Florida’s Pre-hospital Post Exposure Handbook © Palm Beach State College
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Introduction

If you are reading this unfortunately you may have had an exposure. Your supervisors have been notified and the evaluation and treatment process has already begun. Many tough decisions may lie ahead of you. This handbook was created to guide you through it. It will provide you with all the necessary information you will need to make intelligent and educated decisions concerning your exposure, your immediate risks and future treatment. As firefighters, medics, EMT’s, law enforcement officers and lifeguards, we are at a higher risk for occupational exposures, Human Immunodeficiency Virus (HIV), Hepatitis B virus (HBV), Hepatitis C virus (HCV), and (TB) Tuberculosis. This handbook discusses these exposures and is divided into six different sections.

Risk of Infection
Testing
Treatment
Medications
Follow Up
Reference Material

Your department has a system in place to report exposures in order to quickly evaluate the risk of infection, inform you about treatment options and offer the appropriate post exposure care.

Good Luck.
What You NEED To Know.

**Significant Exposure in the Clinical Setting - PBCC Guidelines**

An exposure can be defined as a percutaneous injury (e.g., needlestick or cut with a sharp object) or contact of mucous membrane or nonintact skin (e.g., exposed skin that is chapped, abraded, or with dermatitis) with blood, saliva, tissue, or other body fluids that are potentially infectious. Exposure incidents might place health care personnel at risk for hepatitis B virus (HBV), hepatitis C virus (HCV), or human immunodeficiency virus (HIV) infection, and therefore should be evaluated immediately following treatment of the exposure site by a qualified health care professional.

*(Centers for Disease Control and Prevention)*

**Infectious Disease Clinician’s Hotline: (888) 448-4911**

The following is a recommended approach for student reporting and instructor action should a significant exposure or injury occur during a clinical setting.

1. Student shall notify Clinical instructor.

2. Clinical instructor to notify Infection Control Nurse (exposures only)

3. Student proceeds to facility’s Emergency Department, signs in as a patient for treatment. If off site, the student should go to nearest hospital emergency department.
What You NEED To Know.

4. Clinical instructor to notify the Clinical Coordinator / Program Manager

5. Clinical instructor to call Palm Beach Community College Security for an incident report to be completed. 561-868-3600, day or night.

6. Clinical Coordinator/Program Manager notifies Pat Myerscough, Safety Manager: 868-3487.

7. (Optional) Clinical instructor to call or page Dr. Landman for student counseling and follow up care for exposures only. 561-969-7900, day or night.

8. Student shall send a detailed e-mail to Clinical Coordinator / Program Manager regarding incident specifics.

9. Clinical instructor to provide a copy of the PBCC insurance form (next page) to the hospital registration desk upon student admission to the hospital.
What You NEED To Know.

RISK OF INFECTION

START HERE

1. Are you at the correct facility and are you with the source?

If you have been exposed to some type of body fluid, you need to be at a facility that can run a Rapid HIV test on the source. Don’t panic if two hours has already passed the CDC states that the time window to begin treatment is now “hours but not days.”

2. Call the Infectious Disease Clinician’s Hotline:

(888) 448-4911

If an Infectious Disease Clinician isn’t available you must determine if you have had a significant exposure. The hotline operates on a 24/7 basis and is staffed by infectious disease physicians. They will be able to give you an educated response regarding the significance of your exposure. (The service is for healthcare workers only, Sheriff Officers and Life Guards need only to let them know that you were working with a patient and are considered a healthcare worker in the State of Florida.)
What You NEED To Know.

For your quick reference, here are the accepted parameters for exposures.

- **Significant Exposure/Blood or Body Fluid** -
  Is a combination of one or more of the types of body fluids and one or more of the injuries listed below and requires immediate medical evaluation.

