



Infection Control Prevention Strategies

For Clinical Personnel

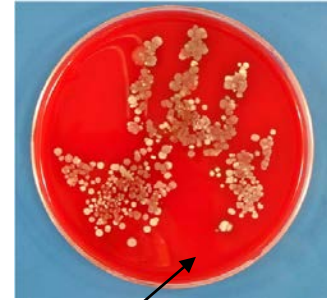
What is Infection Control?

- Infection Control is **EVERYONE's responsibility**
- It protects patients, employees and visitors by preventing and controlling the transmission of infections.



Hand Contamination from Environment

Health Care Workers (HCWs) touched bedside rails and bedside tables for 5 seconds



MRSA

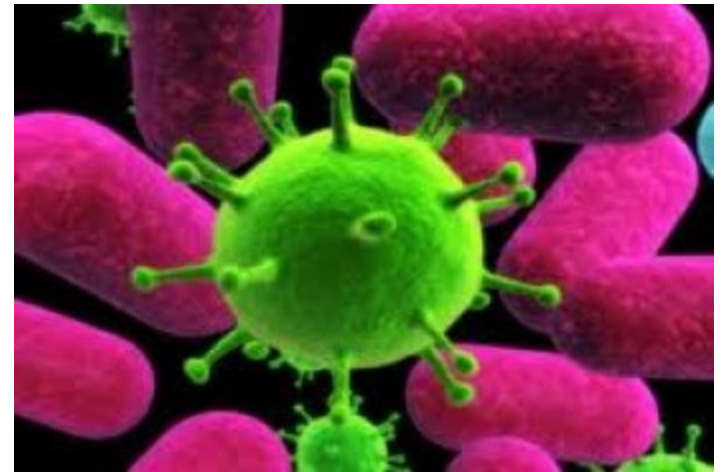
- Hand imprint cultures were performed
- 53% of the **HCWs** hand cultures grew MRSA from Occupied patient rooms
- 24% of the **HCWs** hand cultures grew MRSA from Cleaned patient Discharge rooms

Reported by John M. Boyce, MD, Professor of Medicine at Yale. Bhala A et al. 2004; 25:164

Survival of Germs in the Environment

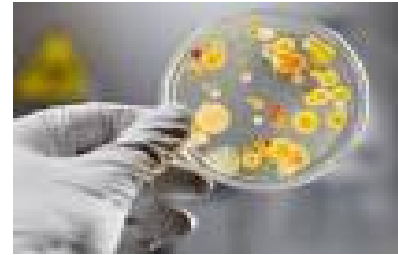
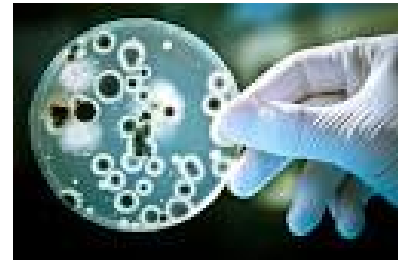
Germs that can live well on an environment surface include MRSA, VRE, and C. Difficile.

Germ	Survive on Surface
MRSA	2 to 9 weeks
VRE	1 to 12 weeks
C. diff spores	Days to 5 months
Acinetobacter	3 to 33 days
Norovirus	Hours to 12 days



MDROs (Multi-Drug Resistant Organisms)

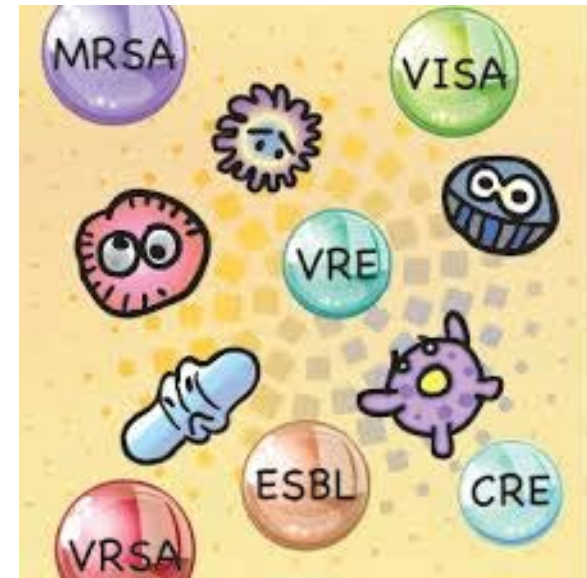
- Microorganisms, predominantly bacteria, that are resistant to one or more classes of antimicrobial agents.
- MDROs are a growing problem
- These pathogens are frequently resistant to most available antimicrobial agents.
- Be sure to follow Isolation Precautions by wearing appropriate PPE (Personal Protection Equipment), such as gowns, gloves for Contact Precautions and performing Hand Hygiene when appropriate.



