**Introduction**

**Infection Control Standards**

**This course presents the key elements of the Infection Prevention and Control Program.**

After completing this course, you will take an assessment exam to test your knowledge of the Infection Prevention and Control Program at Hospital for Special Care.

Upon completion of this course, participants should be able to:

1) Describe the Infection Prevention and Control Program.

2) Identify employee responsibilities for patient infection prevention.

3) Identify specific sections of the IPC program that impact patient care.

4) Review basic sections of the IPC program and their specific guidelines.

Let’s get started!
Bloodborne Pathogen Standard

Blood Exposure

Accidental exposures to blood will be evaluated and appropriate treatment will be initiated if needed to prevent infections with bloodborne pathogens, such as Hepatitis B, C, and HIV. Patients will be tested for Hepatitis B and C, and HIV, when a significant percutaneous exposure has occurred to a healthcare worker (patient consent to treat forms signed on admission for inpatient care and outpatient clinics now include HIV consent for testing when appropriate).

1) All needlestick injuries and significant parenteral exposures will be documented by an Incident Report within 24 hours of the occurrence.

2) The Infection Preventionist will be notified at ext. 3830 to report an exposure that occurs during the week days. The Infectious Diseases Physician or APRN on call will be paged on off shifts, weekends and holidays.

3) This process applies to all staff involved in the patient care system. (Nursing, Building Services, Facilities etc.)
## Bloodborne Pathogen Standard

### Sharps Safety

To provide guidelines for the handling and the safe collection of contaminated needles/syringes and containers:

1. Needles will not be bent, broken or recapped following use.
2. All needle boxes used at Hospital for Special Care will be self closing.
3. Building Services will follow an established procedure for the collection and disposal of used /contaminated needle/syringe containers.
4. Building Services will check needle boxes on cleaning rounds and replace them as needed.
5. If a box becomes full, the person that identifies a full box is to call Building Services for replacement.
Bloodborne Pathogen Standard

Trash Management

**Biohazardous Trash:**
- Blood and blood saturated items
- Blood infusion sets/IV bags
- Chest tubes
- Trash with blood/body secretions

**Soiled Utility Room:** No clean equipment is to be placed in this room.

**Biohazardous Trash:** Small containers are used for small items
(these are in patient rooms)

Large Box is used for items such as:
- capped suction canisters
- large bloody items

DO NOT PUT TUCKABLES in these containers unless they are BLOODY WITH SECRETIONS
### Tuberculosis Prevention

#### PPDs:

This is a screening test.

It tests exposure to tuberculosis.

It is required on **hire** to the Hospital for Special Care and Health Care Institutions.

It is then done annually, unless an exposure has been identified. In this case the Infection Prevention and Control and Employee Health Departments will provide guidance on appropriate follow up measures.

New patients have PPDs when admitted. Patients on the chronic units receive them annually.

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**The TB Prevention Plan is in the Infection Prevention and Control Manual**
<table>
<thead>
<tr>
<th>Hand Hygiene</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevent Infections</strong></td>
</tr>
<tr>
<td><strong>Goals:</strong></td>
</tr>
<tr>
<td>To prevent the spread of infection to patients, staff, and visitors.</td>
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<tr>
<td>To clean hands when visibly soiled.</td>
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<tr>
<td>Staff will wash and/or disinfect their hands:</td>
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<tr>
<td>1. <strong>When entering and exiting patient rooms.</strong></td>
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<tr>
<td>2. Before and after each patient contact.</td>
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<tr>
<td>3. After removing gloves.</td>
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<tr>
<td>4. Whenever hands come in contact with dirty/contaminated surfaces.</td>
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<td>5. Upon arrival to the hospital unit and after all breaks.</td>
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<td>6. After use of the bathroom facilities.</td>
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<tr>
<td>7. Before leaving the hospital.</td>
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**Alcohol Foam Scrub** will be used as an alternative method for hand cleansing.

**Alcohol foam** is to be used when hands are not visibly soiled.
## Isolation

**To prevent the spread of infection to patients, staff or visitors.**

Universal Body Substance Precautions (UBSP), as standard precautions, will be followed with adjustment based on disease-specific categories per Centers for Disease Control (CDC) transmission guidelines.