**Body fluids:**
- Blood, serum, plasma and all fluids visibly contaminated with blood
- Pleural, amniotic, pericardial, peritoneal, synovial, and cerebrospinal fluids
- Amnionic fluid/vaginal secretions or semen
- Saliva

**Injuries:**
- Percutaneous (needle stick, laceration, abrasion, bites, etc.)
- Mucous membrane (e.g. eyes, nose, mouth)
- Skin (e.g. cut, chapped or abraded skin.) The larger the area of skin and the time of contact, the more important it is to verify that all the relevant skin area is intact.

- **Air or Droplet Exposure** -
  A significant airborne exposure is a combination of a subject (source) showing signs/symptoms of suspected airborne illness plus an activity that would place you at risk of droplet or airborne exposure, and does not usually require immediate medical attention.
What You NEED To Know.

Source of Exposure:
Any aerosolized exhalation, sputum, or saliva, either by source coughing, spitting, breathing; any pulmonary (lung) secretions either brought forth by patient (source) or by suctioning while you were not wearing appropriate barrier protection.

High Risk Activities: The following activate the gag/cough reflex.
- Insertion of nasogastric tube and/or intubation.

What is the risk of infection after an occupational exposure?

HIV
The risk for acquiring HIV post-bloodborne sharps injury exposures is 0.3 percent with a known HIV positive source. The risk following an HIV mucous membrane exposure is 0.09 percent.
The risk after exposure of skin to HIV infected blood is said to be even less than 0.09 percent. A small amount of blood on intact skin probably poses no risk at all.
There have been no documented cases of HIV-transmission due to an exposure involving a small amount of blood on intact skin (a few drops of blood on skin for a short period of time). The risk may be higher if the skin is damaged (for example, by a recent cut) or if the contact involves a large area of skin or is prolonged (for example, being covered in blood for hours).

HBV
Pre-hospital workers who have received a Hepatitis B vaccine and have developed immunity to the virus are at virtually no risk for infection. For an unvaccinated
person, the risk from a single needlestick or a cut exposure to HBV-infected blood ranges from 6%-30% and is corrected with the Hepatitis B e antigen (HBeAg). As you can see an exposure to HepB is much more transferable than HIV.

**HCV**

Based on limited studies, the risk for infection after a needlestick or cut exposure to HCV-infected blood is approximately 1.8%. The risk following a blood splash is unknown, but is believed to be extremely small; however, HCV-infection from such exposures have been reported.

**TB**

Tuberculosis is considered a moderate exposure. To contract TB, you usually have to be in close quarters for an extended period of time. TB is usually spread between family members, close friends, and people who work or live together. TB is spread most easily in closed spaces over a long period of time. However, documented transmission has occurred on airplanes or during rescues. *Note there is little danger from the TB patient who is being treated, is taking his or her meds continuously, and is responding well. The drugs usually make the patient noninfectious within weeks.*
What You NEED To Know.

How Many Have Been Exposed?

HIV
As of June 2000, the CDC had received voluntary reports of 56 confirmed Health Care Personnel with documented HIV seroconversion associated with an HIV exposure. An additional 138 episodes in Health Care Personnel are considered possible occupational HIV transmissions. Risk of seroconversion decreased by 81% if the exposed healthcare worker took Zidovudine (AZT) immediately after the exposure.

HBV
The National Notifiable Diseases Surveillance System (NNDSS) indicates a 96% decline in Hep B viral infections among health care workers over a 17-year period – from nearly 11,000 cases in 1983 to fewer than 400 in 1999.

HCV
Hep C 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%, 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 have been documented from intact or non-intact skin exposures to blood in Health Care Personnel.

TB
In the IAFF "1990 Death and Injury Survey," tuberculosis exposures accounted for 13.3% of all communicable disease exposures.
What You NEED To Know.

A "PPD converter" is someone who has had a negative skin test in the past and now has a positive skin test. Persons who have recently converted to a positive skin test have approximately a 3% chance of developing active TB in the first year after conversion. If they are untreated, they will have approximately a 0.2% chance per year of developing active TB. They may also be susceptible to Bacterial Meningitis. 5% during the first two years and 5% over the remainder of their lifetime.

