INFECTION CONTROL POLICIES AND PROCEDURES

Belongs To:
Wake Forest University Health Sciences
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WAKE FOREST UNIVERSITY HEALTH SCIENCES

REPORTING OF COMMUNICABLE DISEASES POLICY

The below listed Communicable Diseases must be reported according to the North Carolina Communicable Disease Report Card (NCCDRC), DEHNR form #2124. For those diseases that require reporting within 24 hours, the Forsyth County Health Department should be contacted by telephone as soon as possible.

I. PURPOSE

To comply with the North Carolina Department of Human Resources, Division of Health Services requirements to report communicable diseases.

II. INDICATIONS

Diseases listed below in Sections II. A and II.B, shall be reported by telephone and/or using the North Carolina Communicable Disease Report Card. Responsibility for reporting is defined in Section II.C; Section II.D identifies where to obtain the Report Cards and Section II. E describes how to contact the Forsyth Health Department and the process of forwarding the completed cards.

A. Disease Reportable Within 24 Hours

Anthrax
Botulism
Camplylobacter infection
Chancroid
Cholera
Cryptosporidiosis
Cyclosporiasis
Diphtheria
Escherichia coli, shiga toxin-producing
Foodborne diseases including but not limited to *Clostridium perfringens*, Staphylococcal and *Bacillus cereus*
Gonorrhea
Granuloma inguinale
Haemophilus influenzae, invasive disease
Hemolytic-uremic syndrome, thrombotic thrombocytopenic purpura
Hemorrhagic fever virus
Hepatitis A
Hepatitis B
Listerosis
Measles (Rubeola)
Meningococcal disease
Plague
Rabies, Human
Rubella
Salmonellosis
Shigellosis
Smallpox
Syphilis
Tuberculosis
Tularemia
Typhoid
Vaccinia
Vibrio infection (other than cholera)

Whooping cough

B. Disease Reportable Within 7 days:
General
Acquired Immunodeficiency Syndrome (AIDS)
Brucellosis
Chlamydia infection (laboratory confirmed)
Creutzfeldt-Jakob disease
Dengue
Ehrlichiosis
Encephalitis, Arboviral
Enterococci, Vancomycin-resistant from normally sterile site
Hantavirus infection
Hepatitis B carriage
Hepatitis C, acute
Human Immunodeficiency Virus (HIV) infection confirmed
Legionellosis
Leptospirosis
Lyme Disease
Lymphogranuloma venereum
Malaria
Meningitis, pneumococcal
Mumps
Nongonococcal urethritis
Psittacosis
Q Fever
Rocky Mountain Spotted Fever
Rubella, Congenital Syndrome
Streptococcal Infection, Group A, invasive disease
Tetanus
Toxic Shock Syndrome
Toxoplasmosis, congenital disease
Typhoid Carriage
Typhus, epidemic (louse borne)
Yellow Fever

C. Responsibility for completing the Communicable Disease Report Card
Microbiology Lab- The Microbiology Laboratory will report by telephone, all laboratory-confirmed communicable diseases as listed above on the back of the North Carolina Communicable Disease Report Card (DEHNR 2124).

1. Reporting of those communicable diseases not normally confirmed by laboratory test are carried out by the PHYSICIAN OF RECORD. The PHYSICAN OF RECORD is responsible for completing the North Carolina Communicable Disease Report Card
2. (NCCDRC) or for calling the local health department for all other communicable diseases on the NCCDRC, including the following diseases:
    a. Acquired Immunodeficiency Syndrome (AIDS)
    b. Chancroid
    c. Foodborne disease: C. perfringens, Staphylococcal, and other or unknown
    d. Granuloma Inguinale
    e. Hemolytic -Uremia Syndrome/Thrombotic, thrombocytopenic purpura
    f. HIV Infection
    g. Lymphogranuloma Venerum

h. Measles
i. Mumps
j. Rubella, Congenital Syndrome
k. Tetanus
l. Toxic Shock Syndrome
m. Typhus, epidemic (louse-borne)
n. Yellow Fever

***Note:** The HIV Coordinator will complete reporting of AIDS/HIV infections. This includes both adult and pediatric cases. The Laboratory reports all HIV testing, but case report forms must follow. Case report forms may be obtained from the HIV Coordinator or local health department. (Physicians may be contacted to provide additional information to complete these case forms)

The *PHYSICIAN OF RECORD* must send a copy of the culture or gene prone report with the patient when the patient is being referred to the Health Department for treatment of chlamydia or gonorrehea. The Health Department may call the referring physician to verify clinical symptoms.

The *PHYSICIAN OF RECORD* may be contacted by the Health Department to provide additional information as required by the NCCDRC such as the date of onset, the location where acquired, and the status of the patient (e.g., child in day care, etc.) as well as for information regarding disease stage for syphilis, gonorrhea and viral hepatitis other than type A. Additional information on HIV includes risk factors, CD4 counts, and diagnoses. **Patient notification is the responsibility of the ordering physician**.

Deceased Patients with Communicable Disease- It shall be the duty of the *PHYSICIAN OF RECORD* attending any person who dies and is known to have smallpox, plague, HIV infection, hepatitis B or C infection, rabies, or Creutzfeldt-Jakob disease to provide written notifications to all individuals handling the body of the proper precautions to personnel at the time the body is removed from the hospital. All persons handling the bodies of persons who died and were known to have HIV infection, hepatitis B or C infection, Creutzfeldt-Jakob disease, or rabies shall be provided written notification to observe **Standard Precautions**.

1. **Hospital Epidemiology / Infection Control-** Upon request, Hospital Epidemiology will assist the physician of record and/or the Health Department in completing the NCCDRC.

2. **HIV Care Coordinator-** Will complete the case report form of patients diagnosed with AIDS/HIV infections when notified of positive laboratory results. Hospital inpatients will automatically be reported by the laboratory and the Coordinator.

3. **Emergency Department-** For reportable diseases seen upon admission to the Emergency Department, the Attending Physician will complete the form at the time the diagnosis is made**.**

4. **Ambulatory Care / Wake Forest University Physicians-** Upon diagnosis, the Attending

5. Physician will complete the form.

6. **Employee Health Service-** Upon diagnosis, the Medical Director of Employee Health or designee will complete the form.

D. Availability of North Carolina Communicable Disease Report Cards

- The report cards will be available through the local health department.

E. Contacting the Forsyth County Health Department

1. The telephone number of the Health Department is: (336) 727-8297, extension 3640

2. The completed NCCDRC and HIV case report forms should be placed in a sealed envelope and mailed directly to:

Forsyth County Health Department
Attn: Communicable Disease Supervisor
P.O. Box 686
799 North Highland Avenue
Winston-Salem, North Carolina 27102-0686

Reference: North Carolina Statutory Authority G.S. 130A-134; 130a -135; 130A-139; 130A -141; 130A-146, and Section 15A North Carolina Administrative Code 19A .0201-.0212, effective 1998.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

HUMAN IMMUNODEFICIENCY VIRUS (HIV) INFECTION IN PATIENTS OR EMPLOYEES

I. POLICY:

It is the policy of North Carolina Baptist Hospitals, Inc., to provide safe, comprehensive and compassionate care to all patients, irrespective of the HIV status of the patient or the health care provider. This policy supersedes PPB-GS-IC-90-95-31.

II. PURPOSE:

To provide appropriate guidelines for the management of patients, employees or students who may be infected with human immunodeficiency virus (HIV).

III. PROCEDURE:

A. Management of Health Care Workers (HCWs) Caring for HIV Infected Patients

1. Employees and students will provide the same care to the HIV infected patient that they provide to any other patient as outlined by their official position description or supervisor.
2. Consideration of a health care worker's risk of occupational acquisition of opportunistic infections will be based on the "Employee Health Infection Control" policy, PPB-GS-IC-89-97-22.
3. Employees who refuse to care for HIV-infected patients will be counseled regarding transmission issues and risk, Standard (Universal) Precautions and the use of personal protective attire, and will be referred to their department head for resolution.
4. If a health care provider sustains a significant blood or body substance exposure, as defined in section III.O.4 of the "Standard (Universal) Precautions Policy", PPB-GSIC-88-98-2, the exposure should be reported to the immediate supervisor who will assist the exposed HCW in completing the NCBH Occurrence Report form. Refer the employee to Employee Health or to the Nursing Supervisor if Employee Health is closed. Significant exposures will be managed in accordance with the "Blood and Body Fluids Exposure Protocol for Medical Center Health Care Workers", PPB-GSIC-89-98-23 and the "Post Exposure Follow-up Using Post Exposure Prophylaxis (PEP)" policy, PPB-GS-IC-90-97-30.

B. Management of Employees/Students Known to be Infected with HIV

1. Any employee is expected to perform the duties of his/her job.
2. If a HCW is identified with HIV infection, he/she will be referred to the medical director of Employee Health or to an Infectious Disease physician to determine the conditions under which the HCW may continue to provide direct patient care, and to be counseled regarding the risk of acquiring infection from a patient.
3. The HCW's ability to perform the duties of the job should be communicated to the department head.

4. Like any other employee/student, the HIV-infected HCW should take appropriate precautions when caring for patients with communicable or infectious diseases, and should report as soon as possible to Employee Health for evaluation of any infectious disease exposure.
5. The question of whether health care workers infected with HIV, especially those who perform invasive procedures, can safely be allowed to perform patient care duties, or whether their work assignments should be changed, must be determined on an individual basis. These decisions should be made by the HCW's personal physician, in conjunction with the medical directors and Employee Health. In addition, state regulations stipulate that HCWs who know themselves to be HIV or hepatitis B infected and who perform invasive procedures, must self-report to the State Health Director who will conduct an investigation into the practice of the infected HCW. The self-reporting, investigation and any recommendations made as a result of the investigation, will be in accordance with Section 15A NCAC 19A.0207. In addition, state regulations stipulate that HCWs with secondary infection or open skin lesions that would place patients at risk shall not provide direct patient care.

C. Counseling and Testing

1. Routine serologic testing of all patients for antibody to HIV will not be performed as a method to prevent transmission of HIV infection in the workplace.
2. Routine serological testing of employees/students/faculty will not be performed as an infection control measure.
3. Anyone being tested for HIV infection must be counseled in advance about the nature of the test and its implications for patient care.
4. State law requires appropriate counseling, including individualized pre- and posttest counseling which provides risk assessment, risk reduction guidelines, appropriate referrals for medical and psychosocial services, and, when the person tested is determined to be infected with HIV, control measures (G.S. 130A-148). An HIV screening test cannot be done without the informed consent of the patient after counseling has occurred. To facilitate this process, forms are available from the State AIDS Control Program which include the issues pertinent for counseling and consent.

D. Confidentiality

1. All Hospital Personnel Policies related to confidentiality will be followed. Legal action, in the form of fines and/or imprisonment, can occur if confidentiality is breached.
2. It is not considered a breach in confidentiality when health care workers are apprised of the HIV status of a patient on a "need to know" basis in order to provide informed and effective care.
3. HIV infection will be reported to public health authorities following the guidelines established in the "Reporting of Communicable Diseases" policy, PPB-GS-IC-76-98-6.

References

1. North Carolina G.S. 130A-148
2. Morbidity and Mortality Weekly report Supplement, Recommendations for Prevention of HIV Transmission in Health Care Settings, August 21, 1987, Vol. 36. No. 2S. U.S. Department of Health and Human Services.
3. JCAHO Standards, 1992
4. Management of HIV Infection in the Hospital. American Hospital Association, November, 1988.
5. Association of American Medical Colleges. Policy Guidelines for Addressing HIV Infection in the Academic Medical Community. October, 1988.
6. NC Administrative Code 2/9/88 T 10:07A.0209: 10E
7. Subpart Z of 29 CFR part 1910, Bloodborne Pathogens. OSHA Final Standard, Federal Register, Vol. 56 No. 235, Friday, December 6, 1991.
8. Section 15A NCAC 19A.0207, of the North Carolina Administrative Code, entitled "HIV and Hepatitis B Infected Healthcare Workers".
9. Morbidity and Mortality Weekly Report “Case Control Study of Seroconversion in Health-Care Workers After Percutaneous Exposure to HIV-Infected Blood - France, United Kingdom, and United States - January 1988-August 1994. December 22, 1995, Vol. 44 No 50. U.S. Department of Health and Human Services.
10. Morbidity and Mortality Weekly Report “Update: Provisional Public Health Service Recommendations for Chemoprophylaxis After Occupational Exposure to HIV”. June 7, 1996, Vol. 45, No 22, U.S. Department of Health and Human Services.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

STANDARD/TRANSMISSION BASED ISOLATION PRECAUTIONS

I. POLICY:

Standard and Transmission Based Isolation Precautions will be used to prevent and/or reduce the number of nosocomial infections by preventing and/or controlling the risk of transmission of microorganisms. This policy supersedes policies "Universal Precautions" and "Patient Placement and Patient Isolation"

II. PURPOSE:

Transmission of infections requires three elements: a source of infecting microorganisms, a susceptible host and a means of transmission for the microorganism. Because agent and host factors are more difficult to control, interruption of transfer of microorganisms is directed primarily at transmission. Procedures as outlined below are designed to prevent transmission of microorganisms and are based on recommendations by the Centers for Disease Control and Prevention.

III. PROCEDURES:

There are two tiers of isolation precautions. The first and most important tier, Standard Precautions, is designed for the care of all patients in hospitals regardless of their diagnosis or presumed infection status. The second tier, Transmission-based Precautions, is designed for the care of patients known or suspected to be infected/colonized by epidemiologically important pathogens spread by airborne, droplet or contact with patient or equipment and should be implemented in addition to Standard Precautions when appropriate. Reference **Appendix A** for Specific Guidelines on type and duration of precautions needed for selected infections and conditions.