**Patient placement:**
Include the potential for transmission of infectious agents in patient-placement decisions. Place patients who pose a risk for transmission to others (such as patients with uncontained secretions, excretions or wound drainage; infants with suspected viral respiratory or gastrointestinal infections), in a single-patient room when available.

**Transmission-based Precautions** are designed for patients documented or suspected to be infected with highly transmissible or epidemiologically important pathogens for which additional precautions beyond the Standard Precautions are needed to interrupt disease transmission.

**Airborne Precautions** are designed to reduce the risk of transmitting infection by the airborne route.

**Droplet Precautions are designed** to reduce the risk of droplet transmission which involves contact with the conjunctivae, or the mucous membranes of the nose or mouth of susceptible persons.

Inform patient, staff and family as appropriate with information on isolation precautions. The goal is to improve understanding and compliance with isolation procedures.

Appropriate isolation sign is to be used and placed by the unit staff.
Isolation

Enteric Contact Precautions: C. difficile (CDAD)

Contact Precautions are designed to reduce the risk of transmission of epidemiologically important microorganisms by direct or indirect contact. Direct-contact transmission involves skin-to-skin contact and physical transfer of microorganisms to a susceptible host from an infected or colonized person, such as occurs when personnel turn a patient or give a bath.

- This is the most common form of Isolation at HSC.
- Usually it is ordered for C-difficile ...Please note that alcohol/foam is not to be used for hand hygiene when caring for patients with C-difficile diarrhea.
- Soap and water is more effective.
- Protective equipment such as gloves and gowns are to be worn when entering the room by all staff.
**Universal Body Substance Precautions**

**Personal Protection Equipment (PPE)**

**Personal Protection Equipment means:** specialized clothing or equipment worn by an employee for prevention against a hazard or potential hazard. This is not regular clothing.

These include:

- **Gloves:** These are required if contact with bodily fluids or blood is expected or involved in patient care.

- **Gowns:** These are to be worn if soiling of clothes is likely or the isolation instruction includes gowns.

- **Eye protection:** These are to be worn if splashing is likely to occur. This may include the use of a full shield as a substitute.

- **Masks:** These are to be worn when splashing to the face is possible. They are also to be worn when suctioning trachs that are part of open systems.

**Universal Body Substance Precautions** is the current practice standard at Hospital for Special Care.
Hand Hygiene

Methicillin Resistant Staphylococcus Aureus (MRSA)

What is it?
MRSA is a type of *Staphylococcus* bacteria that has become resistant to most antibiotics. Therefore, different antibiotics are needed to treat infections due to MRSA. In the community, most MRSA infections are skin infections that may appear as pustules or boils which often are red, swollen, painful, or have pus or other drainage. These skin infections commonly occur at sites of visible skin trauma, such as cuts and abrasions, and areas of the body covered by hair (e.g., back of neck, groin, buttock, armpit, beard area in men).

How is MRSA Transmitted?
MRSA is usually transmitted by direct skin-to-skin contact or contact with shared items or surfaces that have come into contact with someone else’s infection (e.g., towels, used bandages) or on the hands of persons in direct contact with infected persons.

Where is it?
MRSA most commonly causes infections of the skin or surgical wounds but can also cause lung or bone infections. Not all people with MRSA are infected, however. Some people are colonized, which means the bacteria are living on the skin or in the nose without causing infection. Your doctor will determine whether antibiotics are needed to get rid of MRSA if you are colonized and not infected.

What to expect and how do I stop the spread of infections?
MRSA is controlled by having everyone practice hand hygiene which means washing hands with soap and water or using alcohol foam. Keep cuts and scrapes clean and covered with a dressing. Avoid the wounds of other people. Cover your mouth and nose when you sneeze or cough. **Do Not Share** your towels or other personal items with others. Use alcohol hand gel or foam when soap and water are not available.
Universal Respiratory Etiquette (URE)

Cover your cough

The steps are:

- Cover your cough or sneeze.
- Clean your hands with alcohol foam or soap and water after you cough or sneeze.

