



Handling Bio-Hazard Material

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Clothing contaminated with blood or body fluids should be placed in a "RED BAG".

Working on wildland fires or participating in other natural resources management activities has some inherent dangers involved: cuts from hand tools and chain saws; fractures from trips and falls; and illness from heat and physical exertion are just a few. It is a long-standing practice that field-going forestry workers are trained as first responders: the remote locations of many wildland fires and work sites make it essential that we can provide immediate care to an injured co-worker.

Recent years have seen a serious new concern for first responders: the risk of contracting blood borne infections from Hepatitis B virus (HBV), Human Immunodeficiency Virus (HIV), and other pathogens is a constant, and potentially deadly, concern. About 8,700 health care workers each year are infected with HBV, and 200 die from the infection (source: OSHA fact Sheet). This paper will outline the "universal precautions" taken to prevent infection, handling



techniques for infected bio-hazard materials, and laundering techniques for Nomex fire clothing possibly infected with HBV or HIV. Universal precautions are the generally accepted medical work practices that prevent contact with a patient's blood and certain other body fluids.

Personal Protective Equipment (PPE) to reduce potential infection from blood borne pathogens includes gloves, gowns, face shields, and pocket masks. These PPE items are available as part of standard type I-IV first aid kits, as well as in stand alone body fluid barrier kits, (NFES #0640). Both kits also contain "Bio-Hazard Waste" bags; the use of PPE combined with proper disposal of contaminated materials in these bags will greatly reduce the chance of the care-giver becoming infected.

There are special techniques for use the PPE and Bio-waste bags which further reduce the chance of infection:

Gloves

Gloves must be worn whenever treating an injured person, and when handling clothing or other items that may be contaminated with blood or body fluids. If there is any question about the adequacy of a pair of gloves to provide protection, a second pair of gloves can be placed on the hands over the first pair. Gloves should be left on, not only when treating an injured person, but also when handling clothing, bandaging material or other items that may have been contaminated. After finishing with treatment and disposal of contaminated material, gloves should be removed by grasping them at the cuff and pulling them inside out over the fingers. When the first glove is removed, it should be placed in the other

gloved hand; proper removal of the second glove, using the same process, will enclose both gloves and keep any contaminant from touching bare skin.

Single use gloves provided in first aid or body fluid barrier kits should not be washed or decontaminated for re-use. They should be placed in a properly designated bio-hazard container ("the red bag") for disposal.



When in doubt, bag it!

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Although most gloves and the other personal protective equipment contained in the body fluids barrier kit are intended for disposal after use, not all items contaminated with blood or body fluids are intended for disposal. However, all items must receive special handling until they are properly decontaminated or disposed of as regulated waste in accordance with state and local laws. Specific information on disposal can be obtained from your local hospital or emergency care facility.

Contaminated items in the field or on the fireline should be placed in the red plastic "Bio-Hazard Waste" bags found with the body fluid barrier kits and first aid kits. Additional bags can be obtained on fires and other incidents from the supply unit or medical unit.

Bio-Hazard waste bags containing contaminated material should receive special handling, especially in areas like an incident base camp; insure that

individuals who handle the bags are aware of their contents, and proper handling and disposal techniques.

Laundering Contaminated Nomex

Although low cost items such as T-shirts or forest worker gloves can be disposed of after contamination with blood or body fluids, the high price of Nomex Aramid fire shirts and jeans, combined with the relative ease of de-contamination, should result in disposal only after gross contamination.

Contaminated Nomex Aramid clothing that will not be laundered within 12 to 24 hours should be air-dried in sunlight prior to placing it in a Bio-Hazard waste "Red Bag." even after air drying, persons laundering these items should wear gloves and launder the items separate from other soiled laundry.



Latex gloves should always be worn by the care provider.

The protective qualities of Nomex Armada fibers are not affected by normal laundry practices, but **bleach should never be used** since it degrades its resistance to breaking open in entrapment conditions. Dupont, the manufacturer of the Nomex fiber, recommends laundering contaminated items in cold water with any commercially available laundry soap that does not contain bleach; hot water washes Nomex better than cold water, but speeds up the color loss compared to cold water washes.

Exception to PPE Use

There is only one exception to the need for using personal protective equipment to protect against possible infection from blood and body fluids: A first responder may choose, temporarily and briefly, under

rare and extraordinary circumstances, to forego using PPE if they believe that its use would prevent the delivery of necessary care to an injured individual. **Exceptions should be extremely limited!** If an unprotected individual is exposed to blood or body fluids, they should report that exposure to their local or agency safety officer. Early action is crucial, since immediate intervention can forestall the development of hepatitis B, or enable the affected person to track potential HIV infection. It also can help avoid spreading blood borne infection to family members and co-workers.

For additional information on blood borne infections, preventive techniques or what to do if exposed, contact your local health office.