How Where We Exposed
*Percutaneous injuries (injuries through the skin) with contaminated sharp instruments such as needles and scalpels (82%)

*Contact with mucous membranes of the eyes, nose, or mouth (14%)

*Exposure of broken or abraded skin (3%)

*Human bites (1%)
What You NEED To Know.

TESTING

For Blood Borne Exposures…

The source will be tested for HIV and the various forms of Hepatitis as soon as consent has been obtained. If it is impossible to draw blood from the source individual or he refuses to do so, but some other sample of his or her blood was drawn for any other reason, this sample legally can be used and tested. If the source individual is unable or unwilling to give consent, the EMS organization should consider seeking the legal authority to act without consent. This can be obtained through a court order.

Concerning bloodborne exposures, time is an issue. A Rapid HIV test should be conducted in “hours, but not days” from the time of the exposure. The use of rapid HIV testing has become the standard and has eliminated the need to place healthcare workers on very toxic drugs even for short periods of time. The test takes approximately thirty minutes to one hour to complete. This test is able to identify the HIV-1 antibody as soon as two weeks after an exposure.

Some protocols state that if the source of the exposure is found to be negative with a Rapid HIV test, the physician is not going to offer or prescribe treatment medications. The chances of converting HIV from a recent infection outweigh the potential risks of taking the “HIV Cocktail”. But, you can still request treatment.

After your Rapid HIV test, you will have baseline blood tests drawn for Hep B and C. This may be done in
What You NEED To Know.

the ER or at another facility on the following day per each department’s protocols.

**For Air Borne Exposures**

TB is considered a moderate exposure and not an immediate time sensitive issue. After being notified there has been an exposure, you must have a PPD within 10 days at a facility of your department’s choosing to obtain a baseline. You will receive another PPD test to determine if you have been exposed. Tuberculosis exposure is detected through a test known by its initials, "PPD" which stands for Purified Protein Derivative. *(We all received this test after we were hired.)* In this test, a small amount of purified TB protein (which is not capable of causing disease) is injected just under the skin. If the body has been exposed to TB previously, the immune system will recognize and attack the protein, causing localized redness. A nurse or physician reads the test negative, or indeterminate. If the test is positive, the individual has most likely been exposed to TB at some point, and should be referred to an Infectious Disease doctor for treatment.

Note: In December 2002, the FDA approved a new TB blood test. This new test by Cellestis is called QuantiFERON-TB or QFT. QuantiFERON-TB is based on a blood test, it doesn’t require a second visit and it eliminates reader bias or confusion common with the old TB test where people looked at their arms and wondered, “Is this really a positive or not?”
What You NEED To Know.

What about exposures to blood from an individual whose infection status is unknown?

HBV–HCV–HIV
If the source individual cannot be identified or tested, decisions regarding follow-up should be based on the exposure risk and whether the source is likely to be a person who is infected with a bloodborne pathogen. Call the Infectious Disease Hotline (888) 448-4911 and consult with a physician. Follow-up testing should be available to all workers who are concerned about possible infection through occupational exposure.

TB- If you have not been vaccinated, then hepatitis B vaccination is recommended for any exposure regardless of the source person’s hepatitis B status.
TREATMENT FOR THE EXPOSURE

What is recommended for post-exposure treatment?

HIV
The standard of care recommended is a 4-week course of two drugs for most HIV exposures. Side effects associated with the use of these may influence which drug is selected in a specific situation. A third drug may be added for examples with increased risk of transmission. These recommendations are intended to provide guidance to clinicians and may be modified on a case-by-case basis.

Determining which drugs and how many drugs to use or when to change a treatment regimen is largely a matter of judgment. Whenever possible, consulting an expert with experience in the use of antiviral drugs is advised, especially if a recommended drug is not available, if the source patient’s virus is likely to be resistant to one or more recommended drugs, or if the drugs are poorly tolerated.

