



# **INFECTION CONTROL**

Self-Study Guide

## **OBJECTIVES OF INFECTION CONTROL PROGRAM**

The Infection Control Program goal is to protect patients, employees, volunteers and visitors from healthcare associated infections. Objectives of this self-study are:

- Identify Infection Control Program Resources
- Outline the Bloodborne Pathogens Exposure Control Plan
- Describe TB Control Plan
- Identify three things every employee can do to take care of his/her work area
- Identify the single most important Infection Control measure

Successful completion of this program can be accomplished by completing the examination on the last page of this self-study guide with a score of 80% or better.

## **INTRODUCTION**

Infection control is the prevention of the spread of disease. It is everyone's responsibility regardless of the department you work in.

Infections can be spread through direct contact or through the air. Disease causing organisms can enter our bodies through punctures, cuts, or through our mucus membranes such as our eyes, mouth or nose. Microorganisms are invisible. They can be present in blood, body fluids, wounds, skin surfaces, and on contaminated objects.

The Infection Control Manual is the primary reference for Infection Control policies and procedures. Department-specific infection control policies and procedures can be found in your department's policy and procedure manual.

The Infection Control Coordinator may be contacted at extension 329 if you have any questions.

## **HAND HYGIENE**

In 2004, the JCAHO (Joint Commission on Accreditation of Healthcare Organizations) National Patient Safety Goals were initiated, one of these goals requires healthcare facilities to comply with the CDC's (Center for Disease Control) 2002 Hand Hygiene in Healthcare Settings guideline to prevent transmission of infection and improve patient safety. The healthcare agencies Directive on Required Hand Hygiene Practices provides guidance for healthcare facilities.

### **Healthcare Directive on Required Hand Hygiene Practices**

Hand hygiene is the single most important infection control measure.

All healthcare workers in direct patient contact areas, i.e., inpatient rooms, laboratory, diagnostic imaging, outpatient areas, and so on must:

1. Use an alcohol-based hand rub or antibacterial soap and water to routinely disinfect their hands before and after having patient contact.
2. If hands are not visibly dirty, use alcohol-based hand rub to routinely disinfect.
3. When hands are visibly dirty do the following:
  - Wash hands with antibacterial soap and water OR
  - Wash hands with soap and water then use an alcohol-based hand rub.

### **Perform Hand Hygiene**

- Before patient contact
- After patient contact
- Before performing clean and sterile procedures
- After removal of gloves
- After contact with environmental surfaces
- Whenever hands are contaminated
- Before eating
- After using the restroom

## **HAND HYGIENE TECHNIQUES**

Washing your hands frequently and properly is the single most important thing you can do in order to prevent the spread of infection. Discussed in the section above is when we should wash our hands now, lets discuss how we should wash our hands

### **Hand Washing**

Use antibacterial soap and water to wash hands.

- Wet hands with water
- Apply antibacterial soap
- Rub all hand surfaces for 15 seconds paying close attention to the nails
- Dry well with paper towels
- Use paper towel to turn off the faucet

### **Hand Hygiene Using Alcohol-based Hand Rub**

- Apply alcohol-based foam to hands
- Rub all hand surfaces together until dry paying close attention to the nails
- Do not use alcohol-based hand rub when a patient has or is suspected of having C. diff.

All healthcare workers who provide direct patient care or prepare patient care items may NOT wear artificial fingernails, nail wraps, or nail extenders; this includes non-supervisory and supervisory personnel who regularly or occasionally provide direct patient care or indirect patient care.

