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CDC HEALTH ADVISORY

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CDC Interim* Recommendations for Protecting Workers from Exposure to Bacillus anthracis in Work Sites Where Mail Is Handled or Processed

(*Updated from CDC Health Advisory 45 issued 10/24/01)

These interim recommendations are intended to assist personnel responsible for occupational health and safety in developing a comprehensive program to reduce potential cutaneous or inhalational exposures to *Bacillus anthracis* spores among workers, including maintenance and custodial workers, in work sites where mail is handled or processed. Such work sites include post offices, mail distribution/handling centers, bulk mail centers, air mail facilities, priority mail processing centers, public and private mailrooms, and other settings in which workers are responsible for the handling and processing of mail. These interim recommendations are based on the limited information available on ways to avoid infection and the effectiveness of various prevention strategies and will be updated as new information becomes available. These recommendations do not address instances where a known or suspected exposure has occurred. Workers should be trained in how to recognize and handle a suspicious piece of mail
(http://www.bt.cdc.gov). In addition, each work site should develop an emergency plan describing appropriate actions to be taken when a known or suspected exposure to *B. anthracis* occurs.

These recommendations are divided into the following hierarchical categories describing measures that should be implemented in mail-handling/processing sites to prevent potential exposures to *B. anthracis* spores:

- Engineering controls
- Administrative controls
- Housekeeping controls
- Personal protective equipment for workers

These measures should be selected on the basis of an initial evaluation of the work site. This evaluation should focus on determining which processes, operations, jobs, or tasks would be most likely to result in an exposure should a contaminated envelope or package enter the work site. Many of these measures (e.g., administrative controls, use of HEPA filter-equipped vacuums, wet-cleaning, use of protective gloves) can be implemented immediately; implementation of others will require additional time and efforts.

1. Engineering Controls in Mail-handling/processing Sites

B. anthracis spores can be aerosolized during the operation and maintenance of high-speed, mail-sorting machines, potentially exposing workers and possibly entering heating, ventilation, or air-conditioning (HVAC)

systems. Engineering controls can provide the best means of preventing worker exposure to potential aerosolized particles, thereby reducing the risk for inhalational anthrax, the most severe form of the disease. In settings where such machinery is in use, the following engineering controls should be considered:

- An industrial vacuum cleaner equipped with a high-efficiency particulate air (HEPA) filter for cleaning high-speed, mail-sorting machinery
- Local exhaust ventilation at pinch roller areas
- HEPA-filtered exhaust hoods installed in areas where dust is generated (e.g., areas with high-speed, mail-sorting machinery)
- Air curtains (using laminar air flow) installed in areas where large amounts of mail are processed
- HEPA filters installed in the building's HVAC systems (if feasible) to capture aerosolized spores

Note: Machinery should not be cleaned using compressed air (i.e., "blowdown/blowoff").

2. Administrative Controls in Mail-handling/processing Sites

Strategies should be developed to limit the number of persons working at or near sites where aerosolized particles may be generated (e.g., mail-sorting machinery, places where mailbags are unloaded or emptied). In addition, restrictions should be in place to limit the number of persons (including support staff and non-employees, e.g., contractors, business visitors) entering areas where aerosolized particles may be generated. This includes contractors, business visitors, and support staff.

3. Housekeeping Controls in Mail-handling/processing Sites

Dry sweeping and dusting should be avoided. Instead, areas should be wet-cleaned and vacuumed with HEPA-equipped vacuum