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# BLOODBORNE PATHOGENS

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# Bloodborne Pathogens

## 1.0 Purpose & Scope

### 1.1 Purpose.

This program explains procedures to minimize risk of disease transmission during any activity where the potential for blood or bodily fluid exposure may exist.

### 1.2 Scope.

The provisions of this program apply to all employees while on the job, whenever representing GEI and whenever operating company vehicles or equipment.

### 1.3 Limitations.

In no way is this policy or any portion thereof meant to alter, replace or supersede OSHA regulations. Where conflicts may exist, the OSHA regulation takes precedence, unless GEI policy is more stringent.

## 2.0 About Bloodborne Pathogens

### 2.1 Definitions.

Bloodborne pathogens (BBP's) are transmittable microorganisms that are present in the blood or other potentially infectious materials (OPIM's) of infected persons. They are capable of causing disease, serious illness or even death. Although there are many BBP's, the three that present the most serious risk in the United States include HIV (human immunodeficiency virus), HBV (hepatitis B virus) and HCV (hepatitis C virus).

#### 2.1.1 OPIM's include:

Semen	Vaginal secretions	Cerebrospinal fluid
Synovial (joint/tendon) fluid	Pleural (lung) fluid	Pericardial (heart) fluid
Peritoneal (abdominal) fluid	Amniotic (womb) fluid	Saliva (dental proced's)

Any body fluid that is visibly contaminated with blood and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.

Any unfixed tissue or organ (other than intact skin) from a human (living or dead).

HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

#### 2.1.2 BBP's

Hepatitis B	Hepatitis C	HIV (Human Immunodeficiency Virus)
Malaria	Syphilis	Babesiosis
Brucellosis	Leptospirosis	Arboviral Infections
Relapsing Fever	Creutzfeldt-Jakob Disease	
Viral Hemorrhagic Fever	Human T Lymphotropic Virus Type I (HTLV-I)	



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## 2.2 Modes of transmission.

Bloodborne pathogens can be transmitted if blood or OPIM comes into contact with your eyes, nose (mucous membranes), mouth, broken skin (inflamed, cut, abrasion, acne) or enters through a skin puncture.

## 2.3 HIV.

- HIV is the virus that causes AIDS (Acquired Immune Deficiency Syndrome). In most cases, persons infected with HIV will develop AIDS (50% within 10 years).
- HIV destroys the body's immune system, causing death by other diseases that the body would otherwise naturally fight off.
- At present, there is no vaccine for HIV and there is no cure.
- If infected, it may take months for the disease to be detected in the body. Those who are infected may show no symptoms, some symptoms or exhibit symptoms of full blown AIDS.
- HIV is not an airborne disease & cannot be contracted from casual contact.
- HIV can only live outside the body for a few hours.
- Risk of infection (from needlestick) = 0.4%

## 2.4 Hepatitis B (HBV).

- HBV is a virus that attacks the liver. The word "hepatitis" literally means inflammation of the liver.
- With a greater concentration of virus particles in the blood, HBV is up to 100x easier to contract than HIV.
- Unlike HIV, there is a vaccine for HBV which is over 79% effective.
- Approximately 90% of people infected with HBV have the acute form of the disease. People with acute HBV have the virus in their blood and show symptoms of HBV infection – jaundice, dark urine, extreme fatigue, anorexia, nausea, abdominal pain & sometimes joint pain, rash & fever.
- Those diagnosed with chronic (carrier) HBV also have the virus in their blood, but normally do not exhibit symptoms of HBV infection. The chronic form of HBV can eventually cause chronic liver disease, cirrhosis of the liver or primary liver cancer.
- Not an airborne disease & can't be contracted from casual contact.
- HBV can live outside the body up to 7 days.
- Risk of infection (from needlestick) = 6 to 30%

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## 2.5 Hepatitis C (HCV).

- Like HBV, HCV is a virus that attacks the liver.
- Unlike HBV, HCV presents a greater risk of chronic liver disease. HCV is the most common chronic bloodborne infection in the U.S. and is a major cause of chronic liver disease.
- Unlike HBV, presently there is no vaccine for HCV.
- HCV infection often occurs with no symptoms, but chronic infection develops in 75% to 85% of patients, with 70% developing active liver disease.

## 3.0 **Workplace Exposures**

### 3.1 Exposures.

The following job classifications and work tasks may involve employee exposure to bloodborne pathogens.

Job Classification	Task	Hazards
All field personnel	Voluntary 1 <sup>st</sup> aid/CPR assistance	<ul style="list-style-type: none"> <li>• Blood</li> <li>• OPIM's</li> </ul>
Sewer line work	Tie-in to or work near live sewer and/or drain water lines	<ul style="list-style-type: none"> <li>• Blood</li> <li>• OPIM's</li> <li>• Human waste</li> <li>• Needles/sharps</li> </ul>

### 3.2 Rendering 1<sup>st</sup> aid/CPR assistance.

In most cases, the GEI safety program does not expand any employee's job description such that s/he would be required or expected to offer 1<sup>st</sup> aid/CPR assistance. Usually, such assistance shall be voluntary and at the discretion of the trained employee at the time of need.

On jobsites where an injured employee would be unable to receive professional medical attention within 4 minutes, at least one person holding current 1<sup>st</sup> aid/CPR certification shall be assigned to the site.