MDROs (Multi-Drug Resistant Organisms)

These highly resistant organisms include:

- VRE - Vancomycin-resistant *enterococci*
- *E. coli* and *Klebsiella* producing ESBLs
- MRSA – Methicillin/Oxacillin-resistant *S. aureus* (also resistant to cephalosporins)
- *Acinetobacter baumannii*
- *Stenotrophomonas maltophilia*
- *Burkholderia cepacia*
- *Strep pneumoniae* resistant to Penicillin
- *Pseudomonas aeruginosa* resistant to Imipenem
- Any gram negative organisms resistant to 4 or more antibiotic classes.
- Multi-drug resistant TB
- *Clostridium difficile*



Infection Control Prevention Strategies

- Reduce Hand & Environmental Contamination
- Cleaning High Touch Surfaces –
“The Room is the Patient”
- Disinfection of hospital surfaces
- Hand Hygiene
- Isolation Precautions



What are High Touch Surfaces?

The Room is the Patient: A patient can touch any or all of these surfaces in their room during their stay:

- ✓ Paper towel push bars
- ✓ Door handles
- ✓ Blind handles, knobs
- ✓ Nurse call button
- ✓ Microwave
- ✓ TV and TV Remote
- ✓ Bedrail buttons
- ✓ Light switches
- ✓ Shower handle
- ✓ Toilet handle
- ✓ Faucet handles
- ✓ Thermostat
- ✓ A/C buttons
- ✓ A/C Unit
- ✓ Fan cord
- ✓ Recliner handle
- ✓ Phone
- ✓ Cabinet doors
- ✓ Elevator buttons
- ✓ Stairway handles
- ✓ Toys
- ✓ Volunteer video games
- ✓ Shower knob
- ✓ Linen hamper

Cleaning High Touch Surfaces

- **Disinfection** is the treatment to **kill harmful germs.**
- Surfaces may require a **different kind of disinfectant depending on:**
 - What materials the surface is made of
 - What kind of germs needs to be killed on the surface
- Surfaces must be cleaned ***per department policy.***










Disinfection and Contact Time

- The **Contact Time** is the minimum length of time that the surface **MUST REMAIN WET** to destroy the germs.
- The surface may have to be wiped or sprayed more than one time for the surface to **remain wet** for the required **Contact Time**
- Each of the disinfectants that we use has a **Contact Time**.



Disinfectants used at HH

Certain disinfectants will harm certain kinds of equipment. Use appropriate guidelines.

	Dispatch	pH7Q Ultra	Sani-Cloth Plus	Super Sani-Cloth	Sani-Cloth AF3	Sani-Cloth Bleach	Sani-Cloth HB
	<i>Disinfectant with bleach solution</i>	Disinfectant, germicidal, detergent	<i>Germicidal Disposable Wipes – Quaternary & Alcohol disinfectant</i>	<i>Germicidal Disposable Wipes - Quaternary disinfectant with high alcohol content (55%)</i>	<i>Germicidal Disposable Wipes – Alcohol free Quaternary</i>	<i>Germicidal Disposable Wipes – 1:10 Bleach Dilution</i>	<i>Germicidal Disposable Wipes – An alcohol free Quaternary</i>
Contact Time	5 min. for C.diff	10 min.	5 min.	2 min.	3 min.	4 min.	10 min.
Effectiveness	Used on patient rooms with <i>C. diff</i>	Used on floors, glazed porcelain, plastic surfaces, toilet and urinals, and wall			against 44 micro-organisms	against 50 micro-organisms	against 100+ micro-organisms
							

C. diff Transmission

- Healthcare Workers can contaminate their clothing after caring for C. diff affected patients
- Changing from quaternary disinfectants, such as **quaternary based PDI Wipes** to a bleach based disinfectant (Dispatch), **REDUCED** C. diff diarrhea significantly.



