JOAN VITERI MEMORIAL CLINIC
"PEP": Post Exposure Prophylaxis

Exposure to Blood or body fluids??
UCDMC: 916. 734.2011

Needle stick or open skin exposure: Thoroughly scrub with water and Betadine solution for 3 -5 minutes.

Mucous membrane exposure: thoroughly rinse with plain water for 5 minutes.

The following is a brief outline of what to do in case of an exposure to blood or body fluids during your work at JVMC.

Important Points:

- In the event of an exposure, remain calm and decontaminate immediately.
- Ensure that communication with your patient continues.
- Remove yourself from your patient session, and find support.
- Never compromise the patient's confidentiality.
- Do not perform procedures or laboratory tests on the patient without their consent.

I. What is Exposure?

a. An exposure is when blood, blood components or other potentially infectious materials come in contact with your eyes, mucous membranes, non-intact skin or mouth.
b. Blood spilled over an *open wound* is an exposure; blood in contact with your intact skin is not. Remember, skin is your first line of defense! Be in the habit of looking for wounds on your hand before working; use bandaids!
c. A needle stick with a *used needle* is an exposure, a prick with a clean one is not. Use universal precautions when handling needles!
d. Fluid from an abscess is contaminated. If it gets in your eyes, mouth, mucous membranes or non-intact skin, this is an exposure. Wear a face shield when draining/observing drainage of abscesses!
e. Respiratory exposure such as exposure to TB will not be considered here.

II. What is Prophylaxis?

a. Prophylaxis is prevention of disease, or process that can lead to disease.
b. There are different types of prophylaxis. We will concern ourselves here with four topics: HIV, HBV, HCV and psychological impact.

III. Psychological Impact

a. Your risk of contracting a disease from an exposure is relatively low.
b. Often the adverse outcome of an exposure is the emotional and psychological impact to you and your patient.
c. It is imperative that both the exposed person and the patient engage in counseling and education about the incident.

d. It's important that respect and communication with your patient is retained, first and foremost because this is always the goal at JVMC. Second, it may be helpful to screen the patient's blood for possible pathogens; maintaining a positive relationship with them will enable you to gain their consent for these important tests. They will be more likely to undergo further testing down the road, sometimes a necessary process.

IV. Blood Born Pathogens

Avoiding occupational blood exposures is the primary way to prevent transmission of hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV) in health-care settings[i]. However, hepatitis B immunization and postexposure management are integral components of a complete program to prevent infection following bloodborne pathogen exposure and are important elements of workplace safety.[ii]

HIV

What is the prophylaxis?
Recommendations for HIV PEP include a basic 4-week regimen of two drugs (zidovudine [ZDV] and lamivudine [3TC]; 3TC and stavudine [d4T]; or didanosine [ddI] and d4T) for most HIV exposures and an expanded regimen that includes the addition of a third drug for HIV exposures that pose an increased risk for transmission. Consultation with local experts and/or the National Clinicians' Post-Exposure Prophylaxis Hotline ([PEPline] 1-888-448-4911) is advised.

What are the chances I will be infected?
In prospective studies of HCP, the average risk of HIV transmission after a percutaneous exposure to HIV-infected blood has been estimated to be approximately 0.3% (95% confidence interval [CI] = 0.2%--0.5%) (*94*) and after a mucous membrane exposure, approximately 0.09% (95% CI = 0.006%--0.5%) .[iii]Although episodes of HIV transmission after nonintact skin exposure have been documented[iv] the average risk for transmission by this route has not been precisely quantified but is estimated to be less than the risk for mucous membrane exposures.[v] The risk for transmission after exposure to fluids or tissues other than HIV-infected blood also has not been quantified but is probably considerably lower than for blood exposures.[vi]

Hepatitis B Virus (HBV)

What is the prophylaxis?
Recommendations for HBV postexposure management include initiation of the hepatitis B vaccine series to any susceptible, unvaccinated person who sustains an occupational blood or body fluid exposure. Postexposure prophylaxis (PEP) with hepatitis B immune globulin (HBIG) and/or hepatitis B vaccine series should be also be considered.

What are the chances I will be infected?
All clinic volunteers have been vaccinated, so an exposure to HBV should not pose any risk of infection.

