

# **Infection Prevention & Control**

## **Orientation**

### **Self-Study Guide**

The use of this self-study guide is limited to the medical students or other staff that are, under certain unusual circumstances, unable to attend the regular New Employee Orientation class in person.

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*All new employees, students, and volunteers are required to have evidence of infection prevention & control orientation. After reviewing the Self-Study Guide, please complete the test at the end of this packet and return it to:*

***Infection Prevention & Control Department  
Harriman Building, room HB 259***

# Chapter 1

## Overview of Infection Prevention & Control and Standard Precautions

### INTRODUCTION

Working in a medical facility places employees at a higher risk for developing and/or spreading infections; even for employees who do not have direct patient contact. Keeping you and your fellow employees healthy and preventing the spread of infections from employees to patients and from patients to employees are important goals of the medical center. All new employees are required to attend the Infection Prevention & Control orientation as part of the New Employee Orientation program. This Infection Prevention & Control Orientation Self-Study Guide is designed to be used only by those employees who, under special circumstances, cannot attend the New Employee Orientation class. The Self-Study Guide will give you an overview of Rancho's Infection Prevention & Control program and how you can prevent the spread of infection.

Rancho Los Amigos National Rehabilitation Center has an Infection Prevention & Control Program which consists of Infection Preventionist(s), the Infectious Disease Division, and the Hospital Infection Prevention & Control Committee.

The Infection Preventionist(s):

1. Collects and analyzes data from all areas within the hospital to identify and reduce potential sources of infection among patients and staff.
2. Implements surveillance programs to monitor targeted areas for Infection Prevention & Control and report unusual disease trend to the Hospital Infection Prevention and Control Committee with recommendations.
3. Provides in-service education to personnel: (1) annually, (2) when problems are identified, and (3) as requested.
4. Provides consultation to all departments for procedures and use of patient care items as they relate to Infection Prevention & Control.

The Hospital Infection Prevention and Committee:

1. Reviews all monthly infection reports produced by the Infection Preventionist(s).
2. Makes specific recommendations for the care of all patients as well as those with special Infection Prevention & Control problems.
3. Reviews and approves all sterilization, disinfection, and cleaning procedures and all other departmental procedures related to Infection Prevention & Control.

Infection Prevention & Control Consultation:

~The Infection Preventionists can be reached at extension 7447 and

~The Infectious Disease Physician can be reached at extension 7369.

## **PRINCIPLES OF INFECTION PREVENTION AND CONTROL**

The basic goal of an Infection Prevention & Control Program is to prevent the spread of infection and to eliminate the spread of microorganisms from one person to another. Patients frequently acquire infections while hospitalized. These are referred to as nosocomial or hospital acquired infections. Hospital personnel seldom acquire infections from patients. The main reason that patients, rather than staff, are more susceptible to infection is that the patient's general state of health and ability to fight infection is very low. In addition, many patients undergo invasive procedures which can allow entry of bacteria into the body.

Microorganisms are spread primarily three ways within a hospital setting: (1) Contact: direct contact via body surface -to-body surface contact, or indirect contact via contaminated articles, (2) droplet, and (3) airborne. Each of these methods of transmission can frequently be eliminated with simple precautionary measures, including the use of proper personal protective equipment (PPE) according to the isolation categories (both will be discussed in detail in Chapter 2).

### **1. CONTACT TRANSMISSION:**

- a. Direct contact transmission involves a direct body surface-to-body surface contact and physical transfer of microorganisms between a susceptible host and an infected or colonized person. It is important to wash hands as promptly and thoroughly as possible between patient contacts and after contact with body fluids, secretions, excretions, and equipment's and articles that are contaminated.
- b. Indirect contact transmission involves contact of a susceptible host with a contaminated intermediate object, such as contaminated instruments, needles, or dressing, or contaminated hands that are not washed and gloves that are not changed between patients. In addition to hand washing as described in direct contact above, proper cleaning and handling of patient environment, articles, proper disposal of tissues used and other items that come in contact with saliva or mucous are important preventive measures.

**Contact Precautions**, if soiling during patient care is expected.

**PPE**, In addition to the Standard Precautions, wear gloves and gown

### **2. DROPLET TRANSMISSION:**

- a. Droplets are generated from the source person primarily during coughing, sneezing, talking, and during the performance of certain procedures, such as suctioning and bronchoscopy. The droplets do not remain suspended in the air; therefore, special air handling and ventilation are not required. Transmission occurs when droplets containing microorganisms from the infected person are propelled a short distance through the air and deposited on the susceptible host's conjunctivae, nasal mucosa, or mouth.

**Droplet Precautions**

**PPE**: In addition to the Standard Precautions, wear gloves, gown, and mask

### 3. AIRBORNE TRANSMISSION:

a. Airborne transmission occurs by dissemination of either airborne droplet nuclei (small particle residue that is 5 $\mu$  or smaller in size) of evaporated droplets containing microorganisms that remain suspended in the air for long periods of time, or dust particles containing the infectious agent. Microorganisms carried in this manner can be widely dispersed by air currents and may become inhaled by a susceptible host within the same room or over a longer distance from the source patient, depending on environmental factors. Special air handling and ventilation (such as a negative air pressure room) are required to prevent airborne transmission.

#### **Airborne Precautions**

**PPE:** In addition to the Standard Precautions, wear N-95 Respirator or PAPR (Powered Air Purifying Respirator) hood.

**HAND HYGIENE IS THE SINGLE MOST  
IMPORTANT WAY TO PREVENT THE SPREAD  
OF INFECTIONS**

**INDICATIONS FOR HAND HYGIENE (PER CDC GUIDELINES):** “when hands are visibly dirty, contaminated, or soiled, wash with non-antimicrobial or antimicrobial soap and water.” If hands are **not visibly soiled**, use an alcohol-based hand rub for routinely decontaminating hands. Per CDC guideline, plain soap and water hand washing is good at reducing bacterial counts, but antimicrobial soap is better, and alcohol-based hand rubs are the best.



## EFFECTIVE HAND HYGIENE PROCEDURES

### Hand washing with soap and water:

- a. Wet hands with water and apply soap
- b. Rub hands together front and back, using friction for at least **15** seconds
- c. Pay particular attention to the area between fingers and finger nails
- d. Turn faucet off using a dry paper towels.

### Hand washing with alcohol-based hand rub:

- a. Pump sufficient amount of hand rub gel on one palm
- b. Rub hands together, covering all surfaces, until **DRY!!!**
- c. Pay particular attention to the area between fingers and finger nails.