HBV
If you have not been vaccinated, then hepatitis B vaccination is recommended for any exposure regardless of the source person’s hepatitis B status. HBIG and/or hepatitis B vaccine may be recommended depending on your immunity to hepatitis B and the source person’s infection status.
What You NEED To Know.

HCV
Currently there is no recommended post-exposure treatment for prevention of HCV infection.

TB
For active TB the duration of therapy depends on the drugs used, the drug susceptibility test results, and the patient’s response to therapy. All TB drugs should be given once daily rather than in divided doses. Most patients with previously untreated pulmonary TB can be treated with either a 6-month or a 9-month regimen, although the 6-month regimen is preferred. For adults, the initial phase of a 6-month regimen should consist of a 2-month period of isoniazid, rifampin, and pyrazinamide. Ethambutol or streptomycin should also be included in the initial regimen until the results of drug susceptibility studies confirm isoniazid and rifampin susceptibility.

If dormant TB Infection is indicated by a normal Chest X Ray, treatment is voluntary and usually involves taking 2 pills (an antibiotic and a vitamin) for 9 months. Once started the series needs to be completed to prevent the formation of antibiotic resistant TB. Tuberculosis treatment requires a commitment of time and a determination to complete the drug series. The full treatment of TB infection will kill the dormant germs and prevent the development of active TB later in life. The medicines used to treat Tb are strong and can sometimes affect the liver of those taking TB therapy, especially if they are over the age of 35 or have a history of alcohol abuse. Age, alcohol and drug abuse history, and personal commitment to complete the therapy are all factors that you and the TB nurse will discuss in deciding whether to treat noninfectious dormant TB.
**What You NEED To Know.**

**How soon after exposure to a bloodborne pathogen should treatment start?**

**HIV**
Treatment should be started promptly. Early treatment of initial HIV infection may lessen the severity of symptoms and delay the onset of AIDS.

**HBV**
Post-exposure treatment should begin as soon as possible after exposure, preferably within 24 hours, and no later than 7 days.

**TB**
A PPD test should happen within 10 days after being notified of the exposure. It also needs to be repeated 10-12 weeks after the exposure. Follow up care should begin with an infectious disease specialist promptly if the PPD test results in a conversion.

**What is known about the safety and side effects of these drugs?**

**HIV**
All of the antiviral drugs for HIV have been associated with side effects that can put you out of work for awhile. The most common side effects include upset stomach (nausea, vomiting, diarrhea), fatigue or headache. Be aware that some may not have any negative side effects as well. The few serious side effects that have been reported in health-care workers using combination post-exposure treatment have included kidney stones, hepatitis, and suppressed blood 7 cell production. Protease inhibitors (indinaivir and nefinavir) may interact with other medicines and cause serious side effects and should not be used in combination with certain other drugs, such as prescription antihistamines. It is important
What You NEED To Know.

to tell the health-care provider managing your exposure knows about any medications you are currently taking.

HBV
Hepatitis B vaccine is safe and works well. However, you should report any unusual reaction after any vaccination to your health-care provider.

TB
Isoniazid may make you feel tired, may cause nausea and loss of appetite and, rarely, numbness or tingling in your hands and feet. Rifampicin tends to reduce the effectiveness of the contraceptive pill. Women taking the contraceptive pill need to let their doctor know before starting Rifampin. You may need to discuss other forms of contraception with your doctor. Rifampin will cause a pinkish colored urine, saliva and sweat. Note: If you have lens implants or wear contact lenses, inform your doctor, as this medication tends to stain them. You need to inform your doctor immediately if you begin having any visual problems. You should also stop taking your TB medication until your doctor advises you otherwise. Pyrazinamide may make you feel nauseated and cause you to lose your appetite. This drug is usually only used in the first two or three months of treatment. Report any unexplained pains, aches, fever or rash to your doctor immediately.
What You NEED To Know.

