Raw Sewage-Blood Borne Pathogens

What is sewage?
The term may be used to mean raw sewage, sewage sludge, or septic tank waste.

Raw sewage is mainly water containing excrement, industrial effluent and debris, such as sanitary towels, condoms, plastic etc.

Excrement is the major source of harmful micro-organisms, including bacteria, viruses and parasites. Sewage treatment reduces the water content and removes debris, but does not kill or remove all the micro-organisms.

What are the health risks?
Exposure to sewage or its products may result in a number of illnesses. These include:
- gastroenteritis, characterised by cramping stomach pains, diarrhoea and vomiting;
- Weil’s disease, a flu-like illness with persistent and severe headache, transmitted by rat urine. Damage to liver, kidneys and blood may occur and the condition can be fatal;
- hepatitis, characterised by inflammation of the liver, and jaundice;
- occupational asthma, resulting in attacks of breathlessness, chest tightness and wheezing, and produced by the inhalation of living or dead organisms;
- infection of skin or eyes; and/or
- rarely, allergic alveolitis (inflammation of the lung) with fever, breathlessness, dry cough, and aching muscles and joints.

How do micro-organisms enter the body?
- The most common way is by hand-to-mouth contact during eating, drinking and smoking, or by wiping the face with contaminated hands or gloves, or by licking splashes from the skin.
- By skin contact, through cuts, scratches, or penetrating wounds, ie from discarded hypodermic needles. Certain organisms can enter the body through the surfaces of the eyes, nose and mouth.
- By breathing them in, as either dust, aerosol or mist.

Protecting workers from risks to health

Since micro-organisms are an inherent part of sewage, the hazard cannot be eliminated.

However, a proper assessment of risk is required, but this should not include analysis of sewage for micro-organisms as they can constantly change.

Exposure to sewage should be eliminated or minimized by, for example, using remote-controlled robotic cameras for sewer inspection; drying sludge before disposal; incineration of sludge; injection of sewage into land rather than spreading; damming and bypass pumping of sewer sections prior to reconstruction.
Training for Workers
All workers who handle human waste or sewage should receive training on disease prevention. The training should include information on basic hygiene practices; use and disposal of personal protective equipment; and proper handling of human waste or sewage. Workers must also be urged to promptly seek medical attention if displaying any signs or symptoms of diarrhea, such as vomiting, stomach cramps and watery diarrhea.

Basic Hygiene Practices for Workers

- Wash hands with soap and water immediately after handling human waste or sewage.
- Avoid touching face, mouth, eyes, nose, or open sores and cuts while handling human waste or sewage.
- After handling human waste or sewage, wash your hands with soap and water before eating or drinking.
- After handling human waste or sewage, wash your hands with soap and water before and after using the toilet.
- Before eating, removed soiled work clothes and eat in designated areas away from human waste and sewage-handling activities.
- Do not smoke or chew tobacco or gum while handling human waste or sewage.
- Keep open sores, cuts, and wounds covered with clean, dry bandages.
- Gently flush eyes with safe water if human waste or sewage contacts eyes.
- Use waterproof gloves to prevent cuts and contact with human waste or sewage.
- Wear rubber boots at the worksite and during transport of human waste or sewage.
- Remove rubber boots and work clothes before leaving worksite.
- Clean contaminated work clothing daily with 0.05% chlorine solution (1 part household bleach to 100 parts water).
**Bloodborne Pathogens in Construction**

Construction and exposure to Hepatitis B (or C or HIV) doesn’t arise very often since construction workers are usually not around blood, bodily fluids, or patients. There are times when construction must occur at wastewater treatment facilities, municipals, or in active sewers. Occasionally exposure can come from illegal drug use or the remnants of it (think of a project underneath a downtown bridge).

Currently there is not a specific rule for bloodborne pathogens in construction (Cal-OSHA).


§ 5193. Bloodborne Pathogens.

(a) Scope and Application. This section applies to all occupational exposure to blood or other potentially infectious materials as defined by subsection (b) of this section.

**EXCEPTION: This regulation does not apply to the construction industry.**

However, if it is *reasonably anticipated* that an employee might have exposure, you should take precaution.

What are the dangers? First, you must have occupational exposure to skin, eye, or mucous membrane with contact to blood or infected material. Exposure may then cause the employee the diseases of Hepatitis B, C and HIV.

Occasionally construction companies want to know if they need to offer their employees the Hep B vaccine.

The real-threat is contact with blood. Here is a question to ask... **Do you anticipate seeing any blood on the jobsite?**

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**What is a Bloodborne Pathogen?**

- Blood
- Semen
- Vaginal Secretions
- Torn or Loose Skin
- Other Body Fluids, particularly if tainted with blood
11.0 ACCIDENTS REPORTING / BLOOD BORNE PATHOGEN EXPOSURE

F. ACCIDENTS INVOLVING EXPOSURE

1) Any employee that may have had exposure to hazardous chemicals, asbestos, or lead must be reported to the Department’s Occupational Safety and Health Division immediately at (213) 473-7097.

2) If a City employee is exposed to any human fluid like blood, mucus or other discharge they should refer to Tailgate Safety Meeting Topic - Bloodborne Pathogens. In summary the following five points summarizes the BCA Bloodborne Pathogen plan.

- a: Personnel Department Occupational Safety and Health has determined that all BCA employees have an extremely low risk of exposure with blood or infectious material.
- b: All inspection classes in BCA are identified as “Emergency First Aid Respondees” and may choose whether or not to respond to a particular first aid incident.
- c: Universal Precautions implies that all body fluids (if encountered) will be identified and handled as if they are known to be infectious, regardless of source.
- d: Exposure is when a specific work-related event in which blood or other potentially infectious material makes contact with the employee’s eye, mouth, nose or open cut or puncture.

- e: In the event of an exposure incident, the employee must
  - i. Immediately clean all wounds
  - ii. Report all contact with body fluids or infectious material to their supervisor
  - iii. Immediately contact City of Los Angeles Occupational Health and Safety Division (OHSD) for evaluation.
  - iv. City OHSD reports are confidential between them and the employee.