### **Safety Tips When Using Alcohol-based Hand-Rub**

- When using alcohol-based hand-rubs, rub hands until the alcohol has evaporated (i.e., hands are dry).
- Alcohol-based hand-rubs are stored away from high temperatures or flames, in accordance with CDC and National Fire Protection Agency recommendations.
- Supplies of alcohol-based hand-rubs are stored in cabinets or areas approved for flammable materials.

## SPECIFIC INDICATIONS FOR HAND HYGIENE

### Before:

- Patient contact
- Donning gloves when inserting a central venous catheter
- Inserting urinary catheters, peripheral vascular catheters, or other invasive devices that don't require surgery

### After:

- Contact with a patient's skin
- Contact with body fluids or excretions, non-intact skin, wound dressings
- Removing gloves

## HAND HYGIENE SECRET WORD: CHAMPS

Rancho Los Amigos has implemented a Hand Hygiene Secret Word based on a best practice that is cited by The Joint Commission. **CHAMPS** is an acronym for **C**lean **H**ands **A**re **M**aking **P**atients **S** safer. The secret word is to be used in a Just Culture in that staff any staff member can utter the secret word to any of their fellow staff members to prompt them to conduct hand hygiene regardless of their title in the facility. The staff member that was prompted to conduct hand hygiene will do so without providing negative feedback for the staff member that provided the prompt. For example, a student can utter CHAMPS to a physician or Nurse Manager without any negative repercussions.

## **RANCHO LOS AMIGOS INFECTION PREVENTION & CONTROL POLICY (IC101):**

Artificial nails will not be worn by staff who:

- Provide direct patient care
- Handle or reprocess equipment or instruments
- Handle food

In addition, natural nails must be clean, with tips less than 1/4 inch beyond the tip of the finger. If fingernail polish is worn, it must be in good condition, free of chips, and preferably clear in color.

### **SAFETY OF PERSONNEL**

Personnel should be aware that not all diseases can be clearly diagnosed and that you or your fellow employees may be carriers of disease before actually showing signs or symptoms of the disease. Although not an everyday occurrence, you may be involved in a situation at work where you may come in contact with the blood or body fluids of others. Working with hospitalized individuals does produce some amount of risk in getting or passing an infection.

*What do you need to know to protect yourself?*

### **STANDARD PRECAUTIONS**

Standard precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in hospitals. These precautions were introduced in the 1996 CDC Guideline for Isolation Precautions in Hospitals. Standard Precautions apply to **ALL** patients receiving care in hospitals, regardless of their diagnosis or presumed infection status.

Standard Precautions apply 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. Standard Precautions are fundamental to patient care and are the **standards of practice** by every healthcare worker

### **Key Components:**

#### **Hand Hygiene**

##### **Handwashing, if hands are visibly dirty, or using an antiseptic hand rub**

- After touching blood, body fluids, secretions, excretions and contaminated items
- Immediately after removing gloves
- Between patient contact



**Gloves**

- For contact with blood, body fluids, secretions and contaminated items
- For contact with mucous membranes and non-intact skin

**Masks, goggles, face masks**

- Protects mucous membranes of eyes, nose and mouth when contact with blood and body fluids is likely

**Gowns**

- Protects skin from blood or body fluid contact
- Prevents soiling of clothing during procedures that may involve contact with blood or body fluids

**Respiratory Protection**

- Use particulate respirator (i.e. N-95 respirator) during aerosol-generating procedures when the aerosol is likely to contain M. tuberculosis, SARS-Cov, or avian or pandemic influenza viruses

**Linen**

- Handle soiled linen to prevent touching skin or mucous membranes
- Do not pre-rinse soiled linens in patient care areas

**Patient care equipment**

- Handle soiled equipment in a manner to prevent contact with skin or mucous membranes and to prevent contamination of clothing
- Clean reusable equipment prior to reuse (i.e. Point of Care Devices)

**Environmental cleaning**

- Routinely care, clean and disinfect equipment and furnishings in patient care areas

**Sharps**

- Do not recap used needles
- Do not remove used needles from disposable syringes
- Do not bend, break or manipulate used needles by hand
- Place used syringes and needles, scalpel blades, and other sharps in puncture-resistant containers

**Patient resuscitation**

- Use mouthpieces, resuscitation bags or other ventilation devices to avoid mouth-to-mouth resuscitation

**Patient placement**

- Place patients who contaminate the environment or cannot maintain appropriate hygiene in private rooms

## **STANDARD PRECAUTIONS FOR NON-PATIENT CARE PERSONNEL:**

1. Consider all blood or body fluid from any person as potentially infectious. Wear latex or vinyl gloves when in contact with blood or body fluids.
2. Avoid contact with blood or body fluids into an open area of your skin or into your mouth, nose and eyes. If this occurs, wash the skin area immediately with soap and water or flush your mouth, nose, and/or eyes liberally with water.
3. Avoid entering specific rooms of the hospital or clinic where you may come in contact with blood or body fluids. If this is not possible, be sure to check with the patient care staff as to the type of protective equipment to wear, if necessary.
4. If you find unsecured needles, scalpels, or other sharp instruments potentially used on patients, notify patient care staff and assist with the disposal of the item per their instructions.
5. Report needle sticks, sharps injuries, or other blood/body fluid exposures to your supervisor and Employee Health Services immediately.

### **REMEMBER:**

**Even if you feel that you may not be susceptible to a particular disease, the next patient you work with may be susceptible. Therefore, these standards are to be followed by ALL personnel at ALL times.**

# RESPIRATORY ETIQUETTE PROGRAM

A "Respiratory Etiquette Program" is a common sense plan to decrease the risk of spreading airborne infectious diseases including the common cold and the flu (also vaccine preventable).

## The elements of Respiratory Hygiene/Cough Etiquette

*Includes:* Education of healthcare facility staff, patients, and:

1. Posted signs in language appropriate to the population served with instructions to patients and accompanying family members or friends.
2. Source control measures (e.g. covering mouth/nose with a tissue when coughing and disposing of used tissues, using surgical masks on the coughing person when tolerated and appropriate).
3. Hand hygiene after contact with respiratory secretions.
4. Spatial separation, ideally >3 feet, of persons with respiratory infections in common waiting areas when possible.

