing staff.

16.3 POLICY STATEMENTS

16.3.1 EDUCATION, TRAINING AND STAFFING TO BE APPLIED IN POLICLINICS-HOSPITALS

- Educate healthcare personnel regarding the indications for intravascular catheter use, proper procedures for the insertion, maintenance of intravascular catheters, and appropriate infection control measures to prevent intravascular catheter-related infections.
- Periodically assess reproved knowledge of and adherence to guidelines for all personnel involved in the insertion and maintenance of intravascular catheters.
- Designate only trained personnel who demonstrate skills competence for the insertion and maintenance of peripheral and central intravascular catheters.
- Ensure appropriate level of nursing in the Intensive Care Unit. Observational studies suggest that a higher proportion of "pool nurses" or an elevated patient–to-nurse ratio is associated with Catheter Related Blood Stream Infections in Intensive Care Unit, where nurses are managing patients with Central Venous Catheters.

16.3.2 SELECTION OF CATHETERS AND SITES

16.3.2.1 PERIPHERAL CATHETERS AND MIDLINE CATHETERS IN HOSPITALS

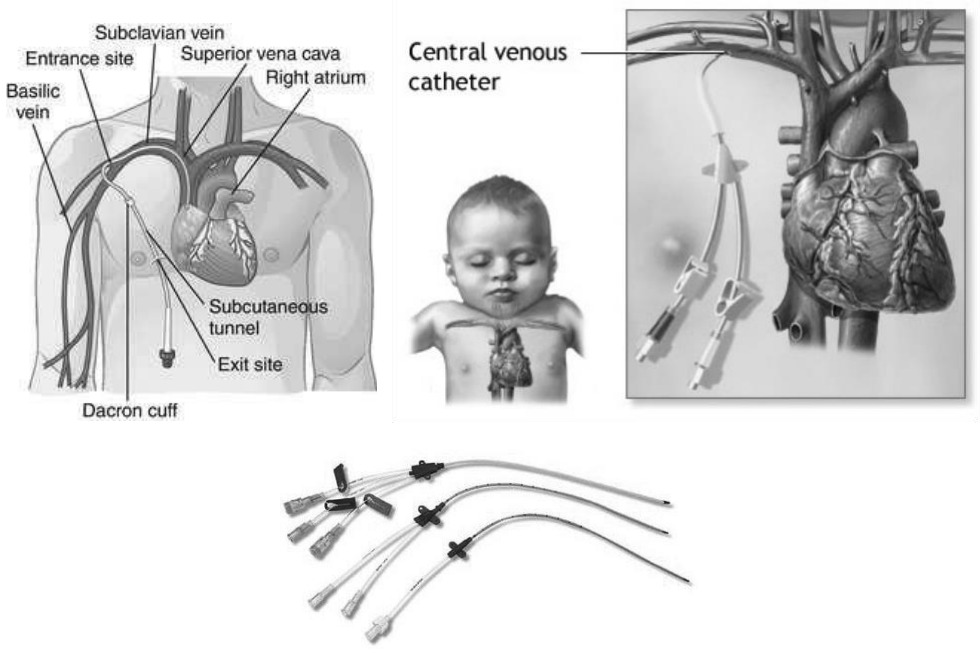
1. In adults, use an upper-extremity site for catheter insertion. Replace a catheter inserted in a lower extremity site to an upper extremity site as soon as possible.
2. In pediatric patients, the upper or lower extremities or the scalp (in neonates or young infants) can be used as the catheter insertion site.
3. Select catheters must be enough grade polyurethane.
4. Avoid the use of steel needles.
5. Use a midline catheter or peripherally inserted central catheter (PICC), instead of a short peripheral catheter, when the duration of Intra Venous therapy will likely exceed six days.
6. Evaluate the catheter insertion site daily by palpation through the dressing to discern tenderness and by inspection if a transparent dressing is in use. Transparent advance polyester securement filing should not be removed if the patient has no clinical signs of infection. If the patient has

local tenderness or other signs of possible Catheter Related Blood Stream Infection, remove the catheter.

16.3.2.2 CENTRAL VENOUS CATHETERS IN HOSPITALS

1. Weigh the risks and benefits of placing a central venous device at a recommended site to reduce infectious complications against the risk for mechanical complications (e.g., pneumothorax, subclavian artery puncture, subclavian vein laceration, subclavian vein stenosis, hemothorax, thrombosis, air embolism, and catheter misplacement).
2. Avoid using the femoral vein for central venous access in adult patients.
3. Use a subclavian site, rather than a jugular or a femoral site, in adult patients to minimize infection risk for nontunneled Central Venous Catheter placement.
4. Avoid the subclavian site in hemodialysis patients and patients with advanced kidney disease, to avoid subclavian vein stenosis.
5. Use a fistula or graft in patients with chronic renal failure instead of a Central Venous Catheter for permanent access for dialysis.
6. Use ultrasound guidance to place central venous catheters (if this technology is available) to reduce the number of cannulation attempts and mechanical complications. Ultrasound guidance should only be used by those fully trained in its technique.
7. Use a Central Venous Catheter with the minimum number of ports or lumens essential for the management of the patient.
8. Promptly remove any intravascular catheter that is no longer essential.
9. When adherence to aseptic technique cannot be ensured (i.e catheters inserted during a medical emergency), replace the catheter as soon as possible, i.e, within 48 hours.

FIGURE 12: IMAGES OF CENTRAL VENOUS CATHETERS



Reference: Google Images for Central line catheters
www.nlm.nih.govmedical-dictionary.thefreedictionary.com

16.3.2.3 HAND HYGIENE AND ASEPTIC TECHNIQUE IN POLICLINICS AND HOSPITALS

- Perform hand hygiene procedures with alcohol-based hand rubs (ABHR). Hand hygiene should be performed before and after palpating catheter insertion sites as well as before and after inserting, replacing, accessing, repairing, or dressing an intravascular catheter. Palpation of the insertion site should not be performed after the application of antiseptic, unless aseptic technique is maintained.
- Maintain aseptic technique for the insertion and care of intravascular catheters.
- Wear clean gloves, rather than sterile gloves, for the insertion of peripheral intravascular catheters, if the access site is not touched after the application of skin antiseptics.
- Sterile gloves should be worn for the insertion of arterial, central, and midline catheters
- Use new sterile gloves before handling the new catheter when guidewire exchanges are performed.
- Wear either clean or sterile gloves when changing the dressing on intravascular catheters.

16.3.2.4 MAXIMAL STERILE BARRIER PRECAUTIONS IN HOSPITALS

- Use maximal sterile barrier precautions, including the use of a cap, mask, sterile gown, sterile gloves, and a sterile full body drape, for the insertion of Central Venous Catheter CVCs, peripherally inserted central catheter PICCs, or guidewire exchange.
- Use a sterile sleeve to protect pulmonary artery catheters during insertion.

16.3.2.5 SKIN PREPARATION IN HOSPITALS

- Prepare clean skin with an antiseptic (70% alcohol or chlorhexidine gluconate solution) before peripheral venous catheter insertion.
- Prepare clean skin with a >0.5% chlorhexidine preparation with alcohol before central venous catheter and peripheral arterial catheter insertion and during dressing changes. If there is a contraindication to chlorhexidine or 70% alcohol can be used as alternative.
- Antiseptics should be allowed to dry according to the manufacturer's recommendation prior to placing the catheter.

16.3.2.6 CATHETER SITE DRESSING REGIMENS IN HOSPITALS

1. Use either sterile gauze or sterile, transparent, semipermeable dressing to cover the catheter site.
2. If the patient is diaphoretic or if the site is bleeding or oozing, use a gauze dressing until this is resolved.
3. Replace catheter site dressing if the dressing becomes damp, loosened, or visibly soiled.
4. Do not use topical antibiotic ointment or creams on insertion sites, except for dialysis catheters, because of their potential to promote fungal infections and antimicrobial resistance.
5. Do not submerge the catheter or catheter site in water. Showering should be permitted if precautions can be taken to reduce the likelihood of introducing organisms into the catheter (e.g., if the catheter and connecting device are protected with an impermeable cover during the shower).
6. Replace dressings used on short-term CVC sites every 2 days for gauze dressings.
7. Replace dressings used on short-term CVC sites at least every 7 days for transparent dressings, except in those pediatric patients in which the risk for dislodging the catheter may outweigh the benefit of changing the dressing.
8. Replace transparent dressings used on tunneled or implanted CVC sites no more than once per

week (unless the dressing is soiled or loose), until the insertion site has healed.

9. Ensure that catheter site care is compatible with the catheter material.
10. Use a sterile sleeve for all pulmonary artery catheters.
11. Use a chlorhexidine-impregnated sponge dressing for temporary short-term catheters in patients older than 2 months of age if the CLABSI rate is not decreasing despite adherence to basic prevention measures, including education and training, appropriate use of chlorhexidine for skin antisepsis, and MSB.
12. Monitor the catheter sites visually when changing the dressing or by palpation through an intact dressing on a regular basis, on an 8 hours basis by inspection and on palpation through the two to the 10th day. If patients have tenderness at the insertion site, fever without obvious source, or other manifestations suggesting local or bloodstream infection, the filing must be removed to allow thorough examination of the site.
13. Encourage patients to report any changes in their catheter site or any discomfort to their provider.

16.3.2.7 PATIENT CLEANSING IN HOSPITALS

- Use a 2% chlorhexidine wash for daily skin cleansing to reduce CRBSI.
- Use of a 2% chlorhexidine wash for daily bath is indicated for the prevention of MRSA and surgical sites.

16.3.2.8 CATHETER SECUREMENT DEVICES

- Use a suture less to reduce the risk of infection for intravascular catheters such as the advanced IV transparent film.

16.3.2.9 SYSTEMIC ANTIBIOTIC PROPHYLAXIS

- Do not administer systemic antimicrobial prophylaxis routinely before insertion or during use of an intravascular catheter to prevent catheter colonization or CRBSI.

16.3.2.10 ANTIBIOTIC LOCK PROPHYLAXIS, ANTIMICROBIAL CATHETER FLUSH AND CATHETER LOCK PROPHYLAXIS

- Use prophylactic antimicrobial lock solution in patients with long term catheters who have a history of multiple CRBSI despite optimal maximal adherence to aseptic technique.

16.3.2.11 ANTICOAGULANTS IN HOSPITALS

- Do not routinely use anticoagulant therapy.

16.3.2.12 REPLACEMENT OF PERIPHERAL AND MIDLINE CATHETERS IN HOSPITALS

- There is no need to replace peripheral catheters more frequently than every 72-96 hours to reduce risk of infection and phlebitis in adults.
- Replace peripheral catheters in children only when clinically indicated.
- Replace midline catheters only when there is a specific indication.
- Labelling of film.

16.3.2.13 REPLACEMENT OF CVCS, INCLUDING PICCS AND HEMODIALYSIS CATHETERS IN HOSPITALS

- Do not routinely replace CVCs, PICCs, hemodialysis catheters, or pulmonary artery catheters to prevent catheter-related infections.
- Do not remove CVCs or PICCs on the basis of fever alone. Use clinical judgment regarding the appropriateness of removing the catheter if infection is evidenced elsewhere or if a noninfectious cause of fever is suspected.
- Do not use guidewire exchanges routinely for non-tunneled catheters to prevent infection.
- Do not use guidewire exchanges to replace a non-tunneled catheter suspected of infection.
- Use a guidewire exchange to replace a malfunctioning non-tunneled catheter if no evidence of infection is present.
- Use new sterile gloves before handling the new catheter when guidewire exchanges are performed.

16.3.2.14 UMBILICAL CATHETERS IN HOSPITALS (TO BE USED UNLESS STRICT INDICATION)

- Remove and do not replace umbilical artery catheters if any signs of CRBSI, vascular insufficiency in the lower extremities, or thrombosis are present.
- Remove and do not replace umbilical venous catheters if any signs of CRBSI or thrombosis are present.
- Cleanse the umbilical insertion site 70% fresh alcohol before catheter insertion.
- Do not use topical antibiotic ointment or creams on umbilical catheter insertion sites because of the potential to promote fungal infections and antimicrobial resistance.
- Remove umbilical catheters as soon as possible, preferable not longer than 72 hours.
- An umbilical catheter may be replaced if it is malfunctioning, and there is no other indication for catheter removal.

16.3.2.15 PERIPHERAL ARTERIAL CATHETERS AND PRESSURE MONITORING DEVICES FOR ADULT AND PEDIATRIC PATIENTS IN HOSPITALS

- In adults, use of the radial, brachial or dorsalis pedis sites is preferred over the femoral or axillary sites of insertion to reduce the risk of infection.
- In children, the brachial site should not be used. The radial, dorsalis pedis, and posterior tibial sites are preferred over the femoral or axillary sites of insertion.
- A minimum of a cap, mask, sterile gloves and a small sterile fenestrated drape should be used during peripheral arterial catheter insertion.
- During axillary or femoral artery catheter insertion, maximal sterile barriers precautions should be used.
- Replace arterial catheters only when there is a clinical indication.
- Remove the arterial catheter as soon as it is no longer needed.
- Use disposable, rather than reusable, transducer assemblies when possible.
- Do not routinely replace arterial catheters to prevent catheter-related infections.
- Replace disposable or reusable transducers at 96-hour intervals. Replace other components of the system (including the tubing, continuous-flush device, and flush solution) at the time the transducer is replaced.
- Keep all components of the pressure monitoring system (including calibration devices and flush solution) sterile.
- Minimize the number of manipulations of and entries into the pressure monitoring system. Use a

closed flush system (e.g., continuous flush), rather than an open system (e.g., one that requires a syringe and stopcock), to maintain the patency of the pressure monitoring catheters.
- When the pressure monitoring system is accessed through a diaphragm, rather than a stopcock, scrub the diaphragm with an appropriate antiseptic before accessing the system.
- Do not administer dextrose-containing solutions or parenteral nutrition fluids through the pressure monitoring circuit.
- Sterilize reusable transducers according to the manufacturers' instructions if the use of disposable transducers is not feasible.

16.3.2.16 REPLACEMENT OF ADMINISTRATION SETS IN HOSPITALS

- In patients not receiving blood, blood products or fat emulsions, replace administration sets that are continuously used, including secondary sets and add-on devices, no more frequently than at 96 hour intervals, but at least every 7 days.
- Replace tubing used to administer blood, blood products, or fat emulsions (those combined with amino acids and glucose in a 3-in-1 admixture or infused separately) within 24 hours of initiating the infusion [182–185].
- Replace tubing used to administer protocol infusions every 6 or 12 hours, when the vial is changed, per the manufacturer's recommendation (FDA website Medwatch).

16.3.2.17 NEEDLESS INTRAVASCULAR CATHETER SYSTEMS IN HOSPITALS

- Change the needleless components at least as frequently as the administration set. There is no benefit to changing these more frequently than every 72 hours.

16.3.2.18 REPLACEMENT OF ADMINISTRATION SETS IN HOSPITALS

- In patients not receiving blood, blood products or fat emulsions, replace administration sets that are continuously used, including secondary sets and add-on devices, no more frequently than at
- 96-hour intervals, but at least every 7 days.
- Replace tubing used to administer blood, blood products, or fat emulsions (those combined with amino acids and glucose in a 3-in-1 admixture or infused separately) within 24 hours of initiating the infusion.
- Replace tubing used to administer propofol infusions every 6 or 12 hours, when the vial is changed, per the manufacturer's recommendation (FDA website Medwatch).

16.3.2.19 NEEDLELESS INTRAVASCULAR CATHETER SYSTEMS

- Change the needleless components at least as frequently as the administration set. There is no benefit to changing these more frequently than every 72 hours.
- Change needleless connectors no more frequently than every 72 hours or according to manufacturers' recommendations for the purpose of reducing infection rates.
- Ensure that all components of the system are compatible to minimize leaks and breaks in the system.
- Minimize contamination risk by scrubbing the access port with an appropriate antiseptic (chlorhexidine, povidone iodine, an iodophor, or 70% alcohol) and accessing the port only with sterile devices.
- Use a needleless system to access IV tubing.
- When needleless systems are used, a split septum valve may be preferred over some mechanical valves due to increased risk of infection with the mechanical valves.

- Documentation for peripheral line includes the following:
    - 7.1 Labelling, date, time, size, signature,
    - 7.2 Site dressings: how often, solutions and glove use.

…END OF POLICY…

POLICY #18: CATHETER ASOCIATED URINARY TRACT INFECTION -CAUTI- (CDC-HICPAC, GUIDELINE FOR PREVENTION OF CATHETER-ASSOCIATED URINARY TRACT INFECTIONS 2009, 2009)

18.1 INTRODUCTION

The urinary tract is believed to be the most common site of healthcare associated infections. Most of these infections follow instrumentation of the urinary tract, mainly urinary catheterization. Although not all catheter-associated urinary tract infections can be prevented, it is believed that a large number could be avoided by the proper management of the indwelling catheter.

18.2 PURPOSE AND APPLICABILITY

- To prevent the development of healthcare associated infections through urinary catheterization.
- To ensure aseptic technique is maintained at all times during the management of patients with urinary catheters.
- To avoid as much as possible, complications arising from urinary catheterization. This policy applies to all licensed medical and nursing personnel.

18.3 POLICY STATEMENTS

18.3.1 TO EVALUATE THE EVIDENCE ON PREVENTING CAUTI, ADDRESS THREE KEY QUESTIONS AND RELATED SUBQUESTIONS

1. Who should receive urinary catheters?
A. When is urinary catheterization necessary?
B. What are the risk factors for CAUTI?
C. What populations are at highest risk of mortality related to urinary catheters?

2. For those who may require urinary catheters, what are the best practices? Specifically, what are the risks and benefits associated with:
A. Different approaches to catheterization?
B. Different catheters or collecting systems?
C. Different catheter management techniques?
D. Different systems interventions (i.e., quality improvement programs)?

3. What are the best practices for preventing CAUTI associated with obstructed urinary catheters?

18.3.2 SUMMARY OF RECOMMENDATIONS

TABLE 10: MODIFIED HICPAC CATEGORIZATION SCHEME FOR RECOMMENDATIONS

CATEGORY	RECOMMENDATIONS
Category IA	A strong recommendation supported by high to moderate quality evidence suggesting net clinical benefits.

CATEGORY	RECOMMENDATIONS
Category IB	A strong recommendation supported by low quality evidence suggesting net clinical benefits or harms or an accepted practice (e.g., aseptic technique) supported by low to very low quality evidence.
Category IC	A strong recommendation required by state or federal regulation.
Category II	A weak recommendation supported by any quality evidence suggesting a tradeoff between clinical benefits and harms.
No recommendation/ unresolved issue	Unresolved issue for which there is low to very low quality evidence with uncertain tradeoffs between benefits and harms.

18.3.3 APPROPRIATE URINARY CATHETER USE

18.3.3.1 INSERT CATHETERS ONLY FOR APPROPRIATE INDICATIONS, AND LEAVE IN PLACE ONLY AS LONG AS NEEDED.

- Minimize urinary catheter use and duration of use in all patients, particularly those at higher risk for CAUTI or
- mortality from catheterization such as women, the elderly, and patients with impaired immunity.
- Avoid use of urinary catheters in patients and nursing home residents for management of incontinence.
- Further research is needed on periodic (e.g., nighttime) use of external catheters (e.g., condom catheters) in incontinent patients or residents and the use of catheters to prevent skin breakdown.
- Use urinary catheters in operative patients only as necessary, rather than routinely.
- For surgery patients who have an indication for an indwelling catheter, remove the catheter as soon as possible postoperatively, preferably within 24 hours, unless there are appropriate indications for continued use.

TABLE 11: APPROPIATE INDICATIONS FOR INDWELLING URETHRAL CATHETER USE

A. Examples of Appropriate Indications for Indwelling Urethral Catheter Use
Patient has acute urinary retention or bladder outlet obstruction.
Need for accurate measurements of urinary output in critically ill patients.
Perioperative use for selected surgical procedures: • Patients undergoing urologic surgery or other surgery on contiguous structures of the genitourinary tract. • Anticipated prolonged duration of surgery (catheters inserted for this reason should be removed in PACU). • Patients anticipated to receive large-volume infusions or diuretics during surgery. • Need for intraoperative monitoring of urinary output.
To assist in healing of open sacral or perineal wounds in incontinent patients
Patient requires prolonged immobilization (e.g., potentially unstable thoracic or lumbar spine, multiple traumatic injuries such as pelvic fractures).

A. Examples of Appropriate Indications for Indwelling Urethral Catheter Use
To improve comfort for end of life care if needed.
B. Examples of Inappropriate Uses of Indwelling Catheters
As a substitute for nursing care of the patient or resident with incontinence.
As a means of obtaining urine for culture or other diagnostic tests when the patient can voluntarily void.
For prolonged postoperative duration without appropriate indications (e.g., structural repair of urethra or contiguous structures, prolonged effect of epidural anesthesia, etc.).

- Consider using alternatives to indwelling urethral catheterization in selected patients when appropriate.
- Consider using external catheters as an alternative to indwelling urethral catheters in cooperative male patients without urinary retention or bladder outlet obstruction.
- Consider using alternatives to indwelling urethral catheterization in selected patients when appropriate.
- Consider using external catheters as an alternative to indwelling urethral catheters in cooperative male patients without urinary retention or bladder outlet obstruction.
- Consider alternatives to chronic indwelling catheters, such as intermittent catheterization, in spinal cord injury patients.
- Intermittent cath/eterization is preferable to indwelling urethral or suprapubic catheters in patients with bladder emptying dysfunction.
- Consider intermittent catheterization in children with myelomeningocele and neurogenic bladder to reduce the risk of urinary tract deterioration.
- Further research is needed on the benefit of using a urethral stent as an alternative to an indwelling catheter in selected patients with bladder outlet obstruction.

18.3.4 PROPER TECHNIQUES FOR URINARY CATHETER INSERTION

- Perform hand hygiene immediately before and after insertion or any manipulation of the catheter device or site.
- Ensure that only properly trained persons (e.g., hospital personnel, family members, or patients themselves) who know the correct technique of aseptic catheter insertion and maintenance are given this responsibility.
- In the acute care hospital setting, insert urinary catheters using aseptic technique and sterile equipment.
- Use sterile gloves, drape, sponges, an appropriate antiseptic -Chlorexidine- or sterile solution for periurethral cleaning, and a single-use packet of lubricant jelly for insertion.
- Routine use of antiseptic lubricants is not necessary.
- In the non-acute care setting, clean (i.e., non-sterile) technique for intermittent catheterization is an acceptable and more practical alternative to sterile technique for patients requiring chronic intermittent catheterization.
- Properly secure indwelling catheters after insertion to prevent movement and urethral traction.
- Unless otherwise clinically indicated, consider using the smallest bore catheter possible, consistent with good drainage, to minimize bladder neck and urethral trauma.
- If intermittent catheterization is used, perform it at regular intervals to prevent bladder over-distension.

- Consider using a portable ultrasound device to assess urine volume in patients undergoing intermittent catheterization to assess urine volume and reduce unnecessary catheter insertions.
- If ultrasound bladder scanners are used, ensure that indications for use are clearly stated, nursing staff are trained in their use, and equipment is adequately cleaned and disinfected in between patients use.

18.3.5 PROPER TECHNIQUES FOR URINARY CATHETER MAINTENANCE

- Following aseptic insertion of the urinary catheter, maintain a closed drainage system
- If it breaks in aseptic technique, disconnection, or leakage occur, replace the catheter and collecting system using aseptic technique and sterile equipment.
- Consider using urinary catheter systems with pre connected, sealed catheter-tubing junctions.
- Maintain unobstructed urine flow.
- Keep the catheter and collecting tube free from kinking.
- Keep the collecting bag below the level of the bladder at all times. Do not rest the bag on the floor.
- Empty the collecting bag regularly using a separate, clean collecting container for each patient; avoid splashing, and prevent contact of the drainage spigot with the nonsterile collecting container.
- Use Standard Precautions, including the use of gloves and gown as appropriate, during any manipulation of the catheter or collecting system.
- Complex urinary drainage systems (utilizing mechanisms for reducing bacterial entry such as antiseptic-release cartridges in the drain port) are not necessary for routine use.
- Changing indwelling catheters or drainage bags at routine, fixed intervals is not recommended. Rather, it is suggested to change catheters and drainage bags based on clinical indications such as infection, obstruction, or when the closed system is compromised.
- Unless clinical indications exist (e.g., in patients with bacteriuria upon catheter removal post urologic surgery), do not use systemic antimicrobials routinely to prevent CAUTI in patients requiring either short or long-term catheterization.
- Do not clean the periurethral area with antiseptics to prevent CAUTI while the catheter is in place. Routine hygiene (e.g., cleansing of the meatal surface during daily bathing or showering) is appropriate.
- Unless obstruction is anticipated (e.g., as might occur with bleeding after prostatic or bladder surgery) bladder irrigation is not recommended.
- If obstruction is anticipated, closed continuous irrigation is suggested to prevent obstruction.
- Routine irrigation of the bladder with antimicrobials is not recommended.
- Routine instillation of antiseptic or antimicrobial solutions into urinary drainage bags is not recommended.
- Clamping indwelling catheters prior to removal is not necessary.

CATHETER MATERIALS

- If the CAUTI rate is not decreasing after implementing a comprehensive strategy to reduce rates of CAUTI, consider using antimicrobial/antiseptic-impregnated catheters. The comprehensive strategy should include, at a minimum, the high priority recommendations for urinary catheter use, aseptic insertion, and maintenance.
- Further research is needed on the effect of antimicrobial/antiseptic-impregnated catheters in reducing the risk of symptomatic UTI, their inclusion among the primary interventions, and the patient populations most likely to benefit from these catheters.

- Hydrophilic catheters might be preferable to standard catheters for patients requiring intermittent catheterization.
- Silicone might be preferable to other catheter materials to reduce the risk of encrustation in long-term catheterized patients who have frequent obstruction.

MANAGEMENT OF OBSTRUCTION

If obstruction occurs and it is likely that the catheter material is contributing to obstruction, change the catheter.

SPECIMEN COLLECTION

- Obtain urine samples aseptically.
- If a small volume of fresh urine is needed for examination (i.e., urinalysis or culture), aspirate the urine from the needleless sampling port with a sterile syringe/cannula adapter after cleansing the port with a disinfectant.
- Obtain large volumes of urine for special analyses (not culture) aseptically from the drainage bag.

…END OF POLICY…

POLICY #19: RESPIRATORY THERAPY PREVENTING HEALTH CARE ASSOCIATED PNEUMONIA (CDC-HICPAC, GUIDELINES FOR PREVENTING, 2003)

19.1 INTRODUCTION

Pneumonia is the third most common healthcare acquired infection after urinary tract and surgical wound. Healthcare associated infections Pneumonia, a lower respiratory tract infection (LRTI) that develops during a patient's hospitalization.

19.2 PURPOSE AND APPLICABILITY

- Prevention of Pneumonia Healthcare associated infections in patients.
- This policy applies to all Medical and nursing staff.

19.3 POLICY STATEMENTS

- 19.3.1. To establish guidelines for the prevention of pneumonia Healthcare acquire infections through appropriate prevention and control measures.

19.4 GENERAL PROVISIONS

Pneumonia Healthcare acquired infections may be due to:

- Bacteria (the most common cause)
- Viruses
- Fungi
- Parasites

There are three (3) principal mechanisms for bacteria to invade the lower respiratory tracts:

- Aspiration of oropharyngeal organisms (most common)
- Inhalation of aerosols containing bacteria.
- Hematogenous spread (uncommon)

The patients most likely to develop Pneumonia Healthcare acquired infections, bacterial pneumonia are those who:

- Have had a recent surgery.
- Have conditions, which make aspiration likely to occur, e.g. unconscious patients, patients with naso-gastric (NG) tubes or patients with dysphasia.
- Are exposed to contaminated respiratory equipment.
- Receive improper respiratory care.
- Have had instrumentation of the respiratory tract.
- Have impaired immunological function.

19.5 PROCEDURES

19.5.1 PREVENTION OF PNEUMONIA OF HEALTHCARE ASSOCIATED INFECTIONS

Identify pre and post-operative patients who are at risk for developing pneumonia; such as patients >70 years, obese, COPD, smokers, abdominal and thoracic surgery and patients with impaired immunological function and patients on mechanical ventilation.

These patients will receive special pre and post-surgical respiratory therapy to include:

- Deep breathing
- Chest Therapy
- Postural drainage and percussion
- Oxygen therapy with humidifier
- Patients with depressed levels of consciousness shall be placed in a lateral position with a slight elevation of the head and turnings of the patient (at least every 4 hours).
- Patients unconscious for more than 12 hours shall receive prophylactic endotracheal intubation. Patients who need feeding through NG tube shall receive small frequent feedings rather than large ones. Patients who are expected to have NG tubes for long periods (more than one (1) week) shall be considered for gastrostomy.
- All providers of respiratory therapy involving the use of volumetric exerciser, oxygen nasal prongs, humidifiers (mouthpieces, masks or hoods), suctioning equipment, endotracheal tubes, anesthetic breathing circuits and ventilators shall follow the guidelines on Cleaning and Disinfection of reusable equipment. [SEE SECTION VII – POLICY #22]
- The tubing (including nasal prongs) and any mask used to deliver oxygen shall be changed between patients.
- Breathing circuits (including tubing and exhalation extensions) shall be changed routinely and replaced with sterilized or disinfected Glutaraldehyde (2%), Chlorhexidine (Hibitane) (2%), (Hydrogen Peroxide 7%) 30 a 45 Minutes once every 48 hours.
- In anesthetic machines, the breathing circuit shall be changed and replaced with disinfected circuits between patients.
- Breathing circuits used in patients suspected or diagnosed of having highly airborne contagious disease shall be appropriately disposed of after use.
- Fluid reservoirs shall be filled immediately before and not far in advance of use. Fluid shall not be added (toped up) to replenish partially filled reservoirs.
- Water that has condensed in tubing shall be discarded and not allowed to drain back into the reservoirs. Reservoirs for respiratory therapy equipment shall be routinely changed and replaced with sterilized or disinfected ones every 48 hours.
- In-line medication nebulizer reservoirs shall be cleaned and disinfected after each patient.
- Reusable humidifiers reservoirs for use with wall/tank oxygen shall be cleaned rinsed and dried every 48 hours and changed between patients.
- Immunosuppressed patients at risk of acquiring airborne transmissible disease shall be managed with protective isolation.

…END OF POLICY…

19.6 RECOMMENDATIONS FOR SPECIFIC CASES OF PNEUMONIA

19.6.1 PREVENTION OF HEALTH CARE ASSOCIATED PNEUMONIA

19.6.1.1 PREVENTION OF HEALTH CARE ASSOCIATED BACTERIAL PNEUMONIA

1. Staff Education and Involvement in Infection Prevention

Educate health-care workers regarding the epidemiology of, and infection control procedures for, preventing health-care-associated bacterial pneumonia to ensure worker competency according to the worker's level of responsibility in the healthcare setting. Involve the workers in the implementation of interventions to prevent health-care- associated pneumonia by using performance-improvement tools and techniques.

2. Prevention of Transmission of Microorganisms

A. Prevention of Person-to-Person Transmission of Bacteria

1. Standard Precautions
2. Care of patients with tracheostomy
3. Suctioning of respiratory tract secretions

B. Precautions for Prevention of Aspiration

1. Prevention of aspiration associated with endotracheal intubation
2. Prevention of aspiration associated with enteral feeding a. In the absence of medical contraindication(s), elevate the head of the bed of a high risk for aspiration pneumonia patient at an angle of 30-45 degrees (e.g., a person receiving mechanically assisted ventilation or who has an enteral tube in place). a. Routinely verify appropriate placement of the feeding tube.
3. Prevention or modulation of oropharyngeal colonization a. Oropharyngeal cleaning and decontamination with an antiseptic agent. b. Develop and implement a comprehensive oral-hygiene program (that might include the use of an antiseptic agent) for patients in acute-care settings or residents in long-term care facilities who are at high risk of developing health-care-associated pneumonia.

C. Prevention of Postoperative Pneumonia

1. Instruct pre-operative patients, especially those at high risk for contracting pneumonia, about taking deep breaths and ambulating as soon as medically indicated in the postoperative period. Patients at high-risk include those who will have abdominal aortic aneurysm repair, thoracic surgery, or emergency surgery; those who will receive general anesthesia; those who are aged >60 years; those with totally dependent functional status; those who have had a weight loss >10%; those using steroids for chronic conditions; those with recent history of alcohol use, history of COPD, or smoking during the preceding year; those with impaired sensorium, a history of cerebrovascular accident with residual neurologic deficit, or low (<8mg/dL) or high (>22 mg/dL) blood urea nitrogen level; and those who will have received more than 4 units of blood before surgery.
2. Encourage all postoperative patients to take deep breaths, move about the bed, and ambulate unless these are medically contraindicated.
3. Use incentive spirometry on postoperative patients at high risk for developing pneumonia.

19.6.1.2 PREVENTION OF HEALTH CARE ASSOCIATED RESPIRATORY SINCITIAL VIRUS (RSV), PARAINFLUENZA VIRUS AND ADENOVIRUS INFECTIONS

I. Staff Education and Monitoring and Infection Surveillance

A. Staff Education and Monitoring

1. Staff education

a. Educate personnel in accordance with their level of responsibility in the health-care setting about the epidemiology, modes of transmission, and means of preventing the transmission of RSV within health-care facilities.

CATEGORY IB

b. Educate personnel in accordance with their level of responsibility in the health-care setting, about the epidemiology, modes of transmission, and means of preventing the spread of parainfluenza virus and adenovirus within health-care facilities.

CATEGORY II

2. In acute-care facilities, establish mechanisms by which the infection-control staff can monitor personnel compliance with the facility's infection-control policies about these viruses.

CATEGORY II

5.6.1.2.2 Prevention of Transmission of RSV, Parainfluenza Virus, or Adenovirus

B. Prevention of Person-to-Person Transmission

1. Standard and contact precautions for RSV and parainfluenza virus; and standard, contact, and droplet precautions for adenovirus

a. Hand hygiene

b. Gloving

c. Gowning

d. Masking and wearing eye protection

2. Other measures in acute-care facilities

Staffing

(1) Restrict health-care personnel in the acute stages of an upper respiratory tract infection from caring for infants and other patients at high risk for complications from viral respiratory tract infections (e.g., children with severe underlying cardiopulmonary conditions, children receiving chemotherapy for malignancy, premature infants, and patients who are otherwise immunocompromised).

(2) When feasible, perform rapid diagnostic testing on healthcare personnel with symptoms of respiratory tract infection, especially those who provide care to patients at high-risk of acquiring and/or developing severe complications from RSV, parainfluenza, or adenovirus infection, so that their work status can be determined promptly.

b. Limiting visitors.

Staff Education

Provide health-care personnel continuing education or access to continuing education about the

epidemiology, modes of transmission, diagnosis, and means of preventing the spread of influenza in accordance with their level of responsibility in preventing healthcare-associated influenza.

VACCINATION

1. In acute-care settings (including acute-care hospitals, emergency rooms, and walk- in clinics) or ongoing-care facilities (including physicians' offices, public health clinics, employee health clinics, hemodialysis centers, hospital specialty-care clinics, outpatient rehabilitation programs, or mobile clinics), offer vaccine to in-patients and out-patients at high risk of complications from influenza beginning in September and throughout the influenza season. Groups at high risk of influenza-related complications include those aged >65 years; residents of nursing homes and other chronic-care facilities that house persons of any age who have chronic medical conditions; adults and children aged >6 months who have chronic disorders of the pulmonary or cardiovascular system, including asthma; adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies; or immunosuppression (including immunosuppresssion caused by medications or HIV); children and adolescents (aged 6 months-18 years) who are receiving long-term aspirin therapy; and women who will be in the second or third trimester of pregnancy during the influenza season. In addition, offer annual influenza vaccination to all persons aged 50-64 years, close contacts of children aged <24 months, and healthy children aged 6-23 months.

2. In nursing homes and other long-term care facilities, establish an SOP for timely administration of the inactivated influenza vaccine to high-risk persons

3. Personnel

a. Beginning in October each year, provide inactivated influenza vaccine for all personnel including night and weekend staff. Throughout the influenza season, continue to make the vaccine available to newly hired personnel and to those who initially refuse vaccination. If vaccine supply is limited, give highest priority to staff caring for patients at greatest risk for severe complications from influenza infection.

b. Educate health-care personnel regarding the benefits of vaccination and the potential health consequences of influenza illness for themselves and their patients.

c. Take measures to provide all health-care personnel convenient access to inactivated influenza vaccine at the work site, free of charge, as part of employee health program.

