OSHA Course  
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This is the OSHA bloodborne pathogen training information. This information is required by federal law for all persons coming into contact with bloodborne illnesses in the medical setting.

WHAT IS OSHA
It stands for “Occupational Safety & Health Act,” enacted by Congress on December 29th, 1970 during the 91st Congress. OSHA’s mission is to assure the safety and health of America’s workers. It applies to all agencies of the Executive Branch except military personnel.

COVERAGE
In general, OSHA extends to all employers & employees. With the exception of self-employed persons, working conditions regulated under Federal statutes. State & local government employees are also exempt.

OSHA MEDICAL INDUSTRY STANDARDS
There are two primary standards that pertain to the medical industry, and they're listed as:
– 29 CFR 1910.1030, Bloodborne Pathogens

DEFINITIONS
Let's talk about some definitions that are important for understanding OSHA issues:

BLOODBORNE PATHOGENS: these are pathogenic microorganisms that are present in human blood, and can cause disease in humans.

OPIM, “Other Potentially Infectious Materials”: these are materials that include the following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, body fluid that is visibly contaminated with blood, and all body fluids.

BLOODBORNE DISEASES
These are the bloodborne diseases that we're concerned about: non-A hepatitis, non-B hepatitis, hepatitis B & C, delta hepatitis, syphilis, malaria, and HIV- human immunodeficiency virus. For our purposes here in the United States in the medical profession, the most significant of these are: Hepatitis B- known as HBV, Hepatitis C- HCV, and HIV. Let's look at these separately.

HEPATITIS B (HBV)
Hepatitis means “inflammation of the liver.” One visible symptom of the hepatitis B virus is that it can cause jaundice- a yellowing of the eyes and skin. HBV is the major infectious bloodborne hazard healthcare workers face each year. HBV infects 8,700 workers a year, resulting in 400 hospitalizations & 200 deaths- these among health care workers. Including the medical profession, there are some 6,000 cases of HBV a year.

If a person is infected with HBV, symptoms may be flu-like, or the symptoms may be asymptomatic with the patient not even realizing the infection. 50% of all cases of HBV are asymptomatic.
CONCENTRATION OF HBV IN VARIOUS BODY FLUIDS
Blood, serum, and wound exudates have the highest concentrations of HBV present; moderate or low to not detectable amounts are present in other fluids. The fact that it cannot be detected does not make it safe. Blood, saliva, and other bodily fluids may all be infectious, and the virus may be spread to sexual partners, and even to unborn infants.

HBV SYMPTOMS
If you have symptoms from HBV, they might include the following: Yellow skin or yellowing of the whites of your eyes, tiredness, loss of appetite, nausea, abdominal discomfort, dark urine, clay-colored bowel movements, and joint pain.

HBV VACCINATION
There is a vaccine for HBV. It is administered in three vaccinations over a six-month period. According to the CDC (the Center for Disease Control), vaccines are considered safe, and one cannot be infected with HBV or other blood borne pathogens by taking the vaccine. The complete series of HBV vaccinations is said to be 85% to 97% effective at protecting the employee from getting the disease or becoming a carrier for nine years or longer.

ECTOM Clinic very strongly recommends that all employees and students who are involved in the clinic (not including the herb dispensary) have the HBV vaccine. If an employee or student chooses to decline the vaccine, a waiver must be signed and kept on file. Clinic employees who work at the front desk or who are technical or main supervisors can have the college pay for the vaccine if have not had the vaccine previously or they have done titers and discovered that they no longer have the antibodies after being vaccinated years ago. If an employee’s employment ends prior to receiving the 2nd or 3rd vaccinations in the series, the college is no longer responsible for paying for those remaining shots.

HEPATITIS C (HCV)
Approximately 4,000,000 people are infected with HCV. 10,000 die annually with HCV-related liver disease. There is no vaccine for hepatitis C. 75% of HCV cases are asymptomatic. As an aside, keep in mind that patients presenting to the clinic may be asymptomatic for hepatitis B or hepatitis C, but can still be carriers and can be infectious if one comes into contact with their bodily fluids.

SOURCES OF INFECTION FOR PERSONS WITH HEPATITIS C
The largest source is through injecting drug users: at 60%. This is commonly the drug abuser. Sexual contact- at 15%. Transfusion- at 10% - this was mainly an issue before better screening of the blood supply was implemented. Other & unknown sources form the 15% remaining.

HIV
HIV, the Human Immunodeficiency Virus, is believed to attack your body's ability to protect itself against disease. A person may carry the virus without developing the symptoms for several years. As of December 2001, exposure to HIV has resulted in 57 documented cases of HIV seroconversion among health care personnel in the United States.