Can pregnant health-care workers take the drugs recommended for Post-exposure treatment?

**HIV**

Pregnancy should not rule out the use of post-exposure treatment when it is warranted. If you are pregnant you should understand what is known and not known regarding the potential benefits and risks associated with the use of antiviral drugs in order to make an informed decision about treatment. The need to speak with an infectious disease doctor is paramount and should happen immediately after an exposure.

**HBV**

Yes. Women who are pregnant or breast-feeding can be vaccinated against HBV infection and/or get HBIG. Pregnant women who are exposed to blood should be vaccinated against HBV infection, because infection during pregnancy can cause severe illness in the mother and a chronic infection in the newborn. The vaccine does not harm the fetus.

**TB**

Pregnant women with TB must be given adequate therapy as soon as TB is suspected. Note: Be aware if an ER doctor prescribes a drug called Streptomycin; do not take it. Streptomycin has been shown to have harmful effects on the fetus. In addition, pyrazinamide should not be used routinely because its effect on the fetus is unknown. Because the 6-month treatment regimen cannot be used, a minimum of 9 months of therapy is usually given. The small concentrations of TB drugs in breast milk do not have a toxic effect on nursing newborns, and breast-feeding should not be discouraged for women.
What You NEED To Know.

undergoing anti-TB therapy. Similarly, drugs in breast milk should not be considered effective treatment for disease or infection in a nursing infant.
What You NEED To Know.

MEDICATIONS

Note: The risk of developing drug resistance can be reduced by taking all your drugs exactly as they are prescribed. Taking drugs precisely as directed is crucial for avoiding drug resistance. Remember...

-Always follow the medications directions for ingestion.

-Never, ever skip a dose. This will promote the development of resistance in the virus or bacteria.

Medications used to fight HIV are called Antiretroviral Agents. Here are the most commonly used antiretroviral agents. For more in depth information about these and other drugs, go to www.aidsmeds.com.

● **Nucleoside Reverse Transcriptase Inhibitors (NRTIs)** NRTIs are a class of anti-HIV drugs. When NRTIs are used in combination with other anti-HIV drugs – usually a total of 3 drugs – then this combination therapy can block the replication of HIV in a person's blood.

NRTIs sometimes referred to as "Nucleoside Analogues" – or "nukes" for short – prevent healthy T-cells in the body from becoming infected with HIV. When HIV infects a cell in a person's body, it copies its own genetic code into the cell's DNA. In this way, the cell is then "programmed" to create new copies of HIV. HIV's genetic material is in the form of RNA. In order for it to infect T-cells, it must first convert its RNA into DNA.
HIV's reverse transcriptase enzyme is needed to perform this process. NRTIs contain faulty versions of the building blocks (nucleotides) used by reverse transcriptase to convert RNA to DNA. When reverse transcriptase uses these faulty building blocks, the new DNA cannot be built correctly. In turn, HIV's genetic material cannot be incorporated into the healthy genetic material of the cell and prevents the cell from producing new virus.

Most Common NRTIs: Zidovudine (Retrovir™, ZDV; AZT) Lamivudine (Epivir™, d4T) Didanosine (Videx™, ddl) Abacavir (Ziagen™, ABC)

General Side Effects: Peripheral neuropathy, headache, diarrhea, nausea, insomnia, anorexia, pancreatitis, increased liver function tests (LFTs), anemia and neutropenia

*Nonnucleoside Reverse Transcriptase Inhibitors (NNRTIs)* NNRTIs are a class of anti-HIV drugs. When one NNRTI is used in combination with other anti-HIV drugs – usually a total of 3 drugs – then this combination therapy can block the replication of HIV in a person's blood. NNRTIs, sometimes referred to as "Non-Nucleoside Analogue" NNRTIs attach themselves to reverse transcriptase and prevent the enzyme from converting RNA to DNA. In turn, HIV's genetic material cannot be incorporated into the healthy genetic material of the cell, and prevents the cell from producing new virus.
What You NEED To Know.