19.6.1.3. INFECTION CONTROL OF AIRBORNE INFECTIONS (TB INFECTION CONTROL)

TB infection control involves a combination of measures that aim to minimize the risk of TB transmission within at risk groups and populations. The foundation of TB infection control is the early and rapid diagnosis, and proper treatment and management of patients with active TB. TB infection control requires and complements implementation of core activities in TB control, HIV control and health-systems strengthening.

It should be part of the national infection control guidelines and policies as this targets airborne infections. Increased transmission of TB may occur in healthcare (clinics and hospitals) and con¬gregate settings (e.g., prisons, jails, and military barracks) where people with TB and HIV are frequently crowded together. Evidence that some patients with MDR-TB and HIV may be highly infectious presents added urgency to ensuring adequate infection control measures are in place to protect against TB transmission in settings where these patients may be seeking care.

Set of activities for national and subnational TB infection control

The national and subnational managerial activities listed below provide the managerial framework for the implementation of TB infection control in health-care facilities, congregate settings and households.

1. Identify and strengthen a coordinating body for TB infection control (district surveillance teams, and develop a comprehensive budgeted plan that includes human resource requirements for implementation of TB infection control at all levels.
2. Ensure that the health facility design, construction, renovation and use are appropriate.
3. Conduct surveillance of TB disease among health workers, and conduct assessment at all levels of the health system and in congregate settings.
4. Address TB infection control advocacy, communication and social mobilization (ACSM), including engagement of civil society.
5. Monitor and evaluate the set of TB infection control measures.
6. Enable and conduct operational research.

Addressing TB infection control requires action at the national, district and community (health care post and other facilities must implement TB infection control mea¬sures. TB infection control in health-care facilities and congregate settings was largely neglected in the policy and practice of TB control. However, recent outbreaks of multidrug-resistant tuberculosis (MDR-TB) and extensively drug-resistant tuberculosis (XDR-TB) with high mortality – in particular in high HIV-prevalent settings – have led to a stronger focus on TB infection control in such settings

The 2009 WHO Policy on TB Infection Control in Health-Care Facilities, Congregate Settings and Households outlines key activities to guide Ministries of Health in establishing TB infection control at facility level. These measures to reduce transmission can be classified as "managerial," "administrative," "en¬vironmental," and "personal protective".

A. Managerial control

Managerial activities describes the need for political commit¬ment and leadership at national and facility levels, these being areas for congregate settings (e.g. clinics and prisons). Healthcare facilities should be fully engaged and encouraged to implement TB infection control. Overcrowding should be avoided because it can lead to non-infected individuals being exposed to TB. Congregate settings should be part of the country surveillance activities, and should be included in facility assessment for TB infection control. Such assessment will be useful in determining the level of risk of the facility or building. Any advocacy and information, education and communication material should include a specific focus on congregate settings, as should monitoring and evaluation of TB infection control measures.

B. Administrative control measures should include:

- Development and maintenance of systems for early recognition, diagnosis, and treatment of TB suspects (particularly those with PTB).Administrative controls have been shown to reduce transmission of TB in health-care facilities. Such controls are a vital part of sound infection control practices, which require people with TB symptoms to be promptly identified, separated and treated.
- Development of a facility Infection Control Plan and designation of an Infection Control Officer with responsibility for implementation of the plan.
- Policies and procedures for separation of PTB (triage) suspects from others until a diag¬nosis is confirmed or excluded.
- TB Infection control training and annual updates for staff.
- Preparation and/or display of TB information for patients and the public related to its transmission, treatment and prevention.
- Monitoring TB infection and disease among health worker annually.

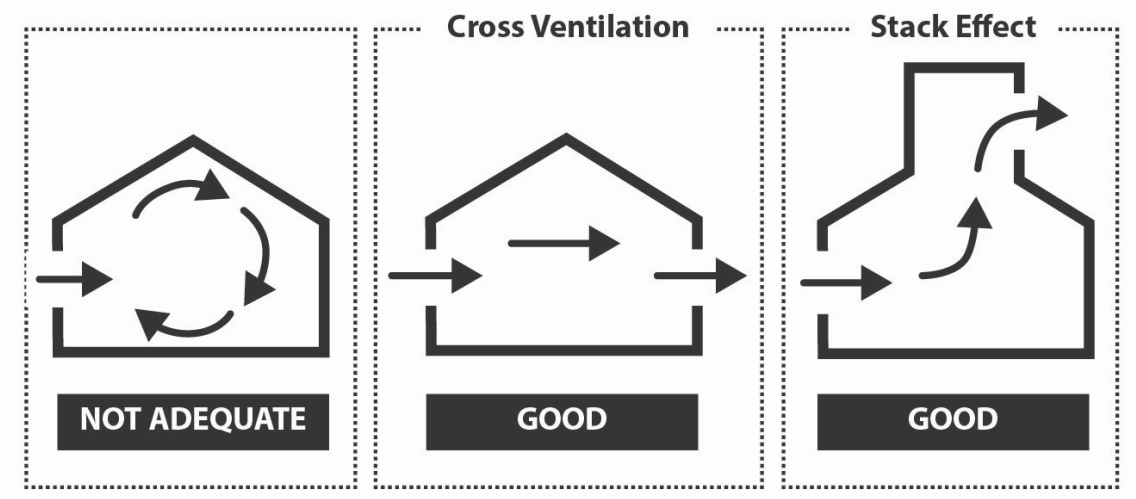
C. Environmental control measures should include:

- Should include: Environmental controls include methods to reduce the concentration of infectious respiratory aerosols (i.e. droplet nuclei) in the air, and methods to control the direction of infectious air
- Maximizing natural ventilation to help reduce TB transmission indoors (e.g., open windows to promote cross ventilation), using fans where air may be stagnant to improve and control the air flow direction and presence of infectious particles).
- Designate an appropriate location for sputum collection in an adequately venti¬lated booth with some privacy for the patient, away from other people.

D. Personal protection (PPE) includes:

- Using a face mask by a TB patient or presumed case of TB, when mov¬ing from one part of a hospital to another (we must ensure that we select an adequate Face mask (N95), Training on adequate use of masks, Test the performance of the mask, Monitoring the good implementation of personal protection).
- Provide accessible, acceptable, confidential voluntary HIV counseling and testing
- Protect HIV-positive persons from possible exposure to TB (e.g., transfer of an HIV-infected worker from medical wards where patients with infectious TB are admitted)
- Provide isoniazid preventive therapy if indicated.
- Provide isoniazid preventive therapy if indicated.

PROMOTING NATURAL VENTILATION



REDUCING TRANSMISSION OF TB IN HOUSEHOLDS:

Reducing transmission of TB in households, is necessary because household members of persons with TB infectious are at high risk of becoming infected with TB and may develop active disease.

Early case detection is one of the most important interventions in reducing the risk of TB transmission in the household. TB contact investigation should be undertaken in line with national TB control policies. In addition, behaviour-change campaigns, educational sessions should be part of the communication strategy offered to communities. The infection control messages need to promote early identification of cases, treatment adherence, respiratory hygiene (e.g. cough etiquette) in the household, before and after diagnosis of TB.

Behaviour-change campaigns for family members of smear-positive TB patients and health service providers should aim to minimize stigma and the exposure of non-infected patients to those who are infected.

To reduce exposure in households:

- Apply infection control measures such as advocating for (houses to be adequately ventilated, particularly rooms where people with infectious TB spend considerable time) e.g. (natural ventilation may be sufficient to provide adequate ventilation).
- Anyone who coughs should be educated on cough etiquette and respiratory hygiene, and should follow such practices at all times.
- While smear positive, TB patients should (– spend as much time as possible outdoors, sleep alone in a separate, adequately ventilated room, if possible, spend as little time as possible in congregate settings or in public transport).

Awareness of infection control in the community should be promoted, irrespective of the drug susceptibility profile of the TB diagnosis, because most MDR-TB is undiagnosed but is nevertheless transmitted in the community. In households with culture-positive MDR-TB patients, **the following guidance should be observed, in addition to the measures given above**

1 .Early in the history of treatment of drug-resistant TB, strict hospitalization of patients was considered necessary. However, today, community-based approaches for management of patients with MDR-TB provided by trained lay and community health workers can achieve comparable results and, in theory, may decrease nosocomial transmission of TB

2. Particular attention should be given to the quality of information, education and communication messages, to avoid any unintended increase of stigma. In general, awareness of infection control in the community – even if well conducted – does not eliminate stigma attached to having TB. Therefore, such awareness needs to be balanced with the benefits that community education can bring, in terms of garnering social support for decreasing TB transmission in the community and helping to contribute to sustainable change toward healthy behaviour

3. While culture positive, MDR-TB patients who cough should always practice cough etiquette (including use of masks) and respiratory hygiene when in contact with people, ideally, health service providers should wear particulate respirators when attending patients in enclosed spaces.

• Ideally, family members living with HIV, or family members with strong clinical evidence of HIV infection, should not provide care for patients with culture-positive MDR-TB. If there is no alternative, HIV-positive family members should wear respirators, if available.

• Children below five years of age should spend as little time as possible in the same living spaces as culture-positive MDR-TB patients. Such children should be followed up regularly with TB screening and, if positive, drug-susceptibility testing and treatment.

• While culture positive, XDR-TB patients should be isolated at all times, and any person in contact with a culture positive XDR-TB patient should wear a particulate respirator, if at all possible, HIV-positive family members, or family members with a strong clinical evidence of HIV infection, should not share a household with culture positive XDR-TB patients.

• If possible, potential renovation of the patient's home should be considered, to improve ventilation (e.g. building of a separate bedroom, or installation of a window or wind catcher, or both).

POLICY #20: SURGICAL SITE INFECTION -SSI- (CDC, 1999)

20.1 INTRODUCTION

Proper management of wounds in any health care institution is of vital importance since it has been proven that infections that are developed after surgery or trauma constitute at least 35% of the incidence of Healthcare acquired infections.

20.2 PURPOSE AND APPLICABILITY

- To prevent development of Healthcare acquired infections.
- To facilitate wound healing.
- This policy applies to all medical and nursing professionals.

20.3 POLICY STATEMENTS

5.10.1 Surgical wounds shall be classified as clean, clean contaminated, contaminated or dirty at the time of diagnosis or immediately after surgical intervention.

20.4 GENERAL PROVISIONS

In order for wounds to be managed adequately, they shall be classified. These guidelines will follow the American College of Surgeons classification that includes:

CLASS I: CLEAN WOUNDS – an uninfected surgical wound in which no inflammation is encountered and the respiratory, alimentary, genital, or uninfected urinary tracts are not entered. In addition, clean wounds are primarily closed and, if necessary, drained with closed drainage. Surgical wound incisions that are made after non-penetrating (i.e., blunt) trauma shall be included in this category if they meet the criteria.

CLASS II: CLEAN-CONTAMINATED WOUNDS – a surgical wound in which the respiratory, alimentary, genital, or urinary tracts are entered under controlled conditions and without unusual contamination. Specifically, surgical procedures involving the biliary tract, appendix, vagina, and oropharynx are included in this category, provided no evidence of infection is encountered and no major break in technique occurs.

CLASS III: CONTAMINATED WOUNDS – open, fresh, accidental wounds. In addition, surgical procedures in which a major break in sterile technique occurs (e.g., open cardiac massage) or there is gross spillage from the gastrointestinal tract and incisions in which acute, non-purulent inflammation is encountered are included in this category.

CLASS IV: DIRTY OR INFECTED WOUNDS – old traumatic wounds with retained or devitalized tissue and those that involve existing clinical infection or perforated viscera. This definition suggests that the organisms causing postoperative infection were present in the wound before the surgical procedure.

20.5 RECOMENDATIONS FOR PREVENTION OF SURGICAL SITE INFECTION

RATIONALE

The Guideline for Prevention of Surgical Site Infection, 1999, provides recommendations concerning reduction of surgical site infection risk. Each recommendation is categorized on the basis of existing scientific data, theoretical rationale, and applicability. However, the previous CDC system for categorizing recommendations has been modified slightly.

RECOMMENDATIONS

1. PREOPERATIVE

a. Preparation of the patient

1. Whenever possible, identify and treat all infections remote to the surgical site before elective operation and postpone elective operations on patients with remote infections.
2. Do not shave hair pre-operatively unless the hair at or around the incision site.
3. If hair is shaved immediately before the operation, preferably with electric clippers.
4. Adequately control serum blood glucose levels in all diabetic patients and particularly avoid hyperglycemia peri-operatively.
5. Require patients to shower or bathe with a chlorhexidine soap on at least 3 days before the surgery.
6. Thoroughly wash and clean at and around the incision site to remove gross contamination before performing antiseptic skin preparation.
7. Use an appropriate antiseptic agent for skin preparation.
8. Apply preoperative antiseptic skin preparation in concentric circles moving toward the periphery. The prepared area must be large enough to extend the incision or create new incisions or drain sites.
9. Keep pre-operative hospital stay as short as possible while allowing for adequate pre-operative preparation of the patient.

b. Antimicrobial prophylaxis

1. Administer a prophylactic antimicrobial agent only when indicated, and select it based on its efficacy against the most common pathogens causing SSI for a specific operation and published recommendations.
2. Administer by the intravenous route the initial dose of prophylactic antimicrobial agent, timed such that a bactericidal concentration of the drug is established in serum and tissues when the incision is made. Maintain therapeutic levels of the agent in serum and tissues throughout the operation and until, at most, a few hours after the incision is closed in the surgery room.
3. For elective colorectal operations in addition to d2 above, mechanically prepare the colon by use of enemas and cathartic agents. Administer non-absorbable oral antimicrobial agents in divided doses on the day before the operation.
4. For high-risk cesarean section, administer the prophylactic antimicrobial before the surgery.
5. Do not routinely use vancomycin for antimicrobial prophylaxis.

2. INTRAOPERATIVE

a. Ventilation

1. Maintain positive-pressure ventilation in the operating room with respect to the corridors and adjacent areas.
2. Maintain a minimum of 15 air changes per hour, of which at least 3 should be fresh air.
3. Filter all air, recirculated and fresh, through the appropriate filters -HEPA filters-.
4. Introduce all air at the ceiling, and exhaust near the floor. Maintain the temperature at 18 to 24 Celsius degrees and humidity at 30-60%.
5. Do not use UV radiation in the surgery room only those who must use the operation theater.
6. Keep suregery room doors closed except as needed for passage of equipment, personnel, and the patient.
7. Consider performing orthopedic implant operations in surgery rooms supplied with ultraclean air.
8. Limit the number of personnel entering the sugery room to necessary personnel.

b. Asepsis and surgical technique

1. Adhere to principles of asepsis when placing intravascular devices (e.g., central venous catheters), spinal or epidural anesthesia catheters, or when dispensing and administering intravenous drugs.
2. Assemble sterile equipment and solutions immediately prior to use.
3. Handle tissue gently, maintain effective hemostasis, minimize devitalized tissue and foreign bodies (i.e., sutures, charred tissues, necrotic debris), and eradicate dead space at the surgical site.
4. Use delayed primary skin closure or leave an incision open to heal by secondary intention if the surgeon considers the surgical site to be heavily contaminated (e.g., Class III and Class IV).
5. If drainage is necessary, use a closed suction drain. Place a drain through a separate incision distant from the operative incision. Remove the drain as soon as possible. Category IB.

3. POSTOPERATIVE INCISION CARE

1. Protect with a sterile dressing for 24 to 48 hours postoperatively an incision that has been closed by primary intention.
2. Wash hands before and after dressing changes and any contact with the surgical site.
3. When an incision dressing must be changed use sterile technique.
4. Educate the patient and family regarding proper wound care, symptoms and signs of surgical site infection and the need to report such symptoms.

…END OF POLICY…

POLICY #21: INJECTION SAFETY (Health, 2011)

21.1 INTRODUCTION

Injected medicines are commonly used in healthcare settings for the prevention, diagnosis, and treatment of various illnesses. Unsafe injection practices put patients and healthcare providers at risk of infectious and non-infectious adverse events and have been associated with a wide variety of procedures and settings. This harm is preventable. Safe injection practices are part of Standard Precautions and are aimed at maintaining basic levels of patient safety and provider protections. As defined by the World Health Organization (WHO), a safe injection does not harm the recipient, does not expose the provider to any avoidable risks and does not result in waste that is dangerous for the community CDC (2011).

21.2 PURPOSE AND APPLICABILITY

- To prevent development of Health Acquired Infections.
- This policy applies to all medical and nursing Professionals.

21.3 PROCEDURE

MEDICATION MANAGEMENT

- Perform hand hygiene prior to handling all parenteral material.
- Follow manufacturer's guidelines for expiration date, storage, use, and disposal of pharmaceuticals.
- Inspect the syringe and needle package for breaks. Discard syringe and needle if the package has been punctured, torn, damaged by exposure to moisture, or if it has expired.
- Use a sterile, single-use disposable syringe and needle for each injection and discard intact in an appropriate puncture-resistant, leak-proof container immediately after use.
- Use aseptic technique to avoid contamination of sterile injection equipment and medications.
- Prepare each injection in a designated clean area where blood and body fluid contamination is unlikely.
- Discard syringe and needle in a puncture-resistant, leak-proof container if contaminated during the medication preparation.
- DO NOT administer medications from single-dose vials to multiple patients or combine leftover contents for later use.
- Select pop-open ampoules rather than ampoules that require use of a metal file to open.
- If using an ampoule that requires a metal file to open, protect fingers with a clean barrier (e.g., small gauze pad) when opening the ampoule.
- No more than one (1) vial of a multi-dose medication shall be opened at a time in each patient care area.

MULTIPLE-DOSE VIALS

- Restrict them to a centralized medication area or for single patient use to prevent inadvertent contamination by spray or spatter;
- Use a sterile syringe and needle each time a multiple-dose vial is entered. DO NOT re-use a syringe even if the needle is changed;
- Discard syringe and needle if contaminated while entering the vial. Use a new sterile syringe and needle.
- DO NOT leave needles in the diaphragm of multi-dose vials.

- NEVER re-enter a vial with a needle or syringe used on one (1) patient if that vial will be used to withdraw medication for the same patient or another patient.
- DO NOT use bags or bottles of IV solution as a common source of supply for multiple patients.

Use sterile syringe and needle, and sterile diluent to reconstitute medication. For medications requiring reconstitution, add a label, which shall include:

» Date and time of preparation
» Type and volume of diluent (if applicable)
» Final concentration
» Expiry date and time
» Name of and signature of the person reconstituting the drug

For medications that DO NOT require reconstitution, add a label, which shall include:

» Date and time of first piercing the vial;
» Name of and signature of the person first piercing the vial. Discard multi-dose vials:
» If sterility or content is compromised
» At expiry date and time
» Without antimicrobial preservatives within 24 hours of opening
» With antimicrobial preservatives according to the manufacturer's recommended expiration date on the vial

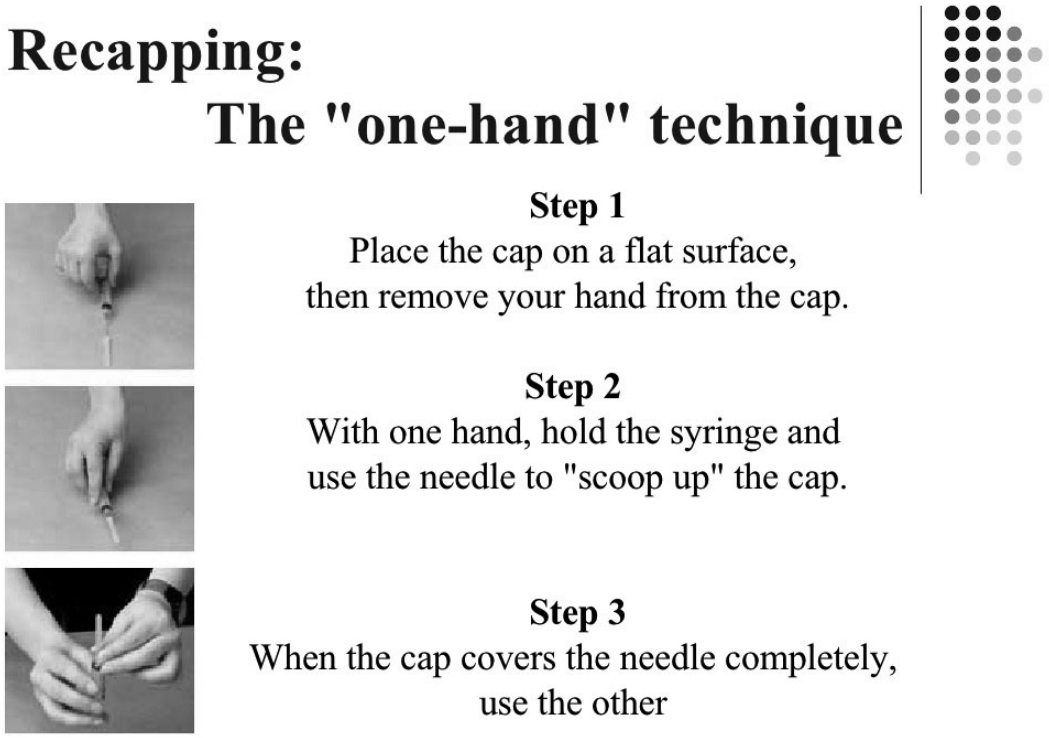
If undated, dust-covered, improperly stored multi-dose vials inadvertently contaminated or perceived as contaminated immediately upon discovery regardless of expiration date.

According to manufacturer's instructions or encapsulate, e.g., expired vaccines.

SYRINGES AND NEEDLES

- Used needles shall not be recapped by hand. If recapping is necessary, use the single hand "scoop" method.
- DO NOT bend, break, manipulate, or remove needles before disposal except to remove needles from non-disposable dental anesthetic syringes.
- Used syringes and needles shall be discarded as a unit in the designated puncture- resistant, liquid-proof container.
- Close, seal and disposed of sharps container when 3/4 full.

DIAGRAM 5: RECAPING: THE "ONE-HAND" TECHNIQUE



Reference: Google Images for recapping technique, www.slideshare.net

If injured by sharps, refers to policy [see section XI – Policy #36]

MANAGEMENT OF WASTE

- Place used disposable syringes and needles (as a unit) in appropriate puncture- resistant, leak-proof, closable containers immediately after use.
- Alternatively, remove needles immediately after injection via needle remover/cutter and dispose of on site.

DIAGRAM 6: SHARP CONTAINERS

Reference: Google Images for containers for sharps, expatmidwife.wordpress.com

- Place containers as close as feasible to the area in which the items are used. Ensure that area is secure.
- Collect non-sharp infectious wastes in color-coded bags, or marked with a biohazard sign [SEE DIAGRAM 8 IN THIS SECTION]
- Prior to transport for treatment/disposal, ensure that infectious waste bags and sharps containers are:

» Stored in a secure area.

» Closed immediately before removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping;

» Placed in a secondary container if leakage is possible; the second container shall be:

- o closable
- o constructed to contain all contents and prevent leakage during handling
- o storage, transport, or shipping
- o colour-coded or mark with a biohazard sign

» Place large-bore re-usable needles (e.g., bone-marrow needles and biopsy needles) and other re-usable sharps into a puncture-resistant container for transport to the reprocessing area.

DIAGRAM 7: BIOHAZARD LABEL

Reference: National Guidelines on Infection, Prevention and Control for Health Facilities of Belize. Second Edition-January, 2011. Belize.

ENVIRONMENTAL CONTROL

- Maintain physical separation between clean and contaminated equipment and supplies.
- Prepare medications in areas physically separated from those with potential blood or body fluid contamination.
- Use barriers such as plastic cover to protect surfaces from blood contamination during blood sampling, etc.
- Routinely clean and decontaminate all equipment and environmental surfaces (counter tops, etc.) as soon as possible after contact with blood or other potentially infectious materials, using 0.5% sodium hypochlorite (bleach). Small areas can be wiped with alcohol as a surface disinfectant.

- All specimen containers are to be placed in leak-proof plastic bags marked with a biohazard label and transported in a covered secondary container also marked with a biohazard label.
- Laboratory specimens in syringes shall be capped off (needle removed) before transporting to the laboratory. The exception to this is a fine-needle aspirate.

…END OF POLICY…

SECTION 7
DISINFECTION AND STERILILZATION

PATIENTE CARE EQUIPMENT [POLICY #22]

CENTRAL STERILIZATION UNIT [POLICY #23]

POLICY #22: PATIENT CARE EQUIPMENT

22.1 INTRODUCTION

The successful implementation of this disinfection and sterilization policy requires an understanding of the general principles. In general, thorough cleaning with detergent and hot water and thorough drying often provide adequate disinfection The level of sterilization or disinfection depends on the planned use of the devices.

In cases where sterilization is required, heat methods such as autoclaving are usually the best methods to use.

22.2 PURPOSE AND APPLICABILITY

- To prevent cross contamination of pathogenic microorganisms during the performance of duty.
- To minimize the incidence of Healthcare Acquires Infections.
- To ensure standardization of procedures for decontaminating, cleaning, disinfecting or sterilizing of reusable patient care items.
- This policy applies to all medical, nursing, support and ancillary staff.

22.3 POLICY STATEMENTS

- All reusable patient-care items shall be reprocessed before storage following infection control guidelines
- Reprocessing of equipment shall always include decontamination and thorough cleaning and may also include disinfection or sterilization depending on the nature and intended use of the device or equipment.

> It is important to avoid any contact between a contaminated equipment and the skin, mucosa or clothing of the Health Care Workers.
>
> The process of cleaning and disinfecting respiratory equipment frequently results in splashes which could potentially be contaminated.

22.4 GENERAL PROVISIONS

As recommended by the Center for Disease Control, we have divided instruments and equipment into three (3) major categories:

- Critical Items
- Semi-critical Items
- Non-critical Items

CRITICAL ITEMS

Items that directly enter sterile tissue, the vascular system or other normally sterile areas of the body. Such items which require sterilization are as follows:

- Surgical and Dental Instruments
- Implantable devices
- Intravascular devices
- Spinal Needles
- Endoscopes
- Endoscopic biopsy forceps, cannula, guide wires.
- Vaginal Speculums

Any item designed for single use must be disposed of in an appropriate container or waste receptacle immediately after use. This is essential to prevent any accidental contamination of either another person or the environment.

SEMI-CRITICAL ITEMS

Items that come in contact with mucous membranes or skin that are not intact. Such items require disinfection using high and medium level disinfectants and are as follows:

- Laryngeals blades
- Ear speculums and ear examining instruments
- Nasal speculum
- Thermometer (between patients)
- Incubators, radiant warmers, basinet, infant bathtubs.
- Bulb syringes
- Canulas tops and tables in patient care areas
- Bathtubs (adult / neonates)

NON-CRITICAL ITEMS

Items that come in contact with intact skin but not with mucous membrane. Such items require cleaning only with detergent disinfectant and are as follows:

- Bedpan and kidney dish
- Blood pressure cuffs and Examination Tables
- Trolleys
- Wheelchairs
- Beds, bedside lockers, drip stand in administration offices
- Counter tops, desks, and tables
- Food utensils

Control Measures for Sterilization to assure the highest level of patient or client safety, needles must be single use and disposable. All instruments that will penetrate tissue shall be sterilized, disposable or after use.

1.4.4 STERILIZATION:

The process of removing all forms of microbial life is required for critical items using the following methods:

- Autoclaving (steam under pressure at 270°F for a specified time).
- Dry heat oven (350°F) temperature.
- Exposure to ethylene oxide gas.
- Immersion in glutaraldehyde (Cidex) at manufacturer's recommended concentration and time.
- A designated tray with cover shall be used to contain the diluted solution. Sterile cheetle forceps shall be used at all times for removal of items or equipment immersed in glutaraldehyde.

DISINFECTION:

The removal or destruction of adequate numbers of potentially harmful microorganisms so as to make the item safe to handle or use. It is required for semi-critical items or non-critical items with obvious soilage using the following methods:

- Boiling (moist heat at 100°F for 30 minutes).
- Washing with detergent and hot water followed by thorough drying (the hotter the process, the more microorganisms are destroyed).
- Immersion in recommended disinfected agent for specific exposure time.

DECONTAMINATION:

A procedure for rendering items safe for subsequent handling and possible further processing. It involves a shorter period of disinfection and are as follows:

- Immersion – reusable items (non-electrical)
- Wiping – for instruments with electrical parts

CLEANING:

Procedure for removing dirt or debris from surfaces. It involves use of detergent and water. (Cleaning shall be done before disinfection can be effective.)

22.5 PROCEDURE

22.5.1 HANDLING CRITICAL ITEMS

Items shall be rinsed under free flowing water in the user area immediately after use to remove all visible soilage.

Central Sterilization Unit staff shall collect critical care items from user areas daily at scheduled times. Central Sterilization Unit shall adhere to guidelines on transportation of contaminated critical items. Critical Care items shall be reprocessed in Central Sterilization Unit following these steps:

Step 1: Decontamination
Step 2: Washing (Manually or Mechanically)
Step 3: Reprocessing
Step 4: Sterilization

Step5: Storage
Step 6: Distribution
The first four (4) steps can be performed on certain critical items in the Operating Room.

Do not attempt to wash critical care items in user area.

22.5.2 HANDLING SEMI-CRITICAL ITEMS

- Items shall be washed thoroughly with detergent and water.
- Equipment shall be dismantled when washing.
- Dry items thoroughly with a clean cloth and paper towel when available.
- Items incompletely dried further dilute the disinfecting solution.
- Immerse in recommended disinfecting solution for the specified exposure time as recommended by manufacturer.
- Remove items after disinfecting using specified forceps for such purposes.
- Rinse item with plain tap water after disinfecting treatment has been achieved.
- Allow items to dry using effective (Alcohol 70% can be used to promote quick drying).
- Store in a clean enclosed area or store in individually wrapped, labeled paper bags.
- Tap water must be routinely shown to be free of contain an insignificant amount of microorganisms. Control In Process –CIP- can be verified by ATP water measurement.

Any item designed for single use must be disposed of in an appropriate container or waste receptacle immediately after use. This is essential to prevent any accidental contamination of either another person or the environment.

22.5.3 HANDLING NON-CRITICAL ITEMS

- Non-Critical patient care items shall be cleaned on a daily basis and immediately after soilage occurs.

- For Non-Critical items soiled with blood or body fluid:
  - Contain blood or body fluid with paper towel and dispose of used paper towel in appropriate red garbage bin.
  - Wash with warm water and detergent.
  - Apply recommended dilution of approved disinfectant agent to soil surfaces.

- Follow standard precautions for handling and reprocessing used patient-care equipment, including medical devices:
  - Wear gloves when handling and transporting used patient-care equipment.
  - Wipe heavily soiled equipment with detergent and water follow with disinfecting by a hospital approved disinfectant before removing it from the patient's room. Follow current recommendations for cleaning and disinfection or sterilization of reusable patient-care equipment.
  - Wipe external surfaces of portable equipment for performing x-rays and other procedures in the patient's room with an ecofriendly/green leaf hospital disinfectant upon removal from the patient's room.
  - Any piece of equipment used in providing patient care shall be handled with care, as it may be contaminated and have the potential to spread infection.

- When cleaning and disinfecting respiratory equipment the healthcare workers´ shall wear:
  - Latex-free gloves with aloe vera,
  - A gown and a plastic or rubber apron,
  - Face protection, such as a full face shield or an
  - Eye protection, such as a visor or goggles, plus a face mask.
  - Re-usable equipment shall be cleaned with soap or detergent and water until all visible signs of soiling are removed and shall then be appropriately disinfected before the equipment can be used on another patient.

22.5.4 ESSENTIAL POINTS FOR CLEANING AND DISINFECTING EQUIPMENT IN ALL LEVELS (CDC-HICPAC, 2008)

1. In hospitals, perform most cleaning, disinfection, and sterilization of patient-care devices, in a central processing department in order to more easily control quality. To control quality, perform cleaning, of patient care in a centralized area.

2. Meticulously clean patient-care items with water and detergent when soiled follow with dual enzymatic cleaners before high-level disinfection or sterilization procedures. Medical instrumentation is not to be subjected to scrubbing.

   2.1. Remove visible organic residue (e.g., residue of blood and tissue) and inorganic salts with cleaning. Use cleaning agents that are capable of removing visible organic and inorganic residues. Cleaning removes visible organic residues from patient care devices.

2.2. Clean medical devices as soon as practical after use (e.g., at the point of use) soiled materials become dried onto the instruments. Dried or baked materials on the instrument make the removal process more difficult and the disinfection or sterilization process less effective or ineffective. Clean medical devices immediately after use.

3. Perform cleaning with dual enzymatic for removal of biofilm or mechanical cleaning (e.g., with ultrasonic cleaners, washer-disinfector, washer-sterilizers).

4. If using an automatic washer/disinfector, ensure that the unit is used in accordance with the manufacturer's recommendations.

5. Ensure that the detergents or enzymatic cleaners are dual , selected are compatible with the metals and other materials used in medical instruments. Ensure that the rinse step is adequate for removing cleaning residues to levels that will not interfere with subsequent disinfection/ sterilization processes.

6. Inspect equipment surfaces for breaks in integrity that would impair either cleaning or disinfection/ sterilization. Discard or repair equipment that no longer functions as intended or cannot be properly cleaned, and disinfected or sterilized.

…END OF POLICY…

POLICY #23: CENTRAL STERILIZATION UNIT

23.1 INTRODUCTION

The Central Sterilization Unit, also referred to as the processing or central supply department is responsible for preparing, reprocessing, storing and distributing medical and surgical supplies and equipment required for patient diagnosis, treatment and care.

In carrying out these functions the Central Sterilization Unit staff is responsible for removing or destroying potentially infectious contamination on reusable devices and distributing both reusable and single-use items to the various sites where patient activities occur.

23.2 PURPOSE AND APPLICABILITY

- To establish guidelines for the reprocessing, storage and distribution of reusable patient care items and equipment.
- To establish guidelines for the methods for monitoring decontamination, disinfection and sterilization activities.
- This policy applies to staff of Central Sterilization Unit, Operating Room, Infection Control and staff assigned to patient cares areas.

23.3 POLICY STATEMENTS

- 23.3.1 All Central Sterilization Unit personnel assigned to the decontamination area shall be properly trained to safely execute operations of the Central Sterilization Unit.
- 23.3.2 All personnel working in Central Sterilization Unit shall adhere to Standard and Transmission-based Precaution Policy.
- 23.3.3 All personnel working in Central Sterilization Unit shall be responsible to report non compliance with the handling of reusable patient care devices.
- 23.3.4 All personnel working in Central Sterilization Unit shall report all exposures to blood and body fluid during the performance of duty.

23.4 GENERAL PROVISIONS

Each Central Sterilization Unit shall have at a minimum the following areas:

- Soiled receiving and decontamination area
- Clean assembly and processing area
- Clean or sterile supply and equipment storage area
- Distribution area
- An additional functional area for surgical linen packs preparation.

Proper ventilation, humidity and temperature control shall be available throughout the whole unit.

23.5 INDICATIONS FOR STERILIZATION, HIGH-LEVEL DISINFECTION, AND LOW- LEVEL DISINFECTION IN HOSPITALS (CDC-HICPAC, 2008)

1. Before use on each patient, sterilize critical medical and surgical devices and instruments that enter normally sterile tissue or the vascular system or through which a sterile body fluid flows (e.g., blood). Exceptions:

- Sterilize endoscopes, arthroscopes, cystoscope, laparoscopes that pass through sterile tissues

before each use; if this is not feasible, provide at least high-level disinfection. High-level disinfection of arthroscopes, laparoscopes, and cytoscopes should be followed by a sterile water rinse confront by an ATP water measurement.

- Proper high level disinfection of endoscope must be confirmed by ATP measurement of the opening and canals of respective measurements.

2. Provide, at a minimum, high-level disinfection for semi-critical patient-care equipment according to manufacturers recommendations (e.g., gastrointestinal endoscopes, endotracheal tubes, anesthesia breathing circuits, and respiratory therapy equipment) that touches either mucous membranes or non-intact skin.

3. Perform low-level disinfection for noncritical patient-care surfaces (e.g., bedrails, over-the-bed table) and equipment (e.g., blood pressure cuff) that touch intact skin). Use a one-step process and an Environmental Protection Agency -EPA- registered hospital disinfectant designed for housekeeping purposes in patient care areas where:

   1) uncertainty exists about the nature of the soil on the surfaces (e.g., blood or body fluid contamination versus routine dust or dirt); or
   2) uncertainty exists about the presence of multidrug resistant organisms on such surfaces.