HIV vs. HEPATITIS B
HIV is transmitted through blood, semen, vaginal secretions, and breast milk, which is pretty much the same as Hepatitis B. With HIV, 10 to 50 virus particles are found per milliliter of blood. Blood contains the highest concentration of the virus, followed by semen, followed by vaginal fluids,
followed by breast milk. Contrast that to Hepatitis B: one million to one billion virus particles per milliliter of blood. You have a greater chance of becoming infected with Hepatitis B. With HIV, the virus lives outside of the body only a few hours. With Hepatitis B, the virus lives outside of the body for up to seven days, and so, is up to 100 times easier to catch than HIV. Sometimes a person with HBV infection has no symptoms at all. A person might be infected with HBV and spreading the virus, and not know it.

Currently, there is no HIV vaccination. There is, however, a vaccination available for HBV in three doses.

**ACTIVITIES THAT ALLOW HIV TRANSMISSION**

--Unprotected sexual contact

--Direct blood contact, including injection drug needles, blood transfusions, accidents in health care settings or certain blood products

--Mother to baby (before or during birth, or through breast milk)

Sexual intercourse (vaginal and anal): In the genitals and the rectum, HIV may infect the mucous membranes directly or enter through cuts and sores caused during intercourse (many of which would be unnoticed). *Vaginal and anal intercourse is a high-risk practice.*

Oral sex (mouth-penis, mouth-vagina): The mouth is an inhospitable environment for HIV (in semen, vaginal fluid or blood), meaning the risk of HIV transmission through the throat, gums, and oral membranes is lower than through vaginal or anal membranes. There are however, documented cases where HIV was transmitted orally, so we can’t say that getting HIV-infected semen, vaginal fluid or blood in the mouth is without risk. *However, oral sex is considered a low risk practice.*

Sharing injection needles: An injection needle can pass blood directly from one person’s bloodstream to another. It is a very efficient way to transmit a blood-borne virus. *Sharing needles is considered a high-risk practice.*

Mother to Child: It is possible for an HIV-infected mother to pass the virus directly before or during birth, or through breast milk. Breast milk contains HIV, and while small amounts of breast milk do not pose significant threat of infection to adults, it is a viable means of transmission to infants.

The following “bodily fluids” are NOT infectious:

- Saliva
- Tears
- Sweat
- Feces
- Urine
ACTIVITIES THAT ALLOW HBV TRANSMISSION

HBV is very similar to HIV in the ways it is transmitted: through direct blood-to-blood contact and through sexual activity. However, blood levels of HBV are much higher than for HIV or the hepatitis C virus, making this virus much easier to transmit in certain situations (e.g., from mother to child during delivery).

HBV is present in blood, semen, and vaginal fluids and is transmitted primarily through sexual activity. Another major transmission route is sharing injection drug equipment (including needles, cookers, tourniquets) and, to a lesser extent, non-injection drugs (cocaine straws and crack pipes) due to the possibility of exposure to blood. Pregnant women who have hepatitis B can also transmit the virus to their babies, most likely during birth.

How is Hepatitis B spread?

Hepatitis B is spread when blood, semen, or other body fluid infected with the Hepatitis B virus enters the body of a person who is not infected. People can become infected with the virus during activities such as:

- Birth (spread from an infected mother to her baby during birth)
- Sex with an infected partner
- Sharing needles, syringes, or other drug-injection equipment
- Sharing items such as razors or toothbrushes with an infected person
- Direct contact with the blood or open sores of an infected person
- Exposure to blood from needlesticks or other sharp instruments

Can a person spread Hepatitis B and not know it?

Yes. Many people with chronic Hepatitis B virus infection do not know they are infected since they do not feel or look sick. However, they still can spread the virus to others and are at risk of serious health problems themselves.

Can Hepatitis B be spread through sex?

Yes. Among adults in the United States, Hepatitis B is most commonly spread through sexual contact and accounts for nearly two-thirds of acute Hepatitis B cases. In fact, Hepatitis B is 50–100 times more infectious than HIV and can be passed through the exchange of body fluids, such as semen, vaginal fluids, and blood.

Can Hepatitis B be spread through food?

Unlike Hepatitis A, it is not spread routinely through food or water. However, there have been instances in which Hepatitis B has been spread to babies when they have received food pre-chewed by an infected person.

What are ways Hepatitis B is not spread?

Hepatitis B virus is not typically spread by sharing eating utensils, breastfeeding, hugging, kissing, holding hands, using toilet seats, casual contact, coughing, or sneezing. However, if some objects or
someone’s hands, etc. were contaminated with infected blood or body fluids, then there would be a definite risk present.