Most Common NNRTIs: Nevirapine (Viramune™, NVP) Delavirdine (Rescriptor™, DLV) Efavirenz (Sustiva™, EFV)

Common Side Effects: Rash (including cases of Stevens-Johnson syndrome), fever, nausea, headache, hepatitis, and increased LFTs

Protease Inhibitors (PIs) Protease Inhibitors are a class of anti-HIV drugs. When one PI is used in combination with other anti-HIV drug – usually a total of 3 drugs – then this combination therapy can block the replication of HIV in a person's blood. Protease inhibitors prevent T-cells that have been infected with HIV from producing new copies of the virus. When HIV infects a cell in a person's body, it copies its own genetic code into the cell's DNA. In this way, the cell is then "programmed" to create new copies of HIV. Once HIV's genetic material (RNA) is inside a T-cell's DNA, the cell produces a long strand of genetic material that must be cut up and put together correctly to form new copies of the virus. Cutting up this strand requires a scissor-like enzyme called protease. PIs block this enzyme and prevent the cell from producing new viruses.

Most Common Protease Inhibitors: Indinavir (Crixivan™, IDV) Nelfinavir (Viracept™, NFV) Ritonavir (Norvir™, RTV) Saquinavir (Rortovase™, SQV) Amprenavir (Agenerase™, AMP) Lopinavir/Ritonavir (Kaletra™) Saquinavir (Rortovase™, SQV) Amprenavir (Agenerase™, AMP)
What You NEED To Know.

Common Side Effects: Weakness, diarrhea, nausea, circumoral paresthesia, taste alteration, and increased cholesterol and triglycerides

Remember: New drugs are approved every year and drug therapies are subject to change. If you have any questions ask your doctor or check the CDC web site.
AZT FOCUS

In 1964 AZT was studied as an anti-cancer drug. But in the mid 80’s as the medical world scrambled for an answer to the AIDS epidemic, AZT was re-evaluated. The FDA approved AZT in 1987. It is still the standard antiviral and most likely will be for a considerable amount of time.

Retrovir brand zidovudine (AZT or ZDV)

Pronunciation: zye DOE vue deen
Brand: Retrovir

What is the most important information I should know about zidovudine?

• Serious blood problems including low levels of red and/or white blood cells have occurred with the use of zidovudine. Contact your doctor immediately if you develop unusual fatigue, pale skin, sore throat, fever, or chills which may be signs of blood problems.

• Lactic acidosis and severe liver problems, including fatal cases, have been reported with the use of reverse transcriptase inhibitors, alone or in combination. Contact your doctor immediately if you experience nausea, vomiting, or unusual or unexpected stomach discomfort; weakness and tiredness; shortness of breath; weakness in the arms and legs; yellowing of the skin or eyes; or pain in the upper stomach area. These may be early symptoms of lactic acidosis or liver problems.
What You NEED To Know.

- Serious, even fatal, cases of pancreatitis (inflammation of the pancreas) have been reported with the use of some reverse transcriptase inhibitors. Notify your doctor immediately if you develop symptoms of pancreatitis including nausea, vomiting, diarrhea, abdominal pain, and/or fever.

- Avoid alcohol while taking zidovudine. Alcohol may increase the risk of damage to the liver and/or pancreas.

What should I discuss with my healthcare provider before taking zidovudine?

- Before taking zidovudine, tell your doctor if you have
  - kidney disease;
  - liver disease;
  - pancreatitis; or
  - bone marrow suppression.
- You may not be able to take zidovudine, or you may require a dosage adjustment or special monitoring during treatment if you have any of the conditions listed above.

- Zidovudine is in the FDA pregnancy category C. This means that it is not known whether zidovudine will harm an unborn baby. It is very important to treat HIV/AIDS during pregnancy to reduce the risk of infecting the baby. Talk to your doctor about your treatment options.

