

HUMAN IMMUNODEFICIENCY VIRUS (HIV)

LABORATORY RESEARCH SAFETY

The following is general information for those involved in the laboratory-based research of HIV.¹⁻⁴
Contact occupational.health@cuanschutz.edu if you have any questions.

ABOUT HIV



Human immunodeficiency virus (HIV) is a virus that targets CD4 “helper T” white blood cells, a critical component of a human’s immune system. By targeting these cells, HIV weakens an individual’s immune system, making them more susceptible to opportunistic infections. As an HIV infection progresses, it can lead to Acquired Immunodeficiency Syndrome (AIDS).

EXPOSURE TO HIV

- HIV can be transmitted through blood, semen, pre-seminal fluid, vaginal fluids, rectal fluids, and breast milk
- Accidental exposure to HIV may occur through
 - Needle stick
 - Splash exposure
 - Skin or mucous membrane

HIV INFECTION

- Symptoms
 - Fever and chills
 - Sore throat
 - Swollen lymph nodes
 - Fatigue
 - Body and muscle aches
- Not everyone will experience symptoms
- Symptoms typically appear 2 to 4 weeks after exposure
- Stages of HIV infection (see *Figure 1*)
 - Stage 1: Acute HIV infection
 - Stage 2: Chronic HIV infection
 - Stage 3: Acquired Immunodeficiency Syndrome (AIDS)

HIV INFECTION PREVENTION



- Personal Protective Equipment (PPE) for work with HIV includes but is not limited to:
 - Laboratory coats, gloves; safety glasses; respiratory protection if needed
 - Special practices may be recommended based on risk assessment
 - Do not reuse PPE used for work with biohazards and dispose of all PPE as biohazardous waste
 - Always wash your hands after removing gloves and after handling biohazards
- Prevention and Treatment
 - No vaccine available for prevention or treatment
 - Post-exposure prophylaxis (PEP) within 72 hours of exposure

HIV EXPOSURE SAFETY

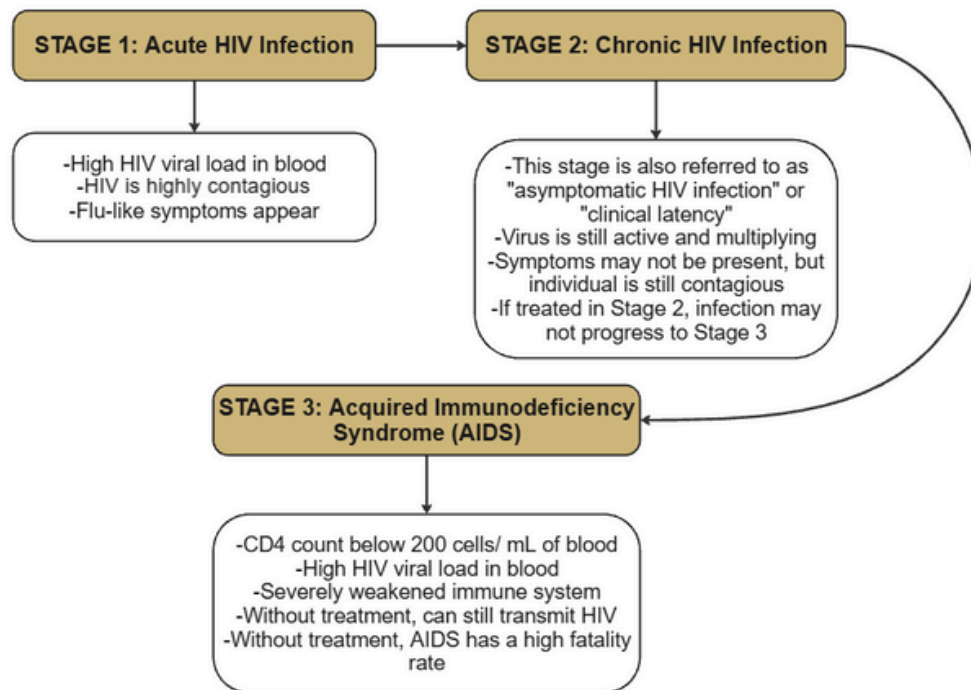
Follow proper exposure reporting protocols

- If you are injured on the job, promptly report the incident to your supervisor
 - Immediately call or email Occupational Health (303) 724-9145 during business hours
 - Outside of normal hours seek medical attention at emergency department or other healthcare provider
 - Fill out incident report for exposure to biological hazards
 - File a claim with University Risk Management
 - <https://www.cu.edu/risk/file-claim>
- Minor cuts and abrasions should be immediately cleansed with antibacterial soap
 - Protect injuries from exposure

Tell your physician you work with HIV

- Whenever you are ill, mention to your physician that you work with HIV

Figure 1. Stages of HIV infection



For more information, refer to the Occupational Health website:
<https://research.cuanschutz.edu/ehs/home/divisions/occupational-health>
or contact Occupational Health at occupational.health@cuanschutz.edu



Updated: 3/21/2025

Sources

1. Centers for Disease Control and Prevention. HIV. November 4, 2024. Accessed December 17, 2024. www.cdc.gov/hiv/about/index.html.
2. Boston University Office of Research. Human immunodeficiency virus. August 24, 2012. Accessed December 17, 2024. www.bu.edu/research/ethics-compliance/safety/rohp/agent-information-sheets/human-immunodeficiency-virus-hiv-agent-information-sheet/.
3. World Health Organization. HIV and AIDS. July 22, 2024. Accessed December 17, 2024. www.who.int/news-room/fact-sheets/detail/hiv-aids.
4. Centers for Disease Control and Prevention. HIV Occupational Transmission. September 23, 2024. Accessed December 17, 2024. www.cdc.gov/hiv/causes/occupational-transmission.html?CDC_AAref_Val=https://www.cdc.gov/hiv/workplace/healthcareworkers.html.