A. Standard Precautions apply to all aspects of patient care, regardless of diagnosis or presumed infection status. Standard Precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized source and supersede Universal Precautions. Standard Precautions applies to:
   1. Blood
   2. All body fluids, secretions and excretions except sweat, regardless of whether or not they contain visible blood
   3. Non-intact skin
   4. Mucous membranes

B. Standard Precautions includes the following components:
   1. **Patient Placement**: Patients may need a private room if they are unable to control their secretions or excretions and have potential to contaminate the environment, if they have poor hygiene habits or they cannot be expected to assist in maintaining infection control precautions (i.e., infants, children and patients with altered mental status).
   2. **Dietary Supplies**: No special precautions are needed for dishes, glasses, cups or eating utensils and disposable dishes/utensils are not required.
   3. **Housekeeping** : Routine and terminal cleaning should be completed as outlined in Housekeeping policy (s).
   4. **Hand Hygiene**: Hand hygiene encompasses cleansing of hands with a waterless antiseptic, antimicrobial soap/water or soap/water. Refer to the Infection Control Policy "***Hand Hygiene*"**.
   5. **Transportation**: When an isolated patient must be transported to other units or departments, the referring area should communicate the patient's isolation needs to the receiving area PRIOR to transporting the patient. Appropriate

barriers are worn or used by the patient and/or health care worker to reduce the opportunity for transmission of microorganisms and to reduce contamination of the environment.

6. **Personal Protective Equipment**: Reference: Infection Control Policy: "***Donning and Removal of Personal Protective Equipment"***

   a. Gloves:
      1. Wear gloves (clean non-sterile gloves are adequate) when touching blood, body fluids, secretions and excretions of all patients. Wear gloves when touching contaminated equipment**.**
      2. Put on clean gloves just before touching mucous membranes and non-intact skin of all patients**.**
      3. Gloves should be removed promptly after use, before touching non-contaminated items and environmental surfaces and before going to another patient. Cleanse hands immediately to avoid transfer of microorganisms to other patients or environments**.**
      4. Change gloves between tasks and/or procedures, on the same patient, after contact with material that may contain a high concentration of microorganisms**.**

   b. Mask, Eye Protection, Face Shield:
      1. Wear a fluid-resistant mask and eye protection or a face shield to protect mucous membranes of the eyes, nose, and mouth during procedures and patient –care
      2. activities that are likely to generate splashes or sprays of blood, body fluids, secretions, and excretions.

   c. Gowns/Aprons:
      1. Wear a gown (clean non-sterile) to protect skin and prevent soiling of clothing during procedures and patient-care activities that are likely to generate splashes or sprays of blood, body fluids, secretions and excretions.
      2. Remove a soiled gown as promptly as possible and cleanse hands to avoid transfer of microorganism(s) to other patients or environments.

7. **Patient Care Equipment/Medical Devices:** Dedicate the use of non-critical patient-care equipment to a single patient when possible. Handle used patient care equipment/devices soiled with blood, body fluids, secretions and excretions in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of microorganisms to other patients and environments. Ensure that all reusable equipment is not used for the care of another patient until it has been cleaned and/or reprocessed appropriately.

8. **Environmental controls:** Maintain the work site in a clean and sanitary manner. Routinely clean and disinfect environmental surfaces such as bed, bedrails, bedside equipment, and other frequently touched surfaces.

9. **Linen:** All soiled linen should be considered potentially contaminated and handled as little as possible. Reference Infection Control Policy: "***Management of Linen***"

10. **Occupational Health/blood-borne Pathogens:** All heath care workers should be knowledgeable regarding the risk of exposure and the appropriate preventive practices for blood borne pathogens in the workplace. Reference: "***Exposure Control Plan for Bloodborne Pathogens and Infection Control Policies for Employee Health"***

C. Transmission-based Isolation Precautions are designed for patients documented, or suspected to be, infected with microorganisms that are highly transmissible and should be used in addition to Standard Precautions.

D. Transmission-based Isolation Precautions include the following categories:
   1. **Resistant Organism Precautions (ROP)** is a special category used in addition to Standard Precautions, to prevent transmission of antibiotic resistant organisms that are spread through direct or indirect contact. This category requires notification of Infection Control before it can be initiated. Notification can be through the Hospital Epidemiologist or the Infection Control Department Director or the Infection Control Practitioners. Resistant Organism Precautions include the following:

      a. A private room is required or patients with the same resistant organism may be cohorted.
      b. Place a green ROP sign on front of the patient's room door (if the patient is in ICU place on the pulse oximeter monitor).
      c. Place a ROP label on the front of the chart
      d. Place a ROP sticker on the patient care Kardex
      e. For patients with ***Methicillin Resistant Staphylococcus Aureus*** **(MRSA**) and/or ***Vancomycin Resistant Enterococci*** (**VRE**) admissions will be notified by Infection Control and the patients computerized medical record will be coded with the appropriate Isolation code
      f. Wear gloves for any contact with the patient and/or the patient's equipment/environment. Remove and discard prior to leaving the room.
      g. Wear gowns for any contact with the patient and/or the patient's environment. Remove and discard prior to leaving the room.
      h. Wear a surgical mask if the patient has **MRSA** in their respiratory tract and has a productive cough or a tracheostomy. Use mask once and discard prior to leaving room.
      i. Patient transport and/or ambulation:
         1. Patients on ROP should wash their hands with a waterless antiseptic or an antimicrobial soap and water prior to leaving their room.
         2. Patients should wear a cover gown when they leave their room.
         3. All wounds should be covered
         4. Patients on ROP should not visit other patients, go to the gift shop or hospital cafeteria
         5. Medically essential procedures must be scheduled at such time that contact with other patients can be avoided. Scheduling personnel must notify receiving department personnel of patient's isolation status and the patient's chart must have colored isolation label affixed to the chart. The chart should be transported in a manner that reduces the potential for contamination such as placing in a zip lock bag.
         6. Upon arrival at the receiving department, the patient should be taken directly to the exam or procedure room.
         7. Patients with a trach or symptoms of an upper respiratory infection that have **MRSA** cultured from their sputum, must cover their mouth and/or trach with a surgical mask or tissues. If the patient can not tolerate a close fitting surgical mask, but leaves the room, staff within three (3) feet of patient must wear a surgical mask.
      j. Duration of ROP: Patients will remain on ROP for the duration of their hospitalization. Patients with **MRSA** and/or **VRE** will be placed on ROP with subsequent readmissions or ED visits or Outpatient procedures (interventional radiology, surgery etc.)

k. Criteria for discontinuing ROP for patients: Infection Control must be consulted prior to attempting to discontinue ROP. Cultures collected to clear patients from ROP will be processed in the Infection Control Lab. All patients cleared for MRSA and/or VRE will be considered high risk for future colonization and will have follow up surveillance cultures collected weekly during the remainder of their hospitalization and upon readmission. The following criteria will be utilized when attempting to discontinue ROP for patients with MRSA:
   1. Patients must be off all antibiotics for at least 72 hours. Renal patients may be cultured one month after their last dose of vancomycin
   2. Three (3) sets of negative cultures at least 24 hours apart from the nares, foreign body sites (i.e.; pegs, trachs but not central lines), and open skin lesions for all patients (do not culture healed areas that were not initially positive).
   3. In addition to culturing nares, foreign body sites and open skin lesions, other previously positive sites need to meet the following criteria:
      a. ***Blood***: No signs of sepsis and off antibiotics (negative blood culture not necessary)
      b. ***Urine***: One negative culture
      c. ***Wound***: Three (3) negative cultures at least 24 hours apart (even if it is now healed).
      d. ***Sputum***: Three (3) negative cultures at least 24 hours apart. If no longer producing sputum (off ventilator, tracheostomy removed) then three (3) negative throat cultures.
   4. If patient was last found positive >2 years ago, only one set of negative cultures is required
   5. If patient's last positive was <2years ago, and no eradication therapy has been initiated then no repeat cultures will be obtained for at least sixteen (16) weeks.

l. The following criteria will be utilized in attempting to discontinue ROP for patients with **VRE**:
   1. Three (3) negative perirectal cultures collected at least one week apart is required
   2. In addition to culturing perirectal site, other previously positive sites need to meet the following criteria:
      a. ***Blood***: patient must be off antibiotics and no signs of sepsis (negative blood culture not necessary).
      b. ***Urine:*** One negative culture.
      c. ***Wound***: three (3) negative cultures at least 24 hours apart.
      d. ***Sputum***: three (3) negative cultures at least 24 hours apart. If no longer producing sputum (off ventilator, tracheostomy removed), then three (3) negative throat cultures.
   3. If patient was last found positive >2 ago only one (1) set of negative cultures is required.
   4. If patient's last positive was <2 years ago, no repeat cultures will be obtained for at least sixteen (16) weeks.

m. Criteria for discontinuing ROP for patients with presumptive VRE: Three negative perirectal cultures collected at time of exposure and weekly thereafter.

n. Criteria for discontinuing ROP for patients with multiple resistant gram-negative rods: Patients will remain on precautions for the duration of their hospitalization. These patients are not routinely placed on ROP on readmission.

2. **Contact Precautions / Isolation** should be used in addition to Standard Precautions for specified patients known or suspected to

be infected or colonized with epidemiologically important microorganisms that can be transmitted by direct contact with the patient or indirect contact with environmental surfaces or patient care items. Contact Precautions include the following components:

a. A private room is preferred, but not required for all diseases. A private room is required for RSV, Parainfluenza or Enterovirus, however after consultation between the attending physician and Infection Control or Infectious Diseases, patients with the same organism may share a room.
b. Place Orange Contact Isolation sign on the front of the patient's room door, or if the patient is in the ICU place on pulse oximeter monitor.
c. Place Contact Isolation chart label on the front of the patients chart
d. Wear gloves for direct contact with the patient or patients' equipment.
e. Wear gowns if you anticipate that your clothing will have contact with the patient, environmental surfaces, or items in the patient's room.
f. Patient transport:
    1. Patients with diarrhea may ambulate at patient/nurse discretion. For example, a patient with uncontrollable diarrhea should not be allowed to ambulate outside of room.
    2. Transportation of patients with diarrhea: patients with uncontrollable diarrhea should wear protective diaper to contain contents.
    3. Patient with scabies or lice may ambulate in halls after they have been on effective treatment for 24 hours.
    4. Wounds with drainage must have affected areas covered with a dressing before ambulation or transportation.

3. **Droplet Precautions/Isolation** should be used in addition to standard Precautions to prevent transmission of contagious agents, which are spread by large particle droplets. Droplet Precautions includes the following components:
    a. A private room is recommended
    b. Place a purple Droplet Isolation sign on the front of the patient's door or if the patient is in ICU on the pulse oximeter monitor.
    c. Place a purple Droplet Isolation label on the front of the patient's chart.
    d. Wear gloves with contact of respiratory secretions.
    e. Wear a surgical mask if providing care within 3-5 feet of patient. Wear the mask once and discard.
    f. Patient transport:
        1. Patients on Droplet Isolation may leave their room ONLY for medically essential procedures (smoking is NOT considered essential).
        2. Medically essential procedures must be scheduled at such time that contact with other patients can be avoided. Scheduling personnel must notify receiving department personnel of patient's isolation status and the patient's chart must have colored isolation label affixed to the chart.
        3. Patients on Droplet Isolation should wear a close fitting mask when they leave the room. If the patient cannot tolerate a mask health care personnel within three (3) feet of the patient must wear a close-fitting surgical mask.

4. The patient must be instructed to cover their nose and mouth when coughing or sneezing and tissues must be provided so they can do so.
5. Elevators should be cleared of any unmasked individuals during transporting of these patients and public access areas should be avoided.
6. Upon arrival at the receiving department, the patient will be taken directly to the exam procedure room.

4. **Strict Precautions / Isolation** should be used in addition to Standard Precautions to prevent transmission of highly contagious or virulent infectious agents that may be spread by both air and contact. Health care workers not immune to chicken pox should not care for patients with chicken pox. Strict Precautions includes the following components:
   a. *A private room with negative airflow is required. The door must be kept closed.
   b. Place a yellow Strict Isolation sign on the front of the patient's room door.
   c. Place label on the front of the patient's chart.
   d. Wear gloves for direct contact with the patient or patient equipment. Remove and discard gloves prior to leaving room
   e. Wear gowns for direct contact with the patient. Remove and discard prior to leaving room.
   f. Wear a surgical mask to enter the room. Use once and discard
   g. Patient Transport:
      1. Patients on Strict Isolation may leave their rooms only for medically essential procedures (smoking is NOT considered essential).
      2. Medically essential procedures must be scheduled at such time that contact with other patients can be avoided. Scheduling personnel must notify receiving department personnel of patient's isolation status and the patient's chart must have colored isolation label affixed to the front.
      3. Patients on Strict Isolation must wear a close fitting surgical mask when leaving the room.
      4. If the patient cannot tolerate a mask health care personnel must wear a close fitting surgical mask.
      5. Elevators should be cleared of any unmasked individuals during transporting of these patients and public access areas should be avoided. Upon arrival at the receiving department, the patient will be taken directly to the exam or procedure room.

5. **Respiratory Precautions / Isolation** should be used in addition to Standard Precautions to prevent transmission of infectious agents whose primary route of infection is through the air. Respiratory Precautions include the following components:
   a. A private room with negative pressure is required.
   b. The door should be kept closed
   c. Place a blue Respiratory Isolation sign on the front of the patient's room door.
   d. Place Respiratory Isolation label on front of the patient's chart.
   e. Wear a surgical mask when entering the room. Use once and discard.
   f. Patient Transport:
      1. Patients on Respiratory Isolation may leave their room ONLY for medically essential procedures (smoking is NOT considered essential).