## **BLOODBORNE PATHOGENS**

Pathogens are germs that can cause disease. Bloodborne pathogens are viruses such as Hepatitis B and C and HIV that can potentially be spread to others through exchange of blood or body fluids. This can include the following:

- Blood
- Semen
- Vaginal secretions
- Cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid and amniotic fluid
- Urine, feces, nasal secretions, saliva, tears and vomitus are not considered potentially infectious unless they contain blood
- Non-fixed (hardened and preserved) tissues and other body fluids

### **Activities Posing Risk to Healthcare Workers**

Patient care activities that pose a risk to healthcare workers are:

- Starting and discontinuing IV lines
- Giving injections
- Collecting blood specimens
- Doing anything which cuts through the skin
- Suturing
- Suctioning

Other activities that can also pose a risk include:

- Handling dirty linens
- Emptying sharps containers
- Handling biohazardous waste
- Processing/handling laboratory specimens
- Environmental cleaning

- Repairing patient care equipment

### **Symptoms of a New Infection**

Viral bloodborne pathogen infections usually present with symptoms similar to the flu:

- Fever
- Headache
- Body ache
- Fatigue
- GI upset

New onset of symptoms after an exposure could be an indication of newly acquired infection.

## **STANDARD PRECAUTIONS**

(Previously known as Universal Precautions)

There is a potential for all blood and body fluids to transmit pathogens therefore:

- All patients must be treated as if they are infectious at all times.
- Use Standard Precautions in providing care for all patients.

### **Personal Protective Equipment (PPE) used for Standard Precautions Include:**

- Hand Hygiene
- Gloves
- Eye goggles
- Masks
- Gowns
- One-way valves for CPR
- Protection from sharps
- Cleaning of spills
- Handling of infectious waste

If it's warm, wet and not yours wear gloves and use other appropriate PPE as indicated. In other words, before beginning a task think of how exposure to an unknown pathogen could occur and use appropriate personal protective equipment.

### **Eating and Drinking**

OSHA (Occupational Safety and Health Administration) prohibits healthcare workers from eating and drinking in patient care areas or anywhere blood or body fluids are handled. This includes exam, treatment, procedure, patient care areas, labs, registration desks, nursing stations and also anywhere patient care items are prepared.

## **Waste Management**

According to the Ohio State Medical Waste Management Program, the following items are considered as biohazardous waste:

- Suction canisters
- Laboratory and Operating Room waste
- Sharps
- Items containing visible blood
- Un-drained urine drainage bags
- Specimens including non-fixed tissues

All biohazardous containers must have:

- A red bag liner
- An attached lid
- Be appropriately labeled
- Be foot operated if outside of a designated waste storage area

## **Blood/Body Fluid Spill Management**

- Cover small spills with a paper towel
- Spray with an approved germicide
- Used gloved hands to clean up the spill
- Small spills may be sprayed with a germicide and wiped off with a paper towel
- Spill kits are available on all units

# **TRANSMISSION BASED PRECAUTIONS**

In addition to Standard Precautions, further measures are taken when patients are suspected of having organisms that could be spread in ways other than in blood or body fluids. Transmission-based Precautions are disease specific and based on the route of transmission.

## **Airborne Precautions**

- Airborne Precaution is used for patients whose illnesses are transmitted by airborne nuclei which travel and stay in the air for long periods of time. They are spread by inhaling them after they are breathed out by an infected patient.
- Diseases requiring Airborne Isolation are TB, Varicella (chickenpox), Rubeola (measles), and Diphtheria.
- Limit movement of patient when possible. Use a surgical mask for patient during transport.
- Requirements: Private room with negative air pressure, N95 respirators and dedicated patient care equipment.

### **Contact Precautions**

- Contact Precautions are designed to prevent transmission of organisms that are spread by direct or indirect contact with infected patients or contaminated objects.
- Examples of diseases requiring Contact Precautions are *C. difficile*, MRSA (methicillin-resistant *Staphylococcus aureus*), VRE (vancomycin-resistant *Enterococcus*), any draining wounds and lice or scabies.
- Limit movement of patient when possible.
- Requirements: Private room, gloves when entering the room and gowns for direct patient care, and dedicated patient care equipment.