- It is not known whether zidovudine passes into breast milk and what effect it may have on a nursing baby. To prevent transmission of the virus to uninfected babies, it is recommended that HIV-positive mothers not breast feed.

How should I take zidovudine?

- Take each dose with a full glass of water.
- Zidovudine can be taken with or without food.
What You NEED To Know.

• To ensure that you get a correct dose, measure the liquid form of zidovudine with a dose-measuring spoon or cup, not with a regular table spoon. If you do not have a dose-measuring device, ask your pharmacist for one.

• Treatment of HIV/AIDS almost always requires the use of two or more drugs. If you need to stop taking one of the medicines you are taking for HIV, you should stop all of them until you can talk to your doctor.

• Store zidovudine at room temperature away from moisture and heat.

What happens if I miss a dose?

• Take the missed dose as soon as you remember. However, if it is almost time for the next regularly scheduled dose, skip the missed dose and take the next one as directed. Do not take a double dose of this medication unless your doctor directs otherwise.

• Seek emergency medical attention.

• Symptoms of a zidovudine overdose include nausea, vomiting, dizziness, drowsiness, headache, lethargy, confusion, and seizures. No deaths have been reported from zidovudine overdose.
FOLLOW-UP AFTER AN EXPOSURE

Remember: YOU are responsible to keep track of your own follow-up schedule. The following are general follow-up schedules. Please see to your department for specific follow-up information.

What follow-up should be done after an exposure?

HIV
• Perform HIV-antibody testing for at least 6 months postexposure (e.g., at baseline, 6 weeks, 3 months and 6 months.)
• Perform HIVB antibody testing if illness compatible with an acute retroviral syndrome occurs.
• Advise exposed persons to use precautions to prevent secondary transmission during the follow-up period.
• Evaluate exposed persons taking post exposure meds within 72 hours after exposure and monitor for drug toxicity for at least 2 weeks.

HBV
• Perform follow-up anti-HBs testing in persons who receive hepatitis B vaccine
  - Test for anti-HBs 1-2 months after last dose of vaccine.
  - Anti-HBs response to vaccine cannot be ascertained if HBIG (Hepatitis B Immune globulin) was received in the previous 3-4 months.
  - Check again at 6 months if no antibody detected.
What You NEED To Know.

HCV
● Perform baseline and follow-up testing for anti-HCV and alanine aminotransferase (ALT) 4-6 months after exposures.
● Perform HCV RNA at 4-6 weeks if earlier diagnosis of HCV infection desired.
● Confirm repeatedly reactive anti-HCV enzyme immunoassays (EIAs) with supplemental tests.

TB
Within 10 days perform baseline PPD and at 10-12 weeks perform follow-up testing for TB exposure. If indicated by development of symptoms of active disease or a PPD skin test conversion, follow with an Infectious disease physician. Understand that once treatment begins, a patient ordinarily quickly becomes noninfectious; that is, they cannot spread the disease to others.

What precautions should be taken during the follow-up period?

HIV
During the follow-up period, especially the first 6-12 weeks when most infected persons are expected to show signs of infection, you should follow recommendations for preventing transmission of HIV. These include not donating blood (for one year), semen, or organs and not having sexual intercourse. If you choose to have sexual intercourse, using a condom consistently and correctly may reduce the risk of HIV transmission. You must also continue to use a condom at least 30 days after you discontinue the drug regiment.
**What You NEED To Know.**

In addition, women should consider not breast-feeding infants during the follow-up period to prevent exposing their infants to HIV in breast milk.

**HBV**
If you are exposed to HBV and receive post-exposure treatment, it isn’t likely that you will become infected and pass the infection on to others. No precautions are recommended.

**HCV**
Because the risk of becoming infected and passing the infection on to others after an exposure to HCV is low, no precautions are recommended.