2. Medically essential procedures must be scheduled at such time that contact with other patients can be avoided. Scheduling personnel must notify receiving department personnel of patient's isolation status and the patient's chart must have colored isolation label affixed to the chart.
3. Patient on Respiratory Isolation should wear a close fitting mask when they leave the room. If the patient cannot tolerate a mask healthcare personnel must wear a close fitting surgical mask.
4. Elevators should be cleared of any unmasked individuals during transporting of these patients and public access areas should be avoided.
5. Upon arrival at the receiving department, the patient will be taken directly to the exam or procedure room.

6. **Special Respiratory Precautions / Isolation** should be used in addition to Standard Precautions to prevent transmission of Mycobacterium Tuberculosis; a disease transmitted through the air. Reference "***TB Exposure Control Plan***". Special Respiratory Precautions is used only for suspected or diagnosed tuberculosis. Special Respiratory Precautions includes the following components:
   a. A private room with negative pressure is required and patients may not be cohorted.
   b. The door must be kept closed.
   c. Place bright pink special Respiratory Isolation sign on the front of the patient's room door
   d. Place Special Respiratory label on the front of the patient's chart
   e. All health care workers entering the room should use a N95 respirator. Healthcare workers that have not been fit tested with a N95 respirator must wear a PAPRA respirator when entering the room. Health care workers will be fit tested as per employee health guidelines. The N95 respirator may be reused for a shift and stored between uses in the designated PPE drawer.
   f. Visitors and family members should wear either a TB respirator or a surgical mask, but do not require fit testing.
   g. Patient transport:
      1. Patients on special Respiratory Isolation may leave their rooms ONLY for medically essential procedures (smoking is NOT considered essential)
      2. Medically essential procedures must be scheduled at such time that contact with other patients can be avoided. Scheduling personnel must notify receiving department personnel of patient's isolation status and the patient's chart must be labeled
      3. Patients on special Respiratory Isolation must wear a close fitting mask when leaving the room. If the patient cannot tolerate a mask, health care personnel must wear an approved TB respiratory (refer to e above).
      4. Elevators should be cleared of any unmasked individuals during transporting of these patients and public access areas should be avoided.
      5. Upon arrival at the receiving department, the patient will be taken directly to the exam procedure room.
      6. Treatment and procedure rooms, where patients with confirmed or suspected TB receive care, should meet the same ventilation requirements that are recommended for isolation rooms (i.e.; maintain rooms under negative

pressure, keep doors closed and maintain greater than or equal to six (6) air exchanges with air exhausted directly to outside). In the event these requirements can not be met, a portable HEPA filtration unit must be used. Reference **Appendix B** "Use of portable HEPA Units".

h. Criteria for initiating Special Respiratory Isolation :
    1. Clinical suspicion of tuberculosis (two or more symptoms such as: persistent cough >3 weeks, bloody sputum, night sweats, weight loss, anorexia, fever).
    2. Cavitary lesion on chest x-ray.
    3. HIV positive patient on ***Pneumocystis carinii*** pneumonia (PCP) prophylaxis who has had pneumonia for more than one week.
    4. Children and adolescents will be evaluated on a case-by-case bas is for potential infectivity, and those with infectious pulmonary TB, including those with smear positive sputum, must be managed in the same manner as adults.
i. Criteria for discontinuing Special Respiratory Isolation:
    1. Three negative expectorated sputum AFB smears collected on three (3) different days OR;
    2. One negative bronchoscopy specimen AFB smear OR;
    3. Patient has received 7-21 days of effective therapy for TB, has clinically improved and Infection Control approves removal from isolation. Certain patient populations (i.e. immunocompromised patients) may need to remain on Special Respirator Isolation for an extended period of time because of their inability to respond to therapy.
    4. When a patient is suspected to be infected with drug-resistant organisms, Special Respiratory Isolation should be applied until the patient is improving and three consecutive sputum smears are negative for AFB **AND** it is known that the anti-tuberculosis drugs chosen are active against the organism isolated from the patient (e.g. by sensitivity testing).
j. Discharge of patients with AFB sputum smear positive pulmonary tuberculosis:
    1. A patient may be discharged to the community when he/she is improving clinically, cough has substantially decreased and the number of organisms on sequential sputum smears has decreased to few or none.
    2. If the patient is transferred to another facility, the receiving facility must be notified of the patient's infectious status.
    3. Patients should not be discharged to home while still infectious if immunocompromised individuals reside there.
    4. If homeless, the patient should not be discharged until the health department has been notified and follow-up with directly observed therapy (DOT) is arranged.
k. Cleaning of room:
    1. If patient is discharged from an isolation room or must be moved to another room while still judged to be infectious, the original room must have a routine cleaning and remain unused with the door closed for a sufficient time to allow a minimum of 6 air exchanges to occur before another patient is seen/admitted to this room. Normally, this would take approximately one hour, but may take more or less time, depending on the known air exchange rate in the room

2. Personnel involved in cleaning the room should wear an approved respirator. *Private rooms with negative pressure are located thru-out the facility. For questions contact the Infection Control Department. Reference Infection Control Policy “The Design, Use and Maintenance of Contained Air Pressure Spaces” (PPB-NCBH-IC 24) for monitoring and documenting air flow procedure.

IV. REFERENCES:

1. Department of labor, Occupational Safety and health Administration 29 CFR part 7.1910.1030, Occupational Exposure to Bloodborne pathogens; Final Rule, December 6, 1991
2. Guideline for Isolation Precautions in Hospitals: part II Recommendations for isolation precautions in hospitals. The Hospital Infection Control Practices Advisory CommitteeCenters for disease Prevention and control, Public health Service, US Department of Health and Human Services. American Journal of Infection Control, February, 1996, Vol.24, No 1, pp33-52
3. APIC Guidelines for Handwashing and Hand Antisepsis in health Care Settings, AJIC, August 1995
4. Draft Guidelines for Hand Hygiene in Health Care Settings 2001ation

Appendix A
Type and Duration of Precautions Needed for Selected Infections and Conditions

Precautions
Infection/Condition Type * Duration +

Abscess
Draining, major (1) C DI
Draining, minor or limited (2) S
Acquired immunodeficiency syndrome (3) S
Actinomycosis S
Adenovirus infection, in infants and young children D,C DI
Amebiasis (Amebic Dysentary) S
Anthrax
Cutaneous S
Pulmonary S
Antibiotic-associated colitis (see Clostridium difficile)
Arthropodborne viral encephalitides (eastern, western,
Venezuelan equine encephalomyelitis; St. Louis, California encephalitis) S (4)
Arthropodborne viral fevers (dengue, yellow fever, Colorado tick fever) S (4)
Ascariasis S
Aspergillosis S
Babesiosis S
Blastomycosis, North American, cutaneous or pulmonary S
Botulism S
Bronchiolitis (see respiratory infections in infants and young children)
Brucellosis (undulant, Malta, Mediterranean fever) S
Campylobacter gastroenteritis (see gastroenteritis)
Candidiasis, all forms including mucocutaneous S
Cat-scratch fever (benign inoculation lymphoreticulosis) S
Cellulitis, uncontrolled drainage C DI
Chancroid (soft chancre) S
Chickenpox (varicella; see F (5) for varicella exposure) STR F (5)
Chlamydia trachomatis
Conjunctivitis S
Genital S
Respiratory S
Cholera (see gastroenteritis)
Closed-cavity infection
Draining, limited or minor S
Not draining S
Clostridium
C botulism S
C difficile C DI
C perfringens
Food poisoning S
Gas gangrene S
Coccidioidomycosis (valley fever)
Draining lesions S
Pneumonia S
Colorado tick fever S
Congenital rubella C F (6)
Conjunctivitis
Acute bacterial S
Chlamydia S
Gonococcal S
Acute viral (acute hemorrhagic) C DI
Coxsackievirus disease (see enteroviral infection)

Creutzfeldt-Jakob disease **NOTIFY INFECTION CONTROL ASAP** S (7)
Croup (see respiratory infections in infants and young children)
Cryptococcosis S
Cryptosporidiosis (see gastroenteritis)
Cysticercosis S
Cytomegalovirus infection, neonatal or immunosuppressed S
Decubitus ulcer, infected
Major (1) C DI
Minor or limited (2) S
Dengue S (4)
Diarrhea, acute -- infective etiology suspected (see gastroenteritis)
Diphtheria
Cutaneous C CN (8)
Pharyngeal D CN (8)
Ebola viral hemorrhagic fever **NOTIFY INFECTION CONTROL ASAP** STR (9) DI
Echinococcosis (hydatidosis) S
Echovirus (see enteroviral infection)
Encephalitis or encephalomyelitis (see specific etiologic agents)
Endometritis S
Enterobiasis (pinworm disease, oxyuriasis) S
Enterococcus species (see multidrug-resistant organisms if epidemiologically significant or vancomycin resistant)
Enterocolitis, Clostridium difficile C DI
Enteroviral infections
Adults S
Infants and young children C DI
Epiglottitis, due to Haemophilus influenzae D U (24 hrs)
Epstein-Barr virus infection, including infectious mononucleosis S
Erythema infectiosum (also see Parvovirus B19) S
Escherichia coli gastroenteritis (see gastroenteritis)
Food poisoning
Botulism S
Clostridium perfringens or welchii S
Staphylococcal S
Furunculosis -- staphylococcal, infants and young children C DI
Gangrene (gas gangrene) S
Gastroenteritis
Campylobacter species S (10)
Cholera S (10)
Clostridium difficile (Pseudomembraneous colitis) C DI
Cyptosporidium species S (10)
Escherichia coli
Enterohemorrhagic O157:H7 S (10)
Diapered or incontinent C DI
Other species S (10)
Giardia lamblia S (10)
Rotavirus S (10)
Diapered or incontinent C DI
Salmonella species including S typhi) S (10)
Shigella species S (10)
Diapered or incontinent C DI
Vibrio parahaemolyticus S (10)
Viral (if not covered elsewhere) S (10)
Yersinia enterocolitica S (10)
German measles (rubella) D F (22)
Giardiasis (see gastroenteritis)
Gonococcal ophthalmia neonatorum (gonorrheal opthalmia, acute conjunctivitis of newborn) S
Gonorrhea S

Granuloma inguinale (donovanosis, granuloma venereum) S
Guillain-Barre syndrome S
Hand, foot, and mouth disease (see enteroviral infection)
Hantavirus pulmonary syndrome S
Helicobacter pylori S
Hemorrhagic fevers (for example, Lassa and Ebola) C (9) DI
Hepatitis, viralType A S
Diapered or incontinent patients C F (11)
Type B -- HBsAg positive S
Type C and other unspecified non-A, non-B S
Type E S
Herpangina (see enteroviral infection)
Herpes simplex (Herpesvirus hominis)
Encephalitis S
Neonatal (12) (see F (12) for neonatal exposure) C DI
Mucocutaneous, disseminated or primary, severe C DI
Mucocutaneous, recurrent (skin, oral, genital) S
Herpes zoster (varicella-zoster)
Localized or disseminated in immunocompromised patient STR DI (13)
Localized in normal patient S (13)
Histoplasmosis S
HIV (see human immunodeficiency virus) S
Hookworm disease (ancylostomiasis, uncinariasis) S
Human immunodeficiency virus (HIV) infection (3) S
Impetigo C U (24 hrs)
Infectious mononucleosis S
Influenza D (14) DI
Kawasaki syndrome S
Lassa fever C (9) DI
Legionnaires' disease S
Leprosy S
Leptospirosis S
Lice (pediculosis) REFER TO C.4 UNDER CONTACT C U (24 hrs)
Listeriosis S
Lyme disease S
Lymphocytic choriomeningitis S
Lymphogranuloma venereum S
Malaria S (4)
Marburg virus disease C (9) DI
Measles (rubeola), all presentations R DI
Melioidosis, all forms S
Meningitis
Aseptic (nonbacterial or viral meningitis {also see enteroviral infections}) S
Bacterial, gram-negative enteric, in neonates S
Fungal S
Haemophilus influenzae, known or suspected D U (24 hrs)
Lis teria monocytogenes S
Neisseria meningitidis (meningococcal) known or suspected D U (24 hrs)
Pneumococcal S
Tuberculosis (15) S
Other diagnosed bacterial S
Meningococcal pneumonia D U (24 hrs)
Meningococcemia (meningococcal sepsis) D U (24 hrs)
Molluscum contagiosum S
Mucormycosis S
Multidrug-resistant organisms, infection or colonization (16)
Gastrointestinal ROP F(24)
Respiratory ROP F(24)
Pneumococcal ROP F(24)