Hepatitis C Virus (HCV)

What is the prophylaxis?
In short—there isn't one. Immune globulin and antiviral agents (e.g., interferon with or without ribavirin) are not recommended for PEP of hepatitis C. For HCV postexposure management, the HCV status of the source and the exposed person should be determined with their consent, and for HCP exposed to an HCV positive source, follow-up HCV testing should be performed to determine if infection develops.

There is no vaccine for HCV, and most patients at JVMC have been exposed to this virus. A significant number of our patients are HCV positive.

What are the chances I will be infected?
HCV is not transmitted efficiently through occupational exposures to blood. The average incidence of anti-HCV seroconversion after accidental percutaneous exposure from an HCV-positive source is 1.8% (range: 0%--7%) [vii]with one study indicating that transmission occurred only from hollow-bore needles compared with other sharps. Transmission rarely occurs from mucous membrane exposures to blood, and no transmission in HCP has been documented from intact or nonintact skin exposures to blood. Data are limited on survival of HCV in the environment. In contrast to HBV, the epidemiologic data for HCV suggest that environmental contamination with blood containing HCV is not a significant risk for transmission in the health-care setting, with the possible exception of the hemodialysis setting where HCV transmission related to environmental contamination and poor infection-control practices have been implicated.[viii]

V. PEP Protocol: a brief outline

1. Your first goal is <u>cleaning</u> the <u>exposure site</u>. Move immediately to the sink and begin decontamination. Remain <u>calm</u>.
2. <u>Communicate</u> the exposure to another JVMC volunteer or physician.
3. If possible say to your patient: "I have been exposed to your body fluids. We need to end our appointment, and I am going to take the necessary steps to reduce my chances of infection."
4. <u>Your interaction with the patient has now ended</u>. Someone else will continue to communicate with them.* <u>Take this time to focus on yourself</u>.
5. Specific instructions for exposure decontamination are posted by each sink. Remove clothing or gloves or other PPI. You will need to rinse/flush the site for 3-5 minutes.
6. When decontamination is complete, seek support. You may remain in the exam room. Another student and most likely a physician will sit and speak with you.
   i. Establish a confidential interaction.
   ii. Refer to the official PEP protocol. There is a copy in the clinic manual kept in the dispensary.
   iii. Take some time to discuss the exposure and determine its severity.
   iv. Address the process of reporting and documenting the incident
   v. Discuss how you feel about being tested for possible pathogens
   vi. Review the prophylaxis options and determine whether or not you want immediate transport to UCDMC for care.
7. Contact Employee Health Services

VI. **Support Roles**

a. There are two important roles that must be filled in the even of an exposure.

b. Someone must take over care of the patient. Preferably, this is a student.

   i. This person is the patient's advocate.
   ii. Remove the patient from the exam room, and find a place to renew the patient interaction
   iii. Patient care should continue to be respectful, nonjudgmental and patient centered.
   iv. The patient shall receive education and support—remember they may feel guilty or at fault.
   v. Attempt to make a plan for blood testing. *Ask for consent.* If possible obtain blood for labs. If there is no one on site who can safely and calmly draw the blood, arrange transport to UCDMC **via cab or ambulance.** Either of these options is cheaper than a lawsuit should something happen en route!
   vi. If possible, obtain thorough contact information so that further screening is feasible.

c. Someone must begin care of the exposed person. Preferably, this is the on-site physician.

   i. This person is the exposed person's advocate.
   ii. Remain in the exam room if possible.
   iii. Explain what will happen next (this protocol and the official protocol.)
   iv. Review the incident. Be a listener.
   v. Offer information; be accurate. Use resources if needed.
   vi. Make a plan (screening, reporting, documenting, prophylaxis etc.)
   vii. If needed draw blood for labs. The exposure may cause stress—be aware of it and do not attempt to draw blood if you aren't calm. No more exposures!

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[i] CDC. NIOSH alert: preventing needlestick injuries in health care settings. Cincinnati, OH: Department of Health and Human Services, CDC, 1999; DHHS publication no. (NIOSH)2000-108.

