



PROVIDENCE

Health & Services
Washington/Montana

Infectious Disease Control Orientation

***Providence Health &
Services***

Infection Control

Who is at risk of infection & why?
Exposures and Outcomes

What tools do we use to reduce risk?

Surveillance

Analysis

Interventions

Precautions

Standard, Contact, Droplet, Airborne

Occupational Health Tools and Practices

Who is at risk of infection & why?

Nastiness
of organism →

Chronic Asymptomatic
Acute Symptomatic

Infection

Colonization

Contamination

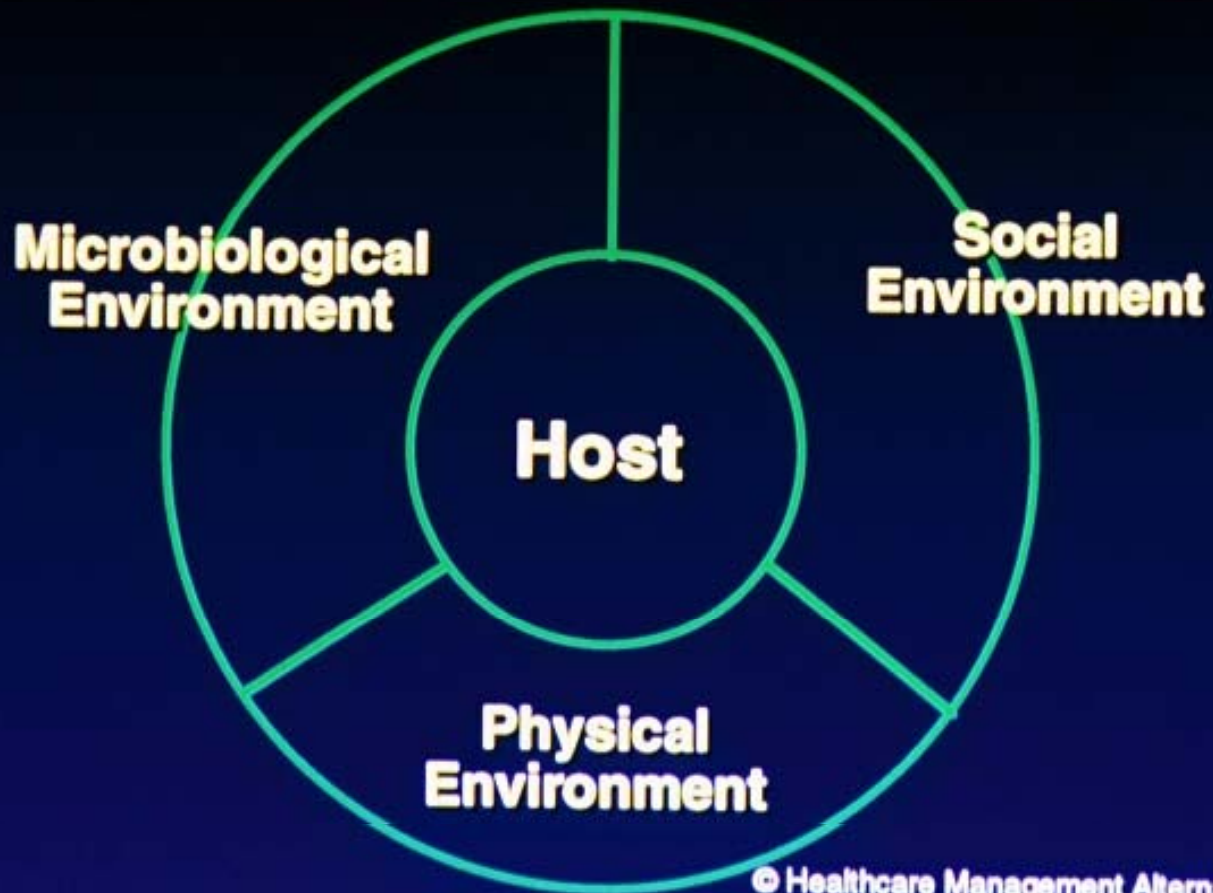
Who is at risk of infection & why?

Infection

Colonization

Contamination

Factors That Influence the Infectious Process



How Do Infection Control Programs Work?