Skin, wound, or burn ROP F(24)
Mumps (infectious parotitis) D F (17)
Mycobacteria, nontuberculosis ("atypical")
Pulmonary S
Wound S
Mycoplasma pneumonia D DI
Necrotizing enterocolitis S
Nocardiosis, draining lesions or other presentations S
Norwalk agent gastroenteritis (see viral gastroenteritis)
Orf S
Parainfluenza virus infection, respiratory in infants and young children C DI
Parvovirus B19 D F (18)
Pediculosis (lice) C U (24 hrs)
Pertussis (whooping cough) D F (19)
Pinworm infection S
Plague
Bubonic S
Pneumonic D U (72 hrs)
Pleurodynia (see enteroviral infection)
Pneumonia
Adenovirus D,C DI
Bacterial not listed elsewhere (including gram -negative bacterial) S
Burkholderia cepacia in cystic fibrosis (CF) patients, incl. resp. tract col. S (20)
Chlamydia S
Fungal S
Haemophilus influenzae
Adults S
Infants and children (any age) D U (24 hrs)
Legionella S
Meningococcal D U (24 hrs)
Multidrug-resistant bacterial (see multidrug-resistant organisms)
Mycoplasma (primary atypical pneumonia) D DI
Pneumococcal
Multidrug-resistant (see multidrug-resistant organisms)
Pneumocystis carinii S (21)
Pseudomonas cepacia (see Burkholderia cepacia) S (20)
Staphylococcus aureus S
Streptococcus, Group A
Adults S
Infants and young children D U (24 hrs)
Viral
Adults S
Infants and young children (see respiratory infectious disease, acute)
Poliomyelitis S
Psittacosis (ornithosis) S
Q fever S
Rabies S
Rat-bite fever (Streptobacillus moniliformis disease, Spirillum minus disease) S
Relapsing fever S
Resistant bacterial infection or colonization (see multidrug-resistant organisms)
Respiratory infectious disease, acute (if not covered elsewhere)
Adults S
Infants and young children (3) C DI
Respiratory Syncytial Virus infection, in infants and young children, and immunocompromised adults C DI
Reye's syndrome S
Rheumatic fever S
Rickettsial fevers, tickborne (Rocky Mountain spotted fever and tickborne typhus fever) S

Rickettsialpox (vesicular rickettsiosis) S
Ringworm (dermatophytosis, dermatomycosis, tinea) S
Ritter's disease (staphylococcal scalded skin syndrome) S
Rocky Mountain spotted fever S
Roseola infantum (exanthem subitum) S
Rotavirus infection (see gastroenteritis)
Rubella (German measles; also see congenital rubella) D F (22)
Salmonellosis (see gastroenteritis)
Scabies REFER TO C.4 UNDER CONTACT C U (24 hrs)
Scalded skin syndrome, staphylococcal (Ritter's disease) S
Schistosomiasis (bilharziasis) S
Shigellosis (see gastroenteritis)
Sporotrichosis S
Spirillum minus disease (rat-bite fever) S
Staphylococcal disease (S. aureus) S
Skin, wound, or burn
Major (1) C DI
Minor or limited (2) S
Enterocolitis S (10)
Multidrug-resistant (see multidrug-resistant organisms)
Pneumonia S
Scalded skin syndrome S
Toxic shock syndrome S
Streptobacillus moniliformis disease (rat-bite fever) S
Streptococcal disease (group A streptococcus)
Skin, wound, or burn
Major (1) C U (24 hrs)
Minor or limited (2) S
Endometritis (puerperal sepsis) S
Pharyngitis in infants and young children D U (24 hrs)
Pneumonia in infants and young children D U (24 hrs)
Scarlet fever in infants and young children D U (24 hrs)
Streptococcal disease (group B streptococcus), neonatal S
Streptococcal disease (not group A or B) unless covered elsewhere S
Multidrug-resistant (see multidrug-resistant organisms)
Strongyloidiasis S
Syphilis
Skin and mucous membrane, including congenital, primary, secondary S
Latent (tertiary) and seropositivity without lesions S
Tapeworm disease
Hymenolepis nana S
Taenia solium (pork) S
Other S
Tetanus S
Tinea (fungus infection dermatophytosis, dermatomycosis, ringworm) S
Toxoplasmosis S
Toxic shock syndrome (staphylococcal disease) S
Trachoma, acute S
Trench mouth (Vincent's angina) S
Trichinosis S
Trichomoniasis S
Trichuriasis (whipworm disease) S
Tuberculosis
Extrapulmonary, draining lesion (including scrofula) S
Extrapulmonary, meningitis (15) S
Pulmonary, confirmed or suspected or laryngeal disease SR F (23)
Skin test positive with no evidence of current pulmonary disease S
Tularemia
Draining lesion S

Pulmonary S
Typhoid (Salmonella typhi) fever (see gastroenteritis)
Typhus, endemic and epidemic S
Urinary tract infection (including pyelonephritis), with or without urinary catheter. S
Varicella (chickenpox) STR F (5)
Vibrio parahaemolyticus (see gastroenteritis)
Vincent's angina (trench mouth) S
Viral diseases
Respiratory (if not covered elsewhere)
Adults S
Infants and young children (see respiratory infectious disease, acute)
Whooping cough (Pertussis) D F (19)
Wound infections
Major (1) C DI
Minor or limited (2) S
Yersinia enterocolitica gastroenteritis (see gastroenteritis)
Zygomycosis (phycomycosis, Mucormycosis) S
Zoster (varicella-zoster)
Localized or disseminated immunocompromised patient STR DI (13)
Localized in normal patient S (13)

Abbreviations:

***Type of precautions:**
S = Standard
STR = Strict
R = Respiratory
SR = Special respiratory
C = Contact
D = Droplet
ROP = Resistant Organism Precautions

+ Duration of precautions:
CN, until off antibiotics and culture-negative
DH, duration of hospitalization;
DI duration of illness (with wound lesions, DI means until they stop draining);
U, until time specified in hours (hrs) after initiation of effective therapy
F, see footnote number.

FOOTNOTES:

1. No dressing or dressing does not contain drainage adequately.
2. Dressing covers and contains drainage adequately.
3. Also see syndromes of conditions listed in Table 2.
4. Install screens in windows and doors in endemic areas.
5. Maintain precautions until all lesions are crusted. The average incubation period for varicella is 10 to 16 days, with a range of 10 to 21 days. After exposure, use varicella zoster immune globulin (VZIG) when appropriate, and discharge susceptible patients if possible. Place exposed susceptible patients on Strict Isolation beginning 10 days after exposure and continuing until 21 days after last exposure (up to 28 days if VZIG has been given). Susceptible persons should not enter the room of patients on precautions if other immune caregivers are available.
6. Place infant on precautions during any admission until 1 year of age, unless nasopharyngeal and urine cultures are negative for virus after age 3 months.
7. Additional special precautions are necessary for handling and decontamination of blood, body fluids and tissues, and contaminated items from patients with confirmed

or suspected disease. See latest College of American Pathologists (Northfield, Illinois) guidelines or other references.

8. Until two cultures taken at least 24 hours apart are negative.
9. Call state health department and CDC for specific advice about management of a suspected case. During the 1995 Ebola outbreak in Zaire, interim recommendations were published. (97) Pending a comprehensive review of the epidemiologic data from the outbreak and evaluation of the interim recommendations, the 1988 guidelines for management of patients with suspected viral hemorrhagic infections (16) will be reviewed and updated if indicated.
10. Use Contact Precautions for diapered or incontinent children <6 years of age for duration of illness.
11. Maintain precautions in infants and children <3 years of age for duration of hospitalization; in children 3 to 14 years of age, until 2 weeks after onset of symptoms; and in others, until 1 week after onset of symptoms.
12. For infants delivered vaginally or by C-section and if mother has active infection and membranes have been ruptured for more than 4 to 6 hours.
13. Persons susceptible to varicella are also at risk for developing varicella when exposed to patients with herpes zoster lesions; therefore, susceptibles should not enter the room if other immune caregivers are available.
14. The "Guideline for Prevention of Nosocomial Pneumonia" (95,96) recommends surveillance, vaccination, antiviral agents, and use of private rooms with negative air pressure as much as feasible for patients for whom influenza is suspected or diagnosed. Many hospitals encounter logistic difficulties and physical plant limitations when admitting multiple patients with suspected influenza during community outbreaks. If sufficient private rooms are unavailable, consider cohorting patients or, at the very least, avoid room sharing with high-risk patients. See "Guideline for Prevention of Nosocomial Pneumonia" (95,96) for additional prevention and control strategies.
15. Patient should be examined for evidence of current (active) pulmonary tuberculosis. If evidence exists, additional precautions are necessary (see tuberculosis).
16. Resistant bacteria judged by the infection control program, based on current state, regional, or national recommendations, to be of special clinical and epidemiologic significance.
17. For 9 days after onset of swelling.
18. Maintain precautions for duration of hospitalization when chronic disease occurs in an immunodeficient patient. For patients with transient aplastic crisis or red-cell crisis, maintain precautions for 7 days.
19. Maintain precautions until 5 days after patient is placed on effective therapy.
20. Avoid cohorting or placement in the same room with a Cystic Fibrosis patient who is not infected or colonized with Burkholderia cepacia. Persons with Cystic Fibrosis who visit or provide care and are not infected or colonized with Burkholderia cepacia may elect to wear a mask when within 3 ft of a colonized or infected patient.
21. Avoid placement in the same room with an immunocompromised patient.
22. Until 7 days after onset of rash.
23. Discontinue precautions only when TB patient is on effective therapy, is improving clinically, and has three consecutive negative sputum smears collected on different days, or TB is ruled out. Also see CDC "Guidelines for Preventing the Transmission of Tuberculosis in Health-Care Facilities."

Appendix B
USE OF PORTABLE HEPA UNITS

Engineering stores, maintains and installs portable HEPA units. These units move 700 cubic feet of air per minute, or 42,000 cubic feet of air per hour. OSHA requires 6 air exchanges per hour.

When a known or suspected TB patient has been in a room with a portable HEPA unit, the door should be closed and the room blocked for an adequate period of time to protect subsequent patients as well as staff without respirators. Fluoroscopy Room #20, for example, is 3000 cubic feet (20 ft x 15 ft x 10 ft). So, 42,000 (# of cubic ft of air per hour a HEPA unit can move) 3,000 (size of #20 Fluoroscopy Room) = 14 ((# of air exchanges per hour). Since OSHA requires only 6 air exchanges per hour, we divide 14 6 = .43 hours. So it takes about 30 minutes to clear a room the size of Fluoroscopy Room #20 of infectious organisms once the isolated patient is removed.

Call Infection Control if guidance is needed in determining the need for a portable HEPA unit or the time needed to clear the air from a room after their use.

HEPA units have been permanently installed in Peds Clinic, Dialysis unit, and #20 Fluoroscopy Room in Radiology.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

DONNING AND REMOVAL OF PERSONAL PROTECTIVE EQUIPMENT

I. Policy

Personal Protective Equipment (PPE) will be worn when there is reasonably anticipated exposure to any patient's bloody, body substance, non-intact skin and mucous membranes. PPE will also be worn while providing care to patients with epidemiologically important microorganisms to reduce the opportunity for transmission of pathogens.

II. Purpose

The proper donning, wearing and removal of gloves, gowns, masks and eye protection can reduce the risk of infection to both healthcare provider and patients.
PPE should be donned in the following order when all are required:
Mask/eye protection
Gown
Gloves
PPE should be removed in the following order:
Gloves
Gown
Mask/eye protection

III. Procedure

A. GLOVES
   1. Donning:
      a. Non-sterile, disposable gloves do not require any special technique for donning.
   2. Removal:
      b. Gloves should be removed before mask or gown and discarded in a white bag (with biohazard symbol).
      c. Gloves should be removed to minimize aersolization of glove powders and microorganisms.
      d. Remove gloves by hooking the thumb of the opposite hand inside the glove and pulling the contaminated outer side in on itself. Discard.
      e. Repeat this procedure with the other glove, touching only the inside of the other glove.
      f. Discard gloves in appropriate waste container.
      g. Wash hands or use alcohol hand sanitizer.

B. MASK AND EYE WEAR
   1. Donning:
      a. mask and eye protection before donning gown and gloves.
      b. Masks are to be worn once.
      c. Masks should be changed as soon as it becomes moist or wet.
      d. Avoid handling the mask before placing on your face.
      e. Tie top strings at the back of head, masking sure the strings pass over the ears.
      f. Tie the lower strings of the mask at the back of the head at the neckline.
      g. Do not remove mask from nose and mouth and permit it to dangle around the neck.

h. If eye protection is not a component of the mask, don separate eye protection.
i. Corrective lenses are not considered adequate eye protection.

2. Removal:
   a. Wash hands after removal of gloves (if worn).
   b. Untie lower strings of mask first, then upper ones.
   c. Remove mask, wrap strings around mask and discard in appropriate receptacle.
   d. Remove eye protection. Reusable eye protection should be cleaned if soiled with blood, body fluids, etc.
   e. Wash hands after removal of mask and/or eye protection.

C. GOWNS
1. Donning:
   a. Gowns should be full length and large enough to cover clothing adequately.
   b. Select a gown and unfold it.
   c. Put arms through the gown sleeves.
   d. Adjust the gown on your shoulders.
   e. Tie the neck ties
   f. Tie the waist belt.
2. Removal:
   a. After gloves have been removed, untie the waist belt.
   b. Wash hands.
   c. Untie neck ties
   d. Remove the first sleeve of the gown by placing your forefinger under the cuff of the sleeve and pull the sleeve down over hand without touching the outside of the gown.
   e. Remove the other sleeve. With your hand inside the first sleeve, draw the second sleeve down over your hand.
   f. Slip out of the gown. Discard reusable gowns carefully in a soiled linen container prior to leaving exam room. Discard a disposable gown in appropriate receptacle.
   g. Wash hands.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

HAND HYGIENE

I. Policy:
Healthcare works shall clean their hands when indicated as outline in the procedure below. This policy supersedes "Routine Handwashing" PPB-GS-IC-IC87-98-7A.