Employees who offer 1<sup>st</sup> aid/CPR assistance must:

- Hold current 1<sup>st</sup> aid/CPR certification (American Heart Assoc. or Red Cross).
- Only offer assistance within the scope of 1<sup>st</sup> aid/CPR training they received.
- Follow Universal Precautions in accordance with their training.



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## 4.0 Exposure Prevention

### 4.1 Universal precautions.

GEI employees are required to treat all materials that may contain or be contaminated with blood or OPIM as infectious. In doing so, follow the precautions explained in this section.

### 4.2 PPE.

PPE shall be required as follows:

PPE	Condition of Use
Gloves (latex, nitrile or equivalent)	Required anytime potential for exposure exists
Safety glasses	Required anytime potential for exposure exists
Protective mask or face shield	As necessary to protect mouth and nose from contact, splash, spray or spurt
Protective coverall or apron	As necessary to protect broken/inflamed skin from contact or to protect clothes from splash, spray or gross contamination
Barrier device (pocket mask or face shield)	Rescue breathing/CPR

4.2.1 Multiple victims – If providing medical assistance to more than one victim, use new PPE for each victim (especially gloves & barrier devices). Do not attempt to clean or reuse disposable PPE.

#### 4.2.2 Compromised PPE.

- Immediately remove it in a manner that does not involve direct contact with contaminated surfaces.
- Discard this PPE into a biohazard waste bag.
- Immediately wash contaminated body part with soap & water. For contact with eyes, nose or mouth flush with clean water.
- Refer to Section 5 of this program.

### 4.3 Hygiene practices.

Take extreme care not to eat, drink, use tobacco or cosmetic products, touch your eyes/face or handle contact lenses until you remove PPE and wash your hands & face with soap & water. If soap & water are not available, use antiseptic or antimicrobial wipes.

### 4.4 Biohazard collection & clean-up.

4.4.1 Housekeeping – Take care to minimize the spread of contaminated items around the work area.



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## 4.4.2 Clean-up & decontamination.

- Place all contaminated waste (gauze, rags, clothes, etc.) in a properly labeled, leak-proof biohazard waste bag.
- Sharp or pointy objects that may be contaminated must be placed in a properly labeled, leak-proof container that is cut & puncture resistant. Do not manually handle any item capable of cutting or puncturing your skin – use pliers, a stick, broom, etc. When time to empty the container, do not reach into the container or attempt to manually empty it.
- Remove residual blood or fluids with absorbent towels. Discard into biohazard waste bag.
- Remove contaminated PPE in a manner that prevents direct contact with contaminated surfaces. Place the contaminated PPE in the biohazard waste bag.
- Don new PPE.
- Lay clean towel over any surfaces, tools or equipment to be decontaminated and soak with a solution of ¼ cup bleach to 1 gallon water. Let stand for 10 minutes.
- Remove and dry area with clean towel. Discard these towels into biohazard waste bag.
- When clean-up is complete, remove PPE in a manner that prevents direct contact with contaminated surfaces. Place in the biohazard waste bag.
- Wash hands and face with soap & water. If soap & water are not available, use antiseptic or antimicrobial wipes.

4.4.3 Biohazard waste container labels – All bags or containers that contain biohazard-contaminated waste shall be labeled with the BIOHAZARD symbol, sticker or an attached tag labeled BIOHAZARD. Where feasible, bags & containers shall be red or orange in color.



4.4.4 Disposal of biohazard waste bags – Do not throw away in ordinary trash – all biohazard waste is a regulated waste. Either seal the bag or container & return it to shop for proper disposal or (in cases of medical emergencies) ask emergency responders if they will take it.



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## 5.0 Exposure Incidents

### 5.1 Definition of “exposure incident”.

An incident that involves blood or OPIM (other potentially infectious material) contact with the eyes, nose, mouth or broken skin (cut, abrasion, puncture, inflammation, acne, etc.). Blood or OPIM contact with intact skin is NOT considered to be an exposure incident unless it meets the criteria of the first sentence in this paragraph.

### 5.2 Reporting protocol.

All exposure incidents must immediately be reported to the site foreman. The employee shall be encouraged to seek a post-exposure medical evaluation ASAP (within 24 hours). This medical evaluation is confidential, includes any necessary lab work or diagnostic processes and shall be offered at no cost to the employee. The purpose of the post-exposure evaluation shall be to:

- Document the route(s) of exposure & circumstances under which it occurred.
- Identify the source individual (if feasible and allowed by state law).
- Collect & test the exposed employee’s blood for HIV/HBV serological status.
- Determine the need for follow-up evaluations, treatment or counseling.

### 5.3 HBV vaccine.

In addition to the post-exposure medical evaluation, an exposed employee has the right to receive the Hepatitis B vaccination series at no cost to him/her, unless:

- S/he has previously received the complete vaccination series.
- Antibody testing has revealed that s/he is immune to HBV.
- The vaccination series is not advised for medical reasons.

## 6.0 Training

### 6.1 Employee training.

All GEI employees who may be exposed to hazards of bloodborne pathogens shall receive training on:

- Bloodborne pathogens – what they are & why they are dangerous
- Work tasks with potential BBP exposures & the nature of the exposures
- Exposure prevention procedures in this program
- Availability of supplies – PPE, 1st aid kits, BBP kits, etc.
- Availability of 1st aid/CPR training
- Exposure reporting policy
- Availability of post-exposure medical evaluation & HBV vaccine
- The contents of this program.