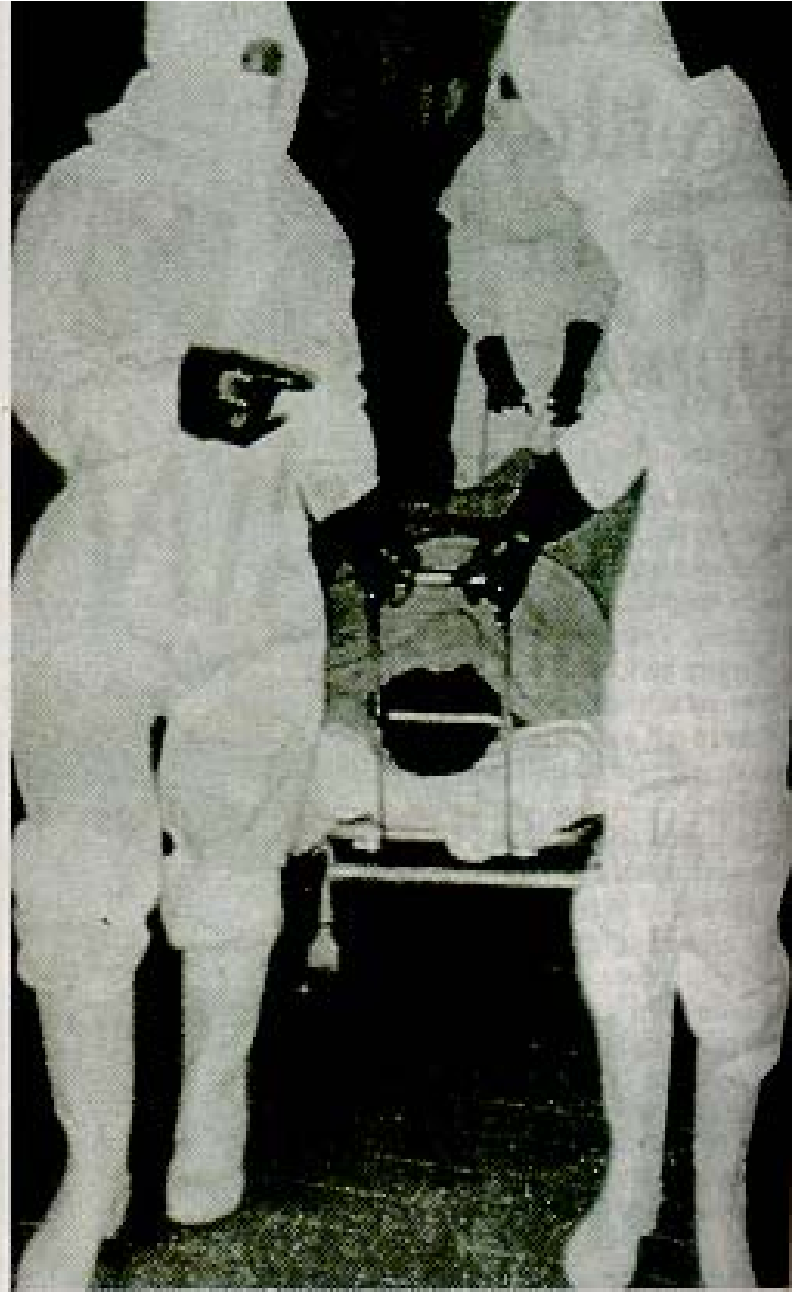
- ◆ Surveillance
- ◆ Analysis
- ◆ Intervention

- Community Acquired & Reportable
Patients
Staff
- Healthcare Associated

- Community Acquired Infections and Reportable diseases (Patients and Staff)
- Emergency Preparedness
 - Emergency Preparedness Committee
 - County Wide Planning
 - Regional Planning

Healthcare Associated Infections (HAI)

- Total House Surveillance- tracking of all HAI in all hospital locations
- NSHN- device associated infections risk stratified and compared to a national benchmark
- Surgeon specific risk stratified surgical site infections and compared to a national benchmark (NSHN)
- Analysis communicated via the Infection Control Committee meetings and department specific updates
- Interventions are developed with the patient care area staff



AIDS Era:

Rediscovered Facts of Infectious Disease

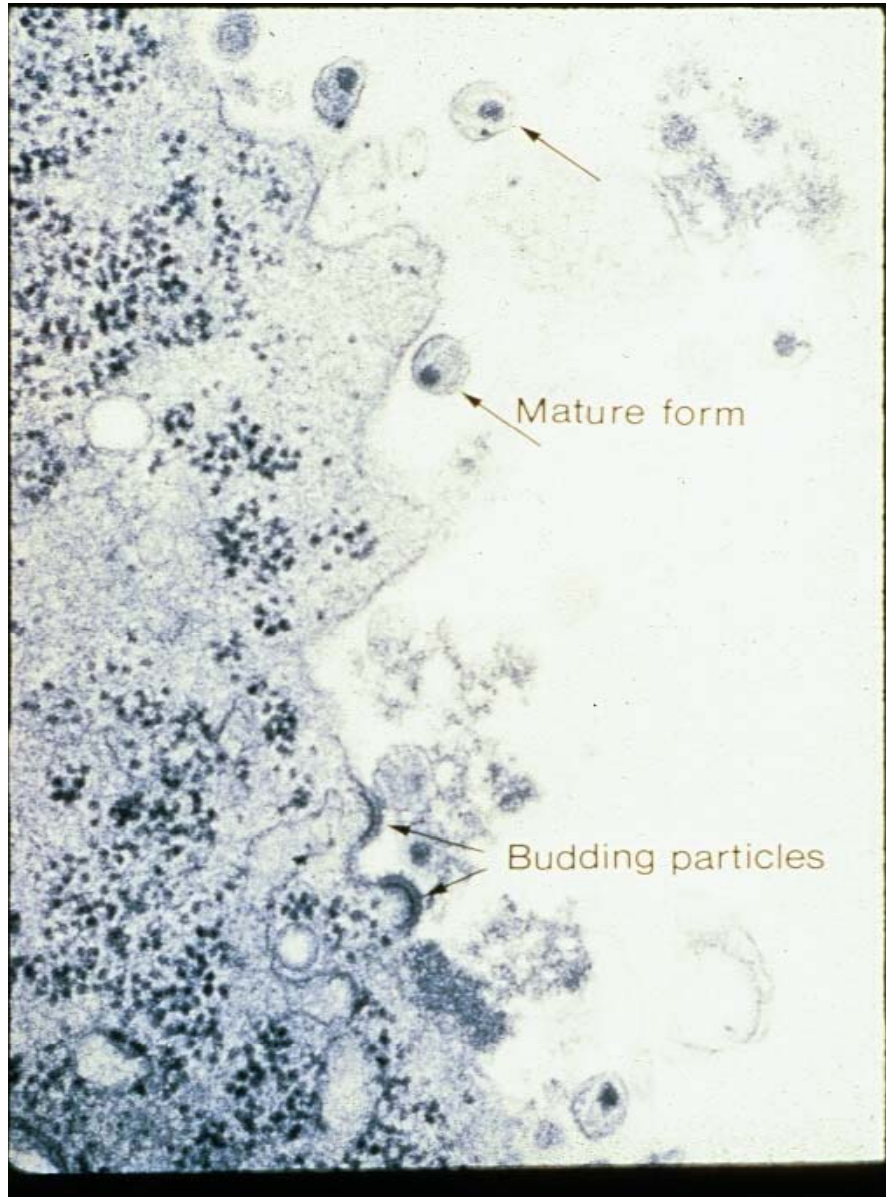
- Contact with blood/body substances transmits infectious agents
- Infectious agents present when signs/symptoms or a diagnosis are absent
- Many infectious organisms normally present in, on, or around us

Challenges to Traditional “Isolation Concepts”

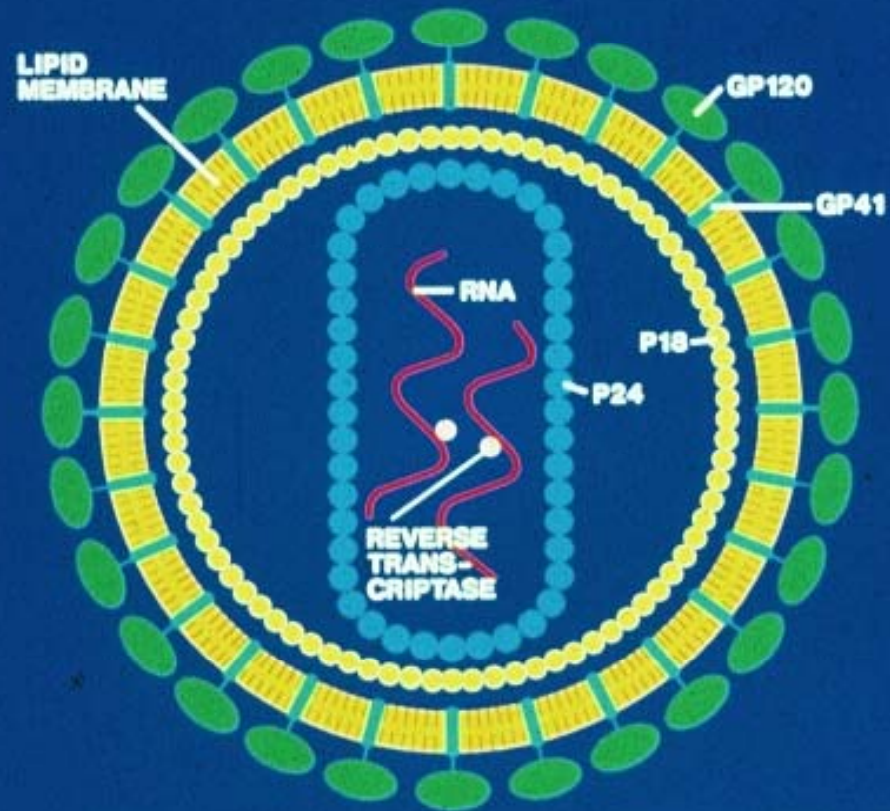
- Oral and Genital Secretions (Herpes Simplex)
- Urine (CMV)
- Feces
(Normal flora, Hepatitis A before symptoms, many other bacteria, and viruses)