II. Purpose:
To remove transient microbial flora and reduce transmission of microorganisms in the healthcare setting.

III. Procedure:

A. Alcohol-based waterless agents:
An alcohol-based waterless agents shall be available in clinic areas were patient care services are provided. If hands are not visibly soiled, an alcohol-based waterless antiseptic agent should be used to cleanse hands in the following clinical situations:

1. Before caring for patients with severe neutropenia or other form of severe immune.
2. Before donning sterile gloves prior to performing invasive procedures
3. Before accessing implantable devices.
4. After contact with a patient's intact skin e.g., taking a pulse or blood pressure.
5. After contact with body fluids or excretions, mucous membranes, non-intact skin or wound dressings.
6. When moving from a contaminated body site to a clean body site.
7. After contact with contaminated equipment.
8. After removing gloves.

Procedure:
Apply alcohol-based waterless agent to palm of one hand.
Rub hands together, covering all surfaces of hands and fingers, until hands are dry (if an adequate volume is use, it should take 15 seconds for hands to dry).
No rinsing or towel drying of hands is required or recommended.

Storage:
1. Dispensers can be stored in each room.
2. Cases should be stored in a flammable liquid storage cabinet.

B. General Handwashing:
1. Bar should not be used for handwashing by healthcare workers when providing patient care.
2. Liquid soap dispensers should be replaced or cleaned and filled with fresh product when empty. Liquid soap should not be added to a partially filled dispenser.
3. An antimicrobial soap shall be available at sinks utilized for handwashing by healthcare workers and used for handwashing when:
4. Hands are visibly dirty or contaminated with proteinaceous material.
5. A caregiver is intolerant of the alcohol-based waterless agent provided.
6. A non-antimicrobial soap and water may be utilized for cleansing hands after all other routine activities, e.g. before eating, after restroom use, prior to preparing medications, etc.

Handwashing Technique:

1. Wet hands with warm water
2. Apply soap
3. Rub Hands together vigorously for at least 15 seconds covering all surfaces of the hands and fingers
4. Rinse hands with warm water
5. Dry thoroughly with a disposable paper towel.
6. Use towel to turn off water.

C. Surgical Hand Antisepsis:

1. Use of either an alcohol-based waterless hand or an antimicrobial soap is recommended before donning sterile gloves when performing surgical procedures.
2. A brush should not be used to decontaminate hands.

D. Hand Lotions:

1. Hand lotions help to protect skin and may reduce microbial shedding.
2. Lotions containing petroleum or oil emollients may affect the integrity of latex gloves and the efficacy of agents used for hand antisepsis and should not be used.
3. Lotions should be dispensed in small, individual-use containers or from pump dispenser that are not opened or refilled.

E. Artificial Nails:

1. Artificial fingernails or extenders* should not be worn by clinical staff.
2. Fingernail polish, when worn, should be fresh, not chipped or cracked.
3. Natural nails should be kept less than 1/4" long.

* Artificial fingernails/extenders: Substances or devices applied or added to the natural mails to augment or enhance the wearer's own nails. They include, but are not limited to bonding, tips, wrapping and tapes.

RESOURCES:

1. AORN. 2002 Standards Recommended Practices and Guidelines.
2. Centers for Disease Control and Prevention. Guideline for Hand Hygiene in Health-Care Settings: Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. MMWR 2002;51(No. RR-16):
3. Larson EL. APIC guideline for handwashing and hand antisepsis in health care settings. American Journal of Infection Control 1995;23:251-69.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

APPROVED CLEANSING AGENTS FOR SURGICAL SCRUBS

Skin Prepping and Hand Hygiene

I. Policy:

Only approved agents shall be used for surgical scrubs and skin prepping. This policy supercedes "Cleansing Agents Approved for Handwashing, Surgical Scrubs and Skin Prepping", PPB-GS-IC-83-98-7B.

II. Purpose:

To provide guidelines for appropriate use of approved agents for skin cleansing.

III. Procedure:

A. Antimicrobial agents should be used for hand cleansing prior to percutaneous procedures and for surgical scrubs.
   1. An antiseptic detergent preparation containing 2% - 4% chlorhexidine gluconate (CHG) should be used for handwashing prior to percutaneous procedures and surgical scrubs.
   2. Iodophors (7.5% - 10%) may be used for handwashing prior to percutaneous procedures and surgical scrubs by individuals with a hypersensitivity to CHG. *

B. Antimicrobial Agents for Patient Skin Prepping
   1. CHG 2-4% is the agent of choice for skin prepping prior to percutaneous and surgical procedures.
   2. Iodophors should be used for skin prepping prior to percutaneous and surgical procedures on those patients with known hypersensitivity to CHG.
      a. Iodophors (7.5-10%) require a two minute contact time. If an iodophor must be removed for any reason prior to the planned procedure, isopropyl or ethyl alcohol (70-90%), sterile water or sterile saline may be used.
      b. If tincture of Iodine (1-2% potassium Iodine in 70$ alcohol) is used, it must be removed from the skin after drying.
   3. ChloraPrep is 2% chlorhexidine gluconate/70% isopropyl alcohol antiseptic. Dry skin should be prepped for 30 seconds. Wet areas should be prepped for 2 minutes.
   4. Hexachlorophene (Phisohex3%) may be used as a skin prepping agent prior to percutaneous and surgical procedures only on those patients with a known or documented hypersensitivity to CHG and iodophors.
   5. Hexachlorophene should not be used during pregnancy.

C. Hand Hygiene
   1. Non-antimicrobial liquid soap may be used for activities not associated with providing patient care.
   2. An antimicrobial liquid soap containing 2-4% CHG should be used when hands are visibly dirty or contaminated with proteinaceous material
   3. A waterless agent containing 50% to 70% alcohol should be used for all patient care related activities when hands are not visibly soiled.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

LATEX ALLERGIES IN FACULTY AND STAFF

I. Policy:

Faculty and staff with suspected latex allergies or sensitivities will be referred to and evaluated by Employee Health.

II. Purpose:

1. To evaluate symptoms that may be potentially related to an allergic reaction to latex
2. To reduce the risk of exposure to latex allergies or sensitivies in the healthcare or research environment

A.

III. Procedures:

A. Faculty and staff with a complaint of allergies will be screened for sensitivity to late by Employee Health at the time of initial hire.

B. Faculty and staff presenting to Employee Health with possible latex allergy will complete an "Employee Occurrence Report" or report the occurrence on-line via the EH&S website http://www.wfubmc.edu/ehs/report.html.

C. Employee Health will access faculty and staff complaints and complete the "Hand Dermatitis Questionnaire" for the individual.

D. An alternative type of glove will be provided at no cost to the individual.

E. Anti-inflammatory medication and/or anti-pruritic medication will be provided for symptomatic relief.

F. Referral to Dermatology or allergist may be considered for follow-up evaluation and management.

G. Individuals will be provided with information regarding "Medic Alert".

H. After evaluation, individuals documented to have a latex allergy, will be counseled to avoid exposure to natural latex products. Their department manager will be notified.

I. In areas where a non-latex work environment can not be created, WFUHS Human Resources will be consulted.

J. Latex allergies identified as work related will be reported to the Risk Management Department.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

REPROCESSING OF DISPOSABLE PATIENT CARE ITEMS

I. POLICY:
There will be no reprocessing of disposable, single use patient care items.

II. PURPOSE:
To ensure that disposable, single use patient care items are not reprocessed.

III. PROCEDURES:
1. Original packaging should be reviewed for use-determination of item.
2. If original packing is not available, contact should be made with the manufacturer or vendor.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

USE OF DISPOSABLE PATIENT CARE ITEMS

I. Policy:

All disposable items will be used in accordance with manufacturer's specifications and for those purposes which the disposable item is intended. Once used, single use disposable patient care items will be discarded.

II. Purpose:

To provide guidelines for appropriate use of disposable items.

III. Procedures:

1. Follow manufacturer's recommendation for appropriate use of item.
2. Discard disposable item according to the manufacturer's recommendations and in compliance with WFUHS Biowaste program.

Resources: WFUHS Biowaste Program

WAKE FOREST UNIVERSITY HEALTH SCIENCES

DISINFECTION OF NON-CRITICAL MEDICAL DEVICES/EQUIPMENT

I. POLICY:

Non-critical medical devices/equipment are those items that come in contact with intact skin, but do not touch mucous membranes, such as laryngoscope handles, stethoscopes and scissors. These items need to be cleaned and/or disinfected after each use, or when soiled, with an approved disinfecting agent, and in accordance with the manufacturer's recommendations. Many non-critical items may be cleaned where they are used. Each clinic must develop schedules for cleaning of non-critical devices/equipment.

II. PURPOSE:

To provide guidelines for cleaning and disinfection of non-critical medical devices/equipment.

III. PROCEDURES:

A. Non-critical Disinfection Agents

Any of the following agents are approved for cleaning of non-critical medical devices/equipment:

Active ingredient	**Conditions of Use**
Ethyl or isopropyl alcohol (70-80%)	
Bleach (sodium hypochlorite) 100 ppm	Prepared fresh daily
Phenolic germicidal detergent solution	Prepared according to manufacturer's label use dilution * Phenolic solutions should not be used to clean/disinfect infant or child care equipment.
Iodophor germicidal detergent	Prepared according to manufacturer's label use dilution.
Quaternary ammonium germicidal detergent	Prepared according to manufacturer's label use dilution.

B. Cleaning Process:

Mechanical friction must be applied to the object being cleaned or disinfected. The item being cleaned should be exposed to the disinfectant solution for at least 10 minutes or more. Disposable cleaning cloths should be used and discarded in the trash after use. Disposable (nitrile) gloves should be used for personal protection. Soiled department equipment, temporarily stored in the Dirty Utility Room must be cleaned prior to reuse.

C. Splatters of Blood/Body Fluids to Non-critical devices/equipment:

Splatters of blood/body fluids should first be cleaned from the surface of non-critical devices/equipment, and then disinfected with any of the agents listed in A above, except for bleach. When using bleach for cleaning splatters of blood/body fluids to non-critical devices/equipment, a fresh, daily prepared 1:10 dilution should be used. Cleaning should take place as soon after the splatter as possible. Disposable cleaning cloths and disposable (nitrile) gloves should be used.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

MANAGEMENT OF INTRAVASCULAR DEVICES

Infection Control Aspects

I. POLICY:

Intravascular devices shall be maintained in accordance with the CDC guidelines. **Reference Appendix A**

II. PURPOSE:

To provide and maintain a safe access into the patient's vascular system and to ensure safe delivery of intravascular products/solutions.

III. PROCEDURES:

A. Health care workers (HCW's) should cleanse their hands before inserting or manipulating any intravascular device and/or intravascular dressing. Refer to policy PPB-NCBH-IC 4 "Hand Hygiene" and PPB-NCBH-IC 5 "Approved Cleansing agents for Surgical Scrubs/Skin Prepping/Hand Hygiene"

B. Maintain aseptic technique for the insertion and care of intravascular catheters.
   1. Wear clean or sterile gloves when inserting an intravascular as required by OSHA.
   2. Wear clean or sterile gloves when changing the dressing on intravascular catheters

C. The IV site should be disinfected with an appropriate antiseptic. Although a 2% chlorhexidine gluconate based preparation is preferred, 10% iodophor, 2% tincture of iodine or 70% alcohol can be used. The antiseptic should remain on the insertion site and air dried before catheter insertion. If povidone iodine is used, allow to remain on the skin for at least two minutes or until completely dried.

D. Closed System:
   1. The IV system should be maintained as a closed system, except when changing parenteral container. Line breaks should be avoided. When lines must be accessed, needleless devices should be used whenever possible.
   2. If the IV tubing is contaminated or if an IV site infiltrates, a new sterile tubing set-up should be used with new sterile cannula to start the IV.
   3. All IV tubing ports (i.e., stopcocks etc.) not in use must be covered with a sterile cap or injection site to prevent contamination. Once removed, the cap can be reused, only if the patient end of the cap can be maintained in a sterile manner. If the cap is contaminated, or thought to be contaminated, it must be discarded and replaced with a new cap.
   4. Injection ports should be cleaned with a 70% alcohol or an iodophor before accessing the system.

E. Catheter Site Dressing:
   1. Topical antimicrobial ointment or antiseptic is not recommended at the insertion site.
   2. The cannula should be secured at the insertion site.
   3. A sterile dressing should be applied to cover the entire cannula (Tape applied over gauze dressing or transparent dressing.
   4. The date and time of insertion should be recorded in the patient record and on the dressing label.

5. Replace the catheter site dressing whenever it becomes damp, loose, visible soiled or inspection of the site is required.
6. Dressings on tunneled or implanted central venous catheters should be changed no more than once per week.

F. Site Evaluation:
1. Patients with intravascular devices must be evaluated at least daily for evidence of cannula related complications. This evaluation should include palpation of the insertion site through the intact dressing.
2. If evaluation reveals pain/tenderness, redness, or swelling at the insertion site, or there is unexplained fever or IV fluids run poorly, the dressing should be removed and the site inspected.
3. If the patient has a large or bulky dressing that prevents palpation or visual inspection, remove the dressing and inspect the catheter site no less than daily.

G. Administration Sets:
1. Tubing used to administer blood, blood products or lipid emulsions must be changed at the completion of the infusion.
2. Tubing should be changed immediately if leaking develops or contamination occurs.
3. IV tubing should be aseptically maintained and kept off of the floor.
4. IV filters are not needed for infection control purposes.

H. Needleless Intravascular Devices:
1. Change the needleless components at least as frequently as the administration set.
2. Minimize contamination risk by wiping the access port with an appropriate antiseptic and accessing the port only with sterile devices.

I. Frequency of parenteral fluid change:
1. Complete infusions of lipid-containing solutions (3-in 1 solution) within 24 hours of hanging the solution.
2. Complete infusions of blood or other blood products within 4 hours of hanging the blood.