Recommendations requiring cleaning and disinfecting blood-contaminated surfaces:

- For site decontamination of spills of blood or other potentially infectious materials (OPIM), implement the following procedures:

- Use protective gloves and other PPE (e.g., when sharps are involved use forceps to pick up sharps, and discard these items in a puncture-resistant container) appropriate for this task.
- Disinfect areas contaminated with blood spills using an EPA-registered antimicrobial/tuberculocidal agent, a registered germicide on the EPA Lists (i.e., products with specific label claims for HIV or HBV or freshly diluted hypochlorite solution:
- Glutaraldehyde-based formulations used according recommendations of manufacturer.
- One glutaraldehyde-based product has a high-level disinfection claim of 5 minutes at 35oC.
- Ortho-phthalaldehyde (OPA) 0.55%

If sodium hypochlorite solutions are selected use a 1:100 dilution (e.g., 1:100 dilution of a 5.25-6.15% sodium hypochlorite provides 525-615 ppm available chlorine) to decontaminate nonporous surfaces after a small spill (e.g., <10 mL) of either blood or OPIM. If a spill involves large amounts (e.g., >10 mL) of blood or OPIM, or involves a culture spill in the laboratory, use a 1:10 dilution for the first application of hypochlorite solution before cleaning in order to reduce the risk of infection during the cleaning process in the event of a sharp injury. Follow this decontamination process with a terminal disinfection, using a 1:100 dilution of sodium hypochlorite.

23.6 SELECTION AND USE OF LOW-LEVEL DISINFECTANTS FOR NONCRITICAL PATIENT CARE DEVICES (CDC-HICPAC, 2008)

Process noncritical patient-care devices using a disinfectant and the concentration of germicide listed in the next table.

TABLE 12: METHODS OF STERILIZATION AND DISINFECTION

	Sterelization			Disinfection	
	Critical items (will enter tissue or vascular system or blood will flow through them)		High-level (semicritical items; [except dental] will come in contact with mucous membrane or nonintact skin)	Intermediate-level (some semicritical items[1] and noncritical items)	Low-levl (noncritical items; will come in contact with intact skin)
Object	Procedure	Exposure time	Procedure (exposure time 12-30 min at ≥20°C)[2,3]	Procedure (exposure time ≥1m)[9]	Procedure (exposure time ≥1m)[9]
Smooth, hard Surface[1,4]	A	MR	D	K	K
	B	MR	E	L[5]	L
	C	MR	F	M	M
	D	10h at 20-25°C	H	N	N
	F	6h	I[6]		O
	G	12m at 50-56°C	J		
	H	3-8h			
Rubber tubing and catheters[3,4]	A	MR	D		
	B	MR	E		
	C	MR	F		
	D	10h at 20-25°C	H		
	F	6h	I[6]		
	G	12m at 50-56°C	J		
	H	3-8h			
Polyethylene tubing and cathe-ters[3,4,7]	A	MR	D		
	B	MR	E		
	C	MR	F		
	D	10h at 20-25°C	H		
	F	6h	I[6]		
	G	12m at 50-56°C	J		
	H	3-8h			
Lensed instru-ments[4]	A	MR			
	B	MR	D		
	C	MR	E		
	D	10h at 20-25°C	F		
	F	6h	H		
	G	12m at 50-56°C	J		K[8]
	H	3-8h			
Thermome-ters (oral and rectal)[8]	A	MR	D		
Hinged instru-ments[4]	B	MR	E		
	C	MR	F		
	D	10h at 20-25°C	H		
	F	6h	I[6]		
	G	12m at 50-56°C	J		
	H	3-8h			

Modified from Rutala and Simmons. [15, 17, 18, 421] The selection and use of disinfectants in the healthcare field is dynamic, and products may become available that are not in existence when this guideline was written. As newer disinfectants become available, persons or committees responsible for selecting disinfectants and sterilization processes should be guided by products cleared by the FDA and the EPA as well as information in the scientific literature.

Reference: Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008. Guideline for Disinfection and Sterilization in Healthcare ...www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf

A. Heat sterilization, including steam or hot air (see manufacturer's recommendations, steam sterilization processing time from 3-30 minutes).
B, Ethylene oxide gas (see manufacturer's recommendations, generally 1-6 hours processing time plus aeration time of 8-12 hours at 50-60°C).
C, Hydrogen peroxide gas plasma (see manufacturer's recommendations for internal diameter and length restrictions, processing time between 45-72 minutes).
D, Glutaraldehyde-based formulations (>2% glutaraldehyde, caution should be exercised with all glutaraldehyde formulations when further in-use dilution is anticipated); glutaraldehyde (1.12%) and 1.93% phenol/phenate. One glutaraldehyde-based product has a high-level disinfection claim of 5 minutes at 35°C.
E, Ortho-phthalaldehyde (OPA) 0.55%.
F, Hydrogen peroxide 7.5% (will corrode copper, zinc, and brass).
G, Peracetic acid, concentration variable but 0.2% or greater is sporicidal. Peracetic acid immersion system operates at 50-56°C.
H, Hydrogen peroxide (7.35%) and 0.23% peracetic acid; hydrogen peroxide 1% and peracetic acid 0.08% (will corrode metal instruments).
I, Wet pasteurization at 70°C for 30 minutes with detergent cleaning.
J, Hypochlorite, single use chlorine generated on-site by electrolyzing saline containing >650-675 active free chlorine; (will corrode metal instruments).
K, Ethyl or isopropyl alcohol (70-90%).
L, Sodium hypochlorite (5.25-6.15% household bleach diluted 1:500 provides >100 ppm available chlorine).
M, Phenolic germicidal detergent solution (follow product label for use-dilution).
N, Iodophor germicidal detergent solution (follow product label for use-dilution).
O, Quaternary ammonium germicidal detergent solution (follow product label for use-dilution).
MR, Manufacturer's recommendations.
NA, Not applicable.

[1] See text for discussion of hydrotherapy.
[2] The longer the exposure to a disinfectant, the more likely it is that all microorganisms will be eliminated. Follow the FDA-cleared high-level disinfection claim. Ten-minute exposure is not adequate to disinfect many objects, especially those that are difficult to clean because they have narrow channels or other areas that can harbor organic material and bacteria. Twenty-minute exposure at 20°C is the minimum time needed to reliably kill M. tuberculosis and nontuberculous mycobacteria with a 2% glutaraldehyde. Some high-level disinfectants have a reduced exposure time (e.g., ortho-phthalaldehyde at 12 minutes at 20°C) because of their rapid activity against mycobacteria or reduced exposure time due to increased mycobactericidal activity at elevated temperature (e.g., 2.5% glutaraldehyde at 5 minutes at 35°C, 0.55% OPA at 5 min at 25°C in automated endoscope reprocessor).
[3] Tubing must be completely filled for high-level disinfection and liquid chemical sterilization; care must be taken to avoid entrapment of air bubbles during immersion.
[4] Material compatibility should be investigated when appropriate.
[5] A concentration of 1000 ppm available chlorine should be considered where cultures or concentrated preparations of microorganisms have spilled (5.25% to 6.15% household bleach diluted 1:50 provides > 1000 ppm available chlorine). This solution may corrode some surfaces. 6 Pasteurization (washer-disinfector) of respiratory therapy or anesthesia equipment is a recognized alternative to highlevel disinfection. Some data challenge the efficacy of some pasteurization units.
[7] Thermostability should be investigated when appropriate.
[8] Do not mix rectal and oral thermometers at any stage of handling or processing.
[9] By law, all applicable label instructions on EPA-registered products must be followed. If the user selects exposure conditions that differ from those on the EPA-registered products label, the user assumes liability from any injuries resulting from off-label use and is potentially subject to enforcement action under FIFRA.

Reference: Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008. Page #104.
Guideline for Disinfection and Sterilization in Healthcare ...www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf

- Disinfect noncritical medical devices (e.g., blood pressure cuff and stethoscope) with an EPA-registered hospital disinfectant using the label's safety precautions and use directions. Most EPA-registered hospital disinfectants have a label contact time of 2 minutes.
- Ensure that, at a minimum, noncritical patient-care devices are disinfected when visibly soiled and on a regular basis (such as after use on each patient or once daily or once weekly).
- If dedicated, disposable devices are not available, disinfect noncritical patient-care equipment after using it on a patient who is on contact precautions before using this equipment on another patient.

In Annex A:

Annex A-1: US Environmental Protection Agency Office of Pesticide Programs List A: EPA's Registered Antimicrobial Products as Sterilizers

Annex A-2: US Environmental Protection Agency. Office of Pesticide Programs. List J: EPA's Registered Antimicrobial Products for Medical Waste Treatment. August 17, 2012

23.7 HIGH LEVEL DISINFECTION OF ENDOSCOPES (CDC-HICPAC, 2008)

- To detect damaged endoscopes, test each flexible endoscope for leaks as part of each reprocessing cycle. Remove from clinical use any instrument that fails the leak test, and repair this instrument.
- Immediately after use, meticulously clean the endoscope with an enzymatic cleaner that is compatible with the endoscope. Cleaning is necessary before both automated and manual disinfection.
- Disconnect and disassemble endoscopic components (e.g., suction valves) as completely as possible and completely immerse all components in the enzymatic cleaner. Steam sterilize these components if they are heat stable.
- Flush and brush all accessible channels to remove all organic (e.g., blood, tissue) and other residue. Clean the external surfaces and accessories of the devices by using a soft cloth or sponge or brushes. Continue brushing until no debris appears on the brush.
- Use cleaning brushes appropriate for the size of the endoscope channel or port (e.g., bristles should contact surfaces). Cleaning items (e.g., brushes, cloth) should be disposable or, if they are not disposable, they should be thoroughly cleaned and either high-level disinfected or sterilized after each use.
- Discard enzymatic cleaners (or detergents) after each use because they are not microbicidal and, therefore, will not retard microbial growth.
- Process endoscopes (e.g., arthroscopes, cystoscope, laparoscopes) that pass normally sterile tissues using a sterilization procedure before each use; if this is not feasible, provide at least high-level disinfection. High-level disinfection of arthroscopes, laparoscopes, and cytoscopes should be followed by a sterile water rinse.
- Phase out endoscopes that are critical items (e.g., arthroscopes, laparoscopes) but cannot be steam sterilized. Replace these endoscopes with steam sterilizable instruments when feasible.

o Mechanically clean reusable accessories inserted into endoscopes (e.g., biopsy forceps or other cutting instruments) that break the mucosal barrier (e.g., ultrasonically clean biopsy forceps) and then sterilize these items after use.

- Use ultrasonic cleaning of reusable endoscopic accessories to remove soil and organic material from hard-to-clean areas.
- Process endoscopes and accessories that contact mucous membranes as semicritical items, and use at least high-level disinfection after use on each patient.
- Use an FDA-cleared sterilant or high-level disinfectant for sterilization or high-level disinfection (Table in the section above).
- After cleaning, use formulations containing glutaraldehyde, glutaraldehyde with phenol/phenate, ortho-phthalaldehyde, hydrogen peroxide, and both hydrogen peroxide and peracetic acid to achieve high-level disinfection followed by rinsing and drying (see Table in section above for recommended concentrations).
- Extend exposure times beyond the minimum effective time for disinfecting semicritical patient-care equipment cautiously and conservatively because extended exposure to a high- level disinfectant is more likely to damage delicate and intricate instruments such as flexible endoscopes. The exposure times vary among the Food and Drug Administration (FDA)-cleared high-level disinfectants:

TABLE 13 : PROPERTIES OF AN IDEAL DISINFECTANT

Broad spectrum: should have a wide antimicrobial spectrum
Fast acting: should produce a rapid kill
Not affected by environmental factors: should be active in the presence of organic matter (e.g., blood, sputum, feces) and compatible with soaps, detergents, and other chemicals encountered in use
Nontoxic: should not be harmful to the user or patient
Surface compatibility: should not corrode instruments and metallic surfaces and should not cause the deterioration of cloth, rubber, plastics, and other materials
Residual effect on treated surfaces: should leave an antimicrobial film on the treated surface
Easy to use with clear label directions
Odorless: should have a pleasant odor or no odor to facilitate its routine use
Economical: should not be prohibitively high in cost
Solubility: should be soluble in water
Stability: should be stable in concentrate and use-dilution
Cleaner: should have good cleaning properties
Environmentally friendly: should not damage the environment on disposal

Modified from Molinari[1035].

Reference: Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008. Page #106.
Guideline for Disinfection and Sterilization in Healthcare ...www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf

- Federal regulations are to follow the FDA-cleared label claim for high-level disinfectants. The FDA-cleared labels for high-level disinfection with >2% glutaraldehyde at 25oC range from 20-90 minutes, depending upon the product based on three tier testing which includes Association of Official Analytical Chemists -AOAC- sporicidal tests, simulated use testing with mycobacterial and in-use testing.
- Completely immerse the endoscope in the high-level disinfectant, and ensure all channels are perfused. As soon as is feasible, phase out nonimmersible endoscopes.
- After high-level disinfection, rinse endoscopes and flush channels with sterile water, filtered water, or tapwater conformed by ATP measurement to prevent adverse effects on patients associated with disinfectant retained in the endoscope (e.g., disinfectant induced colitis). Follow this water rinse with a rinse with

70% - 90% effective ethyl or isopropyl alcohol.

- After flushing all channels with alcohol, purge the channels using forced air to reduce the likelihood of contamination of the endoscope by waterborne pathogens and to facilitate drying.
- Hang endoscopes in a vertical position to facilitate drying.
- Store endoscopes in a manner that will protect them from damage or contamination.
- Sterilize or high-level disinfect both the water bottle used to provide intraprocedural flush solution and its connecting tube at least once daily. After sterilizing or high-level disinfecting the water bottle, fill it with sterile water.

- Maintain a log for each procedure and record the following: patient's name and medical record number (if available), procedure, date, endoscopy, system used to reprocess the endoscope (if more than one system could be used in the reprocessing area), and serial number or other identifier of the endoscope used.
- Design facilities where endoscopes are used and disinfected to provide a safe environment for healthcare workers and patients. Use air-exchange equipment (e.g., the ventilation system, out-exhaust ducts) to minimize exposure of all persons to potentially toxic vapors (e.g., glutaraldehyde vapor, chlorine vapor). Do not exceed the allowable limits of the vapor concentration of the chemical sterilant or high-level disinfectant (e.g., those of ACGIH and OSHA).
  - o Routinely test with the appropriate test strip the liquid sterilant/high-level disinfectant to ensure minimal effective concentration of the active ingredient. Check the solution each day of use (or more frequently) using the appropriate chemical indicator (e.g., glutaraldehyde chemical indicator to test minimal effective concentration of glutaraldehyde) and document the results of this testing.
  - o It is recommended that a dairy is used to record the daily measurement of the sterilant.
  - o Discard the solution if the chemical indicator shows the concentration is less than the minimum effective concentration.
  - o Provide personnel assigned to reprocess endoscopes with device-specific reprocessing instructions to ensure proper cleaning and high-level disinfection or sterilization. Require competency testing on a regular basis (e.g., beginning of employment, annually) of all personnel who reprocess endoscopes.
  - o Educate all personnel who use chemicals about the possible biologic, chemical, and environmental hazards of performing procedures that require disinfectants.
  - o Make PPE(e.g., gloves, gowns, eyewear, face mask or shields, respiratory protection devices) available and use these items appropriately to protect workers from exposure to both chemicals and microorganisms (e.g., HBV and HBC).
  - o If using an automated endoscope re-processor (AER), place the endoscope in the re-processor and attach all channel connectors according to the AER manufacturer's instructions to ensure exposure of all internal surfaces to the high-level disinfectant/chemical sterilant.
  - o If using an AER, ensure the endoscope can be effectively reprocessed in the AER. Also, ensure any required manual cleaning/disinfecting steps are performed (e.g., elevator wire channel of duodenoscopies might not be effectively disinfected by most AERs).
  - o Review the FDA advisories and the scientific literature for reports of deficiencies that can lead to infection because design flaws and improper operation and practices have compromised the effectiveness of AERs.
  - o Develop protocols to ensure that users can readily identify an endoscope that has been properly processed and is ready for patient use
- Do not use the carrying case designed to transport clean and reprocessed endoscopes outside of the healthcare environment to store an endoscope or to transport the instrument within the healthcare environment.
  - o If environmental microbiologic testing is conducted, use standard microbiologic techniques.
  - o If a cluster of endoscopy-related infections occurs, investigate potential routes of transmission (e.g., person-to-person, common source) and reservoirs.
  - o Report outbreaks of endoscope-related infections to persons responsible for institutional infection control and risk management and to FDA.
  - o Notify the local and the state health departments, CDC, and the manufacturer(s).

- o No recommendation is made regarding the reprocessing of an endoscope again immediately before use if that endoscope has been processed after use according to the recommendations in this guideline. Unresolved issue.
- o Compare the reprocessing instructions provided by both the endoscope's and the AER's manufacturer's instructions and resolve any conflicting recommendations.

23.8 PROCEDURE

23.8.1 COLLECTION AND TRANSPORTATION OF REUSABLE PATIENT CARE ITEMS AND EQUIPMENT.

- Rinsing of reusable patient care items shall be done in the user area by the personnel involved with the procedure using appropriate Personal Protection Equipment.
- Reusable patient care items shall be stored in designated area in dirty utility room.
- Soiled instruments and devices from the Operating/Surgery Room shall be rinsed and stored in designated, specially equipped area by trained and experienced personnel.
- All soiled, reusable equipment shall be collected, contained and transported to the Central Sterilization Unit in a manner that reduces the risk of contamination to personnel and the environment.
- Containers or bags used for transporting soiled items shall be clearly marked to indicate contamination.

23.8.2 DECONTAMINATION

- Decontamination process shall be done in an environment designed, maintained and controlled to ensure the safety and efficiency of the process and to protect staff from injury and exposure.

23.8.3 CLEANING

- Reusable items shall first be thoroughly cleaned by removing organic materials, such as blood and other body fluids.
- The cleaning process shall be done manually or mechanically.
- All joint instruments shall be opened and equipment that is easily disassembled shall be taken apart to facilitate the decontamination and cleaning process.

23.8.4 LOW-HIGH OR INTERMEDIATE-LEVEL DISINFECTION

- Following the decontamination and cleaning procedures, semi-critical and critical items shall undergo further disinfection and sterilization processing respectively, following the related procedures in the Patient Care Equipment Policy.

23.8.5 ASSEMBLING

- All devices that have been prepared for sterilization shall be inspected and tested prior to packaging and sterilization.
- Packaging items requiring sterilization shall be selected according to size, shape and weight of the device and shall be appropriate (e.g. stainless steel) for the sterilization process.
- Labeling of all packages shall include:
  - Date of sterilization.
  - Expiration Information.
  - Signature of personnel preparing the package.

- Only approved material that provides penetration and removal of the sterilant, maintains a barrier to microorganisms and allows for sterile presentation of packaged contents shall be involved in the sterilization process.

23.8.6 STERILIZATION

- Specific process depends on intended use.
- All sterilizers shall be tested at least weekly with a live bacterial spore.
- Autoclave Chemical indicator tape shall be used with on each to rap each package to be sterilized. A chemical indicator 1250 will be introduced in each individual rap and each self-seal sterilization pouch. A chemical indicator 1243 will be placed in each rap that contains implant; a biological indicator could also be used. The 1243 chemical indicator can also be used to measure completed load sterilization in the absence of the biological indicator
- If bacterial spores are not killed during sterilization as indicated by routine spore testing, the sterilizer shall be checked for proper use and functioning and the spore test repeated.
- If the spore test remains positive, use of the sterilizer shall be discontinued until serviced and all items from the load shall be recalled and reprocessed.
- When implantable or intravascular materials undergo sterilization, live spore controls (biological indicator – Bacillus Stermeothermoplilis) shall be used with each load, and the results of the spore test obtained before the items are used.
- Records shall be kept of all preventive maintenance procedures and results of chemicals indicators spore tests (biological indicator).

23.8.6.1 METHODS OF STERILIZATION (CDC-HICPAC, CLEANING OF OUTPATIENT DEVICES, 2008)

- Steam is the preferred method for sterilizing critical medical and surgical instruments that are not damaged by heat, steam, pressure, or moisture.
- Cool steam- or heat-sterilized items before they are handled or used in the operative setting.
- Follow the sterilization times, temperatures, and other operating parameters (e.g., gas concentration, humidity) recommended by the manufacturers of the instruments, the sterilizer, and the container or wrap used, and that are consistent with guidelines published by government agencies and professional organizations.
- Use low-temperature sterilization technologies (e.g., EtO, hydrogen peroxide gas plasma) for reprocessing critical patient-care equipment that is heat or moisture sensitive.
- Completely aerate surgical and medical items that have been sterilized in the EtO sterilizer (e.g., polyvinylchloride tubing requires 12 hours at 50oC, 8 hours at 60oC) before using these items in patient care.
- Sterilization using the peracetic acid immersion system can be used to sterilize heat-sensitive immersible medical and surgical items.
- Critical items that have been sterilized by the peracetic acid immersion process must be used immediately (i.e., items are not completely protected from contamination, making long-term storage unacceptable).
- Dry-heat sterilization (e.g., 340oF for 60 minutes) can be used to sterilize items (e.g., powders, oils)
- that can sustain high temperatures.
- Comply with the sterilizer manufacturer's instructions regarding the sterilizer cycle parameters
- (e.g., time, temperature, concentration).

- Because narrow-lumen devices provide a challenge to all low-temperature sterilization technologies and direct contact is necessary for the sterilant to be effective, ensure that the sterilant has direct contact with contaminated surfaces (e.g., scopes processed in per acetic acid must be connected to channel irrigators).

23.8.7 STORAGE OF STERILE PACKS (CDC-HICPAC, 2008)

- Ensure the sterile storage area is a well-ventilated area that provides protection against dust, moisture, insects, and temperature and humidity extremes.
- Store sterile items so the packaging is not compromised (e.g., punctured, bent).
- Label sterilized items with a load number that indicates the sterilizer used, the cycle or load number, the date of sterilization, and, if applicable, the expiration date.
- The shelf life of a packaged sterile item depends on the quality of the wrapper, the storage conditions, the conditions during transport, the amount of handling, and other events (moisture) that compromise the integrity of the package.
- Evaluate packages before use for loss of integrity (e.g., torn, wet, and punctured). The pack can be used unless the integrity of the packaging is compromised.
- If the integrity of the packaging is compromised (e.g., torn, wet, or punctured), repack and reprocess the pack before use.
- If time-related storage of sterile items is used, label the pack at the time of sterilization with an expiration date. Once this date expires, reprocess the pack.

23.8.8 DISTRIBUTION OF STERILE PACKAGES

- Personnel involved in the distribution of sterile packages shall be trained in the handling and rotation of sterile stocks.
- Distribution of sterile packages to user areas shall be done on a daily basis and twice daily in high risk areas.
- Nursing Supervisors are responsible to supply sterile packs to user areas after working hours.
- In emergency situations when sterile packs are not readily available on wards, they may be retrieved from the distribution counter in the Central Sterilization Unit.

…END OF POLICY…

SECTION 8
ENVIROMENTAL CONTROL

ENVIROMENTAL CONTROL TRAFFICKING [POLICY #24]

HOUSEKEEPING CLEANING PROCEDURES [POLICY #25]

ROUTINE ENVIRONMENTAL CLEANING AND DISINFECTING [POLICY #26]

ENVIRONMENTAL CONTROL

The health-care facility environment is rarely implicated in disease transmission, except among patients who are immunocompromised. Nonetheless, inadvertent exposures to environmental pathogens or airborne pathogens can result in adverse patient outcomes and cause illness among Health Care Workers. Environmental infection-control strategies and engineering controls and infection prevention and control strategies can effectively contribute to a safe working environment.

POLICY #24: TRAFFICKING

24.1 INTRODUCTION

It is necessary to control access to certain areas within the hospital in order to maintain security, optimize efficiency, and protect patients, Health Care Workers and visitors from unnecessary contact with infectious materials. Traffic control therefore can be achieved by physical barriers such as locked doors or posted security guards, or simply by marking an area with a sign or label. The degree of control shall be consistent with the sensitivity of the area.

There are four (4) broad access classifications for areas within the hospital; general, technical, semi-restricted, and restricted.

TABLE 14: TRAFFICKING GUIDLINES

ACCESS	AREAS	AUTHORIZED ACCESS
General	Main lobby, waiting areas, public bathrooms, parking lot	Staff, visitors, general public, contractors
Technical	Dietary, Laundry, Laboratory, Pharmacy, Imaging, Physiotherapy, Patient Units	Professional, support & ancillary staff, patients, visitors, clergy, controlled visitors, delivery personnel
Semi-Restricted	Outpatient, Dressing Room, Triage, Post Anesthetic Recovery (PAR), Maternity Suites, Special Care Baby Unit (SCBU), Dialysis	Professional Staff on duty, Patients receiving care, Birth companions, Visitors with special permission
Restricted	ERs, OR, maternity suites, Intensive Care Unit (ICU), CSU, Isolation Rooms, Labs	Professional staff on duty, Patients receiving care

Reference: National Guidelines on Infection, Prevention and Control for Health Facilities. Second Edition-January, 2011. Belize

24.2 PURPOSE AND APPLICABILITY

- Limit overcrowding in patient care areas.
- Reduce the transmission of pathogenic micro-organisms.
- This policy applies to all HCWs, patients, visitors and the general public.

24.3 POLICY STATEMENTS

24.3.1 PHYSICAL CONTROLS

- Security guards shall be posted at all main entrances and exits based on type of the health facility and is responsible for directing access within the hospital building.
- All staff members shall be responsible for adhering to the traffic control policies and to inform patients and their families, in a polite manner, when they are in violation.
- All doors to restricted areas shall be closed at ALL times. Access to these areas shall be authorized by staff on duty in the specific areas.

24.3.2 SIGNAGE

- All technical, semi-restricted and restricted areas shall be labeled with hospital approved signs, either on the door, or the header above the door.
- All corridors leading to visiting areas shall have conspicuously labeled signs.

24.3.3 VISITORS

- All visitors shall first receive clearance from the security personnel located at the main entrance, second shall be on approval by the nursing staff on duty upon arrival at patient care area.

24.3.4 RESTRICTED AREAS

- All staff members on duty are responsible for ensuring that
- NO unauthorized access is allowed in restricted areas. Violations
- Violations to the Trafficking Policy shall be immediately reported to security personnel who shall forward the report to their immediate supervisor.

…END OF POLICY…

POLICY #25: HOUSEKEEPING CLEANING PROCEDURES

25.1 INTRODUCTION

Healthcare associated infections are very seldom caused by the environment such as contaminated surfaces, equipment, air and dust. However, there have been rare incidences of its occurrence. Housekeeping practices, if performed correctly, will create an area suitable for patient, visitor and Health Care Workers to enter and be comfortable within the confines of the environment. Good housekeeping practices increase moral and public relations.

25.2 PURPOSE & APPLICABILITY

- To ensure a clean and safe Health Care Facilities environment.
- This policy applies to all Domestic Auxiliaries and their supervisors.

25.3 POLICY STATEMENTS

- 25.3.1 Housekeeping staff shall provide a clean environment by utilizing approved procedures for cleaning, selection of the appropriate agents for cleaning, collection and disposal of solid waste and vector control.
- 25.3.2 Only hospital-approved disinfectant/detergent shall be used for cleaning environmental surfaces. Below are the different types of disinfectants and their characteristics:

TABLE 15: DISINFECTANTS, FORMULA, DISINFECTION CATEGORY AND PROPERTIES

Disinfectant	Formula	Disinfection category	Properties
Glutaraldehide	2%	High level	Excellent antimicrobial and tuberculoside activity if left by 6-10 hours. Acceptable disinfectant for semi-critical instruments.
Chlorine	Sodium and calcium 100-5,000 ppm de free chloride	Intermediate and high level	Excellent disinfectant but quickly inactivated by organic matter, are corrosive and unstable. It has the potential to produce dioxins which are carcinogenic and also the ability to produce chloroform respect to alcohol. The combination of Chlorine with ammonia produces Chlorine that is toxic. For the maintenance of floors in the hospital and clinic setting the recommendation is the use of Green Leaf/Ecofriendly products.
Alcohol	Ethilic and isopropilic at 70-99%	Intermediate level	Good general disinfectant for immersion, good tuberculocidal, bad esporisides, regular virucidal; very volatile and flammable. Effective during the first thirty days after container is open.
Iodophors	Povidone iodine 30-50 ppm free iodine	Intermediate level	Good disinfectants, poor tuberculocidal and sporicidal. The formulations as antiseptics cannot to be used as disinfectants. Is water soluble and as such is inactivated by blood fluids and its components.

Disinfectant	Formula	Disinfection category	Properties
Iodophors	Iodone Povacrylex	Long action	Is insoluble in water and is not inactivated by body fluids, blood and its components.
Peroxides	3-25%	Intermediate level	Good disinfectant, very unstable and very short-acting. Not sporicidal and tuberculocidal.
Phenolades	All derivates 0.4-5% aqueous	Intermediate and low level	Good disinfectants, not of high level, good residual effect, not good decontamination of instruments but yes in surfaces.
Amonium quathernal	Benzalconium Chlorade, zephiran and cetavlon 0.4-1.6% aqueous	Low level	Good cleaning action, non-toxic, poor microbicides, less active against gram - very active gram +. The presence of long ALKYL change enhances antimicrobial effect and increases the detergent action making easy the removal of organic substances.
Source: Academy of sciences USA, 1964.			

- 25.3.3 Manufacturer's instructions shall be followed, including appropriate dilution. Sodium Hypochlorite 5.25% (household bleach), diluted one (1) to ten (10) shall be used after cleaning up blood and body fluid spills. At continuous How to prepare chlorine concentration for use in different settings:

TABLE 16: CHLORINE: USE OF PREPARATION AND CONCENTRATION PREPARATION

Bleach Solution	Dilution	Chlorine (ppm)
5.25-6 15%	None	52,500 - 61,500
	1:10	5,250 - 6,150
	1:100	525 - 615
	1:1000	53 - 62
	Iodone	Long action

Guideline for Disinfection and Sterilization in Healthcare www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf

- 25.3.4 Surfaces and floors shall be cleaned on each shift, and when soiling or spills occur and after a client is discharged, transferred, or deceased.
- 25.3.4 Infectious and non-infectious waste shall be handled according to existing Waste Management Policy following local Public Health Laws and Regulations (Public Health Act).

25.4 GENERAL PROVISIONS

PERSONNEL

- Be free of skin lesions such as herpes, boils, etc.
- Be educated on what work restriction is required due to illness.
- Be ideally vaccinated against tetanus and Hepatitis B Virus.
- Be cognizant on the types of hospital waste.

- Receive in-service education on Standard Precautions at least once yearly and documentation of such be kept in Infection Control Unit.

FIGURE 13: TYPES OF EYEWEAR AND MASK

Some procedures may require that protective eyewear and a mask be worn, for safety reasons.

Reference: Google Images for types of respirators, umaine.edu

All filters in rooms shall be checked on a regular schedule. When a filter is removed (changed) from a particular area, the date of newly installed filter shall be written clearly on its side with a marking pen. This will enable the housekeeper to determine how.

HOUSEKEEPING INFORMATION

- Contamination of the environment is only a risk to the patient if there is a potential mode of transmission.
- Domestic Auxiliaries shall receive yearly in-services training on infection prevention and control guidelines.
- Cleaning in wrong sequences (soiled to clean) may increase the chance of microbial contamination.
- Dry dusting increases the concentration of aerosols.
- Use of reusable rather than disposable gloves affords the housekeeper more protection.
- Never store mops in a wet condition. This will increase proliferation of organisms.
- They shall be dried after cleaning.
- Make certain that Domestic Auxiliaries understand how to pick up sharps from the floor, i.e., needles.
- Domestic Auxiliaries shall be provided the appropriate personal protection for their tasks, instructions on where they are located, how to take them off and where to place them after removal.

TABLE 17: MAJOR CLASSES OF CHEMICAL DISINFECTANTS AND THEIR RELATIVE ADVANTAGES AND DISADVANTAGES

DISINFECTANTS	USES	ADVANTAGES	DISADVANTAGES	COMMENTS
Alcohols: Isopropyl 60-70%, Ethanol 70-90%, Incluides Methylated spirit (70%)	ntermediate-level disinfectant: Disinfect thermometers, external surfaces of some equipment (e.g. stethoscopes). Equipment used for home health care. Used as a skin antiseptic	Fast acting No residue Non-staining	Volatile Evaporation may diminish concentration Inactivated by organic material May harden rubber or cause deterioration of glues Use in OR.	Isoprophyl alcohol slightly more effective than ethyl alcohol. 70% alcohol more effective than 90%.
Other Aldehyde e.g. Orthophthaladehyde	5% formulations high- level disinfection for heat sensitive equipment. Most commonly used for endoscopes, respiratory therapy equipment and anaesthesia equipment. Effective against viruses, fungi and bacteria including Mycobacterium tuberculosis.	Non-corrosive to metal. Active in presence of organic material. Compatible with lensed instruments. Sterilization may be accomplished in 6–10 hours.	Extremely irritating to skin and mucous membranes. Shelf life shortens when diluted (effective for 14–30 days depending on formulation). High cost. Monitor concentration in reusable solutions. Fixative.	Acts as a fixative, so prior cleaning is essential. Toxic, therefore use under conditions that minimize exposure.
Peracetic acid	High-level disinfectant or sterilant for heat sensitive equipment. Higher concentrations used as chemisterilants in specially designed machines for decontamination of heat sensitive medical devices	Innocuous decomposition (water, oxygen, acetic acid, hydrogen peroxide). Rapid action at low temperature Active in presence of organic materials.	Can be corrosive Unstable when diluted.	
Ethylene Oxide	Used as gas for the sterilization of heat sensitive medical devices.	Sterilant for heat or pressure sensitive	Slow acting & requires several hours aeration to remove residue.	

DISINFECTANTS	USES	ADVANTAGES	DISADVANTAGES	COMMENTS
Sodium Hypochlorite	Intermediate-level disinfectant: Disinfect hydrotherapy tanks, dialysis equipment, cardiopulmonary training manikins, and environmental surfaces. Effective disinfectant following blood spills; aqueous solutions (5,000 parts per million) used to decontaminate area after blood has been removed; sodium dichloroisocyanurate powder sprinkled directly on blood spills for decontamination and subsequent cleanup. Equipment used for home health care.	Low cost Fast acting Readily available in non-hospital settings and easy to use. Unaffected by water hardness. Effective deodorizer and disinfectant. Does not leave toxic residues. Bactericidal activity increases with temperature.	Corrosive to metals. Inactivated by organic matter (dirt, blood, excrements). Irritant to skin and mucous membranes. Unstable when diluted to usable state (1:10). Use in well ventilated areas. Shelf life shortens when diluted. Discolouring or bleaching of fabrics can occur. Requires pre- cleaning of surface prior to disinfection Highly toxic when mixed with ammonia.	Suitable for low- and high-level decontamination of surfaces only. For mycobacteria use at high concentrations 1% (10,000 ppm). Use with extreme care if used for instrument disinfection because of corrosive activity. Wide range of in-use dilutions recommended for different situations therefore ensures dilution is correct for particular use and that it is made up correctly.
Quaternary annonium compound	Low-level disinfectant: Clean floors, wall and furnishings. Clean blood spills.	Non-corrosive to metal. Active in presence of organic material. Compatible with lensed instruments. Sterilization may be accomplished in 6–10 hours.	DO NOT use to disinfect instruments. Limited use as disinfectant due to narrow microbicidal spectrum.	Contamination of weak solution with Gram-negative bacteria can be a hazard.
Iodophors, Iodinebased complexes, e.g. Providone iodine	Intermediate-level disinfectant for some equipment (hydrotherapy tanks, thermometers). Low-level disinfectant for hard surfaces and equipment that does not touch mucous membranes (e.g. IV poles, wheelchairs, beds, call bells).	Rapid action Relatively free of toxicity and irritancy.	Antiseptic iodophors are not suitable for use as hard surface disinfectant. Corrosive to metal unless combined with inhibitors. Disinfectant may burn tissue. Inactivated by organic materials. May stain fabrics & synthetic materials	Povidone-iodine complex is used as a skin antiseptic and pre-operation scrub.