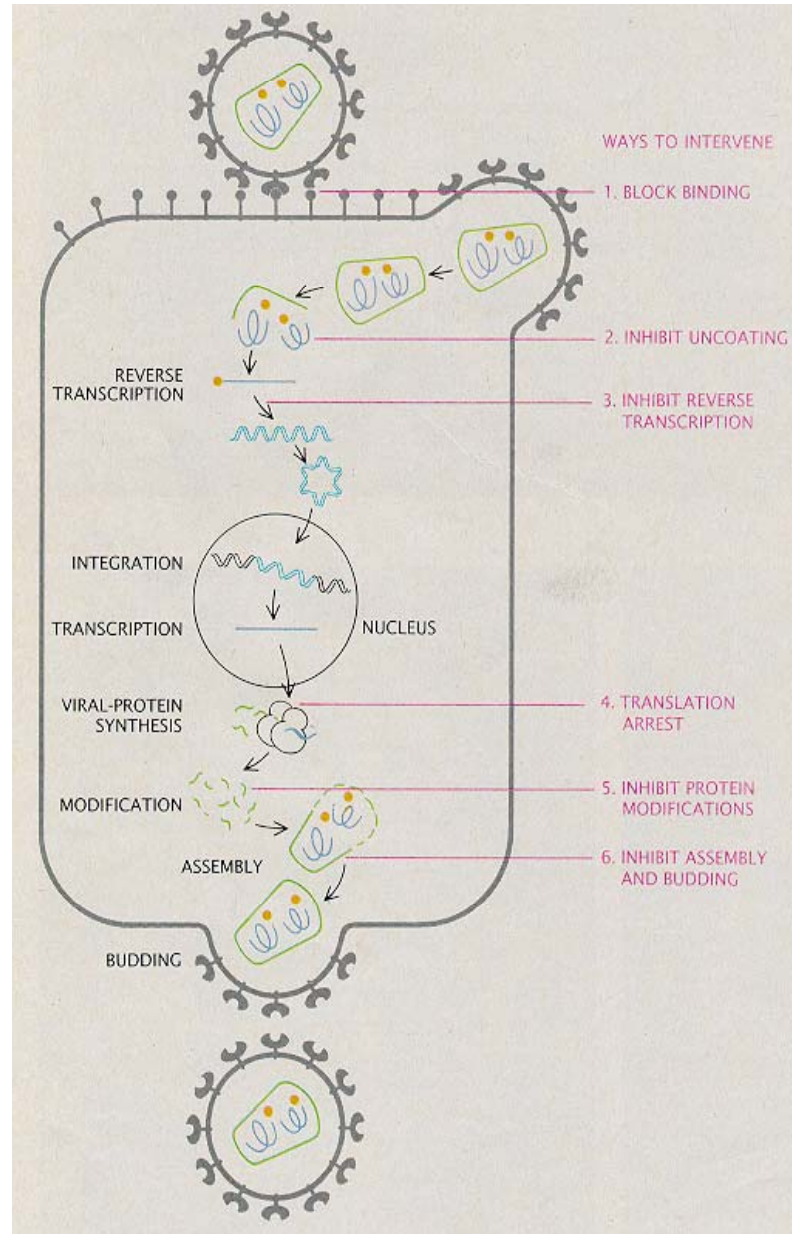
Blood

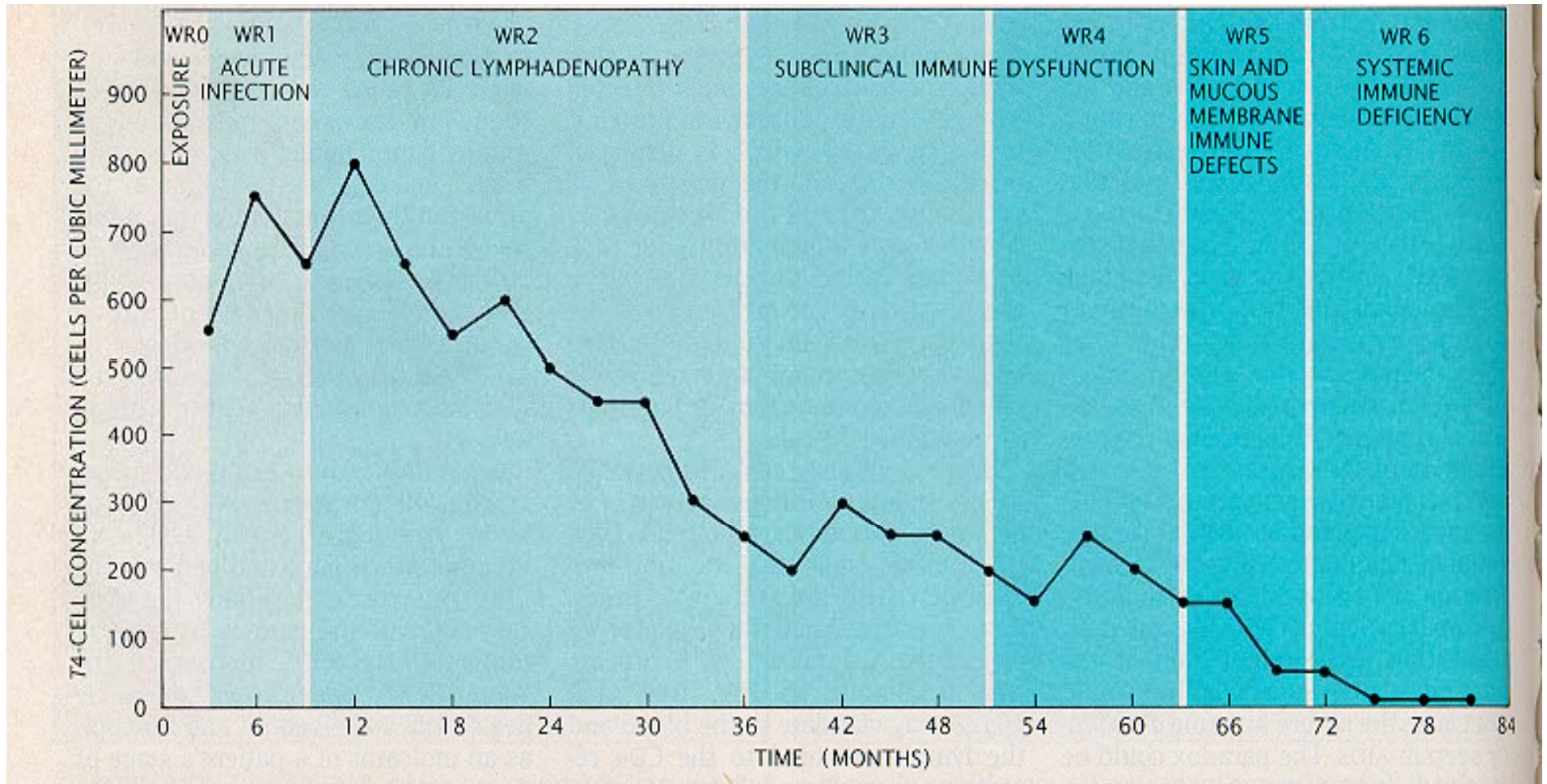
- ▼ HIV
- ▼ Hepatitis B
- ▼ Hepatitis C
- ▼ Hepatitis D
- ▼ Hepatitis E
- ▼ Hepatitis G