[ii] Department of Labor, Occupational Safety and Health Administration. 29 CFR Part 1910.1030. Occupational exposure to bloodborne pathogens; final rule. Federal Register 1991; 56:64004--182.

[iii] Ippolito G, Puro V, De Carli G, Italian Study Group on Occupational Risk of HIV Infection. The risk of occupational human immunodeficiency virus in health care workers. Arch Int Med 1993;153:1451--8.

[iv] CDC. Update: human immunodeficiency virus infections in health-care workers exposed to blood of infected patients. MMWR 1987;36:285--9.

[v] Fahey BJ, Koziol DE, Banks SM, Henderson DK. Frequency of nonparenteral occupational exposures to blood and body fluids before and after universal precautions training. Am J Med 1991;90:145--53.

[vi] Henderson DK, Fahey BJ, Willy M, et al. Risk for occupational transmission of human immunodeficiency virus type 1 (HIV-1) associated with clinical exposures: a prospective evaluation. Ann Intern Med 1990;113:740--6.

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1. Alter MJ. The epidemiology of acute and chronic hepatitis C. Clin Liver Dis 1997;1:559--68. Lanphear BP, Linnemann CC Jr., Cannon CG, DeRonde MM, Pendy L, Kerley LM. Hepatitis C virus infection in healthcare workers: risk of exposure and infection. Infect Control Hosp Epidemiol 1994;15:745--50.
2. Puro V, Petrosillo N, Ippolito G, Italian Study Group on Occupational Risk of HIV and Other Bloodborne Infections. Risk of hepatitis C seroconversion after occupational exposure in health care workers. Am J Infect Control 1995;23:273--7.
3. Mitsui T, Iwano K, Masuko K, et al. Hepatitis C virus infection in medical personnel after needlestick accident. Hepatology 1992;16:1109--14.

1. viii Sartori M, La Terra G, Aglietta M, Manzin A, Navino C, Verzetti G. Transmission of hepatitis C via blood splash into conjunctiva [Letter]. Scand J Infect Dis 1993;25:270--1.
2. Ippolito G, Puro V, Petrosillo N, et al. Simultaneous infection with HIV and hepatitis C virus following occupational conjunctival blood exposure [Letter]. JAMA 1998;280:28.
3. Davis GL, Lau J Y-N, Urdea MS, et al. Quantitative detection of hepatitis C virus RNA with a solid-phase signal amplification method: definition of optimal conditions for specimen collection and clinical application in interferon-treated patients. Hepatology 1994;19:1337--41.
4. Polish LB, Tong MJ, Co RL, Coleman PJ, Alter MJ. Risk factors for hepatitis C virus infection among health care personnel in a community hospital. Am J Infect Control 1993;21:196--200.
5. Niu MT, Coleman PJ, Alter MJ. Multicenter study of hepatitis C virus infection in chronic hemodialysis patients and hemodialysis center staff members. Am J Kidney Dis 1993;22:568--73.
6. Hardy NM, Sandroni S, Danielson S, Wilson WJ. Antibody to hepatitis C virus increases with time on hemodialysis. Clin Nephrol 1992;38:44--8.

STUDENT-RUN CLINICS NEEDLE STICK POLICY

OVERVIEW:

Since the Medical Director/IOR is liable for the clinical operations, he/she should determine if glucose testing may be done by undergraduate students. It is recommended that safety lancets be used when performing glucose tests.

Under no circumstance *should undergraduate students draw blood from patients.*

All persons drawing blood should have a sharps container with them and the used needle should be placed directly into the sharps container.

WHAT TO DO IN THE EVENT OF A NEEDLE STICK:

Remain calm.

Your first priority is to clean the exposure site. Move immediately to the sink and begin decontamination by thoroughly scrubbing with a water and Betadine solution for 3-5 minutes.

If possible say to your patient: “I have been exposed to your body fluids. We need to end our appointment, and I am going to take the necessary steps to reduce my chances of infection.”

Your interaction with the patient has now ended. Someone else will continue to communicate with them. Take this time to focus on yourself.

Communicate the exposure to another clinic volunteer or physician.

- Establish a confidential interaction.
- Take some time to discuss the exposure and determine its severity.
- Address the process of reporting and documenting the incident
- Discuss how you feel about being tested for possible pathogens
- Review the prophylaxis options and determine whether or not you want immediate transport to UCDMC for care.