DISINFECTANTS	USES	ADVANTAGES	DISADVANTAGES	COMMENTS
Hydrogen peroxide	3% –low level disinfectant: Equipment used for home health care. Cleans floors, walls, furnishings 6%–high-level disinfectant: Effective for high level disinfection of flexible endoscopes. Foot care equipment Disinfection of soft contact lenses. High concentrations used as chemisterilants in specially designed machines for decontamination of heat sensitive medical devices.	Strong oxidant Fast acting Breaks down into water and oxygen.	Can be corrosive to aluminum, copper, brass and zinc.	
Formaldehyde	Very limited use as chemisterilant. Sometimes used to reprocess haemodialyzers. Gaseous form used to decontaminate laboratory safety cabinets.	Active in presence of organic materials.	Carcinogenic Toxic Strong irritant Pungent odour.	Limited use due to toxicity. Use only gaseous form under strict supervision of senior staff.
Phenolics	Low-/intermediate-level disinfectant: Clean floors, walls and furnishings. Clean hard surfaces and equipment that does not touch mucous membranes (e.g. IV poles, wheelchairs, beds, call bells).	Leaves residual film on environment al surfaces. Commercially available with added detergents to provide onestep cleaning and disinfecting.	TDO NOT use in nurseries. Not recommended for use on food contact surfaces. May be absorbed through skin or by rubber. Some synthetic flooring may become sticky on repetitive use.	Relatively broad spectrum. Suitable for low-level environmental disinfection only. Useful against mycobacteria but cannot be used if HIV or HBV are present.

Sources: Canada Communicable Disease Report. Supplement 24S8. Infection control guidelines. Hand washing, cleansing, disinfection & sterilization in health care. Ottawa: Health Canada, 1998, pp. 15–16 (modified).
The Zimbabwe Essential Drugs Action Program. Disinfection in health care facilities in Zimbabwe. Harare: Ministry of Health and Child Welfare, 2001, pp. 70–73 (modified).

Reference: National on Infection, Prevention and Control for Health Facilities.
Second Edition, January 2011. Pages 124 to 126. Belize.

25.5 PROCEDURES

25.5.1 CLEANING OF PATIENT ROOMS

- All surfaces are cleaned daily or as needed with a detergent and water and a hospital approved disinfectant.
- Floors are cleaned on each shift and as needed.
- Bathroom is cleaned daily or as needed. This area of the patient's room may contain high concentrations of body fluids that may neutralize the disinfectant used.
- Drapes are examined daily for body fluids or soiling.
- Walls are spot cleaned. There is absolutely no need to wash walls after a patient has been discharged.
- Disinfection procedures are employed in cleaning rooms used for isolation.
- If a patient is in isolation, the appropriate PPE shall be worn upon entering room. Gowns and gloves are used according to Standard Precautions Policy.
- All patient items (wheelchairs, etc.) shall be disinfected with an approved disinfectant after each use.
- A cleaning microfiber cloth is to be assigned for bathroom cleaning while another microfiber cloth is assigned for the cleaning of the patient´s room. This same concept applies to the use of the broom and the mop.
- Disinfecting of the walls of the room will done from top to bottom and left to right, the cleaning of the floor start at the farthest distance from the room door to the room door and the disinfecting of the bathroom is from top to bottom left to right and respect of the water closet is to top to bottom left to right.

In independent studies such as those published by the Environmental Protection Agency (EPA) and by Dr. William Rutala, extremely fine (.37 micrometer diameter) microfiber was both laboratory and clinically tested and proven to remove up to 98 percent of bacteria and 93 percent of viruses from a surface using only water (no chemicals). In comparison, traditional cotton fibers have been shown to only remove 30 percent of the bacteria and 23 percent of the viruses from a contaminated environmental surface.

Double-bucket system could be used in all areas of the facility.

FIGURE 14: DOUBLE BUCKET SYSTEM

Reference: Google Images for double bucket system definition, www.indiamart.com

All garbage bags / waste receptacle shall be lined with appropriate color-coded plastic bags. Domestic auxiliaries shall report to domestic supervisor any equipment that is not functioning correctly.

25.5.2 CLEANING OF OTHER AREAS

- All entrances, lobbies, waiting rooms, hallways shall be cleaned daily per shift or as needed depending on traffic. A disinfectant solution is adequate for these purposes.
- A disinfectant solution is recommended for these areas such as administrative sections.
- Wall shall be examined daily for soilage and spot cleaning done as necessary.
- All aisles, emergency exits, fire extinguishers will be kept clear of materials and storage at all times.
- Spills will be cleaned up immediately and wastes disposed of daily.
- All waste receptacles covered and properly lined with an appropriate color–coded garbage bag.
- Curtains shall be changed and blinds cleaned as needed.
- It is not necessary to discard unused toilet paper or paper towels following patient discharge regardless of the sickness unless they are visibly soiled with body fluids.
- Always check needle disposal boxes to ensure that they are not more than 3/4 full. Check daily to make certain that all individual bed curtains are functioning correctly.
- Coordinate removal of waste to avoid excessive accumulation at collection points. (Waste
- Management Policy).
- Cleaning of different areas:
- The cleanliness of the different areas of the health facilities require appropriate methods, with the possibility of contamination. To achieve an acceptable level of asepsis is required to take as a reference the classification of the different settings and for this reason have been stablished four areas:

  - Zone A: Places without any contact with patients (unofficial administrative offices, library, classrooms conference, maintenance area, seamstress, wine, pharmacy, medical records, gardens). These areas require regular household cleaning once daily and terminal cleaning every month. Areas with visible curtains must be disinfected before changing.

  - Zone B: Places for caring patients not infected or vulnerable (Overall wards, outpatient, customer service, kitchen, admission, brokers). These areas require cleaning with a procedure that does not raise dust; dry sweep is not recommended or vacuuming. Use of a detergent solution improves the quality of Cleaning. Before cleaning, must disinfect the areas with visible contamination such as blood or body fluids. It is required to perform concurrent cleaning and turn terminal cleaning every 3 weeks.

  - Zone C: Places care of infected patients (laboratory, blood bank, X-rays, Emergency Unit comprehensive care, laundry, pathology unit, morgue, and insolation). It should be cleaned with a solution of detergent / disinfectant chlorine 0.5%, with separate equipment cleaning in every room. Cleaning is done on each shift or as needed and terminal cleaning every 2 weeks (isolation rooms need terminal cleaning when the patient is discharged or deceased).

  - Zone D: Place of highly vulnerable patients care (protective isolation, the operating room, central sterilization unit, delivery room, intensive care unit, premature unit and hemodialysis

unit. Clean with a detergent solution / sanitizer 0.5% chlorine and separate cleaning equipment every shift and every week cleaning terminal or when patient exit.

25.5.3 STANDARD OPERATING PROCEDURES ON THE USE OF PPE

TABLE 18: STANDARD OPERATING PROCEDURES ON THE USE OF PPE

PROCEDURE				
Bagging, handling and transporting infectious waste.*	✓	X	✓	✓
Bed making and handling soiled linen.	✓	X	X	X
Bed making and handling clean linen if employee's skin is not intact.	✓	X	X	X
Wiping and mopping blood and body fluid spills.*	✓	✓	✓	X
Cleaning contaminated equipment.*	✓	✓	✓	X
Cleaning bathrooms.	✓	✓	X	X

* If splashing is likely

Reference: National on Infection, Prevention and Control for Health Facilities. Second Edition, January 2011. Belize.

25.5.4 DECONTAMINATING MATTRESSES, BED AND BEDSIDE TABLES

The external material shall be easily cleaned by an approved detergent and disinfectant. Terminal Cleaning shall be done whenever there is gross soiling and contamination. The lining of all mattresses and pillows shall be made of impervious materials.

- Gather supplies: PPE, cleaning cloths, cleaner and disinfectant solution.
- Wash hands. Put on gloves and other PPE as indicated.
- Clean mattresses on both sides and edges using a rotating, scrubbing motion. If grossly soiled, remove organic material first, clean and rinse. Cloths may be used for drying, if indicated.
- Clean bed frame at the time of discharge and when necessary.
- Bedside tables, overhead light fixture, other personal bedside supplies, bed boards and other solid supportive aids may be cleaned using a rotating, scrubbing motion with approved detergent. (Cleaning agent with chemical base shall not be used on metals).

- If there is dried blood or body fluid, a cleaning solution approved for cleaning such materials shall be used.
- Care shall be taken to clean all surfaces. A small brush may be used as indicated.
- Remove PPE, perform hand hygiene.
- Return soiled equipment to designated soiled utility area.
- Terminal cleaning and cleaning of supplies of clients on special
- precautions is indicated.
- Any torn, damaged or otherwise unsuitable mattresses or pillows
- shall be reported to supervisor immediately for replacement.
- Document cleaning procedure.

Pillows are sent to laundry for processing

25.5.5 CLEANING AND DISINFECTION OF BEDS, WHEELCHAIRS, CHAIRS, AND STRETCHERS

- Domestic staff shall routinely decontaminate and clean all patient care furniture.
- Attendant Staff shall gather and make arrangements for proper transport of wheelchairs, stretchers, or other equipment according to type and work schedule.
- Patient Care Assistant clean equipment in a designated area (outside of patient care area) when possible.
- Domestic clean in a low traffic area at low activity time only and assure that routine cleaning is in accordance with scheduled procedures.
- Gather supplies: PPE, Cleaning Cloths, Bucket, drying cloths, Household gloves, Rubber boots (PRN), Safety shield Don appropriate PPE.
- Mix detergent and disinfectant with water according to directions in order to obtain correct solution. If unsure, check with Office of Infection Control.
- Remove loose debris, blood and body fluids, and other material from the equipment.
- Systematically, clean from top to bottom, cleaning the seat, back, sides, armrests, pads, foot rests, pedals, or wheels, cleaning those which touch the floor last. Clean twice, if needed. Use a spray bottle with cleaning solution and brushes for hard- to-reach parts. If possible, turn over and clean bottom of the seat.
- Immediately rinse once or twice all accessible parts of the equipment.

Do not allow any electric chairs to be submerged or cleaning solution to come in contact with battery storage areas.

- Immediately dry all accessible parts carefully with special attention to all metal parts. Replace any parts, pieces, or adaptations immediately. Be sure that seats and all supportive parts are replaced correctly and functioning properly before returning to patient care area.
- Document cleaning procedures
- Remove PPE and perform hand hygiene.

25.5.6 CARE AND CLEANING OF WET MOPS:

For care and cleaning of wet mops refer to table. [SEE TABLE 7 IN THIS SECTION]

25.6 RESPONSIBILITIES

- Housekeeping employees shall comply with Infection Control Standards, Universal Precautions
- Policy and Employee Health Policies of vaccination or immunization.
- Housekeeping personnel shall comply with Infection Control Cleaning, Disinfection, and
- Sterilization of Supplies and Equipment; Environmental Sanitation Standards.
- Heads of Patient-care areas and relevant supervisors shall be responsible to ensure domestic staff adheres to Housekeeping policies.
- Infection Control Staff is expected to collaborate with Pharmacist on characteristics of disinfecting agents and procedures for diluting.
- Infection Control Staff will be responsible to review and develop cleaning procedures and implementing cleaning schedules for all areas of the hospital.
- Housekeeping Supervisors shall ensure that thorough cleaning includes the physical removal of microorganisms by scrubbing. This cleaning is more important than is the choice of disinfectant.
- Head of patient-care areas, Department Supervisors, Section Heads, Infection Care Nurse, Quality Committee, Directors and Health Administrations will be responsible to monitor housekeeping as part of their facility safety inspection procedures, note any hazards or areas of non-compliance, initiate clean-up procedures and provide follow-up.
- Health Administration has the additional responsibility to provide disciplinary action when necessary to reinforce compliance with the program.
- All employees shall share the responsibilities for maintaining good housekeeping practice and following the established housekeeping procedures.
- Housekeeping shall be represented in Infection Control Team meetings when housekeeping issues are addressed.
- Health Administration shall review all Housekeeping policies and procedures that relate to infection control.

TABLE 19: CARE AND CLEANNING OF WET MOPS

PROCEDURES	ACTIONS
Wash mop heads	Using gloves and PPE, as needed, take mop heads.
Rinse mop heads	Rinse mop heads well in cold water and wring dry.
Dry mop heads	At the end of each shift, allow mops to dry by placing same in inverted position on cleaning carts.
Changing used water	Used water will be changed after each room, bathroom or contaminated area.
Changing mops	Mop/mop heads will be discarted when obviuos fraying is observed.

…END OF POLICY…

POLICY #26: ROUTINE ENVIRONMENTAL CLEANING AND DISINFECTION

26.1 INTRODUCTION

Surface areas in hospital often become contaminated with pathogenic microbes from dust particles, as well as from spillages of contaminated blood and other body substances necessitating frequent cleaning and disinfecting to prevent transmission of these pathogens. To this end routine environmental cleaning and disinfection is required and shall be in place in all health facilities to mitigate the effects of proliferation and transmission of pathogens.

26.2 PURPOSE & APPLICABILITY

- To describe routine cleaning measure that can prevent and control the transmission of pathogenic organisms in health facilities.
- This policy applies to all employees.

26.3 POLICY STATEMENTS

All surfaces shall be cleaned at least once daily with a health facility approved detergent / disinfectant after consultation with the HICC.

26.3.1 ALL SURFACES SHALL BE CLEANED AT LEAST ONCE DAILY WITH A HOSPITAL APPROVED DETERGENT.

26.4 GENERAL PROVISIONS

Central Supplies shall purchase only health facilities-approved detergent and disinfectants after consultation with the Health Infection Control Committee and Quality Committee.

Any solutions not in original containers must be labeled.

Non-Critical items that may come into contact with intact skin (stethoscopes, tabletops, floors, blood pressure cuffs, bedside tables and bedside furniture) shall be cleaned with the following detergent and disinfectant agents:

26.4.1 PHENOLIC GERMICIDAL DETERGENT SOLUTION

- Best choice for surface cleaning in patient area.
- DO NOT USE for bassinets, or other items in SCBU.
- Dilute according to label.

Clorox must never be mixed with other chemicals or cleaning agents.

26.4.2 CHLORINE COMPOUNDS (BLEACH)

- Recommended for surfaces which may be contaminated with blood or body fluids.
- Usually used at a 1:10 dilution which is 1 part bleach to 9 parts water of a 5.25% concentration.

26.4. 3 ALCOHOLS: 70% -90% ETHYL OR ISOPROPYL

- Not used for large area cleaning of environmental surfaces like floors (evaporation), however, can be used for cleaning stainless steel surfaces and specific electrical equipment.

26.4.4 IODOPHOR GERMICIDAL DETERGENT SOLUTION

- Stains some surfaces
- Dilute according to label.

26.4.5 QUATERNARY AMMONIUM COMPOUNDS

- Not as effective as the others (low-level disinfectant).
- Generally only recommended where Phenolics cannot be used, or for less critical surfaces such as floors and walls in lower risk areas.

Cleaning physically removes debris and reduces the number of microbes present on surfaces.

Cleaning is the removal of organic material or soil from objects and is usually done by using detergent and water.

Decontamination shall always precede cleaning.

26.5 CLEANING AND DISINFECTING ENVIRONMENTAL SURFACES IN HEALTHCARE FACILITIES (CDC-HICPAC, 2008)

- Clean housekeeping surfaces (e.g., floors, tabletops) on a regular basis, when spills occur, and when these surfaces are visibly soiled.
- Disinfect (or clean) environmental surfaces on a regular basis (e.g., daily, three times per week)
- and when surfaces are visibly soiled.
- Follow manufacturers' instructions for proper use of disinfecting (or detergent) products --- such as recommended use-dilution, material compatibility, storage, shelf-life, and safe use and disposal.
- Clean walls, blinds, and window curtains in patient-care areas when these surfaces are visibly contaminated or soiled.
- Prepare disinfecting (or detergent) solutions as needed and replace these with fresh solution frequently (e.g., replace floor mopping solution every three patient rooms, change no less often than at 60-minute intervals), according to the facility's policy.
- Decontaminate mop heads and cleaning cloths regularly to prevent contamination (e.g., launder and dry at least daily).
- Use a one-step process and an EPA-registered hospital disinfectant designed for housekeeping purposes in patient care areas where 1) uncertainty exists about the nature of the soil on the surfaces (e.g., blood or body fluid contamination versus routine dust or dirt); or 2) uncertainty exists about the presence of multidrug resistant organisms on such surfaces. See 5n for recommendations requiring cleaning and disinfecting blood-contaminated surfaces.
- Detergent and water are adequate for cleaning surfaces in non-patient-care areas (e.g., administrative offices).
- Do not use high-level disinfectants/liquid chemical sterilants for disinfection of non-critical surfaces.
- Wet-dust horizontal surfaces regularly (e.g., daily, three times per week) using clean cloths moistened with an EPA-registered hospital disinfectant (or detergent). Prepare the disinfectant (or detergent) as recommended by the manufacturer.
- Disinfect noncritical surfaces with an EPA-registered hospital disinfectant according to the label's safety precautions and use directions. Most EPA-registered hospital disinfectants have a label contact time of 10 minutes. However, many scientific studies have demonstrated the efficacy of hospital disinfectants against pathogens with a contact time of at least 1 minute. By law, the user must follow all applicable label instructions on EPA-registered products. If the user selects exposure conditions that differ from those on the EPA-registered product label, the user assumes liability for any injuries resulting from off-label use and is potentially subject to enforcement action under FIFRA.
- Do not use disinfectants to clean infant bassinets and incubators while these items are occupied. If disinfectants (e.g., phenolics) are used for the terminal cleaning of infant bassinets and incubators, thoroughly rinse the surfaces of these items with water and dry them before these items are reused.
- Promptly clean and decontaminate spills of blood and other potentially infectious materials.
- Discard blood-contaminated items in compliance with federal regulations.
- For site decontamination of spills of blood or other potentially infectious materials (OPIM), implement the following procedures. Use protective gloves and other PPE (e.g., when sharps are involved use forceps to pick up sharps, and discard these items in a puncture-resistant container)

appropriate for this task. Disinfect areas contaminated with blood spills using an EPA-registered tuberculocidal agent, a registered germicide on the EPA Lists D and E in table #11 section 7 (i.e., products with specific label claims for HIV or HBV or freshly diluted hypochlorite solution. If sodium hypochlorite solutions are selected use a 1:100 dilution (e.g., 1:100 dilution of a 5.25-6.15% sodium hypochlorite provides 525-615 ppm available chlorine) to decontaminate nonporous surfaces after a small spill (e.g., <10 mL) of either blood or OPIM. If a spill involves large amounts (e.g., >10 mL) of blood or OPIM, or involves a culture spill in the laboratory, use a 1:10 dilution for the first application of hypochlorite solution before cleaning in order to reduce the risk of infection during the cleaning process in the event of a sharp injury. Follow this decontamination process with a terminal disinfection, using a 1:100 dilution of sodium hypochlorite.

- If the spill contains large amounts of blood or body fluids, clean the visible matter with disposable absorbent material, and discard the contaminated materials in appropriate, labeled containment.
- Use protective gloves and other PPE appropriate for this task.
- In units with high rates of endemic Clostridium difficile infection or in an outbreak setting, use diluted solutions of 5.25%–6.15% sodium hypochlorite (e.g., 1:10 dilution of household bleach) for routine environmental disinfection. Currently, no products are EPA-registered specifically for inactivating C. difficile spores.
- If chlorine solution is not prepared fresh daily, it can be stored at room temperature for up to 30 days in a capped, opaque plastic bottle with a 50% reduction in chlorine concentration after 30 days of storage (e.g., 1000 ppm chlorine [approximately a 1:50 dilution] at day 0 decreases to 500 ppm chlorine by day 30).
- An EPA-registered sodium hypochlorite product is preferred, but if such products are not available, generic versions of sodium hypochlorite solutions (e.g., household chlorine bleach) can be used.

26.6 PROCEDURES

26.6.1 CLEANING OF HORIZONTAL SURFACES IN PATIENT-CARE AREAS

- Floors and other horizontal surfaces shall be cleaned according to schedule for cleaning and as soon as spills occur.
- Sweeping and dry mopping shall not be done in patient areas since it triggers aerosolization of particles previously settled on the floor, damp mopping is recommended.

26.6.2 CLEANING WALLS, BLINDS AND CURTAINS

- Cleaning of walls, blinds and curtains shall be done on a regular schedule and when visibly soiled. In particular, dust shall never be allowed to accumulate in areas designated for management of immunocompromised patients.
- All patient care areas shall be maintained visibly clean at all times.

26.6.3 GENERAL CLEANING GUIDELINES

- For work surfaces which may be contaminated with blood and body fluids, routine cleaning shall be performed whenever there is visible contamination.
- Clean surfaces at least three (3) times daily and at the end of each shift.
- Before any contaminated equipment is serviced or shipped for repair, it shall be decontaminated to the best extent possible. If total cleaning cannot occur then it shall be clearly labeled with a biohazard label.

26.6.4 CLEANING EQUIPMENT (MONITORS, CABLES, AND LEAD WIRES ETC.)

- Put on gloves
- Wear a gown if soiling of clothes is likely to occur.
- Turn the monitor's power off before cleaning and after checking with nurse
- Wipe surface of monitor, cables, and non-disposable leads with a cloth or disposable towel moistened with a 1:10 solution of bleach or a Phenolic cleaner.
- Wipe off cleaning solution with a dry cloth.
- Remove gloves and wash hands.

26.6.5 GUIDELINES FOR CLEANING UP BLOOD

Standard and Transmission-based precaution shall applied at all times when cleaning blood spills.

26.6.5.1.1 CLEANING UP DROPS OF BLOOD

- Put on gloves.
- Remove drops of blood with a wet paper towel, and then wipe with alcohol 70% swab(s).
- Dispose of gloves, paper towel and alcohol swab in a RED lined garbage bin. Wash hands.

26.6.5.1.2 CLEANING UP SEVERAL DROPS OF BLOOD

- Put on gloves.
- Remove drops of blood with a wet paper towel, and then wipe with alcohol 70% swab(s).
- Dispose of gloves, paper towel and alcohol swab in a RED lined garbage bin. Wash hands.

4.6.5.1.6 CLEANING LARGE SPILLS OF BLOOD -PUT ON GLOVES-

- Contain blood spill with paper towel or newspaper if available and dispose of same in red lined garbage bin.
- If spills are contained in kidney dish or bedpan, it shall be disposed of in available flush sink or sewer.
- Notify housekeeping staff to decontaminate area.
- Apply diluted bleach (1:10) to site where spill was and allow to stand for 2 minutes. (Decontaminate)
- Clean up area with disposable paper towel and dispose of in red waste bin. Clean up spilled area with approved germicidal solution.
- Dispose gloves and wash hands.

4.6.5.1.4 PROCEDURES FOR THOROUGH CLEANING (USED FOR ASSIGNMENTS)

- Remove and bag curtains for laundry.
- Use sterile sheets (linens)
- High dust entire surface
- Clean air vents, ceiling fans etc.
- Remove all furniture from against walls to better clean corners. Dust mop floors and collect loose waste.
- Damp wipe walls, window and door frames, and clean windows. Clean and disinfect all furniture.
- Allow to dry.
- Scrub corners or edges of floor using scrub machines or plastic brooms, with warm detergent water, rinse and disinfect.
- Prepare fresh bucket of plain water, soak up excess water. Prepare disinfecting solution and damp mop floor.

4.6.5.1.4 PROCEDURE FOR TERMINAL CLEANING (USED FOR ISOLATED CASES)

- Similar to thorough cleaning however, dress code and disposal of waste, items and utensils follow strict guidelines.
- Domestic staff shall wear disposable gowns, masks, cap and latex gloves before any cleaning begins.
- All waste, soiled items, utensils, equipment shall be red bagged and secured inside isolation room.
- Dispose of red waste and transport other reusable items for reprocessing.
- Soiled linens shall be bagged inside isolation room, labeled and sent for laundering.

4.6.5.1.5 PROCEDURES FOR PREPARING ROOM FOR BURN PATIENTS

- Identify a single room.
- Perform terminal cleaning before patient is admitted to room.
- Once patient is admitted, room shall be routinely cleaned on a daily basis and terminally cleaned weekly.

…END OF POLICY…

SECTION 9
SUPPORT SERVICES

POLICY #27: FOOD SERVICES (BELIZE, 2011)

27.1 INTRODUCTION

Food service plays an important role within the health facility. Food hygiene and safe food handling practices are concerned with the production of food for human consumption, which will not cause transmission of food borne microorganisms when consumed. Maintenance of sanitary standards is of paramount importance in health care facilities. Prevention of infection in food service department requires healthy personnel, properly maintained equipment, uncontaminated supplies, and an ongoing implementation and proper food and environmental sanitation and personal hygiene practices.

27.2 PURPOSE & APPLICABILITY

- To prevent the transmission of food borne microorganisms.
- To ensure proper personal hygiene of employees responsible for handling food. To ensure that sanitary standards are maintained in the Dietary Department. This policy applies to all staff assigned to the Dietary Department.

27.3 POLICY STATEMENTS

- 27.3.1 All food handlers in the dietary area will be in possession of a current Food Handlers Certificate as stipulated by the Public Health's Policy and Procedure Manual 2008.
- 27.3.2 Each Dietary Department staff will pass their pre-employment food handle examination and comply with employee health policies.
- 27.3.3 Dietary employees will be free of active communicable diseases such as; skin lesions, boils or GI tract infection.
- 27.3.4 Employees with active infections shall be examined and cleared by a physician before duties can be performed in the food preparation area. Return to work will be dependent on physician's order.
- 27.3.5 Employees shall report to ICP whom shall inform the relevant supervisors before resumption of duties.
- 27.3.6 The delivery of food on wards should be done by an assigned Dietician and or Assistant.

Long Nails, Acrylics nails or hand jewelry shall NOT be worn while on duty.

EDUCATION

- New personnel shall receive orientation training in food handling practices before initiation of duties.
- All in-service education is to be documented and shall include presentations such as: personal hygiene, food and environmental sanitations, hand hygiene, infection prevention and control practices, waste management and food storage.

PERSONAL HYGIENE

- Food handlers shall be properly attired while on duty. This includes; proper hair coverings, clean uniforms, flat whole shoes and short well-manicured fingernails.
- Facial hair shall be neatly cut and maintained short. Sleeveless attire shall not be worn while on duty.

FIGURE 15: PERSONAL HYGIENE

Reference: Google Images for PPE food handler, www.safetypostershop.com

- Smoking is not permitted in the health facility or in the Food Preparation Department. Personnel shall ensure adequate and appropriate hand washing technique before, during and after working procedures.
- Non-dietary personnel shall not be allowed to access food carts and the physical area of food preparation and storage.

27.4 PROCEDURE

27.4.1 PATIENTS OBSERVING ISOLATION PRECAUTIONS

- Nurse-in-charge shall inform dietary staff of patients requiring disposable utensils.
- Disposable utensils used by patients in isolation rooms shall be discarded in the appropriate redlined waste bins located inside isolation room immediately after use.
- Dietary staff shall not be allowed to enter isolation rooms should be assigned a nurse on duty to do so.
- Nurse in charge should assigned a nurse to deliver meals in isolation room.

27.4.2 FOOD STORAGE INSIDE PATIENTS UNITS

- Food shall not be stored in patient cubicles.
- Food shall not be stored in refrigerators designated for medication storage.

FIGURE 16: FOOD STORAGE

Reference: Google Images for food storage inside patients unit, www.pinterest.com

27.4.3 FOOD PREPARED OUTSIDE THE DIETARY DEPARTMENT

- The use of food prepared outside of the dietary department shall be discouraged. When a patient insists on having food prepared by an outside source, the listed guidelines shall be followed:
- Food shall be prepared in accordance with patients' diets following the advice of a dietetic staff or Charge Nurse.
- Food shall be eaten immediately and not stored.
- Food prepared from uncooked eggs will not be permitted because of risk of bacterial contamination.

27.4.4 ENVIRONMENT

- Cleaning of Food service Department will be in accordance with housekeeping cleaning schedule and recommended agents.
- Food transportation carts shall be utilized only for distribution of foods and shall be cleaned and disinfected after each use.
- All cooking utensils/equipment shall be cleaned and sanitized after each use.
- All work surfaces shall be maintained clean on a daily basis.
- Spills/splashes of food shall be cleaned up immediately after it occurs. Floor surfaces shall be wet-mopped daily and as needed.
- Storage facility for raw and cooked food shall be cleaned and sanitized according to schedule.
- Individual portions of food once served, shall NOT be served again safe and adequate water supply shall be available in the food preparation area at all times.
- Screens shall be in place in the dietary area, and shall be well fitted to discourage entrance of houseflies.
- Rodents and pests shall be monitored continuously and treatment plan established according to Public Health Bureau's recommendations.

27.4.5 FOOD HYGIENE

- All food shall be inspected for damage, insect infestation and spoilage at the time of arrival.
- Uncooked dry goods shall be stored sufficiently above the floor level (8 inches) and away from walls (2 inches) to facilitate cleaning and proper aeration of food items.
- Raw foods shall not be stored with cooked food.
- Separate surfaces/utensils shall be used for handling the different types of food. Fruits, vegetables, dairy products, meats and poultry shall be stored between 33°-40°F.
- Fish and frozen foods shall be stored between 0°-10°F Wet storage of packaged food is prohibited.
- Frozen foods shall be thawed only at the bottom of the refrigerator between 34°-45°F
- Lighting, ventilation and humidity are to be controlled to prevent both condensation and growth of microorganisms.
- Drums or large containers are not to be stored within 20 feet of kitchen entrance or exit.
- Unprocessed raw fruits and vegetables are to be thoroughly washed under running water before storage and/or preparation.
- Food packaging that is broken, torn, or cans that are swollen or food that has an abnormal appearance or odor will not be used.
- Pre-packaged food shall have clearly written expiration dates and shall be checked before use.
- Food shall be served with clean tongs, scoops, forks, spoons, spatulas or other suitable utensils so as to avoid manual contact of unpackaged foods.
- Waste food should be disposed of at the closer of kitchen.
- Plastic pedal operated waste disposal bin with cover and properly lined is to use for waste disposal in the kitchen.
- Prepared food shall be transported to patient care areas in closed food carts or covered containers at appropriate temperatures (80°-90° F) and served 5 minutes after dish-out.
- Work surfaces, knives, slicers, pots, pans, and other kitchen equipment shall be decontaminated and clean before preparation of food.
- Unwrapped foods shall be protected from contamination by plastic wrappers. Transparent plastic gloves shall be worn when serving or handling food items or clean silverware.
- Silverware for cafeteria use shall be stored in manner to ensure contact with handles only.
- All in-patients regardless of diagnosis shall be served on regular food trays.
- Porters are washed to waste bin on weekly basis.
- Every chipped plate or cup should not to be used.

27.4.6 STEAM TABLES

- Shall be able to maintain food hot.
- Water used to maintain food hot shall not come in contact with food. Water shall be changed after each meal.
- Shall be used only for warming foods.

27.4.7 ICE MACHINE

- Only dietary staff is allowed to dispense ice.
- A scoop shall be designated for the retrieval of ice. Shall be kept clean both inside an out.

27.4.8 PERSONAL HYGIENE

- Shall be sanitized daily.
- Food or personal items shall not be stored on top of ice machines.

27.4.9 WASTE DISPOSAL

- Only waste receptacles with green liners shall be used for food waste. Waste receptacles shall always be maintained cleaned and covered.
- Food waste shall be disposed of using route for non-infectious waste and shall not be allowed to stand for more than eight hours.
- Non-food waste shall be removed at scheduled intervals.
- Transportation of garbage from the Dietary Department shall be in accordance with Waste management Policy.
- Trash cart shall be clean and sanitized daily.

27.4.9 DISH WASHING

TABLE 20: DISH WASHING

PROCEDURES	ACTIONS
Pre - Wash	> Scrape and rinse off surface food particles. > Sort (discard cracked, chipped or unusable items). > Spray rinse. > Soak if necessary.
Wash 1st Compartment	> Wash with detergent and hot water at temperature of 100°F > Change water frequently > Add proper quantity and type of detergent > Washing order: glassware, flatware, dishes, trays, pots, pans
Rinse 2nd Compartment	> Clean, hot water > Change water frequently
Sanitize* 3rd Compartment	> Sumerge for 30 seconds in clean water maintained at 170°F minimum or > Chlorine bleach solution of 2 tablespoon bleach per gallon of water >T emperature of water shall be no higher than 70°F
*Do not add detergent or soap to sanitizing water. Air dry all utensils do not towel dry utensils.	

Reference: National on Infection, Prevention and Control for Health Facilities. Second Edition, January 2011. Page #144. Belize.

…END OF POLICY…

POLICY #28: FOOD HANDLERS CERTIFICATION POLICY (BELIZE, 2011)

28.1 INTRODUCTION

Food safety is essential to prevent Food Borne Diseases from being transmitted in the workplace. It includes prevention and control measures relating to personal hygiene, food preparation, storage and distribution. Persons employed with responsibilities to handle food must possess working knowledge and skills of food and personal hygiene.

28.2 PURPOSE & APPLICABILITY

- To ensure safe handling of food in health care settings.
- To comply with Public Health's Standard for Food Handling.
- This policy applies to all staff assigned to dietary department, with responsibilities for food storage, preparation and/or distribution.

28.3 POLICY STATEMENT

- It is the responsibility of the employer to ensure that food
- Handlers update their Food Handler's Certificate annually.
- Food Handlers who do not comply with Food Handler's
- Certification Policy shall not be allowed to handle food.
- Food Handlers with obvious or suspected infectious condition shall report/be referred for medical attention, and shall not be allowed to handle food unless indicated by his/her attending physician.

…END OF POLICY…

POLICY #29: LAUNDRY SERVICE (CDC-HICPAC, 2003)

29.1 INTRODUCTION

Laundry service is responsible to provide an adequate supply of clean linens for use within health facilities. A reliable laundry service is of outmost importance in a hospital setting to ensure patient comfort and safety. The following policy and procedure provides guidelines that should be adopted when outsourcing laundry services.

29.2 PURPOSE AND APPLICABILITY

- To ensure the comfort and safety of patients during their treatment in emergency, observation or hospitalization.
- To ensure that laundry services personnel comply with infection prevention and control standards during reprocessing soil linens.
- This policy applies to all laundry workers and employee of health facilities.

29.3 POLICY STATEMENTS

- Commercial laundries used for laundering health care facilities linen shall comply with the infection prevention and control policies and guidelines.
- In situations where laundry services are contracted out, contracts shall indicate special requirements for reprocessing of hospital linens.
- All staff involved in the reprocessing of soiled linens shall be responsible to protect themselves from potential cross- infection by adhering to appropriate use of PPE.

29.4 PROCEDURE

29.4.1 COLLECTION AND HANDLING

- Soiled linen shall be decontaminated at the reprocessing site.
- Large amounts of soilage, feces or blood clots shall be removed from linens with gloved hands and disposable tissue then placed into a bedpan or toilet for flushing.
- Excrement shall not be removed by spraying with water, (e.g., from clothing, reusable incontinence pads).

29.4.2 BAGGING AND CONTAINMENT

- When linens are laundered, adequate separation of clean and dirty laundry in the transportation vehicle is essential to ensure that there is no opportunity for mixing clean and dirty linens.
- Separate carts shall be used for dirty and clean linens. Carts used to transport soiled linens shall be cleaned with the recommended cleaning product used in the health care facility after each use.
- Linen transported by cart shall be moved in such a way that the risk of cross contamination is minimized.
- Clean linen shall be transported and stored in a manner that prevents its contamination and ensures its cleanliness.

29.4.3 PROTECTION OF LAUNDRY WORKERS

- Reusable gloves shall be washed after use, allowed to hand dry, and discarded if punctured or torn.
- Hand washing facilities shall be readily available.
- Personnel shall wash their hands whenever gloves are changed or removed.
- All care givers and laundry workers shall be trained in procedures for handling of soiled linen. Laundry workers employed within health facility, shall be offered immunization against Hepatitis B.

Linen soiled with blood, body fluids, secretions, or excretions shall be handled in a manner that prevents skin or mucous membrane exposure, contamination of clothing, and transfer of micro-organisms to other patients and the environment.

…END OF POLICY…

POLICY #30: LABORTORY SPECIMENS (BELIZE, 2011)

30.1 INTRODUCTION

Laboratory specimens pose major risk for the transmission of blood borne pathogens. To prevent accidental exposures universal precautions must be practiced, understood and applied by all Health Care Workers involved in the collection, transportation and handling of specimens.

30.2 PURPOSE AND APPLICABILITY

- To prevent the transmission of blood borne pathogens from body fluids when collecting include fecal, cerebrospinal fluid, transporting and handling of laboratory specimens (fecal oral, body fluids).
- To inform Health Care Workers as to the risks associated with laboratory specimens.
- This policy applies to all Health Care Workers involved in the collection, transportation and Handling of Laboratory specimens.

30.3 POLICY STATEMENTS

- All laboratory specimens from all patients shall at all times be treated as potentially infectious.