HIV VIRAL STRUCTURE





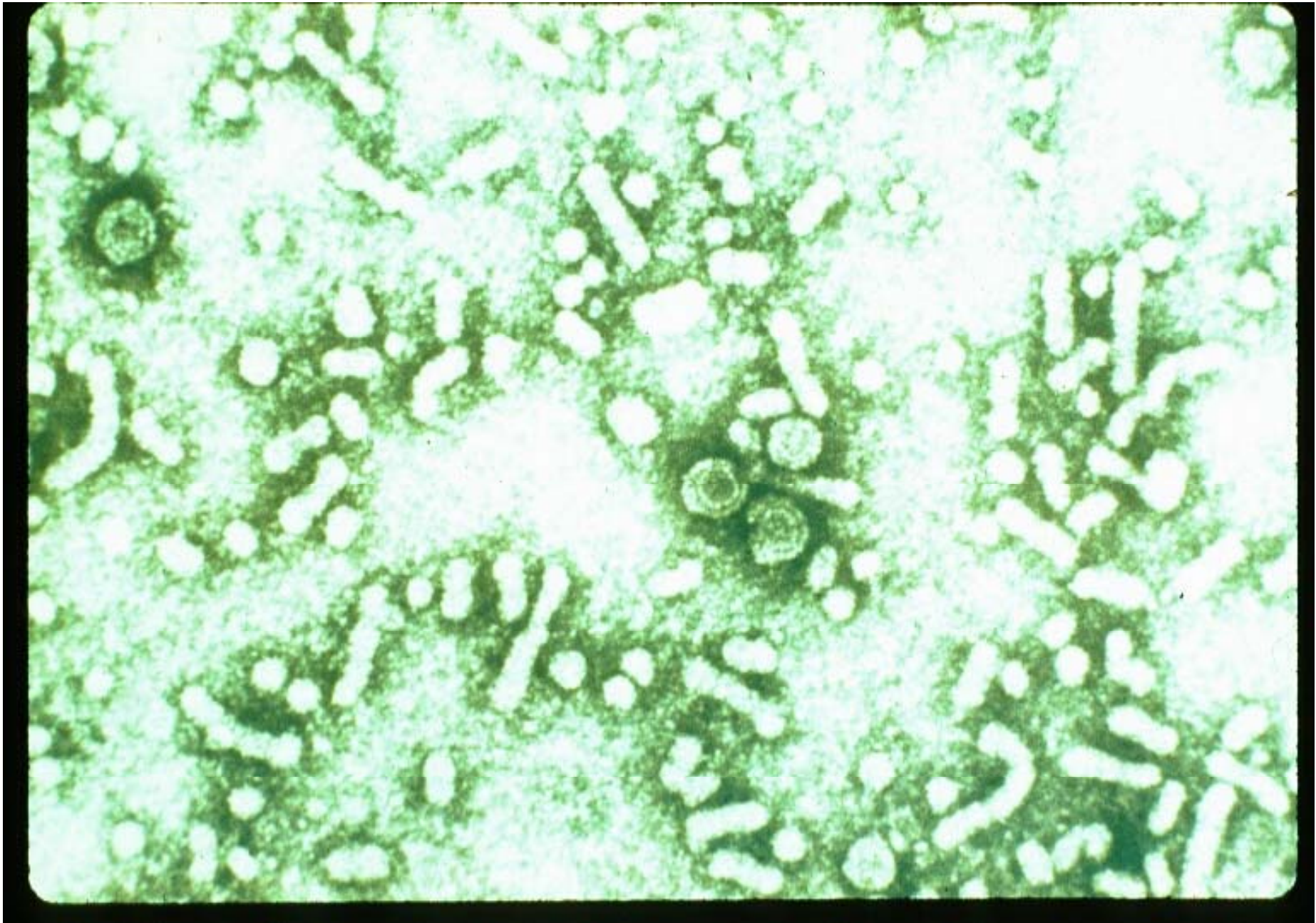


Fluids Containing HIV Infected Cells

- Blood
- Semen
- Vaginal Secretions
- Breast Milk

Hepatitis A

- Transmitted by the oral fecal route
- Self limited without chronic liver problems
- Immune globulin: short term protection
- Vaccine available to “at risk” groups



Hepatitis B

- Transmitted by contact with blood and body fluids
- May have flu-like symptoms and jaundice
- Can become chronic and cause liver cancer and cirrhosis
- Vaccine is readily available and safe
- Vaccine is 95% effective

Hepatitis C

- Transmitted by contact with blood and body fluids
- Only 25% of infected patients symptomatic
- 85-90% of patients infected with Hepatitis C remain chronic
- Leading indication of liver transplant today

Infection Prevention

Pre-AIDS Era

“Isolation”

Post-AIDS Era

Transmission-Based Precautions

Standard

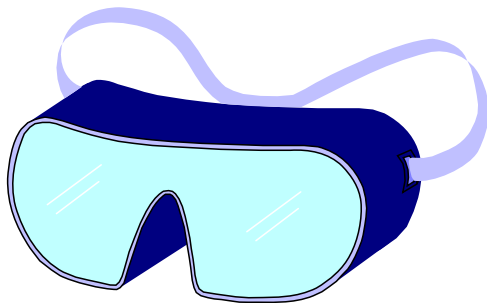
Contact

Droplet

Airborne

Standard Precautions

Personal protective equipment to avoid contact with blood/body substances



- Gloves
- Cover gowns/aprons
- Masks
- Goggles/glasses
- Face shield
- Resuscitation equipment

Standard Precautions: Respiratory Etiquette

Standard Precautions including respiratory etiquette are used at all times. Indications for respiratory etiquette include :

- Cough
- Fever
- Rash
- Mild Respiratory Infection

Standard Precautions: Respiratory Etiquette

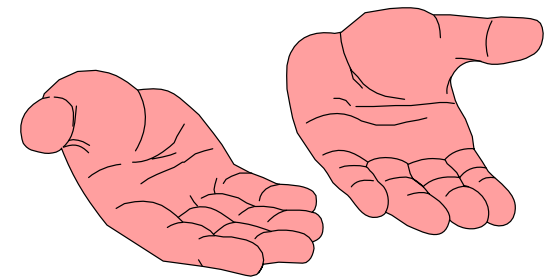
Interventions:

- Provide surgical mask
- Segregate from other people

A more complete evaluation may identify the need for precautions in addition to Standard Precautions.