Who is at risk for Hepatitis B?

Although anyone can get Hepatitis B, some people are at greater risk, such as those who:

- Have sex with an infected person
- Have multiple sex partners
- Have a sexually transmitted disease
- Are men who have sexual contact with other men
- Inject drugs or share needles, syringes, or other drug equipment
- Live with a person who has chronic Hepatitis B
- Are infants born to infected mothers
- Are exposed to blood on the job
- Are hemodialysis patients
- Travel to countries with moderate to high rates of Hepatitis B

ECTOM'S GENERAL PROGRAM MANAGEMENT FOR OSHA COMPLIANCE:

AVAILABILITY OF THE ECP TO EMPLOYEES/STUDENTS
A copy of the Exposure Control Plan is accessible to employees in accordance with OSHA regulations. It's located in the office of the Clinic Director.

REVIEW AND UPDATE OF THE ECP
The Exposure Control Plan shall be reviewed and updated:
- At least annually.
- Or when a person's job is changed, affecting that person's exposure.
- To reflect new or revised employee positions with occupational exposure.
- To show changes in technology that eliminate or reduce exposure to blood borne pathogens.
- The Exposure Control Plan solicits input from non-managerial employees responsible for direct patient care- those who are potentially exposed to injuries from contaminated sharps, in order to provide input on how to better protect against exposure and shall document the solicitation in the Exposure Plan.

WHO ARE THE PEOPLE AT RISK
Who are the people at risk for blood borne pathogens?
- Everyone involved at the ECTOM clinic operation, excluding the herb dispensary, which includes:
  - Interns and observers
  - Clinic supervisors
  - Front desk staff
  - Students and faculty in Acupuncture Techniques I-III
  - And the janitors

IDENTIFYING THE RISKS IN THE ECTOM CLINIC
Let's identify some of the risk for exposure to blood borne pathogens.
- During needle removal, especially auricular acupuncture
- Bleeding an acupoint
– Plum blossom technique
– Blood-letting with cupping
– Disposal of sharps
– Gua Sha
– Cleaning reusable equipment (e.g., cups)
– Cleaning and decontamination procedures

**COMPLIANCE METHODS:**

**SIX MAJOR TACTICS**
There are six major tactics to reduce the risk of exposure to blood borne pathogens on the job.
1. Universal precautions
2. Engineering controls
3. Work practice controls
4. Personal protective equipment
5. Housekeeping
6. Hepatitis B vaccine

Keep in mind that none of the above is 100% effective, however they must be used together to afford any measure of protection.

**UNIVERSAL PRECAUTIONS**
This term refers to the concept of blood borne disease control, which requires that all human blood and certain body fluids are treated as if known to be infectious for HIV, HBV, and other blood borne pathogens. In other words, all bodily fluids from patients are considered to be contaminated until proven otherwise, and therefore the following methods are used as much as possible when any potential exposure to a patient’s body fluids exists.

**ENGINEERING CONTROLS**
Engineering controls are physical or mechanical systems designed to eliminate hazards at the source, such as: sharps disposal containers, disposable acupuncture needles, biosafety cabinets, autoclaves, and hand-washing.

**WORK PRACTICE CONTROLS**
There are specific procedures to follow on the job to reduce exposure. These include:
– Self-protective controls during treatment procedure- we'll discuss these down below
– Handling sharps
– Hand washing
– Personal hygiene
– Decontamination procedures
– Disposing of waste
– And cleaning and decontaminating a spill

Let's address these points one by one.

**SELF-PROTECTIVE CONTROL PROCEDURE DURING THE TREATMENT**
Regular acupuncture of common body points- such as needling- does not require gloves. When removing the needles, however, you should have 2-3 clean cotton balls in hand to absorb any bleeding that occurs. For regular body points, it's highly recommended to use your gloves. For auricular points,
the gloves must be worn.

Whenever bleeding an acupoint, you should be wearing gloves. This applies as well for plum blossom technique, bloodletting with cupping, Gua Sha, when cleaning reusable equipment, and when disposing of sharps and blood-contaminated cotton balls. All of these tasks require wearing your gloves.

**HANDLING SHARPS**
Contaminated needles and other sharps must be handled carefully to avoid puncture wounds. So the following rules must be observed:

- Immediately discard used disposable needles in the nearby sharps container—do NOT use a needle tray or other container to gather the needles into one place before disposing of them into the sharps container, and do not place them on a countertop and collect them in a group to dispose of them. After each needle is removed from the patient, it should be immediately and directly placed in the sharps container
- Be sure to replace the containers before they become overly filled.
- Never try to insert used needles back into the guide tube, or to manipulate the needle in any way.
- And don't give used needles to another person, such as an intern or observer, for her/him to dispose of for you.