Contact Employee Health Services or the Cowell Student Health Center (page 3).

SUPPORT ROLES:

There are two important roles that must be filled in the event of an exposure:

1. Someone must take over care of the patient. Preferably, this is a student.
   - This person is the patient's advocate.
   - Remove the patient from the exam room and find a place to renew the patient interaction.
   - Patient care should continue to be respectful, nonjudgmental and patient centered.
   - The patient should receive education and support (they may feel guilty or at fault).
   - Attempt to make a plan for blood testing:
     i. Ask for consent.
     ii. If possible, obtain blood for labs and complete the Uniform Needle Stick and Sharp Object Injury Report. Submit these forms with the blood sample.
     iii. If there is no one on site who can safely and calmly draw the blood, arrange transport to UCDMC via cab or ambulance.
     iv. If possible, obtain thorough contact information so that further screening is feasible.

2. Someone must begin care of the exposed person. Preferably, this is the on-site physician.
   - This person is the exposed person's advocate.
   - Remain in the exam room if possible.
   - Explain next steps.
   - Review the incident. Be a listener.
   - Offer information; be accurate. Use resources if needed.
   - Make a plan (screening, reporting, documenting, prophylaxis etc.)
   - If needed, draw blood for labs.

REPORTING:

- Each clinic should establish a protocol for reporting a needle stick and maintaining files.
- Send an email to the Clinic Coordinator.
- Contact Employee Health the Monday immediately following the needle stick; all necessary documentation will be filed by their office.
- Complete the Uniform Needle Stick and Sharp Object Injury Report and submit these forms with the blood sample from the patient.
- UCDMC Exposure Line = 916-734-7585
- Infectious Disease Physician Pager = 916-762-9625

WHERE TO GO FOR HELP/CONTACT INFORMATION:

PHYSICANS (including VCF) and MEDICAL STUDENTS should report to:

Occupational Medicine Clinic*
3160 Folsom Blvd.
916-733-3377

Hours of Operation: Evenings, Weekends and Holidays until 9:00 p.m.

Questions:

Susan Sutherland, RN
Employee Health Manager
916-734-3572 (office)
916-734-7585 (direct)
916-762-3081 (pager)

* Employee Health is only open Monday-Friday. After being seen at the Occupational Medicine Clinic, you are required to make a follow-up appointment with Employee Health by calling the office number listed above.

UNDERGRADUATE STUDENTS should report to:

Cowell Student Health Center **
California Avenue
(Between Regan Hall Drive and Beckett Hall Drive)
530-752-2300

Hours of Operation

During the School Year
M, T, Th, F: 8:00 am - 7:30 pm; W: 9:00 am - 7:30 pm
Weekends: 9:30 am - 1 pm (Urgent Care only)

During Summer Session:
M, T, Th, F: 8:00 am - 5:00 pm; W: 9:00 am - 5:00 pm
Weekends: Closed on Weekends

Questions:

Tom Ferguson, MD
Medical Director
(530) 754-8910 (office)
916-995-0678 (cell)
916-762-6372 (pager)

** If it is an after-hours emergency and the Cowell Student Health Center is closed, you are advised to go to the nearest emergency room for treatment and follow-up with either Cowell or your primary care physician.

ADDITIONAL INFORMATION:

What is an exposure?

An exposure is when blood, blood components or other potentially infectious materials come in contact with your eyes, mucous membranes, non-intact skin or mouth.

Blood spilled over an open wound is an exposure; blood in contact with your intact skin is not. Remember, skin is your first line of defense! Be in the habit of looking for wounds on your hand before working; use bandaids!

A needle stick with a used needle is an exposure, a prick with a clean one is not. Use universal precautions when handling needles!

Your risk of contracting a disease from an exposure is relatively low.

Often the adverse outcome of an exposure is the emotional and psychological impact to you and your patient.

It is imperative that both the exposed person and the patient are given counseling options and education about the incident.

It is important that respect and communication with your patient is retained. Maintaining a positive relationship with them will enable you to gain their consent for the important follow-up tests. In addition, they will be more likely to undergo further testing down the road, sometimes a necessary process.