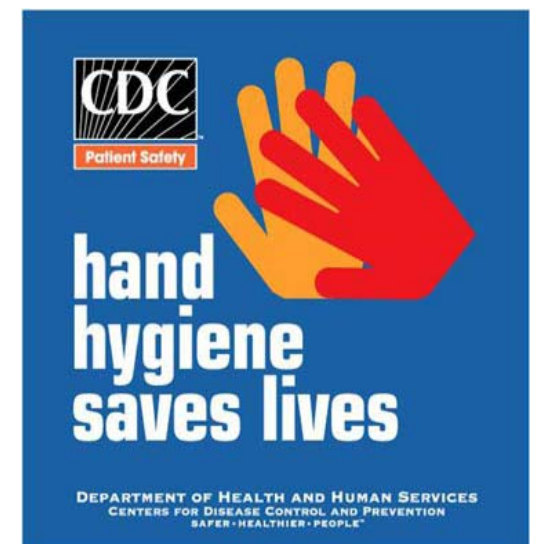
Hand Hygiene

- Following any work likely to contaminate hands
- After removing gloves
- Before and after patient contact
- After using the rest room



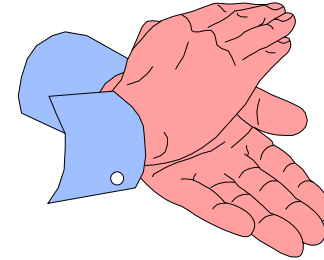
Hand Disinfectants

- Use hand disinfectants unless hands are soiled
- Apply product to one hand and rub hands together covering all surfaces of the hands and fingers until evaporated



Handwashing

- Use soap for 15 seconds
- Rinse hands well and dry with paper towel
- Use paper towel to turn off water



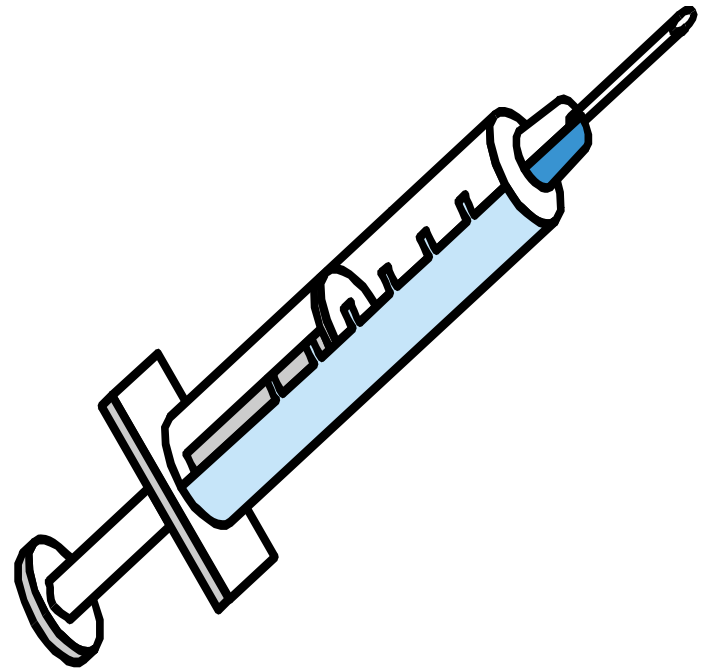
Sharps Management

- No recapping
- Prompt disposal in appropriate container by user
- Disposal at point of use
- Do NOT overfill containers (<3/4 full)

Sharps Management

Engineering Controls

- ◆ Safety Needles
- ◆ Needle disposal containers



LINEN

- Limit linen in patient's room
- No special handling is required unless the linen is wet or leaking
- If your personal clothing becomes contaminated with blood or other potentially infectious body fluids call the Exposure Hotline to get scrubs to wear and make arrangements for your clothing to be sent the cleaners
- Do NOT take contaminated clothing home to launder

Waste Management

- Liquids
- Solids
- Sharps

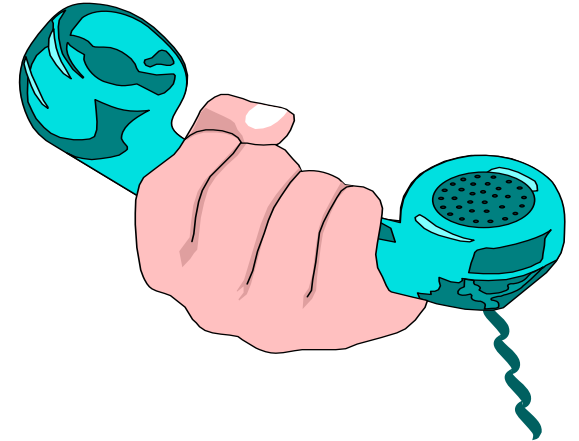
Organism transmitted by direct contact with patients or contaminated environment

Indications may include:

- Infection or colonization with multi-drug resistant organisms such as MRSA, VRE or ESBL
- Lice or scabies
- Shingles or rubella
- Incontinence or uncontained drainage

Contact Precautions

- Place proper sign on door
- Gown and glove when entering the room
- Communicate with other involved departments



Droplet Precautions

*Organisms transmitted by contact with droplets
or environment contaminated with droplets*

Indications may include:

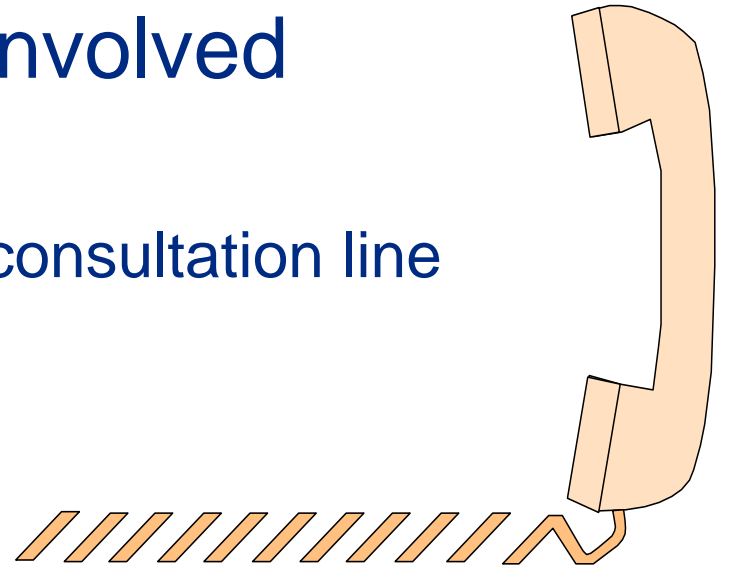
- *Influenza*
- *Neisseria meningitidis*
- *Bordetella Pertussis (Whooping Cough)*
- Respiratory Syncytial virus (RSV)

Droplet Precautions

- Place proper sign on door
- Wear face shield or surgical mask and goggles when working within three feet of patient
- Gown and glove when entering the room
- Communicate with other involved departments

Epidemiology 24 hour consultation line

261-4487



Key: Suspicion & Early Detection

- Rubeola (measles)
- Varicella (Chicken pox)
- Pulmonary Tuberculosis
- Severe Acute Respiratory Syndrome (SARS)

Early Identification

- Cough (greater than 4 weeks)
- Chest pain
- Hemoptysis
- Fever
- Night sweats
- Weight loss
- History of exposure
- Foreign born persons from high incidence areas

Patient Placement

- Placement in a negative pressure room
- Airborne Precaution sign should be visible at all times
- Room door must remain closed at all times except exit and entry
- Monitor air flow daily
- Visitors



Respiratory Protection

- When Airborne Precautions are initiated a cart containing respirators is requested through the computer
- All staff members entering a negative pressure room need to wear a respirator
- It is the employee's responsibility to clean the hood after each use with the respirator wipes on the cart

Patient Transportation

- Ambulation of the patient out of the room for essential purposes only
- Place a surgical mask on the patient while out of the room
- Communicate with receiving departments so that airborne precautions are continued

- Screening
 - Health History (Immunizations, Allergies, etc)
 - Tuberculosis (Two Step PPD)
- Immunizations:
 - Hepatitis B Vaccine
 - Measles, Mumps, Rubella (MMR)
 - Influenza

Hepatitis B Vaccine

- Available to all employees with potential exposure to bloodborne pathogens
- The immunization is a three shot series
- The series can be completed at any time

Employee Illness

Report to your supervisor and Employee Health:

Skin rashes

Conjunctivitis

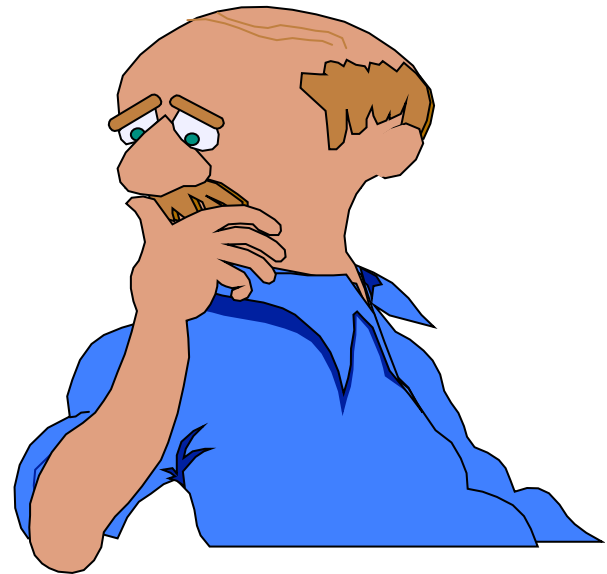
Fever

Cough

Diarrhea

Nausea and vomiting

Other symptoms of communicable disease



Bloodborne Pathogen Exposure Management

Potential source?

(visible blood, amniotic fluid etc. NOT urine, feces, saliva without visible blood)



Potential route?

(needle stick, splash to eyes, mouth. NOT blood on intact skin, needle from iv line not containing visible blood)

Bloodborne Pathogen Exposure Management

- Clean the site thoroughly
- Report to your supervisor
- Call the Exposure Hotline



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Questions??