**TB**
During follow-up you must never deviate from your medication schedule. After you have successfully started treatment for tuberculosis, within a short time you are no longer able to pass it on to others. Re-infection in a normal healthy person is rare due to acquired immunity. However, in rare circumstances it may be possible to become re-infected, particularly if the immune system becomes compromised for any reason. If a person has resistant TB, he/she can remain infectious to others for a longer period of time.
APPENDIX

I. What is HIV?
HIV is a virus, like the flu or cold. A virus is really nothing but a set of blue prints for making new viruses, wrapped up in some fat, protein and sugar. Without living cells, a virus can't do anything – it's like a brain with no body. In order to make more viruses (and to do all of the other nasty things that viruses do), a virus has to infect a cell. HIV mostly infects T-cells, also known as CD4+ cells, or T-helper cells. These cells are white blood cells that turn the immune system on to fight disease. Once inside the cell, HIV starts producing millions of little viruses, which eventually kill the cell and then go out to infect other cells. All of the drugs marketed to treat HIV work by interfering with this process. There, that wasn't so hard, was it?

The normal T4 count is somewhere between 500 and 1500 cells per cubic millimeter of blood (a drop, more or less). In the absence of anti-HIV treatment, the T4 cell count decreases, on average, about 50 to 100 cells each year. AIDS-related diseases (opportunistic infections) such as *Pneumocystis carinii* pneumonia (PCP) can occur if your T4 count falls below 200. And a large number of other infections can occur if it drops below 50 to 100 cells. Because of this, drugs to prevent these infections (prophylactic treatment) are started once the T4 cell count falls below certain levels, such as 200 in the case of PCP.
What You NEED To Know.

II. What’s the HIV Cocktail?

This term is used to describe a three drug anti-viral therapy used to treat HIV/AIDS. It has recently been proven to be the best way to fight the virus. These drugs may vary per physician. The most popular and effective three drug combination AZT, 3TC, efavirenz.

III. OTHER SOURCES OF INFORMATION

Post-Exposure Hotline: 1-888-737-4448

HIV

Information specialists who staff the CDC National AIDS Hotline (1-800-342-2437) can answer questions or provide information on HIV infection, AIDS and the resources available in your area.

www.AIDSmeds.com

www.TREATHIV.com

The HIV/AIDS Treatment Information Service (1-800-448-0440) can also be contacted for information on the clinical treatment of HIV/AIDS.

For free copies of printed material on HIV infection and AIDS, please call or write the CDC National Prevention Information Network
P.O. Box 6003, Rockville, MD 20849-6003,
1-800-458-5231
Internet address www.cdcnpin.org
Additional information about occupational exposures to bloodborne pathogens is available on CDC’s Hospital Infections Program’s website at www.cdc.gov/ncidod/hip or on CDC’s National Institute of Occupational Safety and Health’s website at www.cdc.gov/niosh or call 1-800-35 NIOSH (1-800-356-4674).

**HBV and HCV**
For additional information about hepatitis B and hepatitis C you can call the *hepatitis information* line at 1-888-4-HEPCDC (1-888-443-7232)

or visit CDC’s hepatitis website at www.cdc.gov/ncidod/diseases/hepatitis/index.htm

**The Vaccine Adverse Event Reporting System**
(1-800-822-7967)

**TB**
AG Holly State Hospital TB Hotline- 1-800-4TB-INFO
AG Holly TB State Hospital Web Site- www.doh.state.fl.us/agholley/

Orange County Health Department
www.orch
I would like to acknowledge the informational sources used for the Handbook.

The Department of Health and Human Services
CDC
EMS Magazine
National HIV/AIDS Clinician’s Consultation Center
San Francisco, California
AIDSmeds.com
New York State Department of Health
Tempe Fire Department Polices and Procedures
NIOSH National Institute for Occupational Safety
and Health
Merginet.com

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Ft. Lauderdale Fire Rescue