**HAND WASHING**
The ECTOM clinic requires hand washing:

- Before needling a patient or removing the needles,
- After needling a patient or removing the needles,
- After clean up of a treatment room or after taking laundry to the laundry bag,
- Whenever there is visible contamination with blood or body fluids,
- After removing your gloves or lab coat,
- Before and after preparing the herbal formula,
- Before all other activities which entail hand contact with the mucous membranes, the eyes, or breaks in the skin.

**PERSONAL HYGIENE AND HEALTH**
Please do not eat, drink, smoke, apply cosmetics or lip balm, or handle contact lenses in the work areas. Take great care to maintain the cleanliness of your hands, keeping the nails short. Hair styles that touch the client or break the clean field should be avoided. Pregnant students or employees, or those who have an oozing wound or sore, or who have a lowered immune system, should consult the Clinic Director or supervisor before starting a clinic shift.

**DECONTAMINATION PROCEDURES**
Some definitions first. **STERILIZATION** is the complete destruction or elimination of all living microorganisms. **DECONTAMINATION** is the freeing of an object or person of some contaminating substance. An **ANTISEPTIC** is a substance that inhibits the growth and development of microorganisms without necessarily killing them. **DISENFECTION** is to free an area from pathogenic organisms or to render those organisms inert—this especially applies to inanimate materials to reduce or eliminate infectious organisms.

Decontamination in the ECTOM clinic requires a 1:10 dilution of household bleach and paper towels to clean all treatment room counter tops and treatment tables (there are other acceptable disinfectants that can be used). This procedure should be done after treating any patient with an oozing skin lesion,
persistent cough or other problems that might cause contamination of these surfaces. And it should be
done before any severely immune-compromised patient enters the room.

Some items are used over and over. Some are used only once. Supplies, equipment, or instruments
such as cups, tweezers, sheets, gowns, pillowcases & towels, as well as your lab coats- those can be
cleaned and reused. On the other hand, we have to dispose of single use items: needles, cotton balls,
bed paper, and gloves.

**DISPOSAL OF WASTE**
Gloves that are contaminated with blood and/or body fluids and other materials must be placed in the
appropriate biohazard container- be sure to look for that biohazard logo. During your clinic orientation,
the instructor will indicate the appropriate containers for regular and contaminated material disposal.

**CLEANING AND DECONTAMINATING A BLOOD SPILL**
Be sure to wear utility gloves. First, wipe up the spill with a paper towel and dispose of the towel in
the biohazard bin. Then, apply a germicide or bleach mixed with water until the surface is glistening
wet. Keep it moist for the manufacturer's recommended exposure time- usually 5 to 10 minutes. Allow
the surface to air dry completely.

**PERSONAL PROTECTIVE EQUIPMENT**
Overall, equipment that protects your skin, mucous membranes, work clothes, street clothes, and your
undergarments from contact with infectious materials includes: your gloves, mask, lab coat, and any
protective eye wear.

**PPE IS PROVIDED BY ECTOM CLINIC**
This includes several personal equipment items, including the mask, eye protection, treatment gloves,
and the thicker utility gloves.

**GLOVES**
Gloves must be worn in the clinic when performing the following tasks:
– When handling biohazard material and visibly contaminated items or linen- this includes
  picking up spilled, used needles.
– When you have cuts or lesions or any kind of broken skin on your hands.
– When examining or treating areas on patients with cuts, lesions, rashes, or any kind of broken
  skin.
– When examining or treating around the mucous membranes of your patient, including the
  mouth, nose or anal/genital region.
– When using a lancet or three-edged needle to bleed.

**FACE MASKS AND PROTECTIVE EYEWEAR**
Masks, in combination with eye protection devices, such as goggles, or glasses with solid side-shields,
or the chin-length face shields, shall be worn whenever splashes, sprays, splatter, or droplets of blood
or other potentially infectious materials may be generated and eye, nose, or mouth contamination may
be reasonably anticipated.