Wear a mask over your nose and mouth to protect others:

- Respiratory infections, particularly those caused by viruses, are spread from person to person.
- Help us to reach our goal to stop the spread of infection among patients, staff and visitors.
- If you are using a mask because you have a cold, remember to remove it when leaving a patient’s room and use hand hygiene.
  - Contact the Infection Preventionist to discuss mask use before doing so.
**What is Clostridium difficile?**

- Gram positive spore forming anaerobic organism first identified in the 1930's.
- Common component in normal fecal flora in children.
- 3% of healthy adults are asymptomatic and colonized with *C. difficile*. (this is increased in hospitalized patients)
- Spores can survive on inanimate objects for months to years.

**Diagnostic Testing for C-difficile:**

- Antigen detection (Antigen A / Antigen B)
- Send no more than one specimen per day to the lab when working up a patient.

**REMEMBER!!**

- Stool for *C. difficile* should only be considered in patients having diarrhea (3 or more loose stools in a 24-hour time period).
- Do not send stool to the Lab before discussing it with the patient’s physician or without a physician’s order.
- Do not routinely send stool specimens to the Lab after treatment is completed.

**Isolation**

**Clostridium difficile**

**Transmission:**

- *C-difficile* spores can stay on any surface, device or material, (ex. tube feeding pump, bed railing, commodes) for long periods of time.
- *C-difficile* spores are transferred from patient to patient mainly via the hands of healthcare personnel who have touched a contaminated surface or item.

**Prevention:**

- Appropriate cut off times for antibiotic use.
- Antibiotic restriction and narrow spectrum use where possible.
- Isolation (enteric contact) precautions should be implemented when a *C-difficile* diagnosis is confirmed.
- Contact precautions: use gloves and gown when entering a patient’s room.
- Environmental cleaning and disinfection.
- Use a disinfectant that contains bleach to clean equipment and frequently touched surfaces.
- Assign equipment for use only in patient isolation rooms (i.e. do not share equipment with others).
- Terminal room cleaning after an order for discontinuation of enteric contact precautions.
The Hepatitis B vaccination series is available to employees at no cost after new hire training and within 10 days of initial assignment as identified in the exposure determination section of this plan. Vaccination is encouraged unless:

- Documentation exists that the employee has previously received the series.
- Antibody testing reveals that the employee is immune.
- Medical evaluation shows that vaccination is contraindicated.

If an employee chooses to decline vaccination, the employee must sign a declination form. However employees who decline may request and obtain the vaccination at a later date, at no cost to them. Documentation of refusal of the vaccination is kept on file.
We have implemented the Exposure Control Plan to meet OSHA standards. The objective of this plan is twofold:

- To protect our employees from the health hazards associated with bloodborne pathogens.
- To provide appropriate treatment and counseling should an employee be exposed to potential bloodborne pathogens.

<table>
<thead>
<tr>
<th>Bloodborne Pathogen Standard</th>
</tr>
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<tbody>
<tr>
<td><strong>Hepatitis B Prevention</strong></td>
</tr>
</tbody>
</table>

The Bloodborne Pathogen Standard is in the Infection Prevention and Control Manual in the Exposure Control Plan Section

These are OSHA regulations. There are a number of good general principles that should be followed when working with bloodborne pathogens.

These are as follows:

- It is prudent to minimize all exposure to potential bloodborne pathogens.
- Risk of exposure to bloodborne pathogens should never be underestimated.
- HSC will institute as many engineering and work practice controls as possible to eliminate or minimize employee exposures to bloodborne pathogens.
VACCINATIONS OFFERED FREE OF CHARGE AT HSC