### **Droplet Precautions**

- Droplet Precautions are used to prevent the spread of germs contained in large airborne droplets that travel short distances (less than 3 feet).
- Examples of diseases requiring Droplet Precautions are seasonal influenza, *Neisseria meningitis*, Rhinovirus, some strep infections, pneumonias caused by drug resistant organisms and Rubella (German measles).
- Limit movement of patient when possible. Place surgical mask on patient when transferring.
- Requirements: Private room, gowns and gloves, protective eye wear if patient is coughing or being suctioned, surgical grade mask and dedicated patient care equipment.

### **Combined Categories**

- Multiple isolation categories may be used for patients with infections that may be spread both by air and contact.
- Examples requiring combined isolation could include a patient with *C. difficile* and MRSA pneumonia, Varicella and a MRSA wound.
- Requirements: The first example would need Contact Precautions and Droplet Precautions, the second example would require Airborne and Contact Precautions.

## **TUBERCULOSIS CONTROL PROGRAM**

### **Control Plan – Signs and Symptoms**

Patients with TB often present with common symptoms including:

- Fever
- Cough (lasting more than 2-3 weeks)
- Night sweats
- Unexplained weight loss
- Loss of appetite
- Coughing up of blood

**Control Plan – Early Identification**

Risk factors for TB infection:

- Being born in a country where TB is common
- Having other lung or immune system disease
- Being homeless
- Having a substance abuse problem (alcohol or drugs)
- Prison and/or jail time
- Exposure to others with TB infection

Any patient with TB symptoms must be:

- Provided with a surgical-type mask.
- Escorted to a private waiting room or a negative pressure room if available.
- Receive immediate medical attention
- Instructed to cover his/her nose or mouth with a tissue when coughing or sneezing.

**Control Plan – Airborne Isolation**

Patients diagnosed with suspected TB are placed on Airborne Isolation precautions until arrangements can be made to transfer to SOMC to Pulmonary Critical Care Inc., (Dr. Saab's service). This requires:

- A private patient room with negative pressure.
- Patient wears a surgical grade mask when out of the room.
- All staff entering Airborne Isolation rooms wear an N95 mask or PAPR.
- Isolation continues until the patient can be transferred.

**Control Plan – Employee Screening**

- Annual employee T.B. skin testing is mandatory and occurs in October.
- Employees with a positive skin test will complete a symptoms review and have a chest x-ray every two years.
- Employee Health will do follow-up skin tests.

**Employee Health**

- Know which childhood diseases you have had. You should also know what your pre-employment titers were. If you aren't sure if you have immunity you may contact the Employee Health office.
- Report all exposures immediately to your supervisor or the medical surgical supervisor.

- Document any exposure or injury by filling out an Incident Report, Employee Injury Illness form and a First Report of Injury. These forms are available from your supervisor, the medical surgical supervisor and the ED. The supervisor or Ed personnel should initiate these but you are also responsible for making sure this is initiated.
- Participate in the annual TB screening.
- Complete all vaccinations as appropriate.

### **HIV Testing**

- HIV testing requires written, informed consent.
- All testing results are confidential.
- You can not be tested without your consent.
- Pre and post-test counseling is provided by Employee Health or the Employee Health Physician.

### **Hepatitis B Vaccination**

- May prevent infection if you are contaminated with infected blood or body fluids
- Is recommended for all employees that could be exposed to blood or body fluids
- Is available through Employee Health to at risk employees free of charge

### **Care of the Environment**

- You are responsible to ensure that your work area remains clear of clutter and trash
- Use only approved cleaners and disinfectants provided by the hospital
- Food items must always be properly stored in sealed or covered containers and only in refrigerators designated for food products

### **Healthcare Worker Responsibilities**

- Infection Control is everyone's responsibility.
- Only you can reduce the spread of Nosocomial (hospital acquired infections) to our patients and staff through practicing infection control policies and procedures.
- Hand Hygiene is the single most important infection control practice.

By practicing infection control methods, we demonstrate the service value of Quality and a culture of safety.

You are the Infection Control Program at Pike Community Hospital and Pike Medical and Surgical Associates.