J. Admixing Parenterals:
1. Admixing of parenterals should be done in the pharmacy in a laminar flow hood using an aseptic technique whenever possible.
2. All containers of parenteral fluid should be checked for visible turbidity, leaks, cracks, and particulate matter and for the manufacturer's expiration date before use. If a problem is found, the fluid should not be used and should be sent to or remain in the pharmacy.
3. Use single dose vials for parenteral additives or medications when possible.
4. Do not combine the leftover contents of single-use vials for later use.
5. When multi-dose vials must be used:
   a. Refrigerate multi-dose vials after they are opened if recommended by the manufacturer.
   b. Cleanse the access diaphragm of multi-dose vials with 70% alcohol before inserting a device into the vial.
   c. Use a sterile device to access a multi-dose vial and avoid touching the device before penetrating the access diaphragm.
   d. Discard multi-dose vials when empty, when suspected or visible contamination occurs, or when the manufacturer's expiration date is reached.
6. All admixed fluids that require refrigeration should be refrigerated or infused.

K. Selection of peripheral catheter:
   1. Catheters should be selected on the basis of the intended purpose and duration of use, known complications and experience of the individual inserting the catheter.
   2. Use of steel needles should be avoided if used for the administration of fluids and medications that might cause tissue necrosis if extravasation occurs.

L. Selection of peripheral catheter insertion site:
   1. In adults use an upper-instead of a lower-extremity site for catheter insertion.
   2. In pediatric patients, the hand, the dorsum of the foot or the scalp can be used as the catheter insertion site.

M. Central venous cannuals (CVC) adult:
   1. Use a central venous catheter with the minimum number of ports or lumens essential for the management of the patient.
   2. External catheters, i.e. Hickman, Groshong or Broviac catheters or implantable vascular access devices should be used for patients requiring long-term (>30 days) vascular access.
   3. Peripherally inserted central venous catheters (PICC) should be used as an alternative means for central vein access when the duration of vascular access is expected to be 2-6 weeks.
   4. Use a subclavian site (rather than a jugular or a femoral site) to minimize infection risk for non tunneled central venous catheter placement. Weigh the risk and benefit of placing a device at a recommended site to decrease infectious complications against the risk of mechanical complications.
   5. Sterile gloves, surgical gown, cap, a mask and a large sterile drape should be used for all insertions (Maximal sterile barriers).
   6. CVC's, totally implantable devices and access needles should not be changed routinely.
   7. Sterile technique should be used for dressing changes.
   8. Prophylactic antimicrobials should not be administered routinely for insertion.
   9. Guidewire-assisted catheter exchange should not be used whenever a catheter-related infection is strongly suspected or documented, nor as a means of infection prevention. If catheter is implicated, a new site should be found.
   10. Catheters which require anticoagulant should be flushed per nursing policy. A physician's order is required to flush catheters with an anticoagulant.

N. Central Venous Catheters (Pediatrics):
   1. Use a subclavian site (rather than a jugular or a femoral site) to minimize infection risk for non tunneled central venous catheter placement. Weigh the risk and benefit of placing a device at a recommended site to decrease infectious complications against the risk of mechanical complications.
   2. Hickman or Broviac catheters or implantable vascular access devices should be used for patients requiring long-term (>30 days) vascular access, except younger pediatric patients (,4 years) should have totally implantable devices when they require long term vascular access (except in pediatric patients undergoing a transplant)..
   3. Peripherally inserted central venous catheters (PICC) should be used as an alternative means for central vein access when the duration of vascular access is expected to be 2-6 weeks.
   4. Subclavian rather than jugular or femoral sites, should be used for placement.
   5. Sterile gloves, surgical gown, cap, a mask and a large sterile drape should be used for all insertions (Maximal sterile barriers).
   6. CVC's, totally implantable devices and access needles should not be changed routinely.
   7. Sterile technique should be used for dressing changes.
   8. Prophylactic antimicrobials should not be administered routinely for insertion.

9. Guidewire-assisted catheter exchange should not be used whenever a catheter-related infection is strongly suspected or documented, nor as a means of infection prevention. If catheter is implicated, a new site should be found.
10. Catheters which require anticoagulant should be flushed per nursing policy. A physician's order is required to flush catheters with an anticoagulant.

O. Central Venous Hemodialysis Catheters:
   1. Cuffed venous catheter should be used for hemodialysis if the period of temporary access is anticipated to be > three weeks.
   2. Maximum sterile barrier precautions should be used for insertions (gowns, gloves, cap, mask)
   3. Place catheters used for pheresis and hemodialysis in a juglar or femoral vein rather than use the subclavian site.
   4. Apply povidone-iodine to the catheter exit site after insertion and after each hemodialysis session.
   5. Do not use the hemodialysis catheter for blood drawing or applications other than hemodialysis except during hemodialysis or under emergency conditions.
   6. Dressings should be changed at the time of routine dialysis or whenever dressing becomes damp, loose or soiled. Sterile technique should be used.

Appendix A

Summary of Recommended Frequency of Replacements for Catheters, dressings, Administration Sets, and Fluids

Catheter	Replacement and relocation of device	Replacement of catheter site dressing	Replacement of administration sets	Hang time for parenteral fluids
Peripheral venous catheters	In adults, replace catheter and rotate site no more frequently than every 72-96 hours. Replace catheters inserted under emergency basis and insert a new catheter at a different site within 48 hours. In pediatric patients, do not replace peripheral catheters unless clinically indicated.	Replace dressing when the catheter is removed or replaced, or when the dressing becomes damp, loosened, or soiled. Replace dressings more frequently in diaphoretic patients. In patients who have large bulky dressings that prevent palpation or direct visualization of the catheter insertion site, remove the dressing and visually inspect the catheter at least daily and apply a new dressing.	Replace intravenous tubing, including add-on devices, no more frequently than at 72-hours intervals unless clinically indicated. Replace tubing used to administer blood, blood products, or lipid emulsions with 24 hours of initiating the infusion. Consider short extension tubing connected to the catheter to be a portion of the device. Replace such extension tubing when the catheter is changed.	Complete infusion of lipid containing parenteral nutrition fluid (e.g.,3-in-1 solutions) within 24 hours of hanging the fluid. Complete infusion of lipid emulsions alone within 12 hours of hanging the fluid. Complete infusions of blood products within 4 hours of hanging the product. Complete infusion of intravenous fluid within 96 hours of hanging the fluid.
Central venous catheters including peripherally inserted central catheters and hemodialysis catheters	Do not routinely replace catheters	Replace the dressing when the catheter is replaced, or when the dressing becomes damp, loosened, or soiled, or when inspection of the site is necessary	Replace intravenous tubing and add-on devices no more frequently than at 72-hour intervals. Replace tubing used to administer blood products or lipid emulsions with each infusion	Complete infusion of lipid containing parenteral nutrition fluid (e.g., 3-in-1 solutions) within 24 hours of hanging the fluid. Complete infusion of lipid emulsions alone within 12 hours of hanging the fluid. Complete infusions of blood products within 4 hours of hanging the product. Complete infusion of intravenous fluid within 96 hours of hanging the fluid.

IV. <u>REFERENCES:</u>

1. "Guidelines for the Prevention of Intravascular Catheter-Related Infections", MMWR Recommendations and Reports, August 9, 2002/51 (RR10);1-26
2. MMWR Weekly August 16, 2002 / 51(32); 711 *Revised: September, 2002*

WAKE FOREST UNIVERSITY
HEALTH SCIENCES

REPROCESSING OF MEDICAL DEVICES

I. POLICY:

Departments that reprocess reusable medical devices/equipment within their department must develop written procedures for the components of reprocessing performed in their department. The written procedure should be in compliance with applicable standards and regulatory agencies related to reprocessing of medical devices. This includes but is not limited to:

- The method of sterilization or high-level disinfection
- the physical facilities/work flow patterns requirements
- proper attire, and
- necessary training and educational requirements
- The WFUSM Infection Control Officer will have oversight authority for the reprocessing of medical devices/equipment performed throughout WFUP.

II. PURPOSE:

To standardize decontamination, high- level disinfection, and sterilization policies and procedures throughout WFUHS.

III. PROCEDURES:

A. General Requirements

1. Clinics must determine the feasibility of reprocessing reusable medical devices/equipment within the department using the requirements outlined in **Appendix A.**

2. Clinics that can comply with General Requirements may reprocess devices/equipment provided there are written procedures developed for the components of reprocessing performed.

3. Devices for sterilization must be packaged as outlined in **Appendix B**.

4. Use and care of thermometers is outlined in **Appendix C**.

B. Methods of Sterilization and High-level Disinfection

1. The method of sterilization or high-level disinfection for each reusable medical device will be determined by:
   - the intended use of the object
   - the type of object, and
   - the manufacturer's recommendations

   All objects to be disinfected or sterilized should first be thoroughly cleaned to remove all organic matter (blood and tissue) and other residue.

2. Approved methods of sterilization or high-level disinfection are outlined in **Appendix D.**

Appendix A

General Reprocessing Requirements

I. Work Area Design, Work Flow Pattern, and Physical Facilities

Work Areas:
There must be designated areas for decontamination, preparation/packaging, high-level disinfection, sterilization, and storage.
WFUSM EH&S must be involved in any of the planning, renovation or construction of existing space new space for these activities.

A. **Functional Work Flow Pattern:** Processing areas should be designated to separate areas in which contaminated items are received and processed from areas in which clean items are packaged, sterilized, and stored. Work area space should allow adequate space for all functions.

B. **Traffic Control:** Only authorized personnel will be permitted in processing areas. Criteria for authorized entry, movement within the processing area, and required PPE should be specified in departmental policies.

C. Physical Facilities

1. Walls and Floors: Must be constructed of materials that
2. withstand periodic washing. These materials should not be a particulate- or fiber-shredding type.
3. Ceilings: Work area ceilings should be constructed to create a flush surface with recessed, enclosed fixtures. Pipes and other fixtures above the work areas should be enclosed.
4. Ventilation: Air should flow directly from clean areas to soiled areas (via negative pressure) and exhausted to the outside or to a filtered partial recirculating system. There must be a minimum of 10 -12 air exchanges per hour.
5. Temperature and Humidity: All work areas should havetemperature controlled between 64 °F and 72 °F.
6. Lighting: Adequate lighting at work surfaces should be provided in accordance with the engineering practices outlined in Illuminating Engineering Society of North America (1984).
7. Handwashing Facilities: Handwashing facilities should be in or near all decontamination, preparation, sterilization, and sterile storage areas.

D. Special Area Requirements

1. Decontamination area: The decontamination area should b a designated area. If at all possible, the decontamination area should be physically separated from all other areas. All air should be exhausted to the outside without recirculation.
2. Preparation Areas: The ventilation system should be designed so that air flows out of the preparation areas (via positive pressure).
3. Sterilizer area: All air from the sterilizer area should be exhausted outdoors.
4. Sterile storage: Only sterile and clean supplies may be stored in sterile storage. The ventilation system should be designed so that air flows out of the preparation area.

E. Housekeeping Procedures:

1. Floors and horizontal work surfaces must be cleaned daily.
2. Other surfaces such as walls and storage shelves should be cleaned on regularly scheduled basis and more often if needed.

II. Personnel Considerations

A. Qualifications

1. Supervisory Personnel
   All departments/units that perform reprocessing must have at least one individual who is prepared for this function by education, training, and experience.
2. Processing Personnel
   All personnel involved in reprocessing of reusable medical devices/equipment must, as a minimum, receive initial orientation and on-the-job-training, and continuing in-service education.

B. Clothing/Hair Requirements

1. General Areas
   a. All personnel who work in decontamination, preparation, sterilization, and sterile storage should wear clean attire. Attire should be changed daily or more often as needed if it becomes wet, grossly soiled or contaminated. Refer to the Bloodborne Pathogen Exposure Control Plan. A clean lab coat or other departmental approved covering may be worn over attire to travel to other areas of the hospital.
   b. During preparation, head and facial hair should be covered completely with a surgical type hair covering.
2. Decontamination Area Attire
   In addition to general attire personnel who perform decontamination procedure should wear:
   - Heavy-duty gloves
   - Impervious shoe coverings or boots
   - Water-proof apron/gown
   - Fluid impervious face mask
   - Eye protection

C. Health and Hygiene

Personnel must comply with all applicable infection control policies and procedures.

Appendix B

PACKAGING OF ITEMS FOR STERILIZATION

I. Packaging Requirements

A. Any of the wrapping materials listed below will be used for packaging of items for in- house sterilization.
   1. Approved peel pouches, single only
   2. Percale T-180 – (50% polyester, 50% combed cotton), double wrapped.
   3. Specifically designed metal or plastic containers

II. Chemical Indicators and Integrators

A. External chemical indicators should be placed on the outside of thepackaging material. This may be used as a form of closure for the package, such as indicator tape. If the external chemical indicator does not identify that the package has been sterilized, it should be reported to the sterilizing department head with the load control number and the items(s) should then be processed and sterilized before use.

B. Chemical integrators should be placed in each autoclave load. If the integrator does not identify the load has been sterilized, the load will be re-run. A second failure will prompt a consult with the WFUSM Infection Control Officer.

III. Labeling

A. The contents of the package must be identified before the package is opened. The package must be labeled correctly and completely.

B. The label information should include:
   1. The expiration date, if appropriate.
   2. The identification of the sterilizer if more than one is used in the clinic and cycle/lot number to be used.
   3. A description of the contents, if not visible.
   4. The technician's initials.

C. For tape-secured packages that are hand-labeled, felt-tip, indelible-ink markers may be used to record the necessary information on the tape. Do not write on the wrapper material, but the tape may be used for this purpose. Indelible ink is necessary so that the marking will not run or fade. Felt-tip, indelible-ink markers may also be used on the clear plastic side. Writing on the paper side may damage the material, and the ink may bleed through and contaminate the package contents.