30.4 PROCEDURES

- All specimens for laboratory examination shall be carefully collected using Standard and Universal
- Precautions, and transported to the laboratory in such a manner to prevent breakage or spillage.
- The caps of all containers shall be tightly sealed and the requisition forms placed in a separate envelope rather than wrapped around the specimen container. This separation will prevent the forms getting contaminated.
- Specimens shall be collected in containers with a secure lid to prevent leakage during transport.
- All specimens submitted to the laboratory shall be accompanied by a requisition form issued by the department for which testing will be done.
- Requisition forms shall be properly labeled so that all data required by the headings on the forms are provided.
- Additional information relevant to the nature of the specimen, time of collection, treatment regime of the patient, which may impact on the testing and reporting shall be supplied.
- Requisition sheets shall be affixed to, but not stapled to the outside of the plastic bag. Transportation of specimens to the laboratory shall be under the conditions required for preservation of the specimen's integrity and protection of the HCW.
- Latex gloves shall be worn when handling and processing specimens.
- Laboratory procedures shall minimize splashing, spattering and generation of droplets. Laboratory workers shall follow mechanical pipetting procedures.
- Work areas shall be decontaminated after spills of blood, body fluids, or other potentially infectious material and after completion of work.
- Contaminated equipment needing servicing or repair shall be decontaminated externally and internally. [SEE SECTION VII – POLICY #22]
- Use of disposable specimen containers shall be encouraged.
- For personal protection gear specifications refer to laboratory guidelines.

…END OF POLICY…

POLICY #31: PRECAUTIONS FOR HANDLING AND DISPOSAL OF DEAD BODIES (BELIZE, 2011)

31.1 INTRODUCTION

All dead bodies are potentially infectious and as such both standard and universal precautions shall be implemented for every case. All individuals who come in contact with dead bodies shall adhere rigorously to protective measures, which minimize exposure to these agents. Bodies, dead or alive, have potentially pathogenic endogenous and exogenous microorganisms. And as such, special precautions shall be adhered to during autopsies. To minimize the risks of transmission of known and also unsuspected infectious diseases, dead bodies shall be handled in such a way to mitigate workers' exposure to blood, body fluids and tissues.

31.2 PURPOSE AND APPLICABILITY

- To protect the involved personnel and family members from potential bio-hazards.
- To adopt and enforce safety practices at hospitals, public mortuaries, and funeral parlors. To enable the deceased's family to obtain safe funeral services.
- To provide deceased with the respect and dignity deserved at this stage of life. This policy applies to all Health Care Workers involved in the handling of corpse.

31.3 POLICY STATEMENTS

- All bodies shall be color-coded at the time of last offices, based on the categorization outlined in table 10 below.
- Morgue attendant shall preserve all bodies and specimens according to categorization guidelines.
- Autopsies on infectious bodies shall be performed only on authorization of the Pathologist/ Forensic practitioners.

31.4 GENERAL PROVISIONS

There is a need to maintain the confidentiality of the patient's condition even after the demise. At the same time there is a need to inform personnel who may be at risk through contact with dead bodies. As a result, bodies shall be categorized based on the mode of transmission and risk of infection of different diseases.

The following categories of precautions for handling dead bodies are advised: Category 1: Signified by a RED/BLUE label

Category 1: Signified by a RED/BLUE label.
Category 2: Signified by a RED/YELLOW label.
Category 3: Signified by a RED label.

TABLE 21: COLOR CODES FOR THE CATEGORIZING OF CORPSE

Category 1

In handling dead bodies, Universal Precautions are required:

Red/Blue 

Bagging	Viewing in Church/Home	Embalming	Hygienic preparation in funeral parlour
Not necessary	Allowed	Allowed	Allowed

Category 2

In handling dead bodies, Universal Precautions are required
In addition, the following precautions are also required:

Red/Yellow 

Bagging	Viewing in Church/Home	Embalming	Hygienic preparation in funeral parlour
Must	Allowed	Not Allowed	Not Advisable

Category 3

In handling dead bodies, Universal Precautions are required
In addition, the following precautions are also required:

Red 

Bagging	Viewing in Church/Home	Embalming	Hygienic preparation in funeral parlour
Must	Not Allowed	Not Allowed	Not Allowed

Reference: National on Infection, Prevention and Control for Health Facilities. Second Edition, January 2011. Page 151. Belize.

31.5 PROCEDURES

31.5.1 LAST OFFICE FOR THE DEAD BODY BY WARD STAFF

PRECAUTIONS FOR DEAD BODIES UNDER CATEGORY 1

- Hepatitis B vaccination is recommended for all staff that is likely to come into contact with dead bodies.
- The body shall be classified by attending physician/medical officer as category 1, 2 or 3. Tags for classification categories shall be attached to dead body, body bag or mortuary sheet.
- Avoid direct contact with the dead body, blood or body fluids discharged from the dead body.
- Nursing and other personnel who handle dead bodies shall wear appropriate PPE as per Standard Precautions Policy.
- Wound drainage and needle puncture holes of the dead body shall be disinfected with 10000 p.p.m. hypochlorite (Bleach) and covered with impermeable material. Hypochlorite solution shall be freshly prepared.
- Extreme caution shall be exercised when removing IV catheters and other devices that are sharp. They shall be disposed into puncture resistant containers as per Waste Management Policy.

- All body orifices shall preferably be plugged with swabs soaked in 10000 p.p.m. hypochlorite. The body shall be cleaned and dried.
- After identifying the body with the identity label (name tag) and Category I tag, the body shall be wrapped with mortuary sheet before being placed on mortuary trolley and transported to the mortuary.
- After removing protective clothing and gloves, hands shall be washed thoroughly.

PRECAUTIONS FOR DEAD BODIES UNDER CATEGORY 2 OR 3

- To avoid the need for the undertaker to handle the body, following the precautions for dead bodies under category 1, it is preferable for the ward staff to dress the deceased. The relatives shall be informed beforehand so that they can bring the necessary clothing in advance. If the decease's own clothing is not available, the decease shall be dressed with hospital clothing.
- Identify the body and attach to the body the appropriate identity label. The body shall be placed in a robust, clear plastic bag of not less than 150 µm thick, which shall be zippered or closed tightly with tapes and bandage strips. Pins shall not be used.
- The outside of the plastic bag shall be wiped with 10000 p.p.m. hypochlorite if soiled. After attaching to the body bag with the Category 2 or Category 3 tag, the bagged body shall then be placed in another robust plastic bag before being placed on mortuary trolley and transported to the mortuary. The mortuary sheet shall be attached with a Category 2 or Category 3 tag.
- Disposable items shall be discarded into red plastic bag, which shall be securely tied up, labeled and sent for disposal.
- For Category 2 case, the used linen or protective clothing shall be wrapped in a water-soluble plastic bag. The soiled linen shall be labeled as infectious hazard and sent to laundry for thermal disinfection.
- For Category 3 case, the used linen or protective clothing shall be wrapped in a red plastic bag and sent for disposal.
- Equipment shall be autoclaved or decontaminated and disinfected in accordance with established
- Disinfection Policy.
- All surfaces that may be contaminated shall be disinfected with 1000 p.p.m. Hypochlorite. After removing protective clothing and gloves, hands shall be washed thoroughly.

31.5.2 PRECAUTIONS FOR MORTUARY STAFF

PRECAUTIONS FOR DEAD BODIES UNDER CATEGORY 1

- All bodies for autopsy are a potential source of infection, pathologist and other support staff shall always observe Universal Precautions in the performance of any autopsy.
- Hepatitis B vaccination is recommended to staff likely to come into contact with dead bodies.
- Staff shall be trained in handling dead bodies with Infections Diseases. A high standard of personal hygiene shall be adopted and maintained.
- Smoking, drinking and eating is forbidden in the autopsy room, body storage and viewing areas.
- The mortuary shall at all times be kept clean and properly ventilated. Lighting shall be adequate. Surfaces and instruments shall be made of materials that could be easily disinfected and maintained.
- Avoid direct contact with blood or body fluids of dead bodies, Staff who handles dead bodies shall wear PPE and goggles if necessary. They shall cover all cuts and abrasions with waterproof bandages or dressings before applying PPE.
- All bodies shall be identified and correctly labeled with Category I tags.

- Any dead body that is contaminated with blood or body fluids shall be placed in a disposable plastic bag as soon as possible.
- Bodies shall be stored in cold chambers maintained at approx. 4°C. Storage compartments shall be easily accessible for both regular cleaning and maintenance.
- All efforts shall be made to avoid sharp injury, both in the course of examination and afterwards in dealing with waste disposal and decontamination.
- Soiled linen, environmental surfaces, instruments and transport trolley shall be decontaminated in accordance with established policy.
- Single use gloves, protective aprons and other waste materials shall be discarded in red lined waste containers for disposal.
- After removing protective clothing and gloves, hands shall be washed thoroughly.

PRECAUTIONS FOR DEAD BODIES UNDER CATEGORY 2 OR 3

- When a body is admitted to the mortuary, every effort shall be made to establish its infection status. However, a safe standard of mortuary practice is to regard all cases as infective, as the most hazardous cases are those that are not suspected as being infectious. Beware of needles, sharps or other medical paraphernalia attached to the body or loose within the body bag.
- Autopsies on bodies that have died with infectious diseases as listed under category 2 or 3 expose staff to unwarranted risk and shall generally not be performed. However, if autopsy is to be carried out because of special reasons, the following practices shall be adopted:
- Autopsies shall be performed by a trained pathologist using recommended barrier techniques and procedures to reduce the risk of infection.
- The number of people engaged in an examination shall be kept to a minimum. Nonetheless, no fewer than two (2) people shall be involved.
- If instruments fall during the examination, no attempt shall be made to stop the fall. Instruments shall not be passed from hand to hand; they shall be set out on a table according to the pathologist's preferred practice.
- To avoid carrying infectious materials to uncontaminated areas, a program for the collection of specimens and a list of instruments required for the autopsy shall be prepared before the commencement of the post-mortem procedure. All sample containers required shall be readily available close to the mortuary table.
- Instruments shall be carefully put aside in puncture-resistant containers when no longer required, for transfer to the cleaning and decontamination area.
- Following reconstruction, the body shall be washed down with an appropriate disinfectant 1000 p.p.m. hypochlorite and placed in an approved bag. This bag shall be wiped down with disinfectant and placed in another approved body bag.
- Used needles and other disposable sharp instruments shall be promptly discarded into an approved sharps container.
- If a needle stick or other injury occurs or a glove is torn, the glove shall be removed and a new glove worn promptly after washing hands with soap and water. The needle or instrument involved shall also be removed. Needle stick and mucous membrane exposures shall be attended to immediately as safety permits and reported to the relevant authority for intervention.
- Gross soiling shall be rinsed off instruments in the OR before they are placed in a closed container for transport to a central processing area. Where practical, used instruments shall be washed mechanically rather than by hand. If this is not possible, they shall be washed in a sink of warm water with detergent, not under running water.

31.5.3 PRECAUTIONS FOR STAFF OF FUNERAL PARLORS/UNDERTAKERS

- Hepatitis B vaccination is recommended for all staff that are likely to come into contact with dead bodies.
- When handling dead bodies, do not smoke, eat or drink and avoid contacting their own mouth, eyes or nose with their hands.
- Make sure that any cuts, wounds or abrasions are covered with waterproof bandages or dressings. Make sure that a supply of disposable gloves, protective clothing and disinfectant such as Hypochlorite
- is readily available.
- Avoid direct contact with blood or body fluids from the dead body.
- Persons handling the dead body shall wear disposable gloves and protective clothing.
- After use, these gloves and clothing shall be soaked in freshly prepared 1000 p.p.m. Hypochlorite for 30 minutes before washing or disposal. Refer to TABLE 15: CHLORINE: USE OF PREPARATION AND CONCENTRATION PREPARATION.
- Hands shall be washed after removing gloves and protective clothing.
- Any spilled blood or body fluids shall be wiped with 10000 p.p.m. Hypochlorite. Protective clothing or uniform shall be kept separate from outdoor clothing. Refer to TABLE 15: CHLORINE: USE OF PREPARATION AND CONCENTRATION PREPARATION.

ADDITIONAL PRECAUTIONS FOR DEAD BODIES UNDER CATEGORY 2

- There shall be minimal handling of the body.
- The body may be removed from the bag for viewing or hygienic preparation.
- If hygienic preparation is to be done, all the necessary precautions shall be strictly adhered.
- Coffin shall be lined with clear plastic of not less than 150 µm thick. Embalming shall not be done.
- Viewing of the face of the deceased without physical contact may be permitted.

STRINGENT PRECAUTIONS FOR DEAD BODIES UNDER CATEGORY 3

- The body shall not be removed from the plastic bag. Unzipping the plastic bag of the body is not permitted. Hygienic preparation shall not be done.
- Embalming shall not be done.
- Viewing of the face of the decreased shall not be permitted.

31.5.4 PRECAUTIONS RECOMMENDED FOR RELATIVES OF THE DEAD

PRECAUTIONS FOR DEAD BODIES UNDER CATEGORY 1

There shall be minimal contact/handling of the body. When there is a need to do so, universal precautions are recommended as follows:

- Do not smoke, eat or drink and avoid contact with their own mouth, eyes or nose with their hands.
- Avoid direct contact with blood or body fluids from the dead body.
- Make sure that any cuts, wounds or abrasions are covered with waterproof bandages or dressings. Put on
- disposable gloves and protective clothing/uniform when handling dead bodies.
- Hands shall be washed after removing gloves and protective clothing.

PRECAUTIONS FOR DEAD BODIES UNDER CATEGORY 2

There shall be minimal contact/handling of the body. When there is a need to do so, the following precautions are recommended:

- When handling dead bodies, do not smoke, eat or drink and avoid contact with their own mouth, eyes or nose with their hands.
- Avoid direct contact with blood or body fluids from the dead body.
- Make sure that any cuts, wounds or abrasions are covered with waterproof bandages or dressings. Put on
- disposable gloves and protective clothing/uniform when handling dead bodies.
- Hands shall be washed after removing gloves and protective clothing. Embalming is not to be done
- Viewing of the face without physical contact may be permitted.

PRECAUTIONS FOR DEAD BODIES UNDER CATEGORY 3

There shall be minimal contact/handling of the body. When there is a need to do so, the following precautions shall be observed:

- When handling dead bodies, do not smoke, eat drink and avoid contact with their own mouth, eyes or nose with their hands.
- Avoid direct contact with blood or body fluids from the body.
- Make sure that any cuts, wounds or abrasions are covered by waterproof bandages or dressings.
- Put on disposable gloves and protective clothing when handling dead bodies. Hands shall be washed after removing gloves and protective clothing.
- The body shall not be removed from the bag. Unzipping of the body bag is not allowed. Embalming shall not be done.
- Viewing of the face is not allowed.
- Relatives who are worried about having already been exposed to the infection shall contact the physician.
- Cremation is recommended for the deceased's body.

31.5.5 HANDLING SAMPLES

- Tissue specimens shall be placed in containers of adequate size to allow submersion in 10 times their volume of fixative solution. Large specimens shall be kept in the examination room until fixation is complete.
- Tissue specimens shall be fixed in 10% buffered formalin for two (2) weeks. Smears shall be fixed in methanol for two (2) hours.
- It is not advised to perform frozen sections on fresh tissues. All fluids shall be analyzed in a biohazard cabinet.
- The use of needles or sharp instruments shall be discouraged.

31.5.6 ACCIDENTAL EXPOSURE TO BLOOD OR BODY FLUIDS

- In case of penetrating injury of mucocutaneous exposure to blood or body fluids of the dead body, the injured or exposed areas shall be washed with copious amount of running water.
- All incidents of exposure to blood or body fluids from the dead body, either parenteral or mucous membrane exposures, shall be reported to supervisor immediately. The injured person shall

immediately seek medical advice for proper wound care and post-exposure management. [SEE SECTION XI – POLICY #36]

• Viewing of the face of the decreased shall not be permitted.

TABLE 22: PRECAUTIONARY MEASURES FOR HANDLING DEAD BODIES

CATEGORY	INFECTION	BAGGING	VIEWING CHURCH OR HOME	EM BALM ING	HYGENIC PREPARA-TION FUNERAL PALOR
1	Other than those in Category 2&3	Not Necessary	Allowed	Allowed	Allowed
2	HIV Infection	Must	Allowed	Not Allowed	Not Advisable
	Hepatitis C	Must	Allowed	Not Allowed	Not Advisable
	SARS	Must	Allowed	Not Allowed	Not Advisable
	Creutzfeldt - Jacob disease without necropsy	Must	Allowed	Not Allowed	Not Advisable
3	Anthrax	Must	Not Allowed	Not Allowed	Not Allowed
	Plague	Must	Not Allowed	Not Allowed	Not Allowed
	Rabies	Must	Not Allowed	Not Allowed	Not Allowed
	Viral haemorrhagic fevers	Must	Not Allowed	Not Allowed	Not Allowed
	Creutzfeldt - Jacob disease without necropsy	Must	Not Allowed	Not Allowed	Not Allowed

* Incluides other infectionus diseases as advised by the physician, infection control officer or microbiologist.

Reference: National Guidelines on Infection, Prevention and Control for Health Facilities. Second Edition, January 2011. Page #159. Belize.

…END OF POLICY…

SECTION 10
WASTE MANAGEMENT

WASTE MANAGEMENT [POLICY #32]

POLICY #32: WASTE MANAGEMENT (BELIZE, 2011)

32.1 INTRODUCTION

Medical Waste is waste generated at medical facilities such as hospitals, health centers, laboratories, nursing homes, out-patient clinics. It may consist of pathological, infectious, hazardous and general non-infectious wastes. Due to the nature of its constituents, Medical Waste requires special treatment in order to assure the safety of the people handling it and the people that are involuntarily exposed. Therefore, all generators of Medical Waste shall have a Waste Management Program to address the problems associated with the mismanagement of the waste.

32.2 PURPOSE AND APPLICABILITY

- To preserve and protect the health of employees, patients, visitors and others who are likely to come in contact with the medical waste.
- To preserve and protect the community and environment through appropriate waste management.
- To develop standard operating procedures for the handling and disposal of medical waste.
- To sensitize hospital staff, patients and visitors through an on-going educational program, as to the proper waste management policies and practices.
- To monitor and evaluate waste management practices throughout the hospital and correct any problems that are identified.
- This policy applies to all HCWs.

32.3 POLICY STATEMENTS

- 32.3.1 All generators of medical waste shall adhere to the Waste Management Policy and Procedural Guide.
- 32.3.2 Waste shall be categorized as red, yellow, green or sharps.
- 32.3.3 Needles shall NOT be recapped.
- 32.3.4 Dispose of needles and other sharps in a puncture resistant container.
- 32.3.5. Disposable needless and sharps shall always be transported to the reprocessing area in a puncture resistant container.

32.4 GENERAL PROVISIONS

Health facilities wastes are designated as general (non-infectious waste), infectious waste, pathological waste, hazardous waste or sharps. Of these categories infectious waste, pathological waste, hazardous waste and sharps require special handling, storage, and treatment disposal practices.

RED WASTE

Any waste that has come in contact with blood, body fluids or other infectious material and are as follows:

- ☐ Sputum
- ☐ Paper towels
- ☐ Isolation wastes
- ☐ Disposable sheets
- ☐ Alcohol swabs
- ☐ Soiled Sheets
- ☐ Pipette tips
- ☐ Surgical Mask
- ☐ Residual Blood
- ☐ Disposable gloves
- ☐ Spatulas
- ☐ Garbage bags (used instead of mackintosh).
- ☐ Soiled dressing (cotton, gauze, sponges, adhesive tape).
- ☐ Sanitary pads, tissues (toilet paper) and diapers.
- ☐ Transfusion bags and tubing.
- ☐ Drainage sets (urine, other).
- ☐ Tubings (suction, IV, NG, lavage, catheter, drainage, etc).
- ☐ Cultures and stock of infectious agents and biological.
- ☐ Specimens from medical and pathology labs.
- ☐ Devices used to transfer, inoculate and mix cultures.
- ☐ Barium enema bags.
- ☐ Underpads, drapes.

PATHOLOGICAL AND INFECTIOUS WASTE (BLOOD RELATED)

- ☐ Human blood and blood products.
- ☐ Body parts (limbs, tissues, organs, placentas, etc.)
- ☐ Waste from surgery and autopsy.

CHEMICAL OR HAZARDOUS WASTE

- ☐ Residual liquid waste (lab)
- ☐ Expired drugs
- ☐ Low-level radioactive wastes

SHARPS

- ☐ Scalpels
- ☐ Broken glass
- ☐ Stylets
- ☐ Lancets
- ☐ Blades (razor, surgical).
- ☐ Needles
- ☐ Syringes with needles.
- ☐ Microscopic slides and cover slips.

GREEN WASTE

Regular garbage and other non-infectious solid waste and are as follows:

- ☐ Household waste
- ☐ Garbage (food waste)
- ☐ Old equipment
- ☐ Old x-ray films
- ☐ Spray
- ☐ Construction wastes
- ☐ Cardboard boxes
- ☐ Plastics, tins, glass containers, etc.
- ☐ Bushes(grass and foliage)
- ☐ Batteries

YELLOW WASTE

Pathological waste and are as follows:

- ☐ Placenta
- ☐ Body parts

32.5 PROCEDURES

32.5.1 HANDLING OF MEDICAL WASTES (MEDICAL/NURSING PERSONNEL)

- Hands shall be washed as per Hand Hygiene Policy. [SEE SECTION III – POLICY #7] Prior to treatment of a patient (injection, dressings or invasive procedures), a tray or trolley shall be used to carry supplies necessary and to remove waste from treatment area after completion of procedure.
- The trolley shall be prepared with a receptacle to receive waste generated and a separate container for sharps.
- Waste shall be removed from the treatment area and placed in the appropriate container located in the dirty utility room immediately after procedure is completed.

32.5.2 SEGREGATION OF MEDICAL WASTE

- In order to ensure proper disposal of medical waste, waste shall be segregated according to the categories listed above. Additionally the following procedures shall be followed.
- The segregation of medical waste is to be done at the source or point of generation. Here, staff handling the material can readily identify the hazards of each. The segregation of waste at the point of generation reduces the amount of subsequent exposure staff receives in handling the waste. It also serves to curtail the spread of pathogens by containing the infectious waste.
- General (non-infectious) waste shall be placed in containers labeled "Non-infectious Waste" and lined with green plastic bags.
- Infectious waste shall be placed in containers labeled "Bio-Hazard" and lined with red plastic bags. Pathologic waste shall be placed in containers lined with yellow plastic bags.
- Sharps shall be placed in a leak and puncture proof container provided for such disposal. Hazardous waste shall be placed in clearly labeled leak proof containers.

32.5.3 WASTE CONTAINERIZATION

- Waste shall be properly contained to prevent leakage of infectious material as solids, liquids or aerosols. All waste is subject to containerization and storage between the time of generation and the time of destruction. To facilitate the segregation of medical waste, a color coded containerization and storage system shall be used.
- RED waste shall be placed in containers labeled with the universal biohazard symbol and lined with sturdy red bags.
- GREEN waste shall be placed in containers labeled non-infectious waste, lined with sturdy green plastic bags.
- Sharps shall be placed in puncture proof, leak proof containers that are clearly labeled SHARPS. Medical stores shall supply empty plastic containers. The mouth of the containers shall be large enough to accommodate the entire syringe without forcing. The mouth of the container shall be sealed prior to disposal (when container is ¾ full).
- Liquid hazardous waste shall be contained in a leak proof container. It shall have a removable bung or cap to allow the waste to be decanted prior to, or after treatment.
- Pathological waste such as limbs and organs shall be placed in YELLOW opaque plastic bags (doubled) and sealed prior to removal from the point of generation.
- Only personnel handling waste and their immediate supervisors shall have access to the storage facility. All entrances shall be clearly marked by the universal biohazard symbol and the word "Infectious".

- All waste containers must have covers.
- Waste shall not be compacted or forced into containers.
- Sharps containers shall be cleaned and covered before storage prior to its use. Broken glass shall be placed in a box or some other receptacle before being placed into the waste container to prevent tearing of the green bag.
- Large quantities of blood and body fluids shall not be disposed of in waste containers, instead, shall be disposed of in the toilet or flush sink after treatment with Sodium Hypochlorite 1:10.
- Expired drugs such as tablets, injectables, IV, etc., shall returned to pharmacy for appropriate disposal.
- Waste from radiology department such as exhausted developers and fixers shall be disposed of in the automatic drainage system available in that department.

32.5.4 STORAGE OF WASTE

- Although temporary storage of waste occurs in containers throughout the hospital, storage for extended periods shall be restricted to designated areas, such as dirty utility rooms, waste pick-up points and cold storage. There are seven (7) designated pick-up points throughout the hospital, which /should be labeled with a number and the biohazard symbol.
- Waste shall not be stored in any area other than dirty utility rooms, pick-up points and cold storage unit.
- Waste shall be stored only in containers labeled non-infectious or biohazard.
- Liquid waste shall not be stored; it shall be disposed of after treating with Sodium Hypochlorite solution (bleach), in appropriate disposal facility. Storage area shall not get congested with waste.

32.5.5 COLLECTION OF WASTE

- The handling and transportation of medical waste shall be done during quiet times (before or after visiting hours) in order to reduce the likelihood of encountering patients, staff and visitors.
- All waste shall be collected and removed from an area immediately before cleaning begins.
- Waste shall be collected on a daily basis within the patient areas, administrative offices, restrooms, waiting and dining areas by the housekeeping staff.
- In patient areas and restrooms and administrative areas waste containers shall be emptied into an appropriate colour-coded bag prior to cleaning. Bags shall be securely tied, labeled and taken directly to the pick-up point.
- Waste from large containers in dirty utility rooms shall be bagged, securely tied, labeled and taken directly to the pick-up point.
- Waste generated in the dietary area shall be transported directly to the dumpster, designated only for Green Waste disposal, on a daily basis, when waste containers become full.
- Waste from the morgue shall be yellow bagged (doubled) and transported outside of morgue after each autopsy case, stored in cold storage unit, until time for treatment.
- All waste shall be collected on each shift and daily, where applicable, however, some areas will require more frequent collection.

Green Waste does not require any treatment before disposal.

32.5.6 TRANSPORTATION OF WASTE

- The transportation of infectious waste is important because of the hazards involved in handling this category of waste. To minimize the potential risk for accidental transmission of pathogens or injuries, infectious waste awaiting treatment shall be stored in areas accessible only to personnel involved in the disposal process.
- Waste shall be properly contained before transportation.
- All waste (garbage) bags shall be securely tied before transportation takes place. Waste generated in isolation rooms shall be securely sealed and labeled before transportation outside the room.
- Broken glass shall NOT be transported without first being carefully contained in a receptacle to prevent tearing of garbage bags.
- Waste shall not be subjected to handling which may jeopardize the integrity of the container.
- Any spills or leakage observed during transportation shall be reported to the Housekeeping Officer or Infection Control Unit for immediate treatment and attention.
- The sharps containers shall be securely sealed before transporting from the point of generation to the accumulation area.
- Waste shall be transported during quiet times (before and after visiting hours. Transport to the incinerator shall be according to designated route and time schedule, established by the Infection Control Committee.
- The domestic auxiliaries are responsible for transporting waste from the point of generation to the designated accumulation areas (dirty utility rooms) and from accumulation area to waste collection points (pick-up points) before the scheduled time for pick-up by porters.
- Trolleys designated for transporting waste shall be able to contain waste and any potential spills of waste, including liquids.
- Trolleys designated for transporting waste shall be used ONLY for such purposes. Waste transportation both inside and outside of the hospital shall be done according to the designated route.
- Containers used for transporting waste shall at all times be covered.

32.5.7 WASTE TREATMENT

- All Red and Yellow Waste and Sharps including red bags used to contain waste and the sharps containers shall be treated by incineration. The incineration process shall be done at high temperatures (1800°F) to ensure the destruction of all pathogens and to decrease the environmental impact of the burning process.

32.5.8 WASTE DISPOSAL

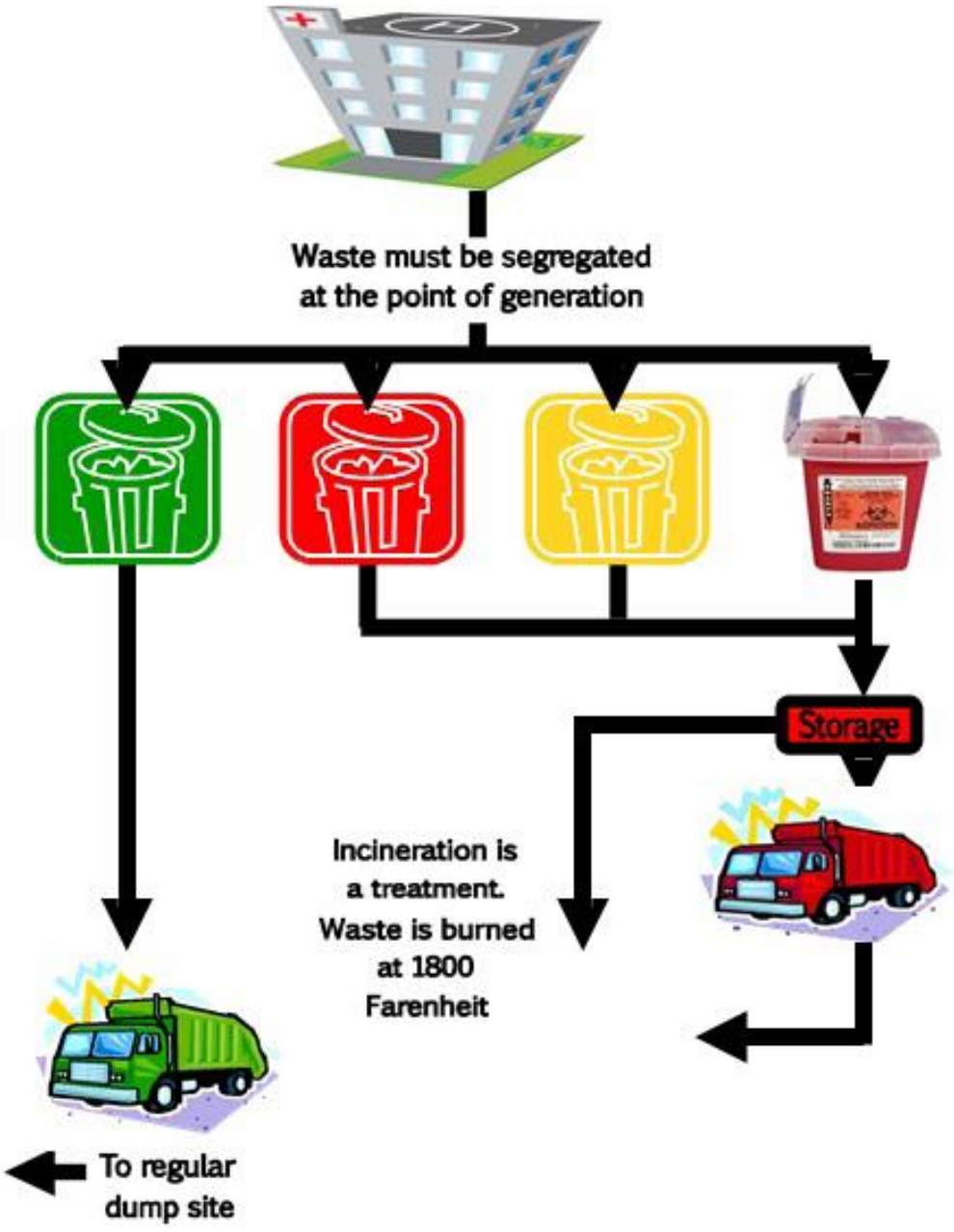
- After the Red Waste and Sharps are treated by incineration to render it harmless to the public and the environment, the remaining ash shall be bagged, in a secured green bag and transported to the dumpster for disposal at the identified sanitary landfill or the regular garbage dump site.
- Green waste shall be collected by local sanitation companies and disposed of at the municipal dumpsite.
- All other waste disposal should be supervised by a public health inspector to ensure recommended disposal method.

Rural areas disposal of infectious waste in rural areas should be done on a weekly basis under the supervision of an Environmental Health Officer. Medical waste should be stored in an enclosed area properly secure and distinguishable by type (Red, Yellow and Green).

32.5.9 INSPECTION

- The ICN and Housekeeping supervisor shall perform the inspection of wards and other patient and non- patient areas on a weekly basis. An inspection form (annex) shall be filled out and any problems with the segregation, storage, collection or disposal of waste shall be noted. The personnel-in-charge of the area shall be informed of any problems identified during the inspection and shall be responsible to notify the rest of the staff about the result of the inspection.

DIAGRAM 8: WASTE MANAGEMENT



Reference: National Guidelines on Infection, Prevention and Control for Health Facilities. Second Edition, January 2011. Page #170. Belize.

32.5.10 REPORTING

- Problems identified, actions taken and staff sensitized, as well as the time, date, unit, department, personnel in charge and housekeeper on duty shall be noted on the inspection form. The Infection Control Committee Team shall discuss the result of the inspection at their monthly meeting. The Infection Care Nurse shall prepare a monthly Infection Control Report. This will then be submitted to Hospital Administration.

32.5.11 CORRECTIONAL ACTIONS AND REINFORCEMENT

- Any Waste Management problems identified during inspection shall be discussed with the party responsible for their immediate correction and shall be resolved as soon as possible.
- The personnel-in-charge of unit or department is responsible for the resolution of any problems resulting from improper handling of waste by doctors, nurses, housekeepers or patients, which they supervise.
- Any recurrent problems from non-compliance to the policies outlined in the medical waste management program shall be referred to the relevant director for disciplinary action.
- The Infection Control Committee Team shall be responsible for determining trends and recommending appropriate corrective actions that may arise from improper management of medical waste.

32.5.12 TRAINING AND SENSITIZATION

- All Red and Yellow Waste and Sharps including red bags used to contain waste and the sharps containers shall be treated by incineration. The incineration process shall be done at high temperatures (1800°F) to ensure the destruction of all pathogens and to decrease the environmental impact of the burning process.

WASTE DISPOSAL

- After the Red Waste and Sharps are treated by incineration to render it harmless to the public and the environment, the remaining ash shall be bagged, secured and transported to the dumpster for disposal at the identified sanitary landfill or the regular garbage dump site.
- Green waste shall be collected by local sanitation companies and disposed of at the municipal dumpsite.

INSPECTION

- The ICN and Housekeeping Officer shall perform the inspection of wards and other patient and non- patient areas on a weekly basis. An inspection form (annex) shall be filled out and any problems with the segregation, storage, collection or disposal of waste shall be noted. The personnel-in-charge of the area shall be informed of any problems identified during the inspection and shall be responsible to notify the rest of the staff about the result of the inspection.

32.5.13 PRECAUTIONS FOR PERSONNEL HANDLING WASTE

PERSONAL PROTECTIVE EQUIPMENT

Personnel responsible for handling waste shall wear the necessary PPE during performance of their duties:

- Protective overalls (whenever on duty)
- Heavy-duty gloves (when handling or transporting waste)
- Mask (when transferring waste from one container to another or to incinerator).
- Rubber boots (when washing containers) Face shield (when loading incinerator)

PERSONAL HYGIENE

- Fingernails shall be kept short and clean.
- Hands shall be washed frequently as per Hand Hygiene Policy. Personnel shall shower after completion of duty.
- Protective coveralls used to handle waste shall not be taken outside the hospital except to be laundered.

CLEANING OF EQUIPMENT AND STORAGE AREA

- Coveralls and heavy duty gloves shall be bagged and washed within the hospital laundry system.
- Rubber boots used to wash large waste containers shall be disinfected after each disposal.
- The porters shall wash collecting carts after each collection.
- Waste containers at the pick-up points shall be washed daily by Porters.
- Containers used to store waste other than in the pick-up points shall be washed daily by the housekeeping staff.
- Containers used to dispose waste from the morgue shall be disinfected after each use by the person who disposes of the waste.
- Pick-up points shall be cleaned and disinfected daily by the Porters.

32.6 RESPONSIBILITIES

MINISTRY OF HEALTH

- Conducts external audit for compliance to Waste Management Guidelines in health facilities.
- Core Management Team.
- Ensures that an effective Waste Management Program is developed and implemented.
- Approves annual budget for Waste Management Program.
- Approve Hospital Waste Management Plan.
- Assuring that staff adheres to the waste management policies and procedures.
- Ensures that staff reports injuries/exposures associated with waste management to the ICN.

INFECTION CONTROL TEAM

- Advises and monitors the implementation of the Medical Waste Management Plan.
- Liaises with the Infection Control Nurse and Housekeeping Officer.
- Reviews recommendations from evaluation of waste management practices before submission to
- Health Administration.
- Supervise Infection Control staff monitoring activities of the waste management plan.
- Revise biennially, the Hospital's Waste Management Plan.
- Identify and report trends in injuries and exposures associated with Waste Management. Recommends policies and procedure for management of medical waste.
- Liaises with the Infection Control Nurse and Housekeeping Supervisor.