<table>
<thead>
<tr>
<th>IMMUNIZATIONS (VACCINATIONS)</th>
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<tbody>
<tr>
<td>• Influenza Vaccination:</td>
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<tr>
<td>- Given annually to prevent infection from circulating strains of influenza A &amp; B viruses</td>
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<tr>
<td>- Is offered <strong>free of charge</strong> as an employee benefit for all HSC employees and volunteers</td>
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<tr>
<td>- As a condition of employee employment, HSC will have a universal mandatory influenza vaccination policy for employees and volunteers starting with the 2012-2013 vaccination season this year</td>
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<tr>
<td>• Tetanus Diphtheria/Pertussis</td>
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<tr>
<td>- All adults are urged to receive a tetanus “booster” shot every 10 years to remain protected from tetanus</td>
</tr>
<tr>
<td>- One of these boosters should be with the vaccine that includes Pertussis (whooping cough) protection. Cases of whooping cough infection are being seen more often in adults.</td>
</tr>
<tr>
<td>- Employee Health Services offers tetanus immunizations free of charge</td>
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</tbody>
</table>
Hand Hygiene

**What is VRE and how it spreads**

**Vancomycin- Resistant Enterococci** – Enterococci are bacteria that are present in the human intestine, genitourinary system and on the skin. The germs are normally benign and don’t cause problems in healthy people. Sometimes they spread and cause infection. Vancomycin is an antibiotic that is often used to treat infections caused by Enterococci. When this bacteria becomes resistant to Vancomycin it is called VRE.

**How VRE spreads** – VRE often travels from person to person by the hands of caregivers, then on to counter tops and other surfaces.

**Who is at risk**
- People using antibiotics for a long period of time
- People who are hospitalized
- People with weakened immune systems
- People who have had surgical procedures

**To prevent spread of infection**
- Wash your hands
- Use Universal Body Substance Precautions (UBSP)
- Use a private room or cohort patients with VRE
- Avoid overuse of antibiotics
- Clean medical equipment and rooms by protocol
- Educate patients and family members about hand washing
Extended Spectrum Beta Lactamase (ESBLs)

- Beta – lactamases are enzymes produced by some bacteria and are responsible for their resistance to beta – lactam antibiotics:
  - Penicillins
  - Cephalosporins
  - Carbapenems ex: imipenem, meropenem.

When Identified:

- ID department is notified
- Lab performs susceptibility testing
- Patient may be placed on contact precautions
- Education will be provided to staff
- Lab results will identify organism as an ESBL and/or a carbapenemase producer.
Environmental Cleaning

- Equipment
- Instruments
- Environmental surfaces

Factors that affect the efficiency of disinfection/sterilization:
- Initial cleaning of the object.
- Type and level of microbial contamination.
- Concentration of and exposure time of disinfectant/sterilant.
- Nature of the object (critical, semi-critical and non-critical).

**Critical Devices**: use on or in sterile areas of the body that require sterilization.
- Example: surgical instruments.

**Semi-Critical Devices**: require high level disinfection.
- Examples: endoscope, laryngoscopes.

**Non Critical Devices**: may come into contact with patient’s intact skin.
- Example: room furniture, blood pressure cuffs, wheel chairs, glucometers.
# Environmental Cleaning

**Disinfection**: the destruction of harmful microorganisms usually other than bacterial spores on inanimate objects by the use of chemical agents.

**Sterilization**: The process by which all forms of microbial life including bacteria, viruses, spores and fungi are destroyed.

**Read product labels:**
- Look at the MSDS forms available online on the HSC intranet.
- Follow the label instructions when using a disinfectant.
- Follow manufacturing operating recommendations.
- Adhere to contact time (killing time) for a particular disinfectant.

**What is “Contact time (killing time)”**: the length of time a surface needs to remain wet to assure that organisms present will be killed.

**Cleaning Products used at HSC at this time:**
- **Dispatch**: To clean a *C-difficile* room or for terminal cleaning – killing time: 5 minutes
- **Hydro-peroxide Wipes**: To clean surfaces – Replaces PDI wipes – killing time: 1 minute
- **Coverage Plus Germicide Surface Wipes**: To clean medical equipment, i.e. glucometers, tube feed pumps – killing time: 5 minutes
- **Eco Lab products**: A disinfectant and all-purpose cleaning agent, specific to Building Services Department only.

**Know how to clean environmental surfaces:**
Cleaning of environmental surfaces in patient care areas is everyone’s responsibility!