D. All packages must be labeled prior to sterilization.

IV. Package Configurations and Regulations

A. Linen Packs – will be packaged and sterilized by NCBH Central Services

B. Basins and Basin Sets – will be packaged and sterilized by NCBH Central Services.

C. Instruments
   Instruments sets should be sterilized in perforated or wiremesh bottom trays or in specially designed containers, with all instruments held open and unlocked. Instruments that can be easily disassembled into component parts or that may be disassembled or reconfigured during use should be disassembled for sterilization.

D. Surgical supplies, such as syringes, needles and similar items, must be packaged/individually. Syringes should be packaged so that the barrel lies next to the plunger. Stylets should be removed from syringes or trocars.

E. Devices with Lumens
Steam Sterilization – The lumens of devices such as catheters, needles, and tubings should be premoistened with distilled or demineralized water prior to packaging and any stylets or plugs should be removed. Sterilization should follow immediately. If more than 24 hours have elapsed, catheters should be repacked, rinsed, and repackaged for sterilization.

Appendix C

THERMOMETER USE AND CARE

I. POLICY:

It is the policy of WFUP clinics that thermometers will be used and cleaned according to applicable regulatory standards and guidelines.

II. PURPOSE:

To eliminate the risk and spread of infection via thermometers

III. PROCEDURES:

A. Disposable electronic Probe covers
   1. Disposable electronic probe covers are single patient use items and should be discarded immediately after each use.
   2. The probe should NOT be used without a cover.
   3. Electronic thermometers should not be placed on patient beds or over bed tables.
   4. The probe cord and housing should be cleaned with alcohol if contaminated.

B. Tympanic thermometers should be used with disposable probe covers. If not, the probe must be cleaned after each patient use. Cleaning probe with soap and water is adequate unless there is drainage or blood/body fluids present.
   1. If contaminated with blood/body fluids, probe should be cleaned with soap and water, wiped with a germicidal wipe, and allowed to dry for 30 seconds.
   2. If possible, use other type of thermometer when drainage or blood/body fluids are known or suspected to be present.

IV. Practice Issues

A. When taking rectal temperatures, staff should wear gloves and wash their hands afterwards.

B. After taking a rectal temperature, the probe cover should be discarded and the cord and exterior casing of the equipment should be cleaned with alcohol.

Appendix D

METHODS OF STERILIZATION AND HIGH-LEVEL DISINFECTION

I. Definitions

A. Semi-critical items are those objects which come in contact with mucous membranes or with skin that is not intact. As a minimum semi-critical medical devices must receive high- level disinfection between uses unless otherwise specified. Examples include: endoscopes, endotracheal tubes, respiratory therapy equipment, laryngoscope blades and laryngeal mask airways.

B. Critical medical devices enter normally sterile tissue or the vascular system. Critical medical devices must be sterilized between uses.(Examples include: surgical instruments, cardiac catheters, and implantable devices.)

C. Endoscope accessories, biopsy forceps or other cutting instruments which break the mucosal barrier should be sterilized. Other endoscope accessories (e.g., suction valves) should be sterilized after each patient use; if this is not feasible, they should receive a minimum of high- level disinfection. All channels should be air dried after the disinfection and rinsing procedure.

II. Approved high-level disinfection agents/processes (see Table 1, Exposure Times for Approved Methods of Sterilization and High-Level Disinfection" for required exposure times).

A. Cidex (2.4% alkaline glutaraldehyde solution; concentration verified with chemical indicator prior to use.)

B. Cidex OPA (0.55% *ortho-phthalaldehyde)*

C. Stabilized hydrogen peroxide 6%

III. Approved Sterilization Methods (see Table 1, "Exposure Times for approved Methods of Sterilization and High- Level Disinfection" for required exposure times).

A. Heat Sterilization
B. Ethylene oxide gas
C. Glutaraldehyde 2%
D. Demand release chlorine dioxide
E. Stabilized hydrogen peroxide 6%
F. Peracetic acid

WAKE FOREST UNIVERSITY HEALTH SCIENCES

MANAGEMENT OF CLEAN, SOILED AND STERILE SUPPLIES

I. POLICY:

Clean and sterile supplies and equipment must be separated from soiled equipment/articles during all phases of handling.

II. PURPOSE:

To provide guidelines for separation of clean, soiled and sterile equipment, medical devices, and other medical supplies

III. PROCEDURE:

A. Clean and Sterile Supplies

1. External shipping cartons of reusable and disposable items should be removed as soon upon arrival to the clinic.
2. Clean and sterile supplies will be stored in designated storage areas.
3. Clean and sterile patient care supplies must be stored at least eight inches from the floor, at least 18 inches from the ceiling if sprinkled (and 24 inches if not sprinkled), and at least two inches from outside walls
4. Clean and sterile patient care supplies are not to be stored under sinks, near exposed water or sewer pipes or in any location where they can become wet.
5. Traffic should be restricted in storage areas
6. Closed or covered cabinets are recommended for the storage of seldom-used sterile supplies.
7. Outside shipping containers and corrugated cartons will not be used as containers in storage areas.
8. Supplies should be rotated with the first ones in being the first ones used
9. Supplies should be arranged in a manner that prevents crushing, bending, compressing or puncturing the packages.
10. Shelving or carts used for storage of clean and sterile supplies are to be maintained in a clean and dry condition.
11. Sterile supplies should be transported in a covered or enclosed cart with a solid bottom shelf
12. Carts and reusable covers for carts or other transport vehicles should be cleaned, disinfected and thoroughly dried after each use.

B. Soiled equipment/articles

1. All equipment or supplies soiled with organic material such as feces, sputum, blood, etc. must be rinsed, in a non-handwashing sink, at point of use.
2. Any patient care equipment/devices that are reprocessed by NCBH Central Sterile will be transported to the Soiled Utility Room immediately after patient use.
3. Items will be placed in a receptacle large enough to accommodate the type and size of items. The receptacle will be labeled with a biohazard symbol. and transported to the decontamination area by Central Services.
4. All sharps that are to be reprocessed shall be placed in puncture resistant containers, leak proof on all sides and bottom, and labeled with a biohazard label.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

RECOMMENDATIONS FOR USE AND MONITORING OF STERILIZERS

I. POLICY:

- Heat and moisture stable items that require sterilization will be sterilized with steam under pressure.
- Sterilizers will be used according to the manufacturer's written
- recommendation.
- Sterilizers will be monitored according to the most current applicable standards.

This policy supersedes PPB-GS-IC-89-98-18.

II. PURPOSE:

A. **Record Keeping** – For each sterilization cycle, the following information should be recorded and maintained for 3 years:

- Date
- The lot/load number
- The contents of the load
- The exposure time and temperature or cycle type, if not provided on the sterilizer recording chart
- The name or initials of the operator
- The results of the biological test and integrators
- The response of the chemical indicator placed in the biological- indicator test packs
- Any reports of inconclusive or non-responsive chemical indicators found later in the load.

B. Sterilizer Malfunctions

If the records indicate any malfunction or suspicious operation, the department manager or designee must be notified. After examination, if the malfunction cannot be corrected immediately, the cycle must be terminated in accordance with the manufacturer's instructions. The load must be considered non-sterile and the sterilizer must be removed from service.

The preventive maintenance contract service should be notified.

WFUHS Infection Control Officer (ICO) should be notified. The ICO will consult the department manager to identify if additional parties e.g., hospital epidemiologist should be notified.

C. Biological Monitoring

1. Biological indicator test packs should be used during initial installation testing of steam sterilizers and after any major repair of the sterilizer.
2. Biological-indicator test packs using *Bacillus stearothermophilus* will be used routinely once each week (i.e., gravity-displacement and pre-vacuum).
3. Test packs should be constructed according to the type of sterilizer being challenged (i.e., steam versus ethylene oxide). These test packs should be constructed in accordance with the most current standards of the Association for Advancement of Medical Instrumentation (AAMI).
4. The test pack is placed in the portion of the sterilizer where it is most difficult to sterilize items. For steam sterilizers, the "cold point" is usually on the bottom shelf of the sterilizer, directly above the chamber drain.
5. A special biological indicator incubator should be used to incubate indicators in a clinic.
6. A manager may utilize Central Services for incubation activities.
7. The following actions should be taken if a biological indicator tests positive:

a. Positive biological indicator results (other than viability controls) must be immediately reported by phone or messenger to the appropriate manager. The manager will notify the ICO. The ICO will provide to the clinic a biological, chemical integrators and a rapid enzymatic indicator for the next sterilization cycle. Testing of the rapid enzymatic indicator will be conducted by the ICO. Results will be immediately reported to the manager. Failure of either the integrator or the rapid indicator will prompt a second biological indicator be run to verify sterilization failure. In the event of a second positive, the appropriate supervisor will be notified immediately. This notification should be followed by a written report from the supervisor responsible for the malfunctioning sterilizer. The report and notification should include:
   1. The time and date of the questionable sterilizer cycle.
   2. A description of the sterilizer and load, with reference to the appropriate load control number.
   3. The results of mechanical monitoring and of internal chemical indicator tests (if applicable) as obtained from the user department.
   4. Any other information that may be useful in determining whether the report is valid or is questionable due to human error.

b. The head of the sterilizing department or the appropriate designee must attempt to determine the cause of sterilization failure and arrange for corrective action.

c. Because a sterilization failure has occurred, materials processed in that sterilizer, dating from the sterilization cycle having the last negative biological indicator to the next cycle showing satisfactory biological indicator challenge results, must be considered non-sterile; they must be retrieved, if possible, and reprocessed.

d. Recall of processed supplies will be in accordance with Central Services "Recall Procedure", dated May 18, 1995. Whenever there is evidence of a sterilization failure, the WFUSM ICO should be notified. The sterilizing department is responsible for notifying the physician that a sterilizer failure has occurred.

e. After the cause of the sterilization failure is determined and corrected, the sterilizer in question must be immediately re-challenged with a biological indicator test pack. Until the results of retesting are satisfactory, the sterilizer should remain out of service.

8. Biological indicators should be handled and used according to the manufacturer's instructions and in accordance with the type of sterilizer being monitored.
9. Post-testing biologicals that are positive should be discarded in accordance with the Biowaste Management Program.

D. Equipment used for disinfection and sterilization should be scheduled for preventive maintenance routinely according to the manufacturer's instructions**.**

E. Loading Sterilizers
   1. Steam Sterilizers - Items should be placed in a steam sterilizer to enhance air removal, allow free circulation and penetration of steam and to prevent excessive condensation. The manufacturer's written recommendations must be followed.
   2. Peel Pouches - Loading racks or baskets specifically designed for these systems or other means of holding them in place should be used.
   3. Liquid paracetic acid sterilizers – Articles should be positioned in the sterilizer to allow free circulation and penetration of the sterilant.

F. Sterilization Cycle Parameters – The sterilizer manufacturer's written instructions for cycle parameters must be followed.

REFERENCES:

1. Good hospital practice: Steam sterilization and sterility assurance. Association for the Advancement of Medical Instrumentation, Arlington, Virginia.
2. AORN: Recommended practices for sterilization in practice settings. In Standards and Recommended Practices, AORN, Denver, Colorado, 1995
3. CDC Guidelines for Handwashing and Hospital Environmnent Control, 1985. U.S. Department of Health and Human Services, Atlanta Georgia.
4. Training Manual for Central Service Technicians. American Society for Hospital Central Service Personnel of the American Hospital Association, Chicago, Illinois, 2001

WAKE FOREST UNIVERSITY HEALTH SCIENCES

CARE OF REFRIGERATORS AND FREEZERS

I. POLICY:

All refrigerators, freezers, and/or refrigerated vending machines that are used by WFUP clinics shall contain only the designated contents, operate within the proper temperature range and shall be kept clean.

II. PURPOSE:

To provide safe storage of drugs, food and specimens.

III. PROCEDURES:

A. Purchase and Initial Set-up of Refrigerators and Freezers

1. Purchase of refrigerators and freezers will be in compliance with the requirements established by WFUHS Purchasing Department.
2. Refrigerators and freezers will be delivered by Shipping and Receiving.
3. Upon delivery, the refrigerator will be delivered to the ordering department and setup.

B. Clinics

1. Cleaning
   a. All refrigerator/freezers should be cleaned regularly and as necessary for spills. See guidelines below:
      1. Clinic staff will clean patient nutrition refrigerators thoroughly on a monthly basis. Individuals will document the cleaning on the "Refrigerator/Freezer Monitoring Log" for the specific unit.
      2. Spills will be cleaned as they occur. Any expired food and/or drink should be discarded.
      3. Clinic nurses will be responsible for maintaining medication refrigerators in a clean and sanitary manner.

2. Contents
   a. Refrigerators must be labeled as to note whether they are FOOD ONLY, MEDICATIONS ONLY, or SPECIMENS ONLY.
   b. Patient nutrition refrigerators will have a magnet label which states all food must be dated or it will be discarded.
   c. Medicine or drug refrigerators should be kept solely for the purpose of storing medicines that require refrigeration according to manufacturer's instructions.
   d. Specimen refrigerators should contain only specimens that are properly secured and appropriately labeled (i.e. with the patient's name, unit number, and date).

3. Temperature Monitoring
   a. An accurately calibrated thermometer should be kept in each refrigerator and freezer at all times.
   b. The temperature of any refrigerator containing drugs, patient nutrition or specimens should be checked and logged daily to ensure proper temperature control.
   c. The temperature log should be saved for 60 days.
   d. If temperatures register above or below the appropriate range, WFUSM Engineering must be notified immediately. WFUSM Engineering will communicate to the clinic when the refrigerator/freezer is safe for use.
   e. Clinic staff will maintain daily documented temperature checks.