CORE MANAGEMENT TEAM

- Develop standard operating procedures for medical waste management.
- Ensure all new employees are orientated to the hospital waste management plan. Evaluate the
- Waste Management Program
- Approves policies and procedures for the management of medical waste. Coordinates the implementation of the medical waste management program. Monitoring and evaluation of the medical waste management program. Establishing an ongoing education and training program for all hospital staff.

INFECTION CONTROL NURSE

- Orientation of all new employees to the waste management program.
- Guides quality improvement activities related to medical waste management.
- Compile and reports injuries associated with improper waste management.

HOUSEKEEPING SUPERVISOR

- Ensures that waste management policies and procedures, related to housekeeping are in place and implemented
- Ensures that all domestic auxiliaries adhere to waste management policies and procedures. Sensitization of housekeeping staff to medical waste management policies.
- Liaises with Unit Managers to ensure the availability of necessary supplies to domestic auxiliaries under the functional unit.
- Reporting identified problems encountered during housekeeping to unit manager and the Infection
- Control staff.
- Organizes orientation and in-service training in waste management policies and procedures to housekeeping staff.
- Ensures that staff under his/her span of control reports injuries and exposures associated with medical waste management to the Infection Control Nurse.

DOMESTIC AUXILIARIES

- Collects all waste generated within the hospital. Segregates all waste they generate or collect.
- Insures that plastic liners for garbage bins are available for assigned areas. Insures that waste is properly stored and containers are emptied when necessary. Insures that waste containers and

accumulation areas are maintained clean. Transports of waste to designated collection points as per approved schedule.
- Reports injuries and exposures associated with management of medical waste to their Unit
- Manager and Housekeeping Supervisor.

UNIT MANAGERS AND SECTION HEADS

- Ensures proper segregation of waste in their assigned patient care area.
- Ensures proper supervision of the domestic staff assigned to patient areas.
- Supervises stored of waste and cleaning and disinfecting of waste containers are emptied when necessary.
- Adheres to policies and procedures of the medical waste management program.
- Ensures that staff under their span of control reports injuries/exposures associated with medical waste management to the ICN.

MAINTENANCE SUPERVISOR

- Liaises with supplies to ensure the availability of necessary equipment to porters.
- Sensitization of porters to medical waste management policies.
- Monitors transportation, storage, treatment and disposal of waste.
- Ensuring that porters adhere to waste management policies and procedures.
- Reporting identified problems to Immediate Supervisor and the Infection Control staff.

PORTERS / GROUNDSMAN

- Collection of waste from pick-up points, common areas and hospital grounds. Transportation of waste from pick-up points to treatment or disposal area. Cleaning and maintenance of any equipment they use.
- Ensuring that waste is properly stored at disposal and treatment areas. Proper segregation of any waste that they generate.
- Ensures that waste pick-up points within hospital are cleaned after each pick up.
- Reports injuries/exposures associated with management of medical waste to their Supervisor.

…END OF POLICY…

SECTION 11
OCCUPATIONAL HEALTH AND SAFETY

OCCUPATIONAL HEALTH AND BLOOD BORNE PATHOGENS
[POLICY #33] UNIVERSAL PRECAUTIONS [POLICY #34]
IMMUNIZATION FOR HEALTH CARE WORKERS [POLICY #35]
REPORTING EXPOSURES TO BLOOD AND BODY FLUIDS [POLICY #36]

POLICY #33: OCCUPATIONAL HEALTH AND BLOOD BORNE PATHOGENS

33.1 INTRODUCTION

Exposures to blood and other body fluids occur across a wide variety of occupations. Health Care Workers, emergency response and public safety personnel, and other workers can be exposed to blood through needle stick and other sharps injuries, mucous membrane, and skin exposures. The pathogens of primary concern are the Human Immunodeficiency Virus, Hepatitis B Virus and Hepatitis C Virus. Workers and employers are urged to take advantage of available engineering controls and work practices to prevent exposure to blood and other body fluids (CDC).

33.2 PURPOSE AND APPLICABILITY

- To prevent or control the risk of exposure to blood borne pathogens
- This policy applies to all Health Care Workers.

33.3 GENERAL PROVISIONS

Human Immunodeficiency Virus, Hepatitis B Virus and Hepatitis C Virus are carried in the blood of infected people (who may not know they are infected). They are also carried in other body fluids such as semen, vaginal secretions and breast milk. Body fluids such as saliva and urine may contain the virus but are unlikely to carry an infection risk unless they contain visible blood.

Hepatitis B Virus is found in the blood and body fluids of those who have or carry hepatitis B. It is most commonly spread by unprotected intercourse, drug users sharing equipment and from mother to baby at birth. Not all carriers of the disease are aware that they are infected. Following a needle stick injury from an infected person to an unimmunized person, the risk of Hepatitis B transmission is about 1 in 3. The risk is much lower in muco-cutaneous exposure Hepatitis C Virus is most commonly spread by blood to blood contact (e.g. sharing needles). Approximately 5 out of 6 people who have or carry it are not aware. Following a needle stick injury from an infected person, the risk of Hepatitis C Virus transmission is about 1 in 30.

HIV transmission in the work place is through similar routes to Hepatitis B Virus. Following a needle stick injury from an infected person the rate of infection is around 1 in 300. If the exposure is muco-cutaneous (e.g. blood splash to the eyes or broken skin) the risk drops to around 1 in 2000.

33.4 POLICY STATEMENTS

- All Health Care Workers shall be knowledgeable of and comply with all aspects of the National Infection Prevention and Control Guidelines.
- All Health Care Workers shall comply with standard, transmission base and Standard Precautions Policies.
- All Health Care Workers shall comply with hospital's orientation plan.
- All Health Care Workers shall be informed of risks associated with duties and responsibilities at the time of employment.
- All Health Care Workers shall report exposures, injuries, and illness as soon as it occurs to Human Resource Department / Infection Control Nurse.

- All Health Care Workers shall attend in-service education training activities organized by Health Administration.
- Absolutely No food or drink shall be sold or consumed in any area of the hospital except as designated and approved by hospital authority.

33.5 PROCEDURE

The risk of exposure to Blood Borne Virus and other pathogens can be significantly reduced by complying with the below listed policies and procedures:

- Hand hygiene [SEE SECTION III– POLICY #7] PPE [SEE SECTION III – POLICY #8].
- Waste management [SEE SECTION X – POLICY #32] Patient Care Equipment [SEE SECTION VII – POLICY #22].
- Immunization of Health Care Workers [SEE SECTION XI – POLICY #35] No recapping of needles [SEE SECTION VI – POLICY #21].
- Cleaning of blood spills [SEE SECTION VIII – POLICY #26].

…END OF POLICY…

POLICY #34: UNIVERSAL PRECAUTIONS

34.1 INTRODUCTION

Universal Precautions are intended to prevent parenteral, mucous membrane, and non-intact skin exposures to blood borne pathogens in health care settings. In addition, immunization with Hepatitis B Virus vaccine is recommended as an important adjunct to universal precautions for persons who have exposures to blood and body fluids.

34.2 PURPOSE AND APPLICABILITY

- To prevent the transmission of blood borne pathogens among Health Care Workers in health care settings.
- To provide guidelines to mitigate against the effects of exposures to blood borne pathogens.

This policy applies to all employees.

34.3 POLICY

- Universal Blood and Body Fluids policy shall be observed for ALL patients at ALL times and are intended to prevent the transmission of blood borne pathogens in health care settings via parenteral, mucous membrane and none intact skin.
- Universal Precautions apply to all blood and body substances and contaminated sharps.

34.4 GENERAL PROVISIONS

Universal Precaution shall be applied when performing the following procedures:

- Admitting Patients to Unit
- Bagging of Articles
- Cleaning
- Washing Dishes
- Handling Infectious Waste
- Handling Laboratory Specimens
- Handling Corpse
- Handling Soiled Linens
- Invasive Procedures
- Handling Sharps

34.5 SAFETY PRECAUTIONS

- Health Care Workers who have exudative lesions or weeping dermatitis, shall refrain from all direct patient contact and from handling patient care equipment until condition resolves.
- All employees with evidence of any illness that may compromise their ability to safely provide care shall be evaluated medically.
- Personnel who experience exposures to blood and body fluids including needle stick injuries shall report to the Emergency Room (ER) for evaluation by a physician, followed by notification of the incident, using appropriate forms, to the Infection Control Nurse.

34.6 RESPONSIBILITIES

- Health Care Workers involved in patient care have a responsibility to adhere to the all aspects of Universal Precaution Policy.

…END OF POLICY…

POLICY #35: IMMUNIZATION OF HEALTH CARE WORKERS

35.1 INTRODUCTION

- Center for Disease Control reports that Hepatitis B and C Virus infection is a major infectious occupational hazard for Health Care Workers. The risk of acquiring Hepatitis B and C Virus infection from occupational exposures is dependent on the frequency of percutaneous and per-mucosal exposures to blood or blood products.
- Immunization against hepatitis B and C is recommended for those who may be exposed to human blood or blood stained body fluids in the course of their work.

35.2 PURPOSE AND APPLICABILITY

- Health Care Workers may be at risk for Hepatitis B and C Virus exposure if their tasks involve contact with blood or blood- contaminated body fluids.
- This policy applies to all Health Care Workers.

35.3 POLICY STATEMENTS

- Health Care Workers shall be immunized against Hepatitis B and C Virus.
- Health Care Workers shall comply with the immunization schedule under the Expanded Program of Immunization.
- Health Care Workers who refuse Hepatitis B and C Virus Immunization shall sign a Refusal to be Immunized Form which shall be inserted in their personal file.

35.4 GENERAL PROVISIONS

Center for Disease Control states that Health Care Workers may be at risk for Hepatitis B and C Virus exposure if their tasks involve contact with blood or blood-contaminated body fluids, therefore, such workers shall be vaccinated.

Risks among Health Care Workers vary during the training and working career, but are often highest during the professional training period. For this reason, when possible, vaccination shall be completed during training in schools before workers have their first contact with blood.

FORM 2
INFECTION CONTROL DEPARTMENT
HEALTH CARE WORKER HEPATITIS B IMMUNIZATION
REFUSAL FORM CONSENT FORM D

I _____

certify that Dr. _____

of _____ has informed me on the Infection Prevention and Control Guidelines Policy on Immunization of Health Care Workers. Due to risks associated with the job duties and responsibilities of Health Care Workers, I am offered the Hepatitis B Vaccine at no charge. I understand very well the consequences of the level of risk as a health care worker. I hereby sign to acknowledge my refusal to receive Hepatitis B Vaccine as per policy.

_____ _____
Health Care Worker (signature/name) Place

_____
Date/Time

_____ _____
Witness (signature/name) Place

_____
Date/Time

35.5 RESPONSIBILITIES

- Health Administration shall ensure adequate supplies of PPE's for the safe execution of duties.
- Health Administration shall ensure an updated record of the immunization status of all employees.
- Infection Control Nurse shall ensure that Health Care Workers requiring Hepatitis B Virus
- Immunization receive the full course as per Expanded Program of Immunization schedule.
- Departments Heads shall encourage staff, where there is a known risk for exposure to blood, to disclose their immunization status regarding hepatitis B.

35.6 RESPONSIBILITIES

TABLE 23: SUMMARY OF ACIP RECOMMENDATIONS ON IMMUNIZATION OF HEALTH CARE WORKERS WITH SPECIAL CONDITIONS (MODIFIED FROM ACIP RECOMMENDATIONS9)

Vaccine	Pregnancy	HIV infection	Severe immuno-suppression*	Asplenia	Renal failure	Diabetes	Alcoholism & alcoholic cirrhosis
BCG	UI	C	C	UI	UI	UI	UI
Hepatitis A	UI	UI	UI	UI	UI	UI	R†
Hepatitis B	R	R	R	R	R	R	R
Influenza	R‡	R	R	R	R	R	R
Measles, mumps, rubella	C	R§	C	R	R	R	R
Meningococcus	UI	UI	UI	R†	UI	UI	UI
Polio, IPV ||	UI	UI	UI	UI	UI	UI	UI
Polio, OPV ||	UI	C	C	UI	UI	UI	UI
Pneumococcus†	UI	R	R	R	R	R	R
Rabies	UI	UI	UI	UI	UI	UI	UI
Tetanus/ diphtheria†	R	R	R	R	R	R	R
Typhoid, inactivated & Vi	UI	UI	UI	UI	UI	UI	UI
Typhoid, Ty21a	UI	C	C	UI	UI	UI	UI
Varicella	C	C	C	R	R	R	R
Vaccinia	UI	C	C	UI	UI	UI	UI

UI, Use if indicated; C, contraindicated; R, recommended. *Severe immunosuppression can be the result of congenital immunodeficiency, leukemia, lymphoma, generalized malignancy or therapy with alkylating agents, antimetabolites, radiation, or large amounts of corticosteroids.
†Recommendation is based on the person's underlying condition rather than occupation.
‡Women who will be in the second or third trimester of pregnancy during influenza season. §Contraindicated in persons with HIV infection and severe immunosuppression; || Vaccination is recommended for unvaccinated health care workers who have close contact with patients who may be excreting wild polioviruses. Primary vaccination with IPV is recommended because the risk for vaccine-associated paralysis after administration of OPV is higher among adults than among children. Health care workers who have had a primary series of OPV or IPV who are directly involved with the provision of care to patients who may be excreting poliovirus may receive another dose of either IPV or OPV.
Any suspected case of poliomyelitis should be investigated immediately. If evidence suggests transmission of wild poliovirus, control measures to contain further transmission should be instituted immediately, including an OPV vaccination campaign.
Reference: SPECIAL ARTICLE. Guideline for infection control in health care personnel, 1998.

…END OF POLICY…

POLICY #36: REPORTING EXPOSURES TO BLOOD AND BODY SUBSTANCES

36.1 INTRODUCTION

- Health Care Workers are at risk for occupational exposure to blood borne pathogens. Exposure may occur through needle sticks or cuts from other sharp instruments and percutaneous exposures through eyes, mouth, nose or non-intact skin with contaminated blood from infected patients.
- Recognizing the value and the paramount importance of Health Care Workers, the following policy and procedural guide has been developed as part of the post exposure management.
- Blood splashing onto intact skin does not carry a risk of exposure.

36.2 PURPOSE AND APPLICABILITY

- To ensure proper management and treatment of Health Care Workers exposed to infected patients.
- To reduce the incidence of occupational hazards associated with communicable diseases.
- To assess Health Care Workers compliance with Universal Precaution Policy.
- This policy applies to all Health Care Workers.

36.3 POLICY STATEMENTS

- All Health Care Workers who suffered an exposure during working hours shall report the incident to the manager of unit or department, within 24 hours of its occurrence.

36.4 PROCEDURES

- Health Care Workers shall be informed of hazard(s) associated with their work area during unit and department orientation.
- Health Care Workers that was exposed shall be responsible to report the incident to his or her immediate supervisor immediately after its occurrence.
- Supervisor shall ensure that EMPLOYEE INJURY and EXPOSURE REPORT FORM are properly filled and submitted immediately to Infection Control Unit.
- Infection Control Staff is responsible to interview Health Care Workers and complete the
- EMPLOYEE INJURY and EXPOSURE REPORT FORM.
- In situations when Infection Control Staff is not available, Shift Supervisors shall: Collect EMPLOYEE INJURY and EXPOSURE REPORT FORM.
- Ensure post prophylactic management procedures are initiated.
- Forward completed EMPLOYEE INJURY and EXPOSURE REPORT FORM to the Infection.
- Control Unit when the Infection Control Staff becomes available.
- Medical Officers from Emergency Department shall inform Health Care Workers and patient of the procedures to be followed, and ensure Consent Forms A & B are signed before establishing the serological and exposure collection code.
- To establish serological code, rapid test for Human Immunodeficiency Virus, Hepatitis B, Hepatitis C and Venereal Disease Research Laboratory -VDRL- or Rapid Plasma Regain (RPR) shall be requested and sample taken to Central Medical Laboratory.
- In situations where laboratory services are not available and source of exposure is highly suspicious for blood borne pathogen, the sample shall be taken from both the source and the injured or exposed personnel.

- Post exposure prophylactic therapy shall be immediately initiated, and the decision to discontinue therapy shall be made by the Chairman Infection Control Committee or the Chief of Staff.
- Once the serological and exposure codes are obtained, the need for prophylactic treatment shall be assessed and approved by Chairman of Infection Control Committee.
- On weekends, public and bank holidays, medical officer on duty in Emergency Room shall immediately contact chairman of Infection Control Committee or Chief of Staff on the prophylactic management of the person injured or exposed case.
- Treatment using combination AZT and 3TC shall be considered in the first four (4) hours.

36.4.1 FORMS

The forms available for this purpose are:

- Health Care Workers Consent Forms A & C.
- Patient Consent Form B
- Occupational Exposure Report Form
- Injury and Exposure Report Form
- Social Security Injury Benefit Form
- Social Security Witness Form.

FORM 3
EMPLOYEE INJURY/EXPOSURE REPORT FORM

Name: _____ Age: _____ D.O.B __/ __ /__
Unit: _____ Post:_____ Gender: M/F

(To be completed by injury/exposed person of person in charge of shift)

EXPOSURE INFORMATION

Date: __/ __ /__ Time: _____ AM/PM
Site of exposure: _____
Witnesses: _____
If you were not wearing PPE please state why.
_____
COMMENTS: _____

Type of exposure:
☐ Assault
☐ Cut
☐ Needle Stick
☐ Open wound
☐ Mucus membrane

Type of exposure:
☐ Assault
☐ Cut
☐ Needle Stick
☐ Open wound
☐ Mucus membrane

Activity:
☐ Assisting ☐ Medication ☐ Recapping
☐ Cleaning ☐ Mishap ☐ Surgical Procedure
☐ Disponsal ☐ Procedura ☐ Transporting Waste
☐ Other

SOURCE OF EXPOSURE

Name: _____ Serostatus: ☐ HIV+ ☐ HIV- ☐ Unknown
Diganosis: _____ Action: ☐ Counseled ☐ Consent Signed
Comments: _____

GENERAL INFORMATION

Post exposure action taken: _____
Personnel filling form: _____/_____/_____
Name Post Signature

FOR OFFICE USE ONLY: Date: __/ __ /__ Time: _____am/pm Exposure Code: _____

Staffinfo:

Last HIV:
☐ < 6 wks
☐ 6 wks - 1 Yr
☐ > 7 Yr
☐ Never

Hepatitis Vaccines:
☐ 1 dose
☐ 2 doses
☐ 3 doses
☐ None

Actions Taken:
☐ Counseled
☐ Consented
☐ Tested
Tested Code: _____

SourceInfo:

Source
☐ Known
☐ Unknown
☐ Tested
Test Code: _____

Requirements:
☐ Prophylaxis ☐ Sick Leave ☐ Follow Up
Comments: _____
_____
_____

Dates: 1st. __/ __ /__ 2nd __/ __ /__
3rd __/ __ /__ 4th __/ __ /__

_____
Signature

Adopted from KHMH

FORM 4
INFECTION CONTROL DEPARTMENT HEALTH CARE WORKER
CONSENT FORM RE: Post Injury/Exposure
CONSENT FORM A

I_____

certify that Dr. _____

of _____

received my permission to perform serological test to rule out the presence of antibodies against the Human Immune Deficiency Virus.

_____ _____
Health Care Worker (signature/name) Place

_____
Date/Time

_____ _____
Witness (signature/name) Place

_____
Date/Time

Adopted from KHMH

FORM 5
INFECTION CONTROL DEPARTMENT HEALTH CARE WORKER CONSENT
FORM RE: Post Injury/Exposure
CONSENT FORM A

I _____

certify that Dr. _____

of _____

received my permission to perform serological test to rule out the presence of antibodies against the Human Immune Deficiency Virus.

_____ _____
Patient (signature/name) Place

_____
Date/Time

_____ _____
Witness (signature/name) Place

_____
Date/Time

Adopted from KHMH

FORM 6
INFECTION CONTROL DEPARTMENT HEALTH CARE WORKER CONSENT
FORM RE: Post Exposure Prophylaxis to HIV CONSENT FORM C

I _____

certify that Dr. _____

of _____
has informed me on the standard guidelines of management of prophylaxis post exposure to Human Immune Deficiency Virus and I understand very well the consequences of the level of risk I have and the possible side effects of such therapy. I am hereby ☐ accepting ☐ refusing to obtain prophylactic treatment with antiretroviral medications.

_____ _____
Health Care Worker (signature/name) Place

_____
Date/Time

_____ _____
Witness (signature/name) Place

_____
Date/Time

Adopted from KHMH

36.5 RESPONSIBILITIES

- Unit and Department Heads during orientation are responsible to inform assigned Health Care Workers of hazards associated with their performance of duties.
- Health Care Workers that have been exposed are responsible to inform his/her immediate supervisor immediately after the injury or exposure.
- Unit or Department Manager shall ensure that EMPLOYEE INJURY and EXPOSURE REPORT FORM is properly completed before submission to Infection Control Unit.
- Shift Supervisor is responsible for the following in the absence of the Infection Control Staff: Receive completed EMPLOYEE INJURY OR EXPOSURE REPORT FORM.
- Ensure that procedures are being followed. Submit form to Infection Control Practitioner when they become available.
- Medical Officer assigned to Emergency Room shall inform Health Care Workers of the procedures to be followed and fill the relevant consent form to establish the serological and exposure code.
- Infection Control Practitioner is responsible to complete the EMPLOYEE INJURY OR EXPOSURE REPORT FORM.
- Human Resource Office is responsible to verify and complete SOCIAL SECURITY INJURY BENEFIT FORM in the presence of injured Personnel and the submission of completed form to Social Security Office within 24 hours of the incident.
- Infection Control is responsible to give feedback to Directors regarding staff condition.

…END OF POLICY…

SECTION 12
CHECK LIST FORM

National Ambulance Checklist Form
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Started:** _____ **Time Finished:** _____
Shifts: **Morning** ◯ **Evening** ◯ **Night** ◯ **District**: _____	**Name of Ambulance Driver:** _____ **Vehicle License Plate #:** _____	**Inspector Name:** _____

Section B: Criteria Checklist			
Component	**YES (date changed)**	**NO**	**Comments**
Vehicle Maintenance			
Oil Change			
Head Lights			
Sirens Functional			
Red Flash Lights functional			
Tire Change			
Equipment			
Spinal Board with straps			
Wheeled Cot with rails			
Auxiliary Stretcher			
Adult Valve mask resuscitator			
Paediatric valve mask Resuscitator			
Adult traction splint			
Extremity splints			
Portable oxygen tank with regulator			
Continuous intermittent suction machine with battery supply			
Intravenous Stand or Hook			
Portable Cardiac monitor			
Pulse oximeter			
Waste containers			
Fire extinguisher – wall mounted			
Sharp containers			
Extra seating for health care provider with seat belt/Straps			

Medical Supplies			
Cervical Collars			
Bed pan			
Kidney dish			
Urinal			
Unsterile gloves			
Sterile Gloves			
Alcohol Swabs			
Gauze dressings			
Maternity Packs with Umbilical Clamps			
Intravenous catheters			
Cold Packs			
Suction catheters			
Surgical packs			
Adhesive tape			
Sterile burn kit			
Bandages (elastic and gauze)			
Medication cups			
Injection syringes			
Surgical masks			
N95 masks			
Adult Stethoscope			
Adult Blood pressure Apparatus			
Paediatric Blood Pressure Apparatus			
One penlight			
Bandage scissors			
Pharmaceuticals			
As per crash cart policy			
Cleaning/Disinfectant Agent			
70% Alcohol			
1:10 Clorox			
Alcohol-based hand rub			
Detergent			
Disposable/ reusable cleaning cloths			
Plastic basin bowl for cleaning purposes only			

Signature of Inspecting L&A Officer/Representative: _____

Name and Signature of Manager: _____/_____

National Blood/Autologous/ Transfusion Checklist
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Started:** _____ **Time Finished:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of nurse/doctor:** _____	**Inspector Name:** _____

Section B Prerequisites for administration of blood transfusion			
Criteria	**YES**	**NO**	**Comments**
Performed by 2 nurses			
Recipient name, BHIS #, ID Band & blood tag matches			
Blood compatible (recipient blood & donor blood: Gp/Rh)			
Within expiration date			
Blood with normal appearance: (abnormal colour, leakage, clumps)			
Pre-transfusion medication administered as prescribed			
Wheeled Cot with rails			

Section C Instrument/Essential Item		
Criteria	**YES=1 / NO= 2**	**Comments**
#18 or #20 gauge IV needle in place – 2 sites If autologous		
Y-type blood administration in place		
Blood filter		
Normal saline (NSS) (Addressograph)		
Unit of blood		

NOTE: If you answer any of the critical steps with NO, do not proceed until step can be answered YES.

Section C Transfusion Procedures		
Critical Step	**YES=1 / NO= 2**	**Comments**
Transfusion order on doctor's order sheet - blood or autologous		
Informed consent for blood transfusion signed		
Procedure explained to the patient		
Pre-transfusion/baseline vital signs (TPR-BP) taken within one hour before start of transfusion and charted		
#18 or #20 gauge IV needle in place/ functional. If no, call for assistance.		

Critical Step	YES=1 / NO= 2	Comments
Infusion equipment available for use: A. Y-type blood administration set with blood filter B. normal saline (NSS)		
Primed y-type tubing, blood filter, and normal saline attached to #18 or #20 gauge needle		
Patency of IV line established by infusing normal saline		
Unit of blood A. Obtained from Blood Bank only after IV patency established		
Cross-check the patient's name and BHIS # on: • the patient's identification band • the blood product requisition form (Blood Bank) Cross check unit of blood and requisition form for type, date & ID#. (Blood Bank only) Two nursing professionals should verify that these are identical and sign the Blood Product Requisition form (Blood Bank only).		
Unit of blood hung right away		
Transfusion form left with unit of blood during transfusion		
Patient observed by RN for first 15 minutes (approximately 50 mL of blood infused) at rate of 60 drops per minute		
Infusion rate adjusted for transfusion completion within a 1-1½ hour period unless ordered otherwise by physician (time period not to exceed 4 hours for blood & 6 hours from time collection began for autologous)		
TPR/BP taken and charted 15 minutes after start of transfusion and every 30 minutes during transfusion and patient observed for transfusion reactions. Report significant changes (chills, fever [greater than 2° F. above baseline temperature], back pain, hives, etc.) immediately. If any signs of reaction are noted, stop infusion and verify in accordance with blood transfusion policy		
At completion of transfusion therapy, blood filter and y-type tubing are cleared of remaining blood components by flushing with normal saline		
Complete documentation on time transfusion completed, amount of blood infused, and presence or absence of reaction		
Return unit in appropriate transport container to Lab along with Lab portion of form (exception autologous) as per policy		
Do not exceed 2000 mLs for autologous transfusion		

Section D Vital Signs Pre, Intra, and Post-Transfusion						
Date	**Time**	**Temp.**	**Pulse**	**Resp.**	**BP**	**Comments**

Autologous Transfusion Vital Signs				
Critical	**Pre**	**Intra**	**Post**	**Comments**
Blood Unit #				
Time				

National Admission Checklist
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time requested:** _____ **Time admitted:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of nurse/doctor:** _____	**Patient Name:** _____ **Patient Age:** _____ **Patient Sex: M / F**

LISTINGS	YES	NO	N/A
Patient's Identification Band in place?			
Patient's Personal Belongings secured?			
Admission entered in A&E register/BHIS?			
Docket in order (Identification, signatures, entries etc.)			
Old records available (electronic or hard copies)?			
IV line in place?			
Lab. Works done?			
Blood results available?			
X-rays, CT SCAN, Ultrasound results available?			
Drug chart signed?			
Dressings done?			
Skin traction in place?			
Patient fed?			
Patient clean and tidy?			
Nurse accompany critically ill patient?			
Vital Signs taken and recorded?			
Employment Injury?			
Was this patient Referred?			
Family member informed of admission and criteria?			
Procedures or diagnosis or reason for admission explained?			
Family member were allowed to secure personal belonging?			

_____ _____
Signature of staff completing Checklist Title

_____ _____
Name of Staff Receiving Patient Title

Communicable Diseases

- [ ] 01) Acquired Immunodeficiency Syndrome - AIDS
- [ ] 02) Acute Faccid Paralysis
- [ ] 03) Acute Respiratory Infection in <5 years
- [ ] 04) Amoebiasis
- [ ] 05) Chicken Pox
- [ ] 06) Chlamydial Infection
- [ ] 07) Cholera
- [ ] 08) Ciguatera Poisoning
- [ ] 09) Congenital Rubella Syndrome
- [ ] 10) Congenital Syphillis
- [ ] 11) Conjunctivitis
- [ ] 12) Dengue Fever
- [ ] 13 Dengue Haemorrhagic Fever/Shock Syndrome
- [ ] 14) Diphtheria
- [ ] 15) Foodborne Illness
- [ ] 16) Gastroententeritis in <5 years
- [ ] 17) Gastroententeritis in >5 years
- [ ] 18) Genital Discharge Syndrome (not otherwise specified)
- [ ] 19) Genital Ulcer Syndrome (not otherwise specified)
- [ ] 20) Gonococcal Infection
- [ ] 21) Herpers Genitalis
- [ ] 22) Influenza
- [ ] 23) Leprosy (Hansen´s Disease)
- [ ] 24) Leptospirosis
- [ ] 25) Malaria
- [ ] 26) Measies
- [ ] 27) Meningitis (due to Haemophilus Influenzae)
- [ ] 28) Meningoccocel Infection (due to Neisseria meningitidis)
- [ ] 29) Mumps
- [ ] 30) Neonatal Conjuctivitis (Not otherwise specified)
- [ ] 31) Neonatal Conjuctivitis (due to hlamydial Trachomatis)
- [ ] 32) Neonatal Conjuctivitis (due to Neisseria gonorrhea)
- [ ] 33) Pertussis (Whooping Cough)
- [ ] 34) Plague
- [ ] 35) Poliomyelitis acute
- [ ] 36) Rabies (In Humans)
- [ ] 37) Rubella (Gerran Measles)
- [ ] 38) Salmonellosis
- [ ] 39) Scabies
- [ ] 40) Shingellosis
- [ ] 41) Syphilis
- [ ] 42) Tetanus (excluding neonatal)
- [ ] 43) Tetanus neonatorum
- [ ] 44) Tuberculosis (Pulmonary)
- [ ] 45) Tuberculosis (all other forms)
- [ ] 46) Typhoid and Paratuphoid Fevers
- [ ] 47) Viral Encephaitis
- [ ] 48) Vitral Hepatitis A (Clinical)
- [ ] 49) Viral Hepatitis A (Lab Confirmed)
- [ ] 50) Viral Hepatitis B (Clinical)
- [ ] 51) Viral Hepatitis B (Lab Confirmed)
- [ ] 52) Viral Hepatitis C Inspecified
- [ ] 53) Viral Meningitis
- [ ] 54) Yellow Fever

Communicable Diseases Notification card	Ministry of Health  COMMUNICABLE DISEASES NOTIFICATION CARD	District: _____ ☐☐☐ Health Unit: _____ ☐☐☐ Notification date: ☐☐☐☐☐☐ day / month / year
Date: _____ Name: _____ _____ _____ _____ Addres: _____ _____ _____ Disease: _____ _____ _____	Name: _____ _____	Age: _____ ☐☐☐ Sex: ☐MALE ☐ FEMALE
	Addres: _____ _____	
	Medical Practitioner / Nurse Npotifying the Case Name: _____ Signature: _____ MARK DISEASE ON THE BACK.	