Dispatch

Versus



Quaternary based
PDI Wipes

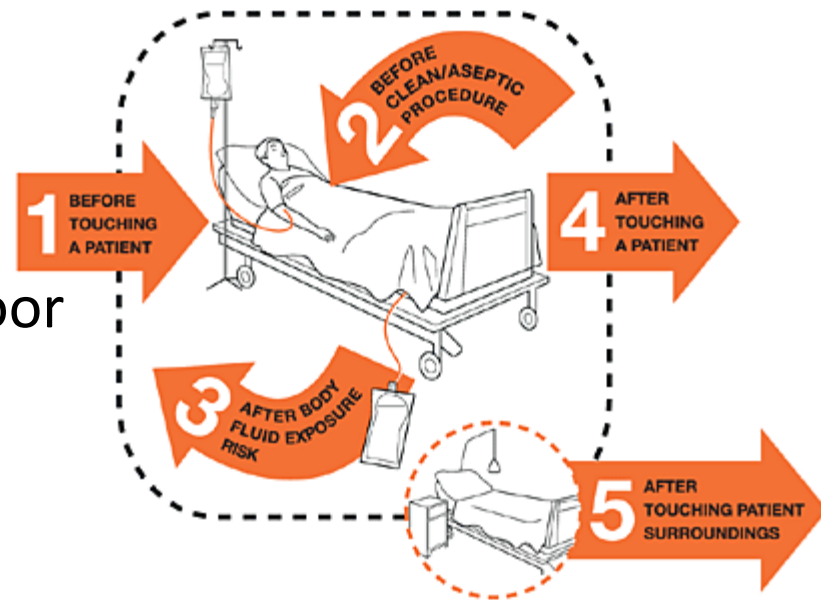
Hand Hygiene

Hand hygiene is the **#1** way to prevent the spread of infection.



When should I clean my hands?

- Periodically throughout the day
- After contact with patient surroundings - **The Room is the Patient**
- Before and after Patient Contact
- After removing gloves
- Before handling Meds
- After picking up object off of the floor
- After a trip to the restroom
- Before eating
- After body fluid contact
- Before an aseptic task



How should I clean my hands?

- Wash with soap and water for at least 15 seconds
- Use Avagard (kills 99.9% of germs)
 - * For patients with **C. difficile**, wash hands with soap and water – **Do NOT** use Avagard*
- Use Avagard Foam



Isolation Basics

ALL PATIENTS REQUIRE STANDARD PRECAUTIONS








*which says that blood, all body fluids (except sweat), secretions and excretions, mucous membranes and non-intact skin of **all** patients be treated as **potentially** infectious.*

Isolation Precautions

- Tell you if the patient needs to be in a special type of room
- Tell you what type of PPE (Personal Protective Equipment) to wear when in the room
- Tell you if you need to clean your hands in a special way after patient contact or contact with objects in the patient's room



Type of Isolation

Type of Isolation	Equipment Needed
Contact Precautions "The Room is the Patient"	 gown  gloves
Droplet Precautions	 surgical mask
Airborne Precautions	 N95 respirator
Contact Enteric Precautions (C.diff) "The Room is the Patient"	 gown  gloves  soap & water for <i>C. diff</i>

Type of Isolation: Contact Precautions

- Used for organisms that can be spread by **direct contact** and often contaminate the objects in the patient's room
 - Used for MRSA, VRE, scabies, *Strep pneumoniae* resistant to Penicillin, resistant Gram-negative bacilli, Gram-negative organisms resistant to 4 or more antibiotic classes, Rotavirus, and ESBLs (*Extended-Spectrum Beta-Lactamase Producing Enterobacteriaceae*).




gown



gloves

- Beyond the **safe zone**, **Gloves and gowns** must be worn upon entering the patient's room, **even if no patient contact is expected**

-  The **Safe Zone** is a demarcated area extending from threshold of the door, to facilitate communication with patients on isolation for “Contact Precautions”.