**LAB COATS**
That spiffy white lab coat or other appropriate protective clothing shall be used in the workplace. Lab
coats and protective clothing should not be worn outside of the working area (not when using the
bathroom, not when eating, not when leaving the clinic), and should be laundered regularly, as often as
HOUSEKEEPING
Good housekeeping protects every health care worker present in the work area, and it's every worker's responsibility. Specific housekeeping rules include the following elements:
– Cleaning and decontamination at the end of each work shift, unless a spill occurs, at which time the appropriate decontamination procedure is taken.
– The use of tongs, forceps, or a brush and dustpan to pick up broken glass
– The placement of contaminated sharps and infectious waste in designated sharps/biohazard containers that are labeled and easily accessible.
– Handle contaminated laundry as little as possible with minimal agitation.
– Place contaminated laundry in labeled leak-proof bags without any sorting or rinsing
– Use warning labels bearing the biohazard sign indicating the presence or location of potentially contaminated materials or equipment.

INTERNS/OBSERVER RESPONSIBILITY
The interns and observers have responsibilities that include:
– The changing of sheets, pillowcases and gowns after each treatment. Take all laundry to the laundry room.
– Wipe down the sink and counter top areas with a bleach (or similar) solution after every patient.

Likewise, the clinic has responsibilities as well:
– The clinic contracts with a biohazard waste company to pick up biohazard boxes and sharps containers on a regular basis.
– The clinic has a contract with a laundry company to pick up dirty laundry three to four times a week.
– The clinic contracts with a janitorial service to clean each treatment room and the entire clinic every day.

SUMMARY OF PRECAUTIONS
Here's the summary of precautions:
– Health care personnel should always assume that the blood and other body fluids from all patients are potentially infectious. They should therefore follow infection control procedures at all times.
– The routine use of barriers- such as gloves and/or goggles- when anticipating contact with blood or body fluids
– Washing hands and other skin surfaces immediately after contact with blood or body fluids
– The careful handling and disposing of sharp instruments during and after use.

EXPOSURE INCIDENT PROTOCOL
What happens if you are exposed to blood borne pathogens? What should you do?

WHAT YOU SHOULD DO IF EXPOSED TO A BBP
– Wash the exposed area immediately with soap and warm water
– If there's a cut or a puncture, allow it to bleed freely for a few moments
– Flush splashes to the nose, mouth, and skin with water
– Irrigate the eyes with clean water, saline, or sterile irrigants
– Apply a disinfectant such as 70% alcohol, iodine, Betadine, or other solution to clean the exposed skin areas. Do not use an ethanol swab.
Then report the incident to your supervisor and file an exposure incident report with the Clinic Director, and of course seek medical attention or consult with your primary care provider.

**POST-EXPOSURE EVALUATION**
The post-exposure evaluation involves:
- Documentation of the route of exposure
- Identification, documentation, and testing of the source— that would be the patient most likely— and consent must be obtained from the patient
- Collection/testing of the employee or student's blood for HBV or HIV— this is usually done at the hospital
- A copy of the test on the blood should be given to the employee or student within 15 days of completion of the evaluation
- The evaluation is placed in the employee or student's confidential folder
- And ECTOM should provide counseling to the employee or student and evaluation of reported illness

**FOLLOW-UP AFTER AN EXPOSURE INCIDENT**
Here's the recommended follow-up after an exposure incident:
Regarding exposure to blood that does or might contain HBV:
- The unvaccinated person, it's recommended, should receive the vaccine series: a single dose of Hepatitis B immunoglobulin is recommended, if this can be given within 7 days of exposure
- Previously vaccinated persons should be tested, to ensure they have the HbsAb present in their blood, which is the Hepatitis B antibody
Regarding exposure to blood that does or might contain HIV:
- It's recommended, following an initial OraQuick Rapid HIV-1 Antibody Test at the time of exposure, that a seronegative person should be retested at 6 weeks, 12 weeks, and 6 months after the exposure to determine whether transmission has occurred

**RECORD KEEPING**

**RECORD KEEPING FOR OSHA COMPLIANCE**
You should be advised that record keeping for OSHA compliance includes:
- Medical records with your name and social security number
- A copy of the employee or student's Hepatitis B vaccination status including the dates of all the Hepatitis B vaccines, and any medical records relative to the employee or student's ability or willingness to receive the vaccination
- Copies of all results of examinations, medical testing, and the follow-up procedures; copies of the health care professional's written opinion; and a copy of the information provided to the health care professional
- A sharps injury log is also kept. Medical records must be kept for the duration of the employment, or the time in the program as a student, plus thirty years.

**OSHA INFORMATION AND TRAINING**
And a final note that all employers should ensure that all employees and students with occupational exposure participate in a training program detailing the OSHA standards for blood borne pathogens. The training record contains the dates of the training, the contents or a summary of the training sessions, the names and job titles of all persons attending the training, and the names and qualifications of the persons conducting the training. Training records must be maintained for three years from the training date.