ADULT CRASH CART CHECKLIST FORM

	DATE																					
MEDICATION	SHIFT	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N
A	Adrenaline																					
	Aminophylline																					
	Atropine																					
C	Calcium Gluconate																					
	Chlorpromazine																					
D	Dexamethasone																					
	Dextrose 50%																					
	Digoxin																					
	Dilantin																					
	Dobutamine																					
	Dopamine																					
H	Haldol																					
	Hydorcortisone																					
	Hydralazine																					
	Hydrocortisone																					
L	Labetalol																					
	Lasix																					
	Lidocaine 2%																					
M	Magnesium Sulphate																					
	Mannitol																					
	Methylpredisone																					
	Midozalam																					
N	Nalaxzone																					
P	Pancruronium (Refrigerated)																					
	Phenobarbital																					
	Potassium Chloride																					
	Promethazine																					
	Propofol (Refrigerated)																					
	Protamine Sulphate																					
S	Sodium Bicarbonate																					
	Solumedrol																					
T	Tropium																					
V	Valium																					
	Ventolin																					
	Verapramil																					
	Vitamin K																					

ADULT CRASH CART CHECKLIST FORM

MEDICATION	SHIFT	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N
Top shelf	Defibrillator																					
	Suction device																					
Drawer A Airway	Endothracheal Tube 5.5 Fr																					
	Endothracheal Tube 6 Fr																					
	Endothracheal Tube 6.5 Fr																					
	Endothracheal Tube 7 Fr																					
	Endothracheal Tube 7.5 Fr																					
	Endothracheal Tube 8 Fr																					
	Endothracheal Tube 8.5 Fr																					
	Endothracheal airway																					
	Laryngoscope With blades																					
	Nasal airways (Various Sizes)																					
	Oral airways (Various Sizes)																					
	Oxygen tubing																					
	Portable O2 Tank w/ Regulator (Small)																					
	Stylets																					
	Suction tubing																					
	Trach Tube (Cuffed & Uncuffed) 5.5 Fr																					
	Trach Tube (Cuffed & Uncuffed) 6 Fr																					
	Trach Tube (Cuffed & Uncuffed) 6.5 Fr																					
	Trach Tube (Cuffed & Uncuffed) 7 Fr																					
	Trach Tube (Cuffed & Uncuffed) 7.5 Fr																					
	Trach Tube (Cuffed & Uncuffed) 8 Fr																					
	Trach Tube (Cuffed & Uncuffed) 8.5 Fr																					
	Wire Cutter																					
Drawer B Breathing	Ambu bag																					
	Face mask																					
	Venturi mask																					

ADULT CRASH CART CHECKLIST FORM

MEDICATION	SHIFT	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N
Drawer C Circulation	Blood tubes (Pt, PTT, Hb, Chemistry)																					
	Central Lines (Various Sizes)																					
	Hypodermic Needles (Various Sizes)																					
	Infusion Pump Connection																					
	IV cannulae																					
	IV Fluid Connections																					
	IV Fluids (D5%, D50%, NACL, Manitol)																					
	Monitor leads																					
	Sterile dressing																					
	Syringes (Various Sizes)																					
	Tourniquets																					
	INITIALS																					

PAEDIATRIC CRASH CART CHECKLIST FORM

	DATE																					
MEDICATION	SHIFT	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N
A	Adrenaline																					
	Aminophylline																					
	Atropine																					
C	Calcium Gluconate																					
	Chlorpromazine																					
D	Dexamethasone																					
	Dextrose 50%																					
	Digoxin																					
	Dilantin																					
	Dobutamine																					
	Dopamine																					
H	Haldol																					
	Hydorcortisone																					
	Hydralazine																					
	Hydrocortisone																					
L	Labetalol																					
	Lasix																					
	Lidocaine 2%																					
M	Magnesium Sulphate																					
	Mannitol																					
	Methylpredisone																					
	Midozalam																					
N	Nalaxzone																					
P	Pancruronium (Refrigerated)																					
	Phenobarbital																					
	Potassium Chloride																					
	Promethazine																					
	Propofol (Refrigerated)																					
	Protamine Sulphate																					
S	Sodium Bicarbonate																					
	Solumedrol																					
T	Tropium																					
V	Valium																					
	Ventolin																					
	Verapramil																					
	Vitamin K																					

PAEDIATRIC CRASH CART CHECKLIST FORM

MEDICATION	SHIFT	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N
Top shelf	Defibrillator																					
	Suction device																					
Drawer A Airway	Endothracheal Tube 2 Fr																					
	Endothracheal Tube 2.5 Fr																					
	Endothracheal Tube 3 Fr																					
	Endothracheal Tube 3.5 Fr																					
	Endothracheal Tube 4 Fr																					
	Endothracheal Tube 4.5 Fr																					
	Endothracheal Tube 5 Fr																					
	Endothracheal airway																					
	Laryngoscope With blades																					
	Nasal airways (Various Sizes)																					
	Oral airways (Various Sizes)																					
	Oxygen tubing																					
	Portable O2 Tank w/ Regulator (Small)																					
	Stylets																					
	Suction tubing																					
	Trach Tube (Cuffed & Uncuffed) 2 Fr																					
	Trach Tube (Cuffed & Uncuffed) 2.5 Fr																					
	Trach Tube (Cuffed & Uncuffed) 3 Fr																					
	Trach Tube (Cuffed & Uncuffed) 3.5 Fr																					
	Trach Tube (Cuffed & Uncuffed) 4 Fr																					
	Trach Tube (Cuffed & Uncuffed) 4.5 Fr																					
	Trach Tube (Cuffed & Uncuffed) 5 Fr																					
	Wire Cutter																					
Drawer B Breathing	Ambu bag																					
	Face mask																					
	Venturi mask																					

PAEDIATRIC CRASH CART CHECKLIST FORM																							
MEDICATION	SHIFT	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	
Drawer C Circulation	Blood tubes (Pt, PTT, Hb, Chemistry)																						
	Central Lines (Various Sizes)																						
	Hypodermic Needles (Various Sizes)																						
	Infusion Pump Connection																						
	IV cannulae																						
	IV Fluid Connections																						
	IV Fluids (D5%, D50%, NACL, Manitol)																						
	Monitor leads																						
	Sterile dressing																						
	Syringes (Various Sizes)																						
	Tourniquets																						
	INITIALS																						

National Decubitus Ulcer Evaluation Checklist
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Evaluated by:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of nurse/doctor:** _____ **Diagnosis:** _____ _____	**Patient Name:** _____ **Patient Age:** _____ **Patient Sex: M / F**

Risk Group:	**YES**	**NO**	**N/A**
1. Immobile			
2. Malnourish			
3. Ventilated			
4. Immune suppress			
5. Unconscious			
6. Elderly			
7. Critically ill			
8. Incontinent			
9. Diabetic			
10. Contractures			
Physical Assessment: Integrity of pressure sites	**YES**	**NO**	**N/A**
1. Normal			
2. Reddening of skin			
3. Reddening and edema			
4. Large crater/bone exposure			
5. Wound clean/dry/moist			
6. Necrotic tissue/formation of small crater			
7. Moist			
8. Rashes			
9. Dry			
10. Specify location of the Ulcer?			
Nursing Care Documented: Repositioning of Patient	**From**	**To**	**Comments**
1. Sitting			
2. Supine			
3. Prone			
4. Right Lateral			
5. Left Lateral			

Pressure Area Care Performed :	YES	NO	N/A
1.Occiput			
2.Forehead			
3.Shoulder			
4.Scapular			
5.Left Lateral			
6.Elbow			
7. Hip			
8.Sacrum			
9.Buttocks			
10.Knee			
11.Ankle			
12.Heel			
Patient Environment: Bed Linen	**YES**	**NO**	**N/A**
1.Dry			
2.Wet			
3.Wrinkle			
4.Smooth			
5.Debris			
6.Clean			
Patient Environment: Room Temperature	**YES**	**NO**	**N/A**
1.Cold			
2.Cool			
3. Warm			
4. Hot			

Comments: _____

_____

_____

National Dietary Inspection Form
Ministry of Health

Section A: General Information		1= Poor/Absent 2= Below Average 3= Average 4= Above Average
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Completed:** _____
Area/Department: _____	**Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Inspector Name:** _____

Section B: Staff Evaluation Criteria						
AREAS BEING EVALUATED	**1**	**2**	**3**	**4**	**5**	**COMMENTS**
STAFF						
Visible signs of : Infected Hands						
Current/Recent reports of GI and diarrhoea						
Dress Code: Hair Coverings						
Hand Jewellery						
Aprons						
Enclosed Shoes						
Personal Hygiene: Short, Clean Nails						
Observation of ARI						
Neat and Clean Appearance (clean clothes, hair well kept)						
Observation of : Hand washing (adherence to all criteria)						
Dishwashing (adherence to all criteria)						
General Cleaning (adherence to all criteria)						
Adherence to cleaning schedule						
QUALITY OF FOOD PREPARATION						
Uncooked Food: Juices						
Fruits &Vegetables						
Meat/Fish						
Cooked food: Meat						
Dough						
Nursing Care Documented: Repositioning of Patient						
Staples						
Vegetables						
QUALITY OF FOOD STORAGE						
Uncooked food: Meat						
Fruits & Vegetables						
Dry Goods						

AREAS BEING EVALUATED	1	2	3	4	5	COMMENTS
All food and paper supplies are stored 6-8 ins off the floor						
All food is labelled with name and date received						
Open bags of food are stored in containers with tightly sealed lids and labelled with common name						
The FIFO (FIRST IN, FIRST OUT) method of food management is used						
There are no bulging or leaking canned goods						
All food surfaces are clean						
Food is protected from contamination used appropriate methods						
Cooked food: Containers						
Labelling						
Temperature						
QUALITY OF FOOD HANDLING AND DISTRIBUTION						
Cafeteria: Temperature (Cold)						
Temperature (Hot)						
Handling						
Wards: Temperature (Cold)						
Temperature (Hot)						
Handling						
QUALITY OF ENVIRONMENT						
Food Preparation Area: Odour free						
Organised						
Level of Cleanliness						
Only authorised Trafficking						
Food Distribution Area: Odour free						
Organised						
Level of Cleanliness						
Heating Tables: Odour free						
Organised						
Level of Cleanliness						
Food Carts: Odour free						
Organised						
Level of Cleanliness						
Utensils: Adequate Availability						
Level of Cleanliness						
Appropriate Storage						
Dishwashing Area: Odour free						
Organised						
Level of Cleanliness						
Cooling Unit: Odour free						
Organised						
Level of Cleanliness						
Freezer: Odour free						
Organised						
Level of Cleanliness						

AREAS BEING EVALUATED	1	2	3	4	5	COMMENTS
Deep Freeze: Odours Free						
Organised						
Level of Cleanliness						
Lockers: Odour free						
Organised						
Level of Cleanliness						
Windows: Screens (cleanliness and appearance)						
Level of Ventilation						
Level of Cleanliness						
Bathroom: Odour free						
Organised						
Level of Cleanliness						
Level of Ventilation						
CLEANING AND SANITISING						
If heat sanitizing, the utensils are allowed to remain immersed in171 °F water for 30 seconds						
Small wares and utensils are allowed to air dry						
Wiping cloths are stored in sanitizing solution while in use						
Work surfaces are cleaned and sanitized between uses						
WASTE MANAGEMENT						
Containers: Adequate Liners						
Adequate Covers						
Level of Cleanliness						
Odour free						
Appropriate Location						
Kitchen garbage cans are clean and kept covered						
TRANSPORTATION						
Adequate Handling						
Use of appropriate Route						
In accordance with Schedule						
PEST CONTROL						
Outside doors have screens, are well-sealed, and are equipped with a self-closing device						
No evidence of pests is present						
There is a regular schedule of pest control by a licensed pest control operator						
Regular documented inspection by PHI						

Dietary Storage/Preparation and Staff Checklist
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Completed:** _____
Department: _____	**Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Inspector Name:** _____

Section B: Criteria Checklist			
Criteria	**YES=1 NO=2**	**Comments**	**Corrective Action**
Personal Hygiene			
Employees wear clean and proper uniforms including shoes			
Effective hair restraints are properly worn			
Fingernails are short, unpolished, and clean (no artificial nails)			
Jewellery is limited to a plain ring, such as a wedding band, and watch, and no bracelets			
Hands are washed properly, frequently, and at appropriate times			
Burns, wounds, sores or scabs, or splints and water-proof bandages on hands are bandaged and completely covered with a foodservice glove while handling food			
Eating, drinking, chewing gum, smoking, or using tobacco are allowed only in designated areas away from preparation, service, storage, and ware washing areas			
Employees use disposable tissues when coughing or sneezing and then immediately wash hands			
Employees appear in good health			
Hand sinks are unobstructed, operational, and clean			
Hand sinks are stocked with soap, disposable towels, and warm water			
A handwashing reminder sign is posted			
Employee restrooms are operational and clean			

Criteria	YES=1 NO=2	Comments	Corrective Action
Food Preparation			
All food stored or prepared in facility is from approved sources			
Food equipment utensils, and food contact surfaces are properly washed, rinsed, and sanitized before every use			
Frozen food is thawed under refrigeration, cooked to proper temperature from frozen state, or in cold running water			
Thawed food is not refrozen			
Preparation is planned so ingredients are kept out of the temperature danger zone to the extent possible			
Food is tasted using the proper procedure			
Procedures are in place to prevent cross-contamination			
Food is handled with suitable utensils, such as single use gloves or tongs			
Food is prepared in small batches to limit the time it is in the temperature danger zone			
Clean reusable towels are used only for sanitizing equipment and surfaces and not for drying hands, utensils, or floor			
Food is cooked to the required safe internal temperature for the appropriate time. The temperature is tested with a calibrated food thermometer			
The internal temperature of food being cooked is monitored and documented			
Hot Holding			
Refrigerators are kept clean and organized			
Temperature of cold food being held is at or below 41 °F			
Food is protected from contamination			
Refrigerator, Freezer, and Milk Cooler			
Thermometers are available and accurate			
Temperature is appropriate for pieces of equipment			
Food is stored 6 inches off floor or in walk-in cooling equipment			
Refrigerator and freezer units are clean and neat			
Proper chilling procedures are used			
All food is properly wrapped, labelled, and dated			
The FIFO (First In, First Out) method of inventory management is used			
Ambient air temperature of all refrigerators and freezers is monitored and documented at the beginning and end of each shift			

Criteria	YES=1 NO=2	Comments	Corrective Action
Food and Dry Storage			
Temperatures of dry storage area is between 50°F and 70 °F			
All food and paper supplies are stored 6-8 ins off the floor			
All food is labelled with name and date received			
Open bags of food are stored in containers with tightly sealed lids and labelled with common name			
The FIFO (FIRST IN, FIRST OUT) method of food management is used			
There are no bulging or leaking canned goods			
Food is protected from contamination used appropriate methods			
All food surfaces are clean			
Chemicals are clearly labelled and stored away from food and food-related supplies			
There is a regular cleaning schedule for all food surfaces			
Food is stored in original container or food grade container			
Cleaning and Sanitising			
Three-compartment sink is properly set up for ware washing			
Water is clean and free of grease and food particles			
Water temperatures are correct for wash and rinse			
If heat sanitizing, the utensils are allowed to remain immersed in 171 °F water for 30 seconds			
If using a chemical sanitizer, it is mixed correctly and a sanitizer strip is used to test chemical concentration			
Small wares and utensils are allowed to air dry			
Wiping cloths are stored in sanitizing solution while in use			
Utensils and Equipment			
All small equipment and utensils, including cutting boards and knives, are cleaned and sanitized between uses			
Small equipment and utensils are washed, sanitized, and air-dried			
Work surfaces and utensils are clean			
Work surfaces are cleaned and sanitized between uses			
Thermometers are cleaned and sanitized after each use			
Thermometers are calibrated on a routine basis			
Can opener is clean			

Criteria	YES=1 NO=2	Comments	Corrective Action
Clean utensils are handled in a manner to prevent contamination of areas that will be in direct contact with food or a person's mouth			
Garbage Disposal			
Kitchen garbage cans are clean and kept covered			
Garbage cans are emptied as necessary			
Boxes and containers are removed from site			
Loading dock and area around dumpster are clean			
Dumpsters are clean			
Pest Control			
Outside doors have screens, are well-sealed, and are equipped with a self-closing device			
No evidence of pests is present			
There is a regular schedule of pest control by a licensed pest control operator			

National Dishwashing Service Checklist
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Started:**_____ **Time Finished:** _____
Area/ Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of Domestic:** _____	**Inspector Name:** _____

Section B: Criteria Checklist

Criteria	YES=1 NO=2	YES=1 NO=2	YES=1 NO=2	Comments	Actions Taken
Three-compartment sink is properly set up for ware washing					
Water is clean and free of grease and food particles					
Water temperatures are correct for wash and rinse					
If heat sanitizing, the utensils are allowed to remain immersed in 171 °F water for 30 seconds					
If using a chemical sanitizer, it is mixed correctly and a sanitizer strip is used to test chemical concentration					
Small wares and utensils are allowed to air dry					
Wiping cloths are stored in sanitizing solution while in use					
Prewash					
Scrape and rinse off surface food particles					
Sort (discard cracked, chipped or unusable items					
Spray rinse					
Soak if necessary					
1st Wash Compartment					
Wash with detergent and hot water at temperature of 110°F					
Change water frequently					

Criteria	YES=1 NO=2	YES=1 NO=2	YES=1 NO=2	Comments	Actions Taken
Add proper quantity and type of detergent					
Washing order: glassware, flatware, dishes, trays, pots, pans					
2nd Wash Compartment					
Clean, hot water					
Change water frequently					
3rd Wash Compartment					
Submerge for 30 seconds in clean water maintained at 170°F minimum or					
Chlorine bleach solution of 2 tablespoon bleach per gallon of water. Temperature of water shall be no higher than 70°F.					
Sanitizing water is free of detergent or soap					
Water temperature is not higher than 70 degrees F					

National Environmental Inspection Checklist
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Completed:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Total Number of sinks in room:** _____	**Inspector Name:** _____

Section B: Facility Checklist			
Criteria	**YES**	**NO**	**Comments**
Organisational structures are in place to ensure distribution, compliance, and auditing of cleanliness			
Overall appearance of the environment is tidy and uncluttered with only appropriate clean and well maintained furniture used			
Furniture smells clean, fresh, and pleasant			
Tiled floors are washable and impervious to moisture and sealed regularly			
The complete floor, including edges and corners are visibly clean with no visible bodily substances, dust, dirt, or debris			
Furniture, fixtures, and fittings should be visibly clean with no bodily substances, dust, debris, or adhesive tape			
All dispensers, holders, and all parts of the surfaces of dispensers of soap and alcohol gel, paper towel, couch roll, toilet paper holders etc. are visibly clean with no bodily substances, dust, debris, or adhesive tape			
Toilets are intact, visibly clean, and with no body substances, dust, lime scale stains, deposits or smear including underneath the seats			
Hand-wash basins are intact, visibly clean, and with no body substances, dust, lime scale stains deposits or smeared with underneath the seats			
Facilities are available for the safe disposal of sanitary towels			
Sanitary bins are emptied regularly to prevent overfilling			
Waste receptacles are clean, including lid and pedals			
Foot pedals of clinical waste bins are in good working order			

Criteria	YES	NO	Comments
Furniture in patient areas e.g. chairs and couches, are made of impermeable materials			
Chairs are free from rips and tears			
Couches are free from rips and tears			
Pillows are enclosed in a washable and impervious covers			
Furniture that cannot be cleaned is condemned			
Tables are tidy and uncluttered to enable cleaning			
Medical equipment is cleaned, maintained, and stored appropriately			
Water coolers are visibly clean and serviced on a regular basis			
Toys are visibly clean with no evidence of bodily substances, dust or other deposits			
Changing mats are free of rips and tears and are visibly clean with no evidence of substances, dust, debris			
Changing mats are covered in easy-to-clean material			
Baby weighing scales are visibly clean with no body substances, dust, or deposits			
Feeding areas, cribs and bedding are changed and cleaned regularly			
Hand hygiene is actively performed			
Pests are eradicated with no visible signs			
Paint is maintained			
Appropriate lighting			
Visible damage to floors and walls			
External aspect of building is maintained (yard and fences)			

National Environmental Surveillance Checklist
Ministry of Health

Section A: General Information		
Facility Name: _____	**Date:** _____/_____/_____	**Time Completed:** _____
Wards/Area/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of Nurse/Health Officer:** _____	**Inspector Name:** _____

Section B: Storeroom Checklist			
Area	**Standard**	**YES/NO**	**Comments**
Medication Room	Order		
	Cleanliness		
Multi-dose Vials	Label		
	Expiry Date		
Alcohol Swab	Lids		
	Handling		
	Containers		
	Cleaning		
Refrigerator	Use		
	Order		
	Cleanliness		
Thermometers	Cleaning procedure		
	Storage		
Hand Washing Sink	Availability		
	Cleanliness		
Paper Towel	Dispenser		
	Availability		
Soap	Dispenser		
	Availability		
	Cleanliness		
Running Water	Availability		
Hand Washing	Technique		
Clean Linen Management	Storage		
	Handling		
	Cleanliness		
Soiled Linen Management	Storage		
	Handling		

Area	Standard	YES/NO	Comments
Treatment Room	Order		
	Cleanliness		
Reusable Equipment	Storage		
	Label		
	Cleaning procedure		
Sterile Packs	Storage		
	Handling		
	Expiration Date		
Solutions	Labelling		
	Storage		
	Handling		
Store Room	Order		
	Cleanliness		
Equipment	Storage		
Derelict Material	Storage		
Waste Disposal	Availability		
	Segregation		
	Storage		
	Transportation		
	Containers		
	Lids		
	Labelling		
	Disposal		
Sharp	Disposal		
	Containers		
	Labelling		
	Availability		

National Hand Hygiene Checklist
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Started:**_____ **Time Finished:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Total Number of sinks in room:** _____	**Inspector Name:** _____

Section B: Sink Criteria		
Criteria	**YES=1 NO=2**	**Comments**
A sink that is dedicated solely to handwashing is located inside the room		
A hand washing only sign hangs immediately by the sink		
A soap dispenser is located near the sink		
Sufficient hand clearance is found between a soap dispenser and sink levers		
The sink is free of bar soap		
A paper towel dispenser is located near the sink		
A hot-air dryer is not located in the room		
Section C Alcohol Based Hand Rub (ABHR)		
Criteria	**YES=1 NO=2**	**Comments**
At least one ABHR is located within 3ft of the point of care		
*For multi-bed rooms at least one ABHR is located by each bed		
An ABHR dispenser is not located right next to the sinks		
An ABHR dispenser is not located right next to the soap dispenser		
Doorway ABHR dispenser are located within comfortable reach of the door		
ABHRs are in clear view from the room entrance		
ABHRs are **not** blocked by movable devices		
ABHRs are **not** blocking other objects (an outlet, power switches etc.)		
Are **not** located near ignition sources		
Are in relatively comfortable reach		
Staff adhere to 5 moments of hand hygiene technique		
5 moments of hand hygiene are displayed over ABHR dispenser and wash hand basin		

National Housekeeping Checklist Form
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Started:**_____ **Time Finished:** _____
Wards/Area/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of Domestic:** _____	**Inspector Name:** _____

Section B: Criteria Checklist		
Criteria	**YES=1 NO=2**	**Comments**
Is domestic auxiliary on site?		
Surfaces clean: bed side tables, over-bed tables etc.		
Corridors clean, free of litter and spills		
Hand sinks clean		
Liquid soap available at sink		
Paper towel in dispenser		
Toilets clean		
Toilet paper in dispenser		
Shower stalls clean		
Garbage bins empty		
Garbage bins clean		
Correct colour-coded bags in bins		
Garbage bags available		
Cleaning carts clean		
Cleaning agents available on ward		
Mops washed and stored appropriately		

National Health Facility Isolation Room Checklist
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Started:**_____ **Time Finished:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Nurse/Clinician In charge:** _____	**Inspector Name:** _____

Section B: Category Checklist			
Criteria	**YES**	**NO**	**Comments**
Identification of Precaution Measures			
Standard			
Droplet			
Airborne			
Contact			
Protective			
Availability of Supplies			
PPEs			
Hand Sanitisers			
Liquid Soap			
Dispensers			
Paper Towel			
Waste Containers			
Linen Hampers			
Wash Basin			
Infrastructure			
Signage			
Ante Room with Recommended Specifications (ceiling height etc.)			
Hand Wash Basin			
Toilet			
Ventilation Measures (windows and doors)			
Equipment			
Bed			
IV Stand			
BP Apparatus			
Thermometer			
Nebuliser			
Oxygen			

Equipment			
Staff Compliance			
Appropriate use of PPE			
Room is Visibly Clean			
Equipment are Thoroughly Cleaned			
Visitors Comply with Biosafety Measures			

National Intravenous (IV) Therapy Checklist
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Started:** _____ **Time Finished:** _____
Wards/Room/Department: _____	**Shifts: Morning** ◯ **Evening** ◯ **Night** ◯	**Inspector Name:** _____ **HCW in charge of ward/unit:** _____

INDICATORS:

1. % of Peripheral IV catheters inserted in accordance with National Infection Prevention and Control (NIPC) Guidelines.
2. % of Peripheral Intravenous catheters manipulated in accordance with NIPC Guidelines.

Section B: Criteria Checklist

Criteria	Means of Verification	Total Number of Patients Assessed with Intravenous catheter- tick ( ) `as appropriate																									Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
CATHETER INSERTION																											
Hand Hygiene performed at all times prior to insertion of Catheter	Observation and documentation																										
Hand Hygiene performed at all times after insertion of IV Catheter	Observation and documentation																										
Skin cleansed with appropriate antiseptic solution: Chlorhexidine-based antiseptic or, 70 % alcohol, or Tincture of Iodine 1-2%	Observation / documentation																										

Criteria	Means of Verification	Total Number of Patients Assessed with Intravenous catheter- tick ( ) `as appropriate																									Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
IV Site labeled with date, time, size of catheter and initials of operator	Observation / documentation																										
Hand Hygiene performed at all times prior to manipulation of Catheter	Observation / documentation																										
Hand Hygiene performed at all times after manipulation of Catheter	Observation / documentation																										
Prior to accessing catheter hubs or injection ports, an alcoholic chlorhexidine preparation or 70% alcohol is used to clean then to reduce contamination.	Observation / documentation																										
Peripheral IV administration set remains closed system	Observation																										

* IV- Intravenous

Section C

Annex I
Process Measure

Indicator No. 1: % of Peripheral IV catheter insertions that complied with NIPC Guidelines.

Numerator: Total # of peripheral IV catheter insertions that have documented use of all three interventions (hand-hygiene, use of appropriate antiseptic, date and labeling of tape) performed at the time of IV insertion

Denominator: Number of all peripheral IV insertions
Multiplied by 100 so that measure is expressed as a percentage.

Indicator No. 2: % of peripheral IV catheters that were manipulated in accordance with NIPC Guidelines

Numerator: Total # of peripheral IV Catheters that complied with criteria (hand hygiene, injection ports/catheter hub cleaned with 70% alcohol during manipulation)

Denominator: Number of all peripheral IV insertions.
Multiplied by 100 so that measure is expressed as a percentage

Annex 2
RAPID IMPROVEMENT CYCLE

Processes to be improved: 1._____2. _____ 3._____ Health Facility : _____
Indicators used to determine if any improvement has been achieved:
% of CVC lines inserted according to NIPC Guidelines _____
% of peripheral IV insertions according to NICP Guidelines _____
% of peripheral IV insertions manipulated according to NIPC Guidelines _____
Objective of improvement: _____

Criteria not accomplished for this indicator	Probable causes of failure	Most critical issues to overcome	Activities to effect changes	Date completion	Responsible	Start Date	End Date	Effective Yes / No	Potential Reasons why YES or NO

National Health Facility Laundry Department Checklist
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Started:**_____ **Time Finished:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of Domestic on Duty:** _____	**Domestic Supervisor:** _____

Section B: Criteria Checklist		
Criteria	**Met/ Not Met**	**Comments**
PERSONNEL		
Clean, neat, untorn and appropriate clothing is worn		
Closed up shoes are worn		
Good personal hygiene (including hair and body cleanliness) is practiced		
Fingernails are clean and trimmed		
Hair is neat and protected by covering		
Strict clothing and linen handling procedures are followed to avoid contamination		
Direct resident contact is avoided except in emergency situations		
Rubber gloves and protective covering are worn when handling and loading soiled linens		
Disposable gloves are worn when handling isolation supplies		
Injuries and suspected infections are reported immediately		
Personnel are oriented to infection control policies on hiring; this is documented		
Personnel attend department/facility-wide infection control in services monthly		
Personnel are screened for infectious diseases on hiring.		
Personnel are informed of potential dangers/toxicities of cleaning compounds		
Personnel, when informed of these potential dangers, follow safety procedures/precautions		
Personnel are aware of methods to handle supplies and disposal of gloves/ equipment		
WASHING/FOLDING/CLEANING/STORAGE		
Clean Linens are transported in covered containers and stored in covered areas		
Dirty Linens are separated from clean ones at all times		
Soiled linens are kept in a covered hamper at all times		
Linen hamper are lined with plastic bags which cover the inside surface at all times		
Isolation linen is transported as outlined in the Infection Control Manual		
Supplies for clothing/equipment cleaning approved by infection Control Committee		
Equipment and supply problems are immediately reported to the Domestic Supervisor.		

Section B: Criteria Checklist							
Laundry Item	**# Items**	**Sent**	**Received**	**Slightly Soiled**	**Unsanitary**	**Torn**	**Comments**
Flat Sheet							
Fitted Sheet							
Pillow Case							
Draw Sheet							
Patient Gowns							
Surgical Gowns							
Towels							
Blankets							
Mackintosh							
Small Squares							
Large Squares							
Double Wrapper							
Inner Wrapper							
Delivery Square							
Leggings							
Surgical Gowns							
Curtains							
Scrub Tops							
Scrub Bottoms							
Blue Hand Towels							
Green Water Proof Sheet							
Total							

National Medical Laboratory Form
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Started:**_____ **Time Finished:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of laboratory technician:** _____	**Inspector Name:** _____

Section B: Criteria Checklist			
FEATURE STANDARD	**YES**	**NO**	**RECOMMENDATIONS**
Accommodation and Environmental Conditions:			
1. Access to the premises is restricted to authorized personnel only			
2. Ample space is provided for the safe conduct of laboratory work and for cleaning and maintenance.			
3. Walls, ceilings and floors are smooth, easy to clean, impermeable to liquids and resistant to the chemicals and disinfectants normally used in the laboratory. Floors are slip-resistant.			
4. Bench tops are impervious to water and resistant to disinfectants, acids, alkalis, organic solvents and moderate heat.			
5. Illumination is adequate for all activities. Undesirable reflections and glare are avoided.			
6. Laboratory furniture is sturdy. Open spaces between and under benches, cabinets and equipment are accessible for cleaning.			
7. Storage space is adequate to hold supplies for immediate use and thus prevent clutter on bench tops and in aisles. Additional long-term storage space, conveniently located outside the laboratory working areas is also provided.			
8. Space and facilities are provided for the safe handling and storage of solvents, radioactive materials, and compressed and liquefied gases.			
9. Facilities for storing outer garments and personal items are provided outside the laboratory working areas.			
10. Facilities for eating and drinking and for rest are provided outside the laboratory working areas.			
11. Hand-washing basins, with running water if possible, are provided in each laboratory room, preferably near the exit door.			
12. Doors have vision panels, appropriate fire ratings, and preferably self-closing.			

FEATURE STANDARD	YES	NO	RECOMMENDATIONS
13. At Biosafety Level 2, an autoclave or other means of decontamination is available in appropriate proximity to the laboratory.			
14. Safety systems cover fire, electrical emergencies, emergency shower and eyewash facilities.			
15. First-aid areas or rooms suitably equipped and readily accessible are available			
16. In the planning of new facilities, consideration should be given to the provision of mechanical ventilation systems that provide an inward flow of air without recirculation. If there is no mechanical ventilation, windows are able to be opened and are fitted with arthropod-proof screens.			
17. A dependable supply of good quality water is essential. There should be no cross-connections between sources of laboratory and drinking-water supplies. An anti-backflow device is fitted to protect the public water system.			
18. There is a reliable and adequate electricity supply and emergency lighting to permit safe exit. A stand-by generator is desirable for the support of essential equipment, such as incubators, biological safety cabinets, freezers, etc., and for the ventilation of animal cages.			
19. There is a reliable and adequate supply of gas. Good maintenance of the installation is mandatory.			
20. Laboratories and animal houses are occasionally the targets of vandals. Physical and fire security must be considered. Strong doors, screened windows and restricted issue of keys are compulsory. Other measures should be considered and applied, as appropriate, to augment security			
21. There is an appropriate communication system based on the size and complexity of the facility			
Facilities for specimen collection and examination of patients/clients			
22. There is a waiting/reception area with suitable facilities and access for disabled persons			
23. There is a phlebotomy area which offers privacy and recovery facilities			
24. There are toilet facilities for patients separate from those provided for staff.			
25. There are notices advising patients and visitors of health and safety precautions.			
Facilities for staff:			
26. Are ready accessible			
27. Have safe and secure working arrangements			
28. Have adequate bathroom facilities			
29. Have a lunch/kitchen room			
30. Have access to a supply of drinking water			
31. Have a changing area and secure storage for personal effects			
32. Have overnight accommodation, when necessary, that is conveniently sited and secure.			

FEATURE STANDARD	YES	NO	RECOMMENDATIONS
Facilities for storage			
33. Have sufficient space, under the correct conditions for maintaining the integrity of samples, reagents and records.			
34. Have sufficient space, under the correct conditions for maintaining the integrity of samples, reagents and records.			
35. Have separate storage facilities for			
a. records			
b. clinical material (blood and blood products)			
c. hazardous substances			
d. reagents			
e. waste material for disposal			

COMMENTS:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

National Health Facility Morgue Checklist
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Completed:** _____
Wards/Area/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of Morgue Attendant:** _____	**Inspector Name:** _____

Section B: Procedure Checklist				
Criteria		**YES=1; NO=2**	**Not Applicable**	**Comments**
Before Transfer				
Date and Time Notified				
Tubes and Lines Removed				
Last Offices Done				
Death Certificate Available				
Identification Tags Present				
At the Morgue				
Identification Tags on Body				
Procedure Done				
Hands Washed Before Procedure				
PPE Put On				
Sharps Placed In Appropriate Sharps Container				
Equipment and Surfaces Disinfected with 0.5% Chlorine Solution				
PPE Removed and Placed in Red Garbage Bag				
Hands Washed After Procedure and Before Leaving Area				
Body Released				
Check Identification of Person Receiving the Body				
Check Identification of Body				
Obtain Name and Signature of Person Receiving the Body				
Date and Time Released				
Morgue Structure				
Stretcher available and kept clean				
Adequate PPEs				
Storage area for PPEs				
Hand Basin				
Shower				
Area for Report Writing				
Log book				

National Occupational Exposure Prevention Form
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Started:**_____ **Time Finished:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Total Number of sinks in room:** _____	**Inspector Name:** _____

Section B: Criteria Checklist		
Criteria	**YES=1; NO=2**	**Comments**
Blood Bank		
Has your hospital or facility implemented blood-drawing devices with integrated safety features designed to prevent percutaneous injuries? Such devices can include: • shielded or self-blunting needles for vacuum tube phlebotomy; • shielded, retracting or self-blunting butterfly-type needles; • syringes with a cylindrical sheath that shields needles when injecting blood into tubes; and • blood gas syringes with a hinged needle shield that can be put in place over the needle using a hands-free technique		
Have all unnecessary needles been eliminated from use, including needles used for drawing blood from intravenous, arterial, and central lines, which can be replaced by needleless or blunt cannula devices		
Does your facility use automatically retracting finger/heel stick lancets in place of manual lancets or non-retracting spring-loaded lancets?		
Has your facility switched from glass to plastic micro-bore capillary tubes for measuring hematocrit (or to mylar-wrapped glass capillary tubes, or alternative methods of measuring hematocrit that do not require capillary tubes)?		
Has your facility replaced glass blood collection vacuum tubes with plastic tubes?		
Does your facility provide puncture-resistant disposal containers within arm's reach of blood-drawing personnel for all phlebotomy procedures?		
Have blood-drawing personnel been advised not to manually recap or remove needles from blood-drawing devices?		
Has the practice of changing needles for blood culture phlebotomy been discontinued in order to avoid the hazard of manually removing a blood-filled needle from the syringe?		
Has the practice of injecting blood through a stopper into a vacuum tube using an exposed needle been discontinued? (Methods of drawing blood directly into vacuum tubes or other specimen containers should be preferentially employed; alternatively, safety syringes with a cylindrical needle shield locked in place over the needle, which allow a vacuum tube to be inserted into the shield during blood injection, will reduce needlestick risk and reduce risk of blood splatter from dislodged tube stoppers.)		
Have blood-drawing personnel been advised to wear procedure gloves and not to cut the tip off the index finger (or any other part) of gloves, since it increases the risk of blood exposure?		

Criteria	YES=1; NO=2	Comments
Intravenous Catheter Placement		
Has your facility implemented safety IV catheters? (In addition to implementing protective IV catheters, which provide a protective shield for the stylet before or during its withdrawal from the catheter procedure, gloves should be worn during the insertion of IV catheters, and a puncture-resistant sharps disposal container should be located within arm's reach of health care personnel for all IV catheter placements.)		
Intravenous Infusion Systems		
Has your facility converted to needleless or recessed needle IV systems?		
Injection Equipment		
For syringes used for subcutaneous or intramuscular (IM) injections, has your facility converted to devices that have integrated safety features such as sliding sleeves, retracting needles, or hinged caps, or to a needleless injection system?		
Surgery		
Are blunt suture needles, stapling devices, adhesive strips or tissue adhesives used whenever clinically feasible in order to reduce the use of sharp suture needles?		
Are scalpel blades with safety features, such as round-tipped scalpel blades and retracting-blade and shielded-blade scalpels, used?		
Are alternative cutting methods used when appropriate, such as blunt electrocautery devices and laser devices?		
Is manual tissue retraction avoided by using mechanical retraction devices?		
Has all equipment that is unnecessarily sharp been eliminated? (Example: towel clips have been identified as a cause of injury in the operating room, yet blunt towel clips are available that do not cause injury and are adequate for securing surgical towels and drapes. Other examples of devices that do not always need to have sharp points include surgical scissors, surgical wire, and pick-ups.)		
Is double gloving employed in the surgical setting?		
Do circulating nurses, as well as personnel close to the surgical site, wear eye protection such as goggles or face shields that have a seal above the eyes to prevent fluid from running down into the eyes?		
Body Fluid Contact		
Does your facility have an adequate supply of the following personal protective equipment: • Gloves? • Liquid-resistant gowns with high neck and long sleeves with tight cuffs (note: cotton lab coats provide no protection)? • Face and eye protection (masks and goggles with seals above eyes)?		
Are goggles and face shields with seals above eyes worn for extubations, wound irrigations, manipulation of equipment containing blood under pressure, and for any other procedure with potential for blood or body fluids squirting/splashing/spraying?		
Does equipment that pumps blood under pressure have positive-locking junctions between connecting components, and pressure sensors linked to an alarm or pump cut off to prevent high-pressure rupture of tubing?		
Are specimen and body fluid containers, including vacuum-evacuated blood tubes, made of plastic and do they have tight positive-locking seals?		
Waste Disposal		
Does your facility maintain disposal containers that are: • Puncture-resistant? • Close to point-of-use? • Replaced before full? • The appropriate size for devices placed in them? • Visible opening, below eye level, if wall-mounted? • Unobstructed opening that allows devices to drop in easily?		

Criteria	YES=1; NO=2	Comments
Training		
Are all at-risk employees given training once a year in Universal Precautions, safe work practices, and employers' obligations under the OSHA Blood-borne Pathogens Standard?		
Does your facility comply with Universal Precautions?		
Does your facility provide regular in services on the safe handling of needles and sharp items?		
Additional		
Have a written exposure control plan? (It should: include a list of all jobs and tasks with potential for blood-borne pathogen exposure; state how the employer will implement the standard; be accessible to workers; and be reviewed and updated at least annually.)		
Provide hepatitis B vaccine free to all at-risk employees?		
Provide free post-exposure follow-up, including employee and source patient testing for HBV, HCV, HIV, and prophylaxis treatment when necessary?		
Conduct surveillance of occupational exposures to blood-borne pathogens?		

