

Infection Prevention Control (IPC) Topic: Bloodborne Pathogens Part 1

Intro: Bloodborne pathogens are germs that can be found in an infected person's blood, and which can cause disease. Some diseases that can spread in from the blood reservoir include hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV).¹

- ❑ **What is the Risk?** Blood is a body reservoir where germs can live. Avoiding blood exposure in the healthcare setting is the primary way to prevent the spread of bloodborne diseases. Healthcare workers are at risk of exposure to bloodborne pathogens because of their contact with patients' blood or other bodily fluids.
- ❑ Blood Reservoir
 - ◆ Reservoir – this is where germs live. Knowing where germs live can help us recognize where there is risk for them to spread.
 - ◆ Blood is **NOT** supposed to have any germs in it. Some viruses cause infections that release virus into the blood. If a person becomes infected, then blood can spread the virus to other people.
 - ◆ Blood is a very good place for germs to grow and is a nutritious food for bacteria.²
 - ◆ Healthcare task involving blood:
 - Putting in an IV
 - Giving an injection
 - Surgery & procedures
 - Changing laundry soiled with blood & bodily fluids - If blood is on linens or surfaces, germs in that blood can spread to others or to the environment
- ❑ About Hepatitis B (HBV)
 - ◆ HBV is spread through sharp or needlestick injuries, direct contact with mucous membranes, or nonintact skin (e.g., burns, wounds, cuts, and scratches) leading to exposure to infectious blood or body fluids.
 - ◆ Hepatitis B vaccination is the backbone of HBV prevention efforts.³ All HCW with anticipated exposure to blood or body fluids should be vaccinated with a complete, ≥3-dose Hep B vaccine.⁴
 - ◆ The risk for HBV is related to the level of contact with blood in the workplace. The virus remains infectious on environmental surfaces for at least 7 days.⁵
 - ◆ Who is at risk?⁵
 - Residents and staff members of facilities for people with developmental disabilities due to close personal contacts⁶
 - Health care and public safety staff with anticipated exposure to blood or blood-contaminated body fluids
 - People on maintenance dialysis, peritoneal dialysis, and who are pre-dialysis due to risk of contact with contaminated surfaces, equipment & supplies
 - People with diabetes associated with assisted blood glucose monitoring devices
- ❑ About Hepatitis C (HCV)
 - ◆ There is no vaccine to prevent hepatitis C. The best way to prevent HCV infection is to avoid contact with contaminated blood.⁷

- ◆ Healthcare-associated spread of hepatitis C has been related to inadequate infection prevention practices. These infection control breaches have included reuse of syringes and other failures of aseptic technique, contamination of multidose vials, and inadequate cleaning of equipment. ⁸
- ◆ Who are at risk:
 - Persons on long-term hemodialysis due to high risk of blood contamination of surfaces, objects and devices
 - Healthcare, emergency medical, and public safety workers after needlestick, sharps, or mucosal exposure due to contamination of HCV-infected blood
 - Recipients of a prior transfusion or organ transplant before July 1992 since blood screening only became available after
- About Human Immunodeficiency Virus (HIV)
 - ◆ Human immunodeficiency virus (HIV), the virus that causes acquired immunodeficiency syndrome (AIDS), spreads by sexual contact, exposure to infected blood or blood components, and perinatally from mother to neonate.
 - ◆ Occupational HIV spread is extremely rare. The estimated risk of HIV infection from a sharp injury is about 0.3 percent (1 in 300). Only 57 documented cases have been reported by CDC and 48 were related to puncture/cut injury. The CDC no longer collects data on occupational HIV.⁹
 - ◆ There is currently no effective cure. But with proper medical care, HIV can be controlled.⁹
 - ◆ Post exposure prophylaxis (PEP) is recommended when occupational exposure happens. Start PEP medication regimens as soon as possible after occupational exposure to HIV and continue them for a 4-week course duration.
 - ◆ Fluid splashes to intact skin or mucous membranes are considered to be extremely low risk, whether or not blood is involved.

Summary: The most common way that bloodborne viruses are spread is by accidental needlesticks.¹⁰ Remember that blood is a reservoir where germs can live and recognizing this is the first step in understanding how to stop the spread of germs.

References:

1. [Bloodborne Pathogens - Overview | Occupational Safety and Health Administration \(osha.gov\)](#)
2. [Germs Live in and on the Body | Project Firstline | CDC](#)
3. [CDC Guidance for Evaluating Health-Care Personnel for Hepatitis B Virus Protection and for Administering Postexposure Management](#)
4. [The ABCs of Hepatitis - for Health Professionals](#)
5. [Prevention of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices](#)
6. [Public Health Service Inter-Agency Guidelines for Screening Donors of Blood, Plasma, Organs, Tissues, and Semen for Evidence \(cdc.gov\)](#)
7. [2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings](#)
8. [Hepatitis C Q&As for Health Care Providers | CDC](#)
9. [CDC - Bloodborne Infectious Diseases - Stop Sticks : Bloodborne Pathogens - NORA](#)
10. [Germs Live in Blood | Lockscreen-needle.jpg](#)
11. [Germs Live in and on the Body | Project Firstline | CDC](#)
12. [CDC's Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings](#)

13. [Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis](#)