Isolation sign used for patients With Contact Precautions

Type of Isolation: Droplet Precautions

- Used for organisms that can be spread by **close contact** with the patient when they are coughing, sneezing, or talking
 - Used for influenza, N. meningitidis, pertussis, parvovirus, group A streptococcus, and RSV



mask

-  Surgical masks must be worn when the patient room and **within 3 to 6 feet of the patient**
- Gloves must be worn if handling respiratory secretions or objects recently contaminated with respiratory secretions



Isolation sign used for patients
With Droplet Precautions

Type of Isolation: Airborne Precautions

- Used for organisms that can be transmitted via airborne route
 - Used for **Pulmonary TB** (confirmed or suspected), varicella (**chicken pox**), smallpox, measles
- **N95 respirator** must be worn upon entering room
- Patient must be in **Negative Pressure** room



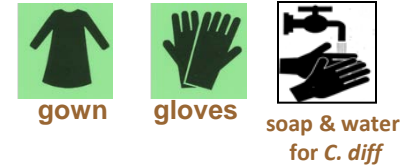
N95 Respirator



Isolation sign used for patients
With Airborne Precautions

Type of Isolation: **Contact Enteric Precautions**

- Used for *C. difficile* which can be spread by **direct contact** and often contaminate the objects in the patient's room.
- Beyond the **Safe Zone**, **gloves and gowns** must be worn upon entering the patient's room, **even if no patient contact is expected**.
- **Soap and water** must be used to clean hands for patients with *C. difficile*.



Isolation sign used for patients With *C. diff*

The Isolation Manual

The Isolation Manual highlights the steps to take for healthcare workers with patient in isolation. It also includes the following:

- **Appendix A:** Type and Duration of Precautions Recommended for Selected Infections and Conditions
- **Appendix B:** Isolation Basics and Stats
- **Appendix C:** Detailed descriptions of Standard, Contact, Droplet, Airborne, and Contact Enteric Precautions

Manual is available on Pulse/Medical Affairs/Infection Control

Patient in Isolation

Refer to the Isolation Manual to take the necessary steps when a patient needs Isolation

- Write an order in the medical record (EMR) to initiate isolation precautions
- Place the written order in the EMR **ONLY** after consultation with the Infection Control Dept.
- Write an order prior to transfer a patient to another room for isolation precautions.



PRACTICE GUIDES:

New Isolation FFRM (Flow Form)

1st Screen

- Isolation Required
- Type of Isolation
- Isolation Precautions
- Isolation Education
- Resolved S&S of Isolation
- Isolation Discontinuation

Isolation Info/Education/Discontinuation	Reason/Location	Education Details
<p>- Isolation Required Info:</p> <p>Room on admission: <input type="text"/></p> <p>Isolation Room: <input type="text"/></p> <p>- type of isolation:</p> <p><input type="checkbox"/> Contact</p> <p><input type="checkbox"/> Droplet</p> <p><input type="checkbox"/> Airborne</p> <p>- Isolation Precautions:</p> <p>Date Implemented: <input type="text"/></p> <p>Time Implemented: <input type="text"/></p>	<p>- Isolation Education:</p> <p><input type="checkbox"/> Patient Educated on Hand Hygiene</p> <p><input type="checkbox"/> PFT Ed on Correct Use of Isolation Supplies</p> <p><input type="checkbox"/> Family/Visitors Educated on Hand Hygiene</p> <p><input type="checkbox"/> Family ED Correct Use Isolation Supplies</p> <p><input type="checkbox"/> Sitter/Guard Educated on Hand Hygiene</p> <p><input type="checkbox"/> Visitor ED Correct Use Isolation Supplies</p> <p>Resolved S&S of Infection:</p> <p><input type="checkbox"/> Temperature OK</p> <p><input type="checkbox"/> WBC's returned to baseline</p> <p><input type="checkbox"/> Hematologically stable</p> <p><input type="checkbox"/> LSC returned to baseline</p> <p>Isolation Discontinuation:</p> <p>Surveillance Culture for RMD's: <input type="text"/></p> <p>Date 2nd Cx approved End DE: <input type="text"/></p> <p>Time 2nd Cx approved End DE: <input type="text"/></p> <p>Date 1st Cx approved End DE: <input type="text"/></p> <p>Time 1st Cx approved End DE: <input type="text"/></p>	<p>Done</p> <p>Enter Isolation Info</p> <p>FFR To Save & Exit</p>

Patient in Isolation

- Take necessary precautions based on the type of isolation
- Notify personnel in the unit and/or in contact with the patient.
- Approval from Infection Control Dept. is needed to discontinue Isolation Precautions

Hand Hygiene remains
the *primary way of keeping our patients
from getting infections* while in the hospital.

Together,

infection

control

is in

our hands