National Medical Laboratory Form
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Completed:**_____
Wards/Room/Department: _____	**Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Inspector Name:** _____

FEATURE STANDARD	Fully Met Grade	Partially Met	Not Met	Comments
Physical Features:	**2**	**1**	**0**	
1.1 All Pharmacists certificates of registration or certified copies with passport size photos prominently displayed				
1.2 The immediate surrounding area of the premises kept clean, free of garbage and overgrown bushes				
1.3 The windows are screened to minimize access to flying and crawling insects				
1.4 The floor is covered with a smooth impervious material that is easily cleaned				
1.5 The floor appears at level				
1.6 The entrance to the premises permits access to the physically challenged, baby carriage etc.				
1.7 Both the entrance and exit doors should be clear of obstructions and should allow ease of flow in and out specially during an emergency.				
1.8 The lighting (wattage per space 4x60w per 10ft square) is adequate to give very bright illumination				
1.9 There is artificial AC ventilation used that maintains the room temperature at a consistent 23 C				
1.10 Fire extinguishers are available operational and mounted on the wall				
1.11 Personnel display knowledge on how to operate fire extinguisher				
1.12 There is free flow of movement for the staff				
1.13 Background music is played at a volume that is not distracting				
1.14 The waiting area for the client is equipped with chairs for patients to sit while they are waiting				
1.15 Proper disposal of garbage done in accordance to the SOP				
Subtotal				
Weight value: 10%	**10**			

FEATURE STANDARD	Fully Met Grade	Partially Met	Not Met	Comments
Condition of Premises:	**2**	**1**	**0**	
2.0 The floor on the premises swept and mopped regularly				
2.1 The area is dust free				
2.2 Area is free from Cobwebs				
2.3 Area is clutter free				
2.4 Room size is proportional to dispensing workload and should be a stand alone area that allows free flow of personnel				
2.5 There is supervisory visibility of the pharmacy from the dispensing area				
2.6 Shelves are clean and organized				
2.7 Floor storage is on pallets or shelves				
2.8 Products are stored in accordance with manufacturer stipulation (Insulin's, re-constituted suspensions, suppositories ect).				
Subtotal				
Weight value: 15%	**15**			
Personnel Hygiene:	**2**	**1**	**0**	
2.10 Personnel are wearing professional dispensing jackets that are clean, ironed and worn at all times on premises only.				
2.11 Personnel on duty must be properly attired				
2.12 Personnel involved with compounding are wearing protective clothing, lab coats, hair covers and gloves				
Subtotal				
Weight value: 10%	**10**			
Toilet Facilities:	**2**	**1**	**0**	
2.13 The door to the toilet is not accessible from the dispensing area				
2.14 There is an adequate disposal container with cover in the bathroom				
2.15 There is a basin with running water, hand soap and toilet tissue and hand tissue				
2.16 Floors are covered with smooth impervious material for easy cleaning				
2.17 Toilet is kept clean				
2.18 Bathroom facility not used for storage				
Subtotal				
Weight value: 5%	**5**			
Safety and Storage of Stock Features:				
3.0 There is restricted access to prescription medication				
3.1 All controlled drugs are securely locked in an appropriate locker				
3.2 The key for the controlled locker is kept only by the pharmacist in charge				
3.3 Refrigeration storage of appropriate pharmaceuticals with temperature of 2-8 C				

FEATURE STANDARD	Fully Met Grade	Partially Met	Not Met	Comments
Safety and Storage of Stock Features:	**2**	**1**	**0**	
3.4 Refrigerator is not accessible to the public				
3.5 Food items are not stored in the refrigerator				
3.6 There is adequate storage facility for the stock on hand				
3.7 Stock rotation is in effect. First in First out Method (by expiration date)				
3.8 Storage shelves are labeled for easy access				
3.9 Records of stock documented on Bin Card or Electronic system				
3.10 Inventory records of purchases are filed and easily accessible				
Subtotal				
Weight value: 20%	**20**			
Pharmacy Services:	**2**	**1**	**0**	
4.1 MOH SOP available and relevant areas implemented				
4.2 There is a qualified and registered Pharmacists overseeing the delivery of the pharmacy services at all times				
4.3 There are available, current reference materials (max 5 years old) Codex, Martindale, Pharmacopeia, National Drug Formulary, NHI Current List)				
Subtotal	6			
Weight value: 5%	**5**			
Dispensing:	**2**	**1**	**0**	
5.1 Tablet counters are available and kept clean to avoid cross-contamination				
5.2 Dispensing counter kept clean and wiped with acceptable cleaning agent regularly				
5.2 There is an accurate dispensing balance available (applicable only if compounding done on site)				
5.3 Assorted sizes of graduated glass measures are available				
5.4 Appropriate dispensing envelops of assorted sizes available				
5.5 Mortar and Pestle are available (applicable only if compounding done on site)				
Subtotal				
Weight value: 10%	**10**			
Labeling Features:	**2**	**1**	**0**	
6.0 Labels are legible				
6.1 Cautionary labels are included where appropriate				
Labels on dispensed products should indicate the following:	**2**	**1**	**0**	
6.2 Name of Patient:				
6.3 Pharmacy Name				
6.4 Pharmacist's Initials:				
6.5 Auxiliary Labels (If applicable):				

FEATURE STANDARD	Fully Met Grade	Partially Met	Not Met	Comments
Labels on dispensed products should indicate the following:	**2**	**1**	**0**	
6.6 Name of Product (Generic or Brand):				
6.7 Date when Medication was Dispensed:				
6.8 Quantity of Product Dispensed:				
6.9 Strength and Dosage of Product Dispensed:				
6.10 Expiration Date of Medication:				
All labels for repackaging should include the following:				
6.11 Name of product				
6.12 Batch number				
6.13 Name and place of Manufacturer				
6.14 Lot number				
6.15 Auxiliary labeling and expiry date				
Subtotal	**32**			
Weight value: 20%	**20**			
Water Feature:	**2**	**1**	**0**	
7.1 There is purified water for reconstitution of powdered products				
7.2 There is a sink with potable water for dispensing				
7.3 Storage tank for portable water is cleaned before refilled (where applicable)				
7.4 Written protocol for cleaning the storage tank is available				
Subtotal				
Weight value: 5%	**5**			

National Health Facility Radiology/X-ray Form
Ministry of Health

Section A: General Information		
Facility Name/District: _____	**Date:** _____/_____/_____	**Time Completed:**_____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of Radiologist:** _____	**Inspector Name:** _____

Documentation of Patients	ALWAYS	SOMETIMES	NEVER
Does the technician verify that the examination is ordered by an authorized physician?			
Does the technician review previous imaging procedures?			
		YES	NO
Does the technician correlate clinical information to the prescribed examination?			
Does the technician prioritize work?			
Preparation of Room			
Does the technician clean the examination room and equipment?			
Does the technician change the linen as often as needed?			
	YES	NO	N/A
Does the technician prepare sterile tray as required?			
		YES	NO
Does the technician obtain accessory imaging apparatus?			
Preparation of Patient	**ALWAYS**	**SOMETIMES**	**NEVER**
Does the technician identify the patient?			
Does the technician ensure proper patient attire for the procedure?			
Does the technician confirm patient preparation?			
Does the technician remove all items that would compromise the quality of the image?			
Does the technician explain the procedure to patient?			
	YES	NO	N/A
Does the technician question patient about his/her allergies when using contrast media?			
Positioning of Patient		YES	NO
Does the technician plan the examination according to patient condition, to minimize patient discomfort?			
Does the technician inform the patient the need to touch in order to position, prior to touching?			
Does the technician use touch for guidance, safety and comfort?			
	ALWAYS	SELDOM	NEVER
Does the technician touch the patient at the anatomical landmark(s) required for positioning?			

		YES	**NO**
Does the technician use mobilization and positioning aids as required?			
Not available?			
Does the technician direct the central ray to the correct anatomical landmark(s)?			
Does the technician collimate to the area of interest only, to maximize image quality?			
Operating the X-Ray Machine			
Does the technician select and use apparatus and accessory equipment safely?			
Does the technician select the correct tube/film distance for each examination?			
	ALWAYS	**SOMETIMES**	**NEVER**
Does the technician use radiographic markers? Does the technician prepare sterile tray as required?			
		YES	**NO**
Does the technician modify exposure factors on the bases of the patient's age, physique and condition?			
Processing Technique		**YES**	**NO**
Does the technician imprint ID information on all films?			
Does the technician handle the exposed film only at the corners to prevent finger and fingernail imprints on film?			
Does the technician reload each cassette after use?			
When using manual processing, does the technician drain film adequately between tanks to prevent undue carry- over of chemicals and water?			
Does the technician explain the procedure to patient?			
Critiquing Images and Implementing Corrective Measures			
After the film has been processed, does the technician: Verify that the patient's name is affixed on the film?			
Check that Markers are visible on the film and in the right place?			
Can the technician identify anatomy and patient position on the image?			
Can the technician verify that the required structures are demonstrated?			
Can the technician recognize film artifacts and take appropriate action?			
Can the technician determine whether the diagnostic quality of the image is acceptable?			
If the image is acceptable, can he/she determine the reason?			
Can the technician determine corrective action and repeat the procedure, if the image is unacceptable?			
Can the technician determine whether additional views are required?			
Post Procedural Tasks			
Does the technician complete the examination within an appropriate time frame?			
Does the technician instruct the patient on what to do before dismissing him/her?			
B. RADIATION, HEALTH AND SAFETY (Comments and observations on this unit's radiation health and safety skills: (Total = 25 pts.)			
Protect the Patient		**YES**	**NO**
Question female patient to ascertain possibility of pregnancy?			
Consults with patient's physician in case of suspected pregnancy?			
Use protective practices to reduce the risk of damaging effects of radiation?			
Collimate only to the area of interest to minimize patient radiation dosage?			
Protect the Technician			
Does the technician stand behind proactive barriers during exposure?			
Does the technician wear lead protective apparel when remaining in the radiation area?			
Does the technician avoid having to hold patients during exposure by using positioning aids and immobilization devices?			

		YES	**NO**
Does the technician direct the x-ray beam towards primary barriers only?			
Does the technician wear a radiation monitoring device when working?			
Protecting Others			
Does the technician advice accompanying females to leave the radiation area when pregnancy is known or suspected?			
Does the technician instruct people in the radiation area to maintain a safe distance and/ or use radiation barriers during the exposure?			
Does the technician provide protection for people remaining with the patient during exposure?			
Does the technician Close the doors of the radiation area when in use?			
Does the technician instruct people not required to be in the radiation area to leave the vicinity prior to the exposure?			
C. PATIENT CARE Comments and observations on this unit's patient-care skills (Total = 20 pts.)			
Ensure patient Safety, Physical Comfort and Needs			
The technician is responsible for the patient's safety and well being while he/she is in the x-ray department			
Does the technician ensure that the patient is transferred from stretcher or wheelchair to x-ray couch using proper patient transfer techniques?			
Does the technician move patient during procedure with consideration to the patient's physical condition?			
Does the technician provide for patient's privacy?			
Does the technician respect the patient's socio-cultural practices and traditions?			
Establish Patient's Trust and Confidence			
Does the technician dress in a professional manner?			
Does the technician explain the procedure at an appropriate level of understanding for the patient			
Does the technician answer the patient's question as fully as possible?			
Does the technician avoid inappropriate conversations in the presence of the patient?			
Does the technician perform tasks in an organized manner?			
Does the technician request translation services if required?			
Perform Patient Care Procedures			
Does the technician maintain a clean/aseptic work environment?			
	ALWAYS	**SOMETIMES**	**NEVER**
Does the technician use universal precautions?			
Does the technician use sterile or aseptic techniques as required?			
		YES	**NO**
Does the technician use isolation techniques when necessary?			
Does the technician monitor medical equipment (i.e. oxygen, IV'S, Chest-tubes etc.)?			
Does the technician report irregularities in the functioning of therapeutic medical equipment?			
Does the technician observe patient's condition throughout the procedure?			
	YES	**NO**	**N/A**
Does the technician recognize the need for immediate attention?			
Does the technician obtain patient's history to determine contraindications to contrast media?			
		YES	**NO**
Does the technician inform the patient about possible effects of contrast media and other drugs administered in the x-ray department?			

	YES	NO
Does the technician dispose of sharps and contaminated materials in the appropriate containers?		
Does the technician instruct the patient on post procedural care?		
Does the technician maintain an emergency response cart?		
D. MAINTENANCE OF RADIOGRAPHIC & PROCESSING EQUIPMENT Comments and Observations – (Total Possible Points = 15		
Does the technician regularly clean the processor unit?		
Does the technician perform start-up/shut down procedures?		
Does the technician inspect rollers/gears for faults?		
Does the technician check solution levels?		
Does the technician ensure darkroom is light-tight?		
Does the technician perform visual inspection of cables and equipment?		
Does the technician record and report equipment malfunctions to the appropriate person?		
Does the technician inspect and clean cassettes regularly?		
Does the technician inspect and clean illuminators?		
E. PROFESSIONAL PRACTICE Comments and Observations – (Total Possible Points = 15 pts.)		
Does the technician provide patient care that does not violate the patient's legal rights?		
Does the technician follow the radiological code of ethics?		
Does the technician perform procedures within the accepted scope of practice?		
Does the technician follow the radiological regulatory standard of practice?		
Does the technician maintain the security of patient's documentation and images?		

National Reprocessing of Reusable Patient Equipment Checklist Ministry of Health

Section A: General Information		
Facility name: _____	**Date:** _____/_____/_____	**Time Started:**_____ **Time Finished:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Total Number of sinks in room:** _____	**Inspector Name:** _____

Section B: Criteria Checklist			
Criteria	**YES**	**NO**	**Comments**
Equipment is taken to the dirty utility room			
Equipment is disassembled			
Equipment is pre-washed with soap and water			
Rinsed with tap water			
Sanitised with 70% alcohol			
Allowed to air dry			
Packaged in paper bag and labelled appropriately			
Stored in an appropriate enclosed space			

National Health Facility Sterilisation Checklist
Ministry of Health

Section A: General Information		
Facility name: _____	**Date:** _____/_____/_____	**Time Completed:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of Steriliser/Worker:** _____	**Inspector Name:** _____

Section B: Pre-sterilisation data							
Steriliser ID#	**T°**	**Exposure Period**	**Load Contents**	**Type of test used**	**Person Doing Test**	**Result**	**Comments**

Section C: Criteria Checklist			
Criteria	**YES**	**NO**	**Comments**
Equipment placed in dirty utility for pre-wash			
Equipment placed in leak-proof, puncture-proof container			
Absence of bleed or other debris			
Dirty equipment is transported as per schedule -Before 8 am -At 2 pm			
Use of Appropriate PPEs -Aprons -Gloves			
Decontamination (RED) -Wash with soap and water -Rinse with water -Sanitise in 1:10 for 10 mins			
Drying			
Inspection			
Packaging -Chemical indicator inside -Indicator tape outside -Date of packaging -Expiration date -Name of personal			
Sterilisation Process according to specified time			
Storage in appropriate area			
Verification of process by attest/log book			

National Urinary Catheter Management Checklist
Ministry of Health

Section A: General Information		
Facility name/District: _____	**Date:** _____/_____/_____	**Time Completed:** _____
Shifts: **Morning** ◯ **Evening** ◯ **Night** ◯	**Inspector Name:** _____ **Wards/Room/Department:** _____	
Position: _____	**Anchored:** _____	**Closed:** _____

Section B: Patient Data																									
Indication for catheterization																									
Date of insertion																									
Time of insertion																									
Insertion Technique																									
Catheter size																									
Perineal/Meatal Care																									
Bag changed as per policy																									
Condition of site																									

Section C: Criteria Checklist

Procedure	Number of Patients and Compliance Indicator (YES=1, NO=2)										Comments
	1	2	3	4	5	6	7	8	9	10	
Indication for catheterization											
Date of insertion											
Time of insertion											
Insertion Technique											
Catheter size											
Perineal/Meatal Care											
Bag changed as per policy											
Condition of site											
Indwelling catheter connected to a sterile closed urinary drainage system											
The connection between the catheter and urinary system is not broken											
Hands decontaminated before manipulating catheter											
New clean pair of gloves donned after HH and before manipulation of catheter											
Gloves removed after manipulation of catheter											
Hands decontaminated after manipulation of catheter											
Caregiver educated on need for HH before manipulation of catheter											
Urine samples collected from sampling port using aseptic technique Urine drainage bag positioned below level of bladder											
Urine bag is not in contact with floor											

Section C: Criteria Checklist

Procedure	Number of Patients and Compliance Indicator (YES=1, NO=2)										Comments
	1	2	3	4	5	6	7	8	9	10	
Meatus washed daily with soap and water											
Any catheter blockage documented											
Antibiotic prophylaxis given to patient on catheter change (long term catheter patients)											
File meets all criteria											
Overall average (total records that meet criteria/total monitored records x 100)											

National Waste Management Health Facility Checklist
Ministry of Health

Section A: General Information		
Facility name: _____	**Date:** _____/_____/_____	**Time Completed:** _____
Wards/Area/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of ICN/Clinical Staff:** _____	**Inspector Name:** _____

Section B: Ward and Utility Checklist		
WARD IN GENERAL	**YES**	**NO**
Are red waste bags labeled?		
Are waste containers properly labeled?		
Is waste being properly segregated?		
Are sharps containers labeled "SHARPS" or "BIOHAZARD"?		
Are sharps being disposed of immediately after use?		
Are waste containers clean?		
Are waste containers covered?		
DIRTY UTILITY ROOM		
Is accumulation area in good order?		
Are waste containers properly labeled?		
Is waste being properly segregated?		
Are waste containers covered?		
Are sharps being stored properly?		

Problems identified: _____
_____
_____
Actions taken: _____
_____
_____

Persons sensitized: _____ _____
_____
_____

Section B: Ward and Utility Checklist

Standards	YES	NO	Standards	YES	NO
Is pick-up point in good order?			Are waste bags properly secured?		
Are waste containers properly labeled?			Are waste bags tagged?		
Is waste being properly segregated?			Are sharps being stored properly?		
Is pick-up point in good order?			Are waste bags properly secured?		
Are waste bins properly labeled?			Are waste bags tagged?		
Is waste being properly segregated?			Are sharps being stored properly?		
Is pick-up point in good order?			Are waste bags properly secured?		
Are waste bins properly labeled?			Are waste bags tagged?		
Is waste being properly segregated?			Are sharps being stored properly?		
Is pick-up point in good order?			Are waste bags properly secured?		
Are waste bins properly labeled?			Are waste bags tagged?		
Is waste being properly segregated?			Are sharps being stored properly?		
Is pick-up point in good order?			Are waste bags properly secured?		
Are waste bins properly labeled?			Are waste bags tagged?		
Is waste being properly segregated?			Are sharps being stored properly?		
Is pick-up point in good order?			Are waste bags properly secured?		
Are waste bins properly labeled?			Are waste bags tagged?		
Is waste being properly segregated?			Are sharps being stored properly?		

Problems identified: ____

____

____

Actions taken: ____

____

____

Persons sensitized: ___________ ____

____

____

Signatures:

________________________ ________________________

Unit Manager/Chief Nurse Evaluator

National Health Facility Wound Dressing Checklist
Ministry of Health

Section A: General Information		
Facility name/District: _____	**Date:** _____/_____/_____	**Time Started:** _____ **Time Finished:** _____
Wards/Room/Department: _____ **Shifts:** **Morning** ◯ **Evening** ◯ **Night** ◯	**Name of nurse:** _____	**Inspector Name:** _____

First attempt: 10 points, **second attempt:** 5 points, **three or more attempts:** 0 points. Competency still must be complete to be satisfactory in the procedure.
In order to be satisfactory, there must be no more than 2 recognized breaks in sterile technique.

Goal: The wound is cleaned and protected with a dressing without contaminating the wound area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort.

Satisfactory=1 **Acceptable=**2 **Poor=**3 (Must be repeated)

Section B: Procedural Checklist					
PROCEDURE STEPS		**#1**	**#2**	**#3**	**Comments**
Assessments must be completed within 30 minutes					
For all assessments:					
MUST check ID band to ensure correct patient					
Positions patient appropriately					
Asks appropriate health questions					
Is able to answer questions related to assessment					
Document your findings (does not count in allotted time)					
Addresses patient by proper name and conversation is therapeutic at all times.					
Uses good body mechanics: positions bed or over bed table to a working level.					
After the procedure: a. Evaluates patient's response to the procedure. b.*Leaves patient in a comfortable, safe position (safety checks) with call light within reach.					
Specific skill: Removing an old dressing, cleansing a wound, applying a dry sterile dressing					
Washes hands and applies clean gloves.					

PROCEDURE STEPS		#1	#2	#3	Comments
Loosens edges of tape of the old dressing. Stabilizes the skin with one hand while pulling the tape in the opposite direction.					
Beginning at the edges of the dressing, lifts the dressing toward the centre of the wound.					
If the dressing sticks, moistens it with 0.9% normal saline before completely removing it.					
Observed removed dressing for drainage, especially noting amount, colour and odour (if any) of drainage).					
Disposes of soiled dressing and gloves in a biohazard bag. Removes gloves and performs hand hygiene					
Opens sterile dressing supplies and sterile gloves using sterile technique. Recognizes and verbalizes action if contamination occurs.					
Applies sterile normal saline from bottle or prefilled syringe onto sterile gauze or cotton balls using sterile technique					
Dons sterile gloves without contaminating or recognizing contamination. a.Grasped folded edge of cuff of one glove. b.Lifted glove above wrapper and away from body. c.Slides opposite hand into glove. Did not adjust cuff or fingers at this time or let ungloved hand touch outside of glove. d.Picked up second glove by sliding sterile gloved fingers under cuff edge. Keeps gloved thumb off cuff of second glove. e.Slides fingers of opposite hand into glove. Let go of edge when hand in glove. f.Adjusted for comfort and fit					
Uses sterile cotton balls or gauze to cleanse wound: "Clean to dirty" and "top to bottom" a.Cleans incision line first going from top to bottom b.Cleans along each side of incision with a separate cotton ball, going from top to bottom.					
Picks up new sterile dressing and places over center of wound					
Places large sterile ABD dressing over the wound dressing					
Secures edges of dressing to skin with tape					
Places date, time, and initials on dressing					
Removes gloves and performs hand hygiene					
Maintained principles of sterile field eg., anything below the waist is unsterile, sterile field always in field of vision (do not turn back toward sterile field), keep sterile gloved hands above the waist, no reaching across sterile field, do not use wet or damaged package of sterile supplies, cannot touch an unsterile object with sterile gloves, etc					

SECTION 13
ANNEX A

ANNEX A-1:

US Environmental Protection Agency Office of Pesticide Programs List A: EPA's Registered Antimicrobial Products as Sterilizers

ANNEX A-2:

US Environmental Protection Agency. Office of Pesticide Programs. List J: EPA's Registered Antimicrobial Products for Medical Waste Treatment. August 17, 2012

ANNEX A-I:

US Environmental Protection Agency Office of Pesticide Programs

List A: Antimicrobial Products
Registered with the EPA as Sterilizers

February 2014

US Environmental Protection Agency Office of Pesticide Programs

List A: EPA's Registered Antimicrobial Products as Sterilizers

Registration #	Product	Registered	Company	Active Ingredient
335-233	PEROXAL 70 BIO	12/4/2003	ARKEMA INC.	Hydrogen peroxide 70.0%
1043-119	SPOR-KLENZ READY TO USE	9/26/2005	STERIS CORPORATION	Hydrogen peroxide 1.0%; Ethaneperoxoic acid 0.08%
1043-120	SPOR-KLENZ CONCENTRATE	9/26/2005	STERIS CORPORATION	Ethaneperoxoic acid 4.5%; Hydrogen peroxide 22.0%
1043-121	GW002 TERTIARY BLEND	5/23/2006	STERIS CORPORATION	Hydrogen peroxide 35.0%
1043-123	VAPROX 59 HYDROGEN PEROXIDE STERILANT	11/23/1977	STERIS CORPORATION	Hydrogen peroxide 59.0%
1043-124	HASTE-SSD-COMPONENT B	6/29/2010	STERIS CORPORATION	Hydrogen peroxide 1.0%
1043-125	HASTE -SSD -COMPONENT A	6/29/2010	STERIS CORPORATION	Tetraacetylethylenediamine 61.6%
1677-129	OXONIA ACTIVE	1/9/2001	ECOLAB INC.	Hydrogen peroxide 27.5%; Ethaneperoxoic acid 5.8%
1677-158	VORTEXX	3/14/1996	ECOLAB INC.	Caprylic acid 3.3%; Hydrogen peroxide 6.9%; Ethaneperoxoic acid 4.4%
1677-216	EXSPOR BASE CONCENTRATE	3/21/1983	ECOLAB INC.	Sodium chlorite 1.52%
1677-226	VIRASEPT	3/31/2009	ECOLAB INC.	Ethaneperoxoic acid 0.05%; Hydrogen peroxide 3.13%; Caprylic acid 0.099%
1677-228	OXY-PAK	8/21/2009	ECOLAB INC.	Hydrogen peroxide 35.0%
5741-18	NABC	1/4/1983	SPARTAN CHEMICAL COMPANY, INC.	1-Octanaminium, N,N-dimethyl-N- octyl-, chloride 0.06% ; 1- Decanaminium, N-decyl-N,N- dimethyl-, chloride 0.06% ; Alkyl* dimethyl benzyl ammonium chloride *(50%C14, 40%C12, 10%C16) 0.16% ; 1-Decanaminium, N,N-dimethyl-N-octyl-, chloride 0.12%
7182-1	STERI-GAS BRAND CARTRIDGES/ST ERI-VAC STERILIZER	5/3/1967	3M	Ethylene oxide 100.0%
7675-14	SODIUM YPOCHLORITE 150	7/14/1988	FMC CORPORATION	Sodium hypochlorite 12.5%
8714-8	CLIDOX-S BASE	11/16/1988	PHARMACAL RESEARCH LABORATORIES, INC.	Sodium chlorite 0.85%
9804-1	OXINE	6/6/2003	BIO-CIDE INTERNATIONAL INC	Chlorine dioxide (NO INERT USE FOOD OR NON-FOOD) 2.0%

US Environmental Protection Agency Office of Pesticide Programs

List A: EPA's Registered Antimicrobial Products as Sterilizers

Registration #	Product	Registered	Company	Active Ingredient
36736-2	ETHYLENE OXIDE 100%	1/23/1981	ARC SPECIALTY PRODUCTS, BALCHEM CORPORATION	Ethylene oxide 100.0%
36736-3	STERILIZING GAS 3	1/8/1981	ARC SPECIALTY PRODUCTS, BALCHEM CORPORATION	Ethylene oxide 80.0%
36736-4	STERILIZING GAS 4	1/23/1981	ARC SPECIALTY PRODUCTS, BALCHEM CORPORATION	Ethylene oxide 10.0%
36736-5	STERILIZING GAS 5	1/23/1981	ARC SPECIALTY PRODUCTS, BALCHEM CORPORATION	Ethylene oxide 20.0%
36736-6	STERILIZING GAS 6	1/23/1981	ARC SPECIALTY PRODUCTS, BALCHEM CORPORATION	Ethylene oxide 12.0%
36736-7	STERILIZING GAS 8	5/11/1995	ARC SPECIALTY PRODUCTS, BALCHEM CORPORATION	Ethylene oxide 8.5%
36736-8	ETHYLENE OXIDE - MUP	7/28/1997	ARC SPECIALTY PRODUCTS, BALCHEM CORPORATION	Ethylene oxide 100.0%
52252-4	MINNCARE COLD STERILANT	11/20/2002	MINNTECH CORP	Ethaneperoxoic acid 4.5% ; Hydrogen peroxide 22.0%
52252-7	ACTRIL COLD STERILANT	11/20/2002	MINNTECH CORP	Hydrogen peroxide 1.0% ; Ethaneperoxoic acid 0.08%
52252-10	BIOREDOX PA STERILANT	1/6/2012	MINNTECH CORP	Hydrogen peroxide 22.0% ; Ethaneperoxoic acid 4.5%
52252-11	REVOX PA STERILANT	1/6/2012	MINNTECH CORP	Hydrogen peroxide 22.0% ; Ethaneperoxoic acid 4.5%
52374-18	AQUACHLOR	5/18/2000	BRENNTAG SOUTHWEST, INC.	Sodium hypochlorite 12.5%
53345-10	SODIUM CHLORITE SOLUTION 25	3/16/1988	ERCO WORLDWIDE	Sodium chlorite 25.0%
53345-12	SODIUM CHLORITE SOLUTION 37	3/16/1988	ERCO WORLDWIDE	Sodium chlorite 37.0%
58779-4	VAPROX HYDROGEN PEROXIDE STERILANT	2/1/1995	STERIS CORP	Hydrogen peroxide 35.0%
58779-5	ENVIROSYSTEM S ETHYLENE OXIDE STERILANT	6/23/1994	STERIS CORP	Ethylene oxide 100.0%
67470-6	ETHYLENE OXIDE	8/29/1979	HONEYWELL INTERNATIONAL, INC	Ethylene oxide 100.0%
67470-7	ETHYLENE OXIDE 100 R	1/6/1993	HONEYWELL INTERNATIONAL, INC	Ethylene oxide 100.0%

US Environmental Protection Agency Office of Pesticide Programs

List A: EPA's Registered Antimicrobial Products as Sterilizers

Registration #	Product	Registered	Company	Active Ingredient
67470-8	OXYFUME 2000	4/15/1993	HONEYWELL INTERNATIONAL, INC	Ethylene oxide 8.6%
67470-9	OXYFUME 2002	10/12/1994	HONEYWELL INTERNATIONAL, INC	Ethylene oxide 10.0%
67470-10	STERIFLO	4/5/2007	HONEYWELL INTERNATIONAL, INC	Ethylene oxide 10.4%
67619-10	CPPC EVEREST	7/10/2002	CLOROX PROFESSIONAL PRODUCTS CO	Alkyl* dimethyl benzyl ammonium chloride *(50%C14, 40%C12, 10%C16) 0.3%
68660-10	INTEROX 35% HYDROGEN PEROXIDE	8/20/2009	SOLVAY CHEMICALS, INC.	Hydrogen peroxide 35.0%
69340-1	ANPROLENE AN-71/73	8/15/1966	ANDERSEN STERILIZERS INC	Ethylene oxide 89.4%
69340-2	ANPROLENE AN 79	3/14/1973	ANDERSEN STERILIZERS INC	Ethylene oxide 97.0%
69340-4	EOGAS AN-2014	2/6/1991	ANDERSEN STERILIZERS INC	Ethylene oxide 96.0%
69340-5	EOGAS AN-1005	4/17/2002	ANDERSEN STERILIZERS INC	Ethylene oxide 90.0%
69340-6	EOGAS AN-1006	4/17/2002	ANDERSEN STERILIZERS INC	Ethylene oxide 96.0%
69340-7	AN1004 EOGAS 4	1/5/2006	ANDERSEN STERILIZERS INC	Ethylene oxide 97.0%
69340-8	AN6006	2/20/2008	ANDERSEN STERILIZERS INC	Ethylene oxide 98.06%
70060-19	ASEPTROL S10- TAB	6/12/2003	BASF CORPORATION	Sodium dichloroisocyanurate dihydrate 7.0% ; Sodium chlorite 20.8%
70299-7	SANIDATE DISINFECTANT	12/15/2005	BIOSAFE SYSTEMS, LLC	Hydrogen peroxide 27.0% ; Ethaneperoxoic acid 2.0%
71871-3	STERRAD HYDROGEN PEROXIDE	2/1/2008	ADVANCED STERILIZATION PRODUCTS	Hydrogen peroxide 59.0%
72372-1	B-CAP 35 ANTIMICROBIAL AGENT	5/20/1997	FMC CORPORATION	Hydrogen peroxide 35.0%
73711-5	BIOLENE BX	10/31/2007	BIOLENE S.R.L.	Ethylene oxide 100.0%
81242-1	YGIENE 206	2/24/2011	BIONEUTRALGROUP, INC.	Ethaneperoxoic acid 0.6% ; Hydrogen peroxide 6.14%
82932-1	ALL-CLEAR	9/1/2006	KIDDE FIRE FIGHTING	Alkyl* dimethyl benzyl ammonium chloride *(50%C12, 30%C14, 17%C16, 3%C18) 0.5% ; Tetrakis(hydroxymethyl)phosphonium sulphate (THPS) 3.0%
83315-1	CITRISIL	5/15/2009	STERISIL, INC.	Silver 0.78%

US Environmental Protection Agency Office of Pesticide Programs

List A: EPA's Registered Antimicrobial Products as Sterilizers

Registration #	Product	Registered	Company	Active Ingredient
83315-2	STERISIL DENTAL WATER MICROBIOLOGICAL CARTRIDGE	5/15/2009	STERISIL, INC.	Silver 17.5%
84545-4	PERADOX HC SOLUTION PART A	11/2/2009	SBIOMED, LLC	Silver 0.03%
84545-5	PERADOX HC ACTIVATOR SOLUTION PART B	11/2/2009	SBIOMED, LLC	Hydrogen peroxide 22.0% ; Ethaneperoxoic acid 15.0%
88089-2	PERIDOX	10/20/2005	BIOMED PROTECT, LLC	Ethaneperoxoic acid 1.2% ; Hydrogen peroxide 24.0%
88089-3	PERIDOX WITH THE ELECTROSTATIC DECONTAMINATION SYSTEM	5/21/2009	BIOMED PROTECT, LLC	Ethaneperoxoic acid 1.2% ; Hydrogen peroxide 24.0%

ANNEX A-2:

US Environmental Protection Agency Office of Pesticide Programs

List J: EPA's Registered Antimicrobial Products for Medical Waste Treatment

August 17, 2012

Alphabetical Order
List J: EPA's Registered Antimicrobial Products for Medical Waste Treatment (Updated August 17, 2012)

If you would like to review the product label information for any of these products, please visit our product label system.

Inclusion on this list does not constitute an endorsement by EPA.

Product: CLOR MOR 56 PG
EPA Reg#: 69681-25
Registrant: ALLCHEM PERFOMANCE, INC.
Approval Date: 07/14/2008
Active Ingredient: Sodium dichloroisocyanurate dehydrate 99%

Product: CLOR MOR 60 PG
EPA Reg#: 69681-26
Registrant: ALLCHEM PERFOMANCE, INC.
Approval Date: 07/14/2008
Active Ingredient: Sodium dichloro-s-triazinetrione 99%

Product: COLD-STER
EPA Reg#: 75661-1
Registrant: POSITIVE IMPACT WASTE SOLUTIONS, INC.
Approval Date: 03/04/2005
Active Ingredient: Calcium oxide 86.8%

Product: ISOLYSER LTS-PLUS
EPA Reg#: 1677-229
Registrant: ISOLYSER Co, Inc.
Approval Date: 07/28/2004
Active Ingredient: Sodium dichloro-s-triazinetrione 10.2%

Product: OXYCHEM MAS 56 ALKALINE SANITIZER
EPA Reg#: 935-48
Registrant: Occidental Chemical Corporation
Approval Date: 02/18/2004
Active Ingredient: Sodium dichloro-s-triazinetrione dehydrate 25%

Product: POOLINE SUPER DICHLOR 56
EPA Reg#: 88346-1
Registrant: TIANJIN POOL & SPA CORPORATION
Approval Date: 02/01/2012
Active Ingredient: Sodium dichloroisocyanurate dehydrate 99%

Product: PREMICIDE
EPA Reg#: 46781-10
Registrant: METREX RESEARCH CORP.
Approval Date: 10/26/2006
Active Ingredient: Glutaraldehyde 09.61%

Product: PUREBRIGHT 10% SODIUM HYPOCHLORITE SOLUTION
EPA Reg#: 70271-10
Registrant: KIK INTERNATIONAL INC.
Approval Date: 01/27/2010
Active Ingredient: Sodium hypochlorite 10%

Product: SANISORBX
EPA Reg#: 72675-1
Registrant: MULTISORB TECHNOLOGIES, INC.
Approval Date: 02/27/2003
Active Ingredient: Glutaraldehyde 09.6%

Product: STER-CID
EPA Reg#: 71814-1
Registrant: GMS MARKETING SERVICES
Approval Date: 07/29/2009
Active Ingredient: Glutaraldehyde 10.72%
Alkyl* dimethyl benzyl ammonium chloride *(50%C14, 40%Cl2, 10%C16) 17.06%
Didecyl dimethyl ammonium chloride 07.8%

Product: SUPER SOLID PLUS
EPA Reg#: 86042-1
Registrant: DISORB SYSTEMS, INC.
Approval Date: 04/06/2010
Active Ingredient: Sodium dichloro-s-triazinetrione 10.2%

Product: TRINOVA CHLOR
EPA Reg#: 83471-4
Registrant: TRINOVA MEDICAL WASTE SOLUTIONS
Approval Date: 03/01/2007
Active Ingredient: Sodium chlorite 25%

Product: ZAP-OUT
EPA Reg#: 87708-1
Registrant: ZAPPA-TEC LLC
Approval Date: 11/09/2010
Active Ingredient: Sodium dichloroisocyanurate dehydrate 10.2%

Numerical Order
List J: EPA's Registered Antimicrobial Products for Medical Waste Treatment

935-48 OXYCHEM MAS 56 ALKALINE SANITIZER

1677-229 ISOLYSER LTS-PLUS

46781-10 PREMICIDE

69681-25 CLOR MOR 56 PG

69681-26 CLOR MOR 60 PG

70271-10 PUREBRIGHT 10% SODIUM HYPOCHLORITE SOLUTION

71814-1 STER-CID

72675-1 SANISORBX

75661-1 COLD-STER

83471-4 TRINOVA CHLOR

86042-1 SUPER SOLID PLUS

87708-1 ZAP-OUT

88346-1 POOLINE SUPER DICHLOR 56

SECTION 14
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