## Procedure:

1. Do not report for work if you are ill, especially if you are coughing
2. Cover your nose and mouth when you sneeze or cough
3. Cough and sneeze into a tissue and throw it away in the nearest waste basket
4. If you do not have a tissue, cough or sneeze into your upper sleeve, not your hand
5. After coughing or sneezing, clean your hands with soap and water or alcohol hand rub
6. Do not share eating utensils, drinking cups, water bottles, towels or other personal items including lip balm, lipstick, toothbrushes etc.
7. In waiting areas for patients and visitors provide:
  - a. Tissues and no-touch waste basket for used tissue disposal
  - b. Conveniently located alcohol-based hand rub; where sinks are available, ensure that supplies for hand washing are consistently available.

## Chapter 2

### Isolation Guidelines

Since the use of isolation precautions are at times, necessary for the safety of both patients and personnel, specific guidelines are included in this guide. It is the basic philosophy of the Infection Prevention & Control Program to use isolation only when necessary and to work closely with all departments so that rehabilitation programs and medical services for patients are not interrupted. However, the safety of other patients and of staff is our major concern, and if great risk of acquiring infection is involved, stringent isolation techniques must be enforced.

At Rancho, a procedure-oriented isolation system using a four-category system is used. Rancho Hospital Infection Prevention & Control Committee has approved the use of transmission based isolation precautions in 2007. Previously, Rancho developed numerical categorical terms of isolation that will no longer be used beginning August 2009. The type of isolation precautions for each patient is designated on Isolation Signs posted outside of the patient's room.

#### **Contact Precautions:**

In addition to Standard Precautions, Contact Precautions require two items (gloves and gown) be put on **before** entering the room and when in contact with large amounts of contaminated excretions/secretions which are not contained and could result in soiling of uniforms or linen. A private room is recommended, when it is impossible. Patients with the same multi-drug resistant organism may be cohorted. You may **NOT** mix different isolation precautions or organisms in the same room.

#### **Droplet Precautions:**

In addition to Standard Precautions, Droplet Precautions require three items (gloves, gown, and mask) be put on **before** entering the room. This type of isolation is used for diseases spread by indirect contact and inhalation (e.g., chicken pox and pseudomonas pneumonia). It is also required for patients who have MRSA with an open tracheotomy. A private room is needed, but patients with the same organism and need for isolation may be placed in the same room together.

#### **Airborne Precautions:**

In addition to Standard Precautions, Airborne Precautions require wearing a high filtration (NIOSH – N95) respirator before entering the room. A private room with negative air flow is required. There are 2 rooms that can be converted into a negative pressure room with a portable HEPA filter. Each employee is to be fit-tested for the N-95 respirator when initially employed and annually, if there is a change in facial hair, or with a substantial change in weight.

## WAYS TO IDENTIFY A PATIENT IN ISOLATION

You may identify an isolation patient in several ways:

- An Orange colored triangle clip on the white wrist ID band (call patient unit to verify isolation category)
- An isolation cart or isolation sign outside of the patient's room
- A neon green isolation sticker on the patient's medical record
- Patient handoff communication
- Isolation Status can be found in Affinity:
  - View through Clinical Circumstance module
  - View through Chart View module: Click on Clinical Conditions, then select Clinical Circumstance
  - View Infection Prevention & Control Progress Note in Chart Assessment

## USE OF PERSONAL PROTECTIVE EQUIPMENT

This Isolation system is very effective in isolating and containing infectious agents. It is very important to use the required items correctly in order to maintain the effectiveness of the system.

Gloves are to be:

- Free from rips and tears
- Pulled up high on the wrist
- Worn covering the cuffs of the isolation gown

Isolation gowns are to be:

- Free from rips and tears
- Water resistant with long sleeves
- Worn with both the waist and neck ties tied
- **Only worn when in direct contact with the patient in isolation or their environment**

Masks are to be worn:

- Snugly covering the nose and mouth

## SEQUENCE FOR DONNING PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. Gown:
  - Fully cover torso from neck to knees, arms to end of wrist, and wrap around the back
  - Fasten in back of neck and waist
2. Mask or Respirator:
  - Secure ties or elastic bands at middle of head and neck
  - Fix flexible band to the bridge of the nose and fit snug to face and below chin
  - Fit-check respirator
3. Goggles:
  - Place over face and eyes ***and*** adjust to fit

4. Gloves:
  - Extend to cover wrist of isolation gown

### **SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT**

After providing patient care, remove PPE in the following order:

1. Gloves: Outside of gloves are contaminated. Grasp outside of glove with opposite gloved hand and peel it off and discard in trash container
  - i. Leave the room and wash hands outside if sink is available outside the room or use alcohol hand rub if hands are not visibly dirty or caring for a patient with *C. difficile*.
2. Goggle: Outside of goggle is contaminated; handle by head band or ear pieces
3. Gown: Front and sleeves of gown are contaminated.
  - i. Untie waistband and neck band of gown and pull away from the neck and shoulders, touching inside of gown only
  - ii. Turn gown inside out, fold or roll into a bundle and discard it in the Hamper inside the room
4. Mask: Front of mask/Respirator is contaminated – Do not touch! Grasp bottom, then top ties or elastics and remove. Discard in trash container inside the room except N-95 respirator\*.

**\*Note:** The NIOSH (N-95) high-filtration respirators are for disposable use. Health care workers and the visitors will discard the N-95 respirator after each use. Remove the N-95 respirator after exiting the isolation room; close the door, then remove and dispose of the respirator in the regular trash can.

### **TRANSPORTING/WORKING WITH ISOLATION PATIENTS OUT OF THEIR ROOM**

When patients are in isolation it is generally the healthcare worker who wears the gowns, gloves, and/or masks to protect against exposure to infection. It is not always possible or practical, though, for a patient to remain in an isolation room at all times. Taking a patient out of the protective environment is safe for others as long as the following precautions below are adhered to: In addition to Standard Precautions, the PPE to be worn depends on which type of isolation the patient is on and/or the type of communicable disease, dressings or drains, etc. (see Infection Prevention & Control Policy # IC 103B).

#### **Four Key Points to Keep in Mind:**

1. Follow Standard Precautions and any other designated isolation precautions posted for the patient in selecting PPE
2. Don PPE **before** entering into patient's room
3. Prepare the Patient
4. Safely remove and discard PPE **before** leaving patient's room\*
5. If direct patient care is anticipated, then don **new** set of PPEs **outside** of patient's room

It is important to prepare patients before taking them out of their rooms:

1. For Contact Precautions:
  - a. Make sure dressings are dry; if not; ask nursing staff to change the dressing.
  - b. Have patients wash their hands.
  - c. Have the patient wear a clean gown.
2. For patients in Droplet Precautions isolation:
  - a. If the patient has an open or unplugged tracheotomy tube, cover the tracheotomy opening with a surgical mask
  - b. If the patient has an unhealed tracheotomy stoma, cover the stoma with gauze.
3. For Airborne Precautions and/or patients symptomatic with a cough: have the patient wear the surgical mask, covering the nose and the mouth. When the patient is ready to be transported out of the room, **remove PPE** and dispose of it inside the patient's room, except remove the N-95 respirator **after** you have exited the room and closed the door.
4. Perform hand hygiene and put on a new pair of gloves to transport the patient.
5. Report to the **receiving staff** about the patient's isolation status.