Type of refrigerator	Temperature Requirements
Nutrition	4°C (less than 40 ° F)
Drugs	2-8 °C (36 - 46 ° F)
Freezers	ˉ20 - ˉ10 °C (ˉ4 - 14 ° F)

4. Thermometers
   Clinics will replace thermometers as necessary through the WFUHS Purchasing Department.

IV. REFERENCES:

1. Comprehensive Accreditation Manuals for Hospitals: 1998. Joint Commission on Accreditation of Healthcare Organizations, Chicago, IL 1998.
2. Infection Control and Applied Epidemiology: Principles and Practice. Association for Professionals in Infection Control and Epidemiology, Inc. Mosby Year Book, Inc. St. Louis, MO, 1996.
3. Rules Governing the Sanitation of Hospitals, Nursing and Rest Homes, Sanitariums, Educational, and other Institutions. 15A NCAC 18A. 1300- September 1990. North Carolina Department of Health and Natural Resources, Division of Environmental Health, Environmental Health Services Section.
4. Rules Governing the Sanitation of Restaurants and Other Food Handling Establishments. 15A NCAC 18A. 2600. North Carolina Department of Health and Natural Resources, Division of Environmental Health, Environmental Health Services Section. *Revised: 5/01*

REFRIGERATOR/FREEZER MONITORING LOG

The temperature of any refrigerator that contains drugs, food or specimens must be checked and logged daily. If the temperature registers above or below the appropriate range, WFUSM Engineering must be notified. Refrigerators should be cleaned monthly and documented below. Clinic staff should clean spills as they occur. Completed logs should be saved for 12 months.

Type of refrigerator	Temperature Requirements
Nutrition	4°C (less than 40 ° F)
Drugs	2-8 °C (36 - 46 ° F)
Freezers	ˉ20 - ˉ10 °C (ˉ4 -14 ° F)

Month/Year: _____ **Month/Year:_____**
Month/Year:_____

Date	Temp	Initials of person checking	Engineer-ring notified	Date	Temp	Initials of person checking	Engineer-ing notified	Date	Temp	Initials of person checking	Engineer-ing notified

_____ _____
_____
Monthly cleaning: Date/Initials **Monthly cleaning: Date/Initials**
Monthly cleaning: Date/Initials

WAKE FOREST UNIVERSITY HEALTH SCIENCES

MANAGEMENT OF MULTI-DOSE/SINGLE-DOSE VIALS

I. Policy:
All containers and/or vials of solutions and /or medications will be maintained and discarded when expired.

II. Purpose:
To maintain sterility of solutions and medications utilized in delivery of patient care.

III. Procedure:

Multi-dose vials:

- Once opened, multi-dose vials will be labeled with date and time it is entered.
- Sterile technique should be used when entering vials. Each time a vial is entered, the stopper will be disinfected with alcohol and allowed to dry for 30 seconds. A vial-access adapter shall be used.
- Do not access a multi-dose vial with a syringe that has an admixture in it.
- Multi-dose vials will be stored according to manufacturer's recommendations.
- Multi-dose vials must be discarded according to the manufacturer's expiration date or when visibly contaminated.

Single dose containers/vials without preservative:

- Single dose containers/vials are those labeled by the manufacturer as single use only or single patient use or single dose.
- Any medication vial labeled "single use" and all containers of solutions such as normal saline and sterile water used for various irrigation procedures must be discarded after use.

WAKE FOREST UNIVERSITY
HEALTH SCIENCES

TOY SELECTION, CLEANING AND STORAGE GUIDELINES

I. Guiding Principles

Toys provided by WFUP Clinics should be selected for age-appropriateness according to the manufacturer's specifications. Toys should be stored, handled and used in such a manner as to promote positive play experience for the child without risk of injury or disease transmission.

II. Purpose:

To provide toys that is age-appropriate and safe for children to play with in those areas where children wait. All clinics with toys should designate staff to clean toys and follow these guidelines.

III. Procedures:

1. Toys should be selected for age-appropriateness based upon manufacturer's specifications.

2. Toys for use in common areas should be stored in an open-top, cleanable container (e.g., plastic laundry basket or plastic box) in a manner that will protect children. The container should be aesthetically acceptable.

3. Toys should be managed according to their composition and the type of child using the toy.

Toy Construction/Composition	Examples	Use	Cleaning
Retain water	Bath toys, squeeze toys	Shall not be used	
Porous materials	Cloth, paper, crayons	Can be used by children who cannot control their secretions/excretions only if the toys are given to take home or are discarded after use. Can be used by children who can control their secretions/excretions only if they wash their hands prior to use. Following use, visually inspect toys. Discard if contaminated is suspected or toys are broken, torn or cracked.	
Non-porous materials	Vinyl, plastic, other impervious material		Should be cleaned between use by different children. Clean daily.

4. Cleaning:
   A system should be implemented to allow for used toys to be placed in a plastic box or basket out of children's reach.
   Toys should be cleaned by one of the following methods:
   1. Dish detergent e.g., Dawn, Joy and hot water, rinse well, wipe with a dry cloth. Wipe thoroughly with alcohol and allow to air dry.
   2. Dish detergent e.g., Dawn, Joy and hot water, rinse well. Immerse in a sanitizing solution (1½ teaspoon bleach to 1 gallon of water) for 2 minutes. If item cannot be immersed, keep item wet with sanitizing solution for 2 minutes by periodically reapplying bleach solution. Items that children will "mouth" should be disinfected between children with a 1:10 bleach solution, rinsed thoroughly and air dried.

   Large items used by multiple children e.g., wagons, cars, etc. should be cleaned with Virex. Areas children will have contact with should be rinsed and air dried.

   Other environmental surfaces/items used by multiple children e.g., chairs should be cleaned by Housekeeping as part of the daily WFUP clinic cleaning.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

SANITATION

I. Policy:
EH&S Infection Control provides consultation regarding the purchase of equipment and supplies used for sterilization, disinfection and decontamination purposes.

II. Purpose:
To provide basic sanitation for the protection of patients, faculty and staff from environmental contamination.

III. Procedure:

1. Cleaning
   a. Cleaning procedures, agents and schedules in use throughout WFUP are periodically reviewed by WFUHS Infection Control. Infection Control provides consultation regarding the purchase of all equipment and supplies used for sterilization, disinfection and decontamination purposes.

Active ingredient	Conditions of Use
Ethyl or isopropyl alcohol (70-80%)	
Bleach (sodium hypochlorite) 100 ppm	Prepared fresh daily
Phenolic germicidal detergent solution	Prepared according to manufacturer's label use dilution * Phenolic solutions should not be used to clean/disinfect infant or child care equipment.
Iodophor germicidal detergent	Prepared according to manufacturer's label use dilution.
Quaternary ammonium germicidal detergent	Prepared according to manufacturer's label use dilution.

   b. Worksites will be maintained in a clean and sanitary condition with approved decontamination methods and works schedules based upon:
      1. type of surface to be cleaned
      2. type of soil present
      3. task or procedures being performed in the area
      4. location in WFUP

   c. All equipment, environmental and work surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.

   d. Contaminated works surfaces shall be decontaminated with an appropriate disinfectant:
      1. after completion of procedures
      2. immediately or as soon as feasible when surfaces are obviously contaminated or after any spill of blood or other potentially infectious material
      3. at the end of clinic hours

   e. Specimen coolers must be labeled with biohazard labels and cleaned weekly and whenever visibly soiled.

2. Linen/Laundry Management
   a. Clean and soiled linen must be stored in separate areas.
   b. Clean lined must be stored and handled in a sanitary manner.
   c. Soiled linen should be held away from a healthcare worker's (HCW) uniform and placed directly into a linen bag.
   d. Linen must be managed and processed according to current NC Health Department Regulations.

3. Food Management
   a. Food must be managed and served in accordance with current NC Health Department Regulations.
   b. Ice machines are maintained by WFUSM Engineering.

Reference:

Rules Governing the Sanitation of Hospitals, Nursing and Rest Homes, Sanitariums, Sanitoriums and Educational and Other Institutions; 15A NCAC 18A 1300-September 1, 1990 effective amended date

WAKE FOREST UNIVERSITY
HEALTH SCIENCES

THE DESIGN, USE AND MAINTENANCE OF CONTROLLED AIR-PRESSURE SPACES

I. POLICY:

Air spaces with in North Carolina Baptist Hospitals, Inc., will be designed, built, operated and maintained in accordance with performance standards as defined by the American society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), the Guidelines for Construction and Equipment of hospital and Medical Facilities, OSHA or any federal, state or local authority having jurisdiction.

II. PURPOSE:

To prevent the movement of airborne pathogens or other hazardous materials either to or from the protected spaces through the design, installation and maintenance of ventilation systems that meet the appropriate airflow patterns for patient care rooms and other work spaces.

III. PROCEDURES:

A. Ventilation systems for new/renovated spaces will be designed and built in accordance with ASHRAE, the Guidelines for Construction and Equipment of Hospital and Medical Facilities, OSHA and any federal, state or local authority having jurisdiction (hereinafter collectively referred to as the "AHJ"). Specific engineering standards to be addressed include, but are not limited to, the following:

- Number of air exchanges per hour (total and make-up)
- the direction of air flow, and
- the location of exhaust vents (**Table 1**) and the filter efficiency for air entering or leaving the space (**Table 2**).

B. Project planners shall provide copies of the project plans to the Departments of Facility Services (Engineering), Risk and Insurance management and Infection Control and each department shall jointly be required to formally review and approve all project plans with air handling needs which are the subject of this policy. Approval will be indicated by dated signature of the Director (or designee) of each of the above departments on the final plans. Subsequent design revisions involving the ventilation system must be re-approved before construction is initiated.

C. Existing spaces whose current or proposed use requires specific air handling needs must meet the current minimum as found in Tables 1 and 2. Concordance with these standards will be verified prior to using the space as proposed and will be periodically re -evaluated according to the monitoring guidelines described below in section D. Actions will be taken in a phased manner to correct observed deficiencies.

D. Controlled Air-Pressure Space Maintenance and Monitoring:

1. All components associated with such systems will be on the Preventive Maintenance (PM) system.
2. Filter efficiencies (new and replacement) will be compliance with ASHRAE standards.
3. Filters will be checked quarterly to identify filter failures
4. All patient care areas with either negative or positive pressure requirements will be checked by Engineering every 6 months.
5. Engineering employees responsible for maintaining these systems will receive appropriate training.
6. Where possible, electronic monitoring alarms will be installed on patient rooms to continuously monitor the airflow characteristics.
7. In areas without continuous electronic monitoring, nursing staff will use the "tissue test" (Appendix A) daily to verify desired airflow directions while room is in use for

known or suspected TB cases according to Table 1. If incorrect airflow direction is observed Facility Services should be notified immediately. Airflow direction, determined by the "tissue test" method should be documented on Airflow Verification Log (Appendix B).

8. Non-patient care areas will be checked periodically (but not less than annually) by Engineering using an accepted test methodology to verify the desired airflow directions according to table 1. If incorrect airflow direction is observed, Facility Services should be notified immediately.

REFERENCES:

1. 2001 Guidelines for Construction and Equipment of Hospital and Medical Facilities.
2. The American Institute of Architects Committee on Architecture for Health.
3. The American Institute of Architects Press, Washington, DC, 2001
4. ASHRAE Standard 62-1989, Ventilation Acceptable for Indoor Air Quality
5. Comparative evaluation of a traditional and a "tissue technique" method for determining air pressure differentials in hospital isolation rooms. William A. Rutala, Phd, Felix A Sarubbi, M.D.
6. American Journal of Infection Control, Vol, 12 Number 2, Arp.,1984
7. *Revised: July 17, 2002*

Appendix A

Tissue Test Procedure for determining Airflow Direction

This test should be performed on the door between the patient room and the corridor or on the door between the patient room and the anteroom if the isolation room is equipped with an anteroom. The person performing the test should be either in the corridor or in the anteroom, depending upon room configuration.

1. Close the patient's room door or both doors if the isolation room is equipped with an anteroom.

2. Using a 1"wide strip of single-ply tissue paper held approximately ½" from the door, slowly lower the strip towards the floor until the lower end of the strip is just above, but not touching the floor.

3. If the tissue strip hangs straight, the room pressure is read as neutral, that is, no noticeable air movement in either direction.

4. If the tissue strip is pushed away from the door towards the corridor (or into the anteroom) the room is read as positive that is air is moving out from the room.

5. If the tissue strip is pulled under the door into the patient's room, the room is read as negative, that is, air is moving into the room from the corridor or anteroom.

Appendix B

Airflow Verification Log

Instructions: Rooms housing patients requiring *Special Respiratory, Respiratory* or *Strict Isolation* must be under NEGATIVE pressure at all times until the isolation is discontinued. This means that the airflow direction should be into the room from the corridor/anteroom with the room door(s) closed. For occupied rooms not electronically monitored, the airflow direction must be verified daily by nursing using the "tissue test" and recorded in the log below. Record the date when the isolation is initiated, circle the test results and sign where indicated. Repeat daily until isolation is initiated, circle the test results and sign where indicated. Repeat daily until isolation is discontinued. If negative pressure (inward airflow) cannot be verified, notify Facility Services (Engineering) and leave message for Infection Control at ext 6-3482.

ROOM NUMBER_____

DATE	NEGATIVE (AIRFLOW IN)	POSITIVE (AIRFLOW OUT)	NEUTRAL (NO MOVEMENT)	INITIALS/NAME PERFORMING CHECK	ACTION