**Note:** Healthcare team members should take every opportunity to teach patients what they can do to assist in preventing the transmission of their infectious microorganisms to others.

### **ISOLATION GUIDELINES FOR VISITORS**

Patients placed on isolation may continue to have visits from family and friends as per hospital and unit specific policies. Time and number of visitors may need to be limited. All visitors must be instructed and regularly monitored on how to carry out proper isolation technique to ensure adherence. Written instructions for visitors on how to follow the isolation precautions for MRSA and VRE are available in English and Spanish on Rancho Intranet under Infection Prevention & Control Department. In addition, the Hand washing instruction Sheet "Wash Your Hands! You Can Help Stop the Spread of Infection" is also available in English and Spanish, which can be located on the Rancho Intranet (Med-CHIP-Pt/Staff Educ [↗](#) Patient Education [↗](#) Infection Prevention & Control). These instructions are to be given to each visitor and the instructions (both verbal and written) are to be documented in the Patient Education Record.

### **CONTAMINATED EQUIPMENT/WASTE:**

All supplies which meet the following criteria are considered contaminated:

1. Have blood or other body fluids on them.
2. Have been inside the room of a patient (whether or not it is known to have come in contact with the patient).

## Care and Decontamination

1. All contaminated non-disposable items are to be disinfected with hospital approved disinfectant or placed in a clear Dis-Clave bag and sent to Central Service for decontamination.
2. All soiled linen is to be placed in a plastic linen bag, securely closed, and placed in a soiled linen area.
3. Regulated medical waste should be placed in containers that are closeable, puncture resistant, leak proof on sides and bottom, and labeled "biohazardous" on all sides of trash can. A red bag is required for the liner for the biohazardous trash can. The regulated waste include:
  - a. Liquid or semi-liquid blood or other potentially infectious material
  - b. Contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compresses
  - c. Items caked with dried blood or other potentially infectious materials are capable of releasing these materials during handling
  - d. Contaminated sharps
  - e. Pathological and microbiological waste containing blood or other potentially infectious materials
  - f. Isolation signs should remain on the door until Environmental Services completes decontaminating the room

## **REPORTING OF INFECTIONS:**

The following list outlines the types of infections or problems that should be reported to the Infection Preventionist(s) at extension 7447 for evaluation and consultation:

1. All clean surgical wound infections occurring after procedures such as spinal fusions, prosthetic joints, and tendon lengthening or release surgeries for both inpatient and outpatients.
2. All orders for isolation and all isolation cases being transferred to or from other facilities.
3. All I.V. site infections, including Central Lines.
4. Ventilator associated pneumonias.
5. All referrals to Employee Health Services for infectious problems.
6. Any clustering of possible infections identified in an area, such as diarrhea, respiratory or wound infections.
7. Any suspected potential infectious problems.
8. Signs and symptoms of scabies (Rash with itching).
9. Physicians or his/her designee will communicate to the receiving physician/practitioner of an infection that was identified after the patient had been discharged to another facility.
10. Infection Preventionist will report infections discovered upon admission, but not reported by the referring agency to the referring agency.

The occurrences listed in 1, 2, 3 and 7 above must have an accompanying problem identified in the Care Plan with appropriate follow-up documentation.



**PATIENT ROOM DECONTAMINATION:**

Once a patient in isolation is discharged, the room is thoroughly cleaned. This room cleaning includes:

- a. Washing beds and bedside equipment in the room
- b. Washing environmental surfaces (for certain types of infections), e.g., walls, window sills
- c. Changing privacy curtains

## Chapter 3

### Management of Bloodborne Pathogens, Sharps, Blood and Body fluid Spill

#### **BLOODBORNE PATHOGENS:**

Bloodborne pathogens are viruses, bacteria, and other microorganisms that are carried in a person's bloodstream that can cause disease. If a person comes in contact with blood infected with a bloodborne pathogen, the person may become infected.

Health care workers have a higher risk for bloodborne pathogen exposure. The three most commonly exposed viruses are Hepatitis B virus (HBV), hepatitis C (HCV), and human immunodeficiency virus (HIV) in health care setting. Avoiding occupational blood exposures is the primary way to prevent transmission of HBV, (HCV), and human immunodeficiency virus (HIV) in health care settings. These pathogens are also found in other body fluids such as:

- Blood products
- Semen
- Vaginal secretions
- Fluid in the uterus of a pregnant women
- Fluids surrounding the brain, spine, heart and joints
- Fluids in the chest and abdomen.

#### **WORKPLACE TRANSMISSION:**

##### **Risk to Personnel**

You may be exposed to bloodborne pathogens in the healthcare setting by a variety of means:

1. Needles and other sharps
2. Contact to mucous membranes: eye, mouth, nose
3. Non-intact skin: open cuts, nicks, chapped, skin abrasions, or afflicted with dermatitis

Specific measures that are instituted to minimize or eliminate the risk of healthcare workers (HCW) occupational exposure include: (1) adherence to Standard Precautions (e.g. washing hands after patient contact), (2) adherence to engineering controls (e.g. needle-less systems and needle/sharp safety devices), and (3) safe work practices (e.g. safe disposal of needles and use of scalpels)

#### **HEPATITIS A, HEPATITIS B, AND HEPATITIS C**

The following table gives a brief description differentiating the three types of reportable Hepatitis:

	<b>Hepatitis A</b>	<b>Hepatitis B</b>	<b>Hepatitis C</b>
Transmission	<ul style="list-style-type: none"> <li>• Ingestion of contaminated food</li> <li>• Handling of contaminated feces</li> <li>• Sexual activity with infected partner(s)</li> </ul>	<ul style="list-style-type: none"> <li>• Needles or sharps injury</li> <li>• Mucous membrane, exposure to blood or blood products</li> <li>• Tattoos, body piercing</li> <li>• Sexual activity with infected partner(s)</li> </ul>	<ul style="list-style-type: none"> <li>• Needles or sharps injury</li> <li>• Transfusion prior to 1990</li> <li>• Mucous membrane, exposure to human blood or blood products</li> <li>• Sexual activity with infected partner(s)</li> </ul>
Incubation Period	<ul style="list-style-type: none"> <li>• 15-39 days, commonly about 28 days</li> </ul>	<ul style="list-style-type: none"> <li>• 45-180days, usually 60-90 days.</li> </ul>	<ul style="list-style-type: none"> <li>• 2 weeks- 6 months, average 40 days.</li> </ul>
Post Exposure Management	<ul style="list-style-type: none"> <li>• Immuno-globulin injections within 2 weeks of exposure for patient and household, drug sharing partners and sexual contacts.</li> <li>• Employee that handles food must be removed from duty</li> </ul>	<ul style="list-style-type: none"> <li>• The need for Immunoglobulin prophylaxis is determined by the HBsAg status of the source and the vaccination and vaccine-response of the exposure person (see Appendix A). When indicated administer HBIG ASAP, preferably within 24 hours (CDC, 2001).</li> <li>• Employee need NOT be removed from duty</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> <li>• Employee need NOT be removed from duty</li> </ul>
Isolation Requirements	<ul style="list-style-type: none"> <li>• Category 2, if patient's hygiene is poor</li> <li>• Gloves for contact with infective material</li> <li>• Gown if soiling is likely</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> <li>• Gloves for contact with infective material</li> <li>• Gown if soiling is likely</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> <li>• Gloves for contact with infective material</li> <li>• Gown if soiling is likely</li> </ul>
Communicability	<ul style="list-style-type: none"> <li>• Maximum infectivity occurs during the latter half of incubation period, particularly during the week prior to the onset of jaundice.</li> <li>o Considered noninfectious 1 week after onset of jaundice</li> </ul>	<ul style="list-style-type: none"> <li>When blood tests are positive for Hepatitis B surface antigen or anti HBc IGM positive (if done), and anti HAV IGM negative (if done).</li> </ul>	<ul style="list-style-type: none"> <li>One or more week prior to onset; may persist indefinitely.</li> </ul>

## **HEPATITIS B VIRUS (HBV):**

HBV is the major infectious bloodborne hazard healthcare workers face on the job. Blood contains the highest HBV titers of all body fluids and is the most important vehicle of transmission in the health-care setting. The HBV is a virus that infects the liver. Infection may range from no symptoms at all to flu-like symptoms (nausea, vomiting, fever) becoming so severe it may require hospitalization. The risk of HBV infection is primarily related the degree of contact with blood in the work place and also to the hepatitis B e-antigen (HBeAg) status of the source person. Therefore the post exposure management is varied according to the exposure situation (see Appendix A).

According to CDC recommendations (CDC, 2001) and Rancho Infection Prevention & Control Manual (IC203), any healthcare worker (HCW) who performs tasks that involve contact with blood, blood – contaminated body fluids other body fluids, or sharps should be vaccinated.

## **HUMAN IMMUNODEFICIENCY VIRUS (HIV)**

HIV attacks the body's immune system, eventually causing the disease known as AIDS (Acquired Immunodeficiency Syndrome). A person infected with HIV may carry the virus without developing symptoms for several years. Symptoms may include flu-like symptoms (fever, diarrhea, fatigue) and eventually may cause AIDS-related illnesses including: opportunistic Infection, neurological problems and cancer. Healthcare workers exposed to HIV should be evaluated within hours (rather than days) after their exposure and should be tested for HIV at baseline. The post exposure prophylaxis is determined on the risk for HIV infection after different types of exposure (see Appendix B & C).

## **SHARPS DISPOSAL**

1. **Do not recap contaminated needles or other sharps** – Disable the needle or sharp using the specially designed protective devices now available on all needles and sharps.
2. All needles and sharps (lancets, scalpels, broken ampules, safety pins, razors, etc. and all syringes and needleless I.V. therapy components) should be disposed of carefully in an approved sharps container.
3. After disposing the sharp item, make sure the opening tab remains in the fully opened position by moving the tab handle up and down a few times. When the opening tab remains half-opened, it means a sharp is stuck inside and it may cause injury to next person.
4. The sharps container is to be replaced when  $\frac{3}{4}$  full. The used container is taped closed and placed in a designated, secure location. Environmental Services is called to dispose of the containers.
5. Too often, sharps are found in bed or gurney linen after an invasive procedure is done at the bedside or office area. To prevent injury to others, always be sure to check for and remove any sharps.
6. If sharps are found not secured:
  - a. Dispose of the sharps into a sharps container
  - b. Immediately report to the responsible person

**Note:** Sharps containers located on crash carts are not to be used for routine needle disposal. They are designated for a one-time, code situation and are replaced accordingly.

## **MANAGEMENT OF BLOOD/BODY FLUID SPILLS**

All spills of blood or body fluids from any patient must be treated as contaminated.

### **What to use:**

- Disposable gloves
- Disposable towel (paper towel)
- Hospital approved disinfectant
- Plastic-lined trash container
- RED plastic-lined trash container

### **What to do:**

1. Put on gloves and wipe area clean with disposable towels.
2. Disinfect area with the hospital approved disinfectant
3. Place used towels in plastic-lined trash container
4. Place any articles that are saturated with blood or body fluids into **RED** plastic lined trash container
5. Remove gloves and wash hands.

**NOTE: DO NOT PICK UP BROKEN GLASS DIRECTLY WITH YOUR HANDS;** instead, pick up with mechanical means such as a brush and dustpan, tongs, or forceps.

## **REPORTING EXPOSURES**

1. If the skin or mucous membranes come in direct contact with blood or body fluids, initiate immediate care to the exposure site:
  - a. **Wash** wound or skin with soap and water
  - b. **Flush** mucous membranes with water
2. **Report** all exposures to the supervisor and Employee Health Services at x 6016 immediately, to ensure timely evaluation and maximum post exposure prophylaxis benefit.
3. The medical evaluation should be initiated immediately since prophylaxis, if indicated, may need to be started within 1-2 hours of the exposure.
4. On weekends or during after hours, employees should report exposures to the Administrative Nursing Supervisor via the hospital operator.

## **HEPATITIS B VACCINE**

Occupational Health and Safety Administration (OSHA) standards mandate that all healthcare workers at risk for occupational exposure to blood or body fluids must be offered the Hepatitis B vaccine free of charge. The vaccine can be declined by signing a declination form. The vaccine can still be provided at a later date on request, even if it was declined previously. The vaccine has been found to be safe when administered to infants, children, or adults. Per CDC, "since 1999, all products available in the U.S. have been manufactured by methods that inactivate HCV and other viruses; and that there is no evidence that HBV, HCV, or HIV have ever been transmitted by HBIG commercially

available in the United States” (CDC, 2001).

If you are a healthcare worker and have not received the vaccine or have signed a declination form, and would like to receive the vaccine and/or information regarding the vaccine, contact Employee Health Services at x 6016 immediately.

For further information regarding RLANRC Bloodborne Pathogen Exposure Control Plan, refer to the RLANRC Infection Prevention & Control Manual.

## **UTILIZING THE PROPER TECHNIQUE FOR COLLECTION OF BLOOD CULTURES**

*(For Medical Staff, Registered Nurses, and Laboratory Staff ONLY)*

Careful skin preparation before blood collection is of great importance to reduce the risk of introducing contaminants into the blood culture bottles. The vein from which the blood is to be drawn must be chosen before the skin is disinfected. Refer to Nursing Policy and Procedure - C301 for proper blood culture specimen collection technique.

If the patient has an existing IV line, the blood should be drawn below the existing line because blood drawn above the line will be diluted with fluid being infused. It is less desirable to draw blood through a vascular shunt or catheter because these prosthetic devices are difficult to decontaminate completely. **DO NOT USE THE CENTRAL LINES TO OBTAIN BLOOD CULTURES!!!**

## Chapter 4

### Tuberculosis

Tuberculosis (TB) is a disease that is often diagnosed and treated in an outpatient setting. However, public hospitals often treat patients with advanced, active (smear positive) pulmonary TB that is not diagnosed until after hospital admission. A person with infectious pulmonary or upper airway TB disease may infect others via the airborne route through aerosolization of microscopic droplet nuclei containing *M. tuberculosis* bacilli by coughing, sneezing, shouting, or singing. A high index of suspicion and continuous surveillance are crucial to the control of TB, to protect both staff and other patients. Many factors influence the transmissibility of the disease. Therefore, prevention and interruption of TB transmission is the goal of an Infection Prevention & Control program.

Persons in close and ongoing contact with a person with undiagnosed or untreated pulmonary TB are at high risk of acquiring infection.

Other persons at high risk for Tuberculosis include:

- Contacts of persons with infectious TB (pulmonary or laryngeal)
- Persons known or suspected of being HIV infected
- Injection drug users
- Persons with certain medical conditions, such as diabetes, HIV, silicosis, etc.
- Persons with radiographic evidence of old, healed TB
- Employees or residents of congregate settings, such as hospitals, correctional facilities, homeless shelters, nursing homes, or drug treatment centers
- Persons from an area of the world where the incidence of TB is high
- Children and adolescents < 18 years old exposed to adults with high-risk conditions

An effective TB Infection Prevention & Control program requires: (1) early identification, (2) Airborne Precautions, (3) initiation of effective treatment of persons with active TB to reduce the risk of transmission

#### **IDENTIFICATION OF PERSONS WITH TB INFECTION OR DISEASE**

Los Angeles County Department of Services requires all new employees at a healthcare facility to have a baseline Tuberculin Skin Test (TST) unless the employee has a documented prior positive TST reaction or a documented negative reaction in the past 12 months. A chest x-ray is required of all persons with positive TSTs. Healthcare personnel in a high risk environment such as in triage, mycobacteriology laboratory, and those working in HIV residential facilities should have TB screening and symptom review every six months. All other facility healthcare workers should receive annual TB screening.

When a person is exposed to an infectious TB case, the person will receive a Mantoux Tuberculin skin. If the skin test result is positive or if symptoms suggestive of TB are present (e.g., productive and prolonged cough, fever, chills, loss of appetite, weight loss, fatigue, or night sweats), the person must receive a chest x-ray and undergo clinical

evaluation to rule out TB disease.

A negative TB skin test result does not absolutely rule out TB infection, especially in persons with TB-like symptoms, injection drug use, HIV infection, or AIDS. A false-negative TST may be due to an anergic reaction, recent TB infection, very young age (< 6 months old), live-virus vaccination, or overwhelming TB disease. Normally, the TST takes 8-12 weeks from the time of exposure for a person to react to the TB skin test; the initial test results of an infected person may be falsely negative.

All persons who have symptoms of TB will have a clinical evaluation including sputum tests for TB. A positive culture for TB is the only definite proof of TB disease. Due to high incidence of TB and HIV co-infection, all persons with TB infection or TB disease are offered counseling and HIV antibody testing.

**A positive TB skin test is not the same as an active case of TB.** A positive skin test means the person has had enough exposure to the Mycobacterium to develop bacteria-specific antibodies in the blood. Once a person has these antibodies, he/she will always have a positive TB skin test and this condition is called seroconversion. Sero means blood and conversion refers to a positive antibody count. Once seroconverted, the individual will receive further evaluation. If clinical evaluation ruled out TB, the person will be offered treatment for Latent Tuberculosis Infection (LTBI) to reduce the chance of acquiring active TB.

Those persons with positive TB skin tests should no longer be tested with TB skin tests. However, they will be assessed for signs and symptoms on a yearly basis to determine any changes in their medical condition. If signs and symptoms of TB are evident or reported, the person should receive a chest x-ray.

## **INFECTION PREVENTION AND CONTROL MEASURES**

The early identification of disease in persons with infectious TB is essential. TB should be suspected in all persons who have symptoms consistent with TB, especially those with confirmed or suspected HIV infection and undiagnosed pulmonary disease. Precautions should be taken to prevent the airborne transmission of infection until TB is diagnosed and treated or ruled out. Refer to Infection Prevention & Control Manual for other detail information.

Transmission of TB infection can be reduced by: (1) Effective drug therapy of the infected person, (2) infected persons covering mouth and nose when coughing, and (3) Atmospheric isolation (Airborne Precautions) of active TB case in a negative pressure room. The negative pressure room at Rancho requires an additional HEPA filter to increase the air exchange rate in order to meet the standard. Therefore, when a TB case or suspected case is identified, the staff must notify Facility Management immediately at extension 7291 to request the installation of a portable HEPA filter. The patient should be transferred to another facility with a proper negative pressure room as soon as possible.



Infectious TB cases or suspects must wear a surgical mask while:

- In a room other than a respiratory isolation room
- Being transported within the health facility or by car

Staff must wear a NIOSH-approved N-95 or HEPA respirator while:

- In a room with an infectious patient who is undergoing a high risk procedure
- Occupying the room with an unmasked coughing, suspected, or confirmed smear-positive TB patient
- Entering the room previously occupied by an unmasked infectious TB suspect or case before sufficient time to clean contaminated air room has elapsed.

Note: Remove the N-95 respirator outside of the isolation room after the door is closed and dispose of it in the regular trash can after each use.

**Notify Infection Prevention and Control Department when a patient is diagnosed as suspected or confirmed TB:**

- a. Communicate the patient's name, file number, unit, and bed number to Infection Prevention & Control (x 7447)
- b. The Infection Preventionist(s), upon notification from the Physician, Nurse Manager/designee, Central Admission and Referral Office, and Pharmacy, will initiate the Confidential Tuberculosis Suspect Case Report – Hospitalized Patient Report (Form H803) within twenty-four (24) hours of admission, under the Gotch Bill requirement
- c. Fax the completed H803 to TB Control at (213) 749-0926; or report by phone at (213) 744-6271
- d. Before patient is discharged, complete and fax the Tuberculosis Discharge Care Plan (Form H804) 24 hours prior to discharge at (213) 749-0926; or report by phone at (213) 744-6271

TB Control staff will review the discharge plan and notify the provider within 24 hours of approval plan or inform the provider of additional information/action that is required for approval prior to discharge.

All arrangement for discharge should be made in advance when weekend discharge is anticipated. When unusual circumstances necessitate weekend or holiday discharge, the provider will phone the Los Angeles County Operator at (213) 974-1234 and ask to speak with the TB Control Physician on call. Response will usually occur within one hour. If the discharge cannot be approved, the patient must be held until the next business day for appropriate arrangements to be made. Both H803 and H804 forms can be obtained by calling Infection Prevention & Control at ext. 7447.

Instruct and ensure all visitors to check with patient care staff before entering a patient room identified as Airborne Precautions Isolation.

**Remember!** The key to preventing TB infection is to complete your annual health assessment, which includes screening for TB infection/disease. All employees who convert to a positive TB skin test will be evaluated through a Pulmonary Medicine consult via Employee Health Services for further testing and possible treatment. For further information on TB, refer to RLANRC Tuberculosis Exposure Control Plan in the Infection Prevention & Control Manual.

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## Appendix A

**Recommended postexposure prophylaxis for exposure to hepatitis B virus Vaccination Treatment and antibody Source response status of Source Source unknown or not exposed workers\* HBsAg<sup>†</sup> positive HBsAg<sup>†</sup> negative available for testing Unvaccinated HBIG<sup>‡</sup> x 1 and initiate HB vaccine series. Previously vaccinated Known responder\*\* No treatment Known Non-HBIG x 1 and initiate No treatment If known high risk responder<sup>††</sup> revaccination Source, treat as or HBIG x 2<sup>§§</sup> If source were HBsAg positive Antibody response Unknown Test exposed person No treatment Test exposed person for anti-HBs<sup>¶¶</sup> For anti-HBs**

If adequate, \*\* no treatment is necessary. <sup>††</sup> If inadequate, <sup>††</sup> administer vaccine booster and HBIG x 1 and recheck titer in 1-2 months vaccine booster

\* Persons who have previously been infected with HBV are immune to reinfection and do not require post exposure prophylaxis.

<sup>†</sup> Hepatitis B surface antigen.

<sup>§</sup> Hepatitis B immune globulin; does is 0.06 mL/kg intramuscularly.

<sup>¶¶</sup> Hepatitis B vaccine

<sup>\*\*</sup> A responder is a person with adequate levels of serum antibody to HBsAg (i.e., anti-HBs  $\geq 10$  mIU/mL)

<sup>††</sup> A nonresponder is a person with inadequate response to vaccination (i.e., serum anti-HBs <10 mIU/mL).

<sup>§§</sup> The option of giving one dose of HBIG and reinitiating the vaccine series is Preferred for nonresponders who have not completed a second 3dose vaccine series. For persons who previously completed a second vaccine series but failed to respond, two doses of HBIG are preferred.

<sup>¶¶¶</sup> Antibody to HBsAg.

MMWR June 29, 2001, (CDC. Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Post exposure Prophylaxis. MMWR 2001; 50(RR11), 22. Available at: <http://www.cdc.gov/mmwr/PDF/rr/rr5011.pdf>

## Appendix B

### Recommended HIV postexposure prophylaxis for percutaneous injuries Infection status of source HIV-positive, Exposure type Class 1\* Class 2\* HIV status<sup>†</sup> Unknown source<sup>§</sup> HIV-Negative

Less severe<sup>¶</sup> Recommend Generally, No PEP basic 2-drug expanded 3-drug PEP warranted PEP, however, consider basic 2-drug PEP\*\* for in settings where source with HIV exposure to HIV-risk factors<sup>¶¶</sup> infected persons is likely more severe<sup>§§</sup> Recommend Generally, no Generally, No PEP expanded 3-drug Expanded 3-PEP warranted; warranted PEP drug PEP however, however, consider basic 2-basic 2-drug PEP\*\* drug PEP\*\* for in settings where source with HIV exposure to HIV-risk factors<sup>¶¶</sup> infected persons is likely

HIV-Positive, Class 1 – asymptomatic HIV infection or known low viral load (e.g., <1,500 RNA copies/mL). HIV-Positive, Class 2 – symptomatic HIV infection, AIDS, acute seroconversion, or known high viral load. If drug resistance is a concern, obtain expert consultation. Initiation of post exposure prophylaxis (PEP) should not be delayed pending expert consultation, and, because expert consultation alone cannot substitute for face-to-face counseling, resources should be available to provide immediate evaluation and follow-up care for all exposures.

<sup>†</sup> Source of unknown HIV status (e.g., deceased source person with no samples available for HIV testing).

<sup>§</sup> Unknown source (e.g., a needle from a sharps disposal container).

<sup>¶</sup> Less severe (e.g., solid needle and superficial injury).

\*\* The designation “consider PEP” indicates that PEP is optional and should be based on an individualized decision between the exposed person and the treating clinician. ¶¶ If PEP is offered and taken and the source is later determined to be HIV-negative, PEP should be discontinued. §§ More severe (e.g., large-bore hollow needle, deep puncture, visible blood on device, or needle used in patient’s artery or vein).

*MMWR* June 29, 2001, (CDC. Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Post exposure Prophylaxis. *MMWR* 2001; 50(RR11), 24. Available at: <http://www.cdc.gov/mmwr/PDF/rr/rr5011.pdf>

## Appendix C

### Recommended HIV post exposure prophylaxis for mucous membrane exposures and nonintact skin\*exposures Infection status of source

Exposure type HIV-Positive HIV-Positive Source Class 1<sup>†</sup> Class 2<sup>†</sup> of unknown HIV status<sup>§</sup> Unknown HIV-Negative source

Small volume**	Consider basic 2-drug PEP <sup>††</sup>	Recommend basic 2-drug PEP	Generally, no PEP Warranted: however, Consider basic 2drug PEP <sup>††</sup> for source with HIV risk factors”	Generally, no PEP warranted: however, consider basic 2-drug PEP <sup>††</sup> in settings where exposure to HIV-infected persons is likely	No PEP warranted
Large volume <sup>†††</sup>	Recommend basic 2-drug PEP	Recommend expanded 3-drug PEP	Generally, no PEP warranted: however, consider basic 2-drug PEP <sup>††</sup> for source with HIV risk factors”	Generally, no PEP warranted: however, consider basic 2-drug PEP <sup>††</sup> in settings where exposure to HIV-infection persons is likely	No PEP warranted

\* For skin exposures, follow-up is indicated only if there is evidence of compromised skin integrity (e.g., dermatitis, abrasion, or open wound).

<sup>†</sup> HIV-Positive, class 1 – asymptomatic HIV infection or known low viral load (e.g., < 1,500 RNA copies/mL). HIV-Positive, Class 2 – symptomatic HIV infection, AIDS, acute seroconversion, or known high viral load. If drug resistance is a concern, obtain expert consultation. Initiation of post exposure prophylaxis (PEP) should not be delayed pending expert consultation, and, because expert consultation alone cannot substitute for face-to-face counseling, resources should be available to provide immediate evaluation and follow-up care for all exposures.

<sup>§</sup> Source of unknown HIV status (e.g., deceased source person with no samples available for HIV testing).

<sup>††</sup> Unknown source (e.g., splash from inappropriately disposed blood). \*\* Small volume (i.e., a few drops). The designation, “consider PEP,” indicates that PEP is optional and should be based on an individualized decision between the exposed person and the treating clinician. <sup>§§</sup> If PEP is offered and taken and the source is later determined to be HIV-negative, PEP should be discontinued. <sup>†††</sup> Large volume (i.e., major blood splash).

MMWR June 29, 2001, (CDC. Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Post exposure Prophylaxis. MMWR 2001; 50(RR11), 25. Available at: <http://www.cdc.gov/mmwr/PDF/rr/rr5011.pdf>

**All new employees, students, and volunteers are required to have evidence of infection prevention and control orientation.**

After reviewing the Self-Study Guide, complete the following post-test and send it to:

**Infection Prevention and Control Office  
in Harriman Building, Room 259**

Have Any Questions?

Call Infection Prevention and Control at the ext. 7447, if you have any questions about the information in the self-study guide.

For further information, you may refer to the Infection Prevention & Control Manual available on the Rancho Intranet.

***Wash your hands!***



# Hand washing is the single most important measure in preventing the spread of infection!!!

Name: \_\_\_\_\_ Empl.# \_\_\_\_\_ Title: \_\_\_\_\_  
Dept. or School. \_\_\_\_\_ Date \_\_\_\_\_

## Post Test Infection Prevention & Control Orientation - Self Study

1. What is the basic goal of the Infection Control Program?
  - a) To prevent \_\_\_\_\_
  - b) To eliminate \_\_\_\_\_
2. What is the single most important means of preventing spread of an infection?
  - a) Antibiotics
  - b) Hand washing
  - c) Isolation room
  - d) Proper nutrition
3. An orange color clip on patient's ID band signifies that this patient requires isolation precautions.
  - a) True
  - b) False



4. Name three ways that microorganisms or infection can be transmitted or spread in a hospital setting?
- a) \_\_\_\_\_
  - b) \_\_\_\_\_
  - c) \_\_\_\_\_
5. To prevent the spread of infection, the use of gloves is not a substitute for \_\_\_\_\_
6. In addition to Standard Precautions, list the personal protective equipment (PPE), necessary for each isolation category used at Rancho:
- a) Contact Precautions: \_\_\_\_\_
  - b) Droplet Precautions: \_\_\_\_\_
  - c) Airborne Precautions: \_\_\_\_\_
7. The sharps (needles, broken glass, etc) should be disposed in:
- a) Red bag
  - b) Regular trash container
  - c) Sharp container
8. Which of the following exposures pose a risk for bloodborne pathogen infection? (circle one correct answer)
- a) A nurse sustains a needlestick while drawing up insulin to administer to a patient with diabetes.
  - b) A lab worker is splashed in the eye with urine from a patient with HIV.
  - c) An operating room technician with chapped and abraded hands notices blood under his/her gloves after assisting in a surgery on a patient with hepatitis C infection.
  - d) While cleaning the bathroom, a housekeeper's intact skin has contact with feces.
9. When you transport an isolation patient, you should:
- a) Follow Standard Precautions and any other designated isolation precautions for the patient
  - b) Put on PPE before entering into patient's room
  - c) Prepare the patient: dry dressing, clean hospital gown, teach patient to wash hands etc.
  - d) Safely remove and discard PPE before leaving patient's room (except for patient in airborne precautions, remove N-95 respirator outside patient's room).
  - e) All above

10. A healthcare provider should never break or re-cap a needle.
- a) True
  - b) False
11. List three immediate actions to be taken after a blood or body fluid **exposure**:
- a) \_\_\_\_\_
  - b) \_\_\_\_\_
  - c) \_\_\_\_\_
12. The **major** infectious bloodborne hazard healthcare workers face on the job is:
- a) HIV
  - b) Hepatitis B
  - c) Syphilis
13. You can find the TB Exposure Control Plan in:
- a) Administrative Policy and Procedures
  - b) Infection Prevention & Control Manual
  - c) Occupational Health Services Manual.
14. When a TB suspect or a confirmed case is diagnosed or admitted to Rancho, you should report it to:
- a) Infection Prevention & Control Office
  - b) LA County TB Control (per Gotch Bill requirement)
  - c) The Hospital Infection Prevention and Control Committee
  - d) Both a and b
15. When a TB patient is being transported within the facility, the patient must wear:
- a) Surgical Mask
  - b) N-95 Respirator
16. A TB suspect should be placed in what type of isolation?  
\_\_\_\_\_
17. How long should the health care workers wash their hands when performing hand hygiene?
- a) When washing with soap and water: \_\_\_\_\_ seconds.
  - b) When using alcohol hand rub: \_\_\_\_\_

***Return completed test to the Infection Prevention & Control Department  
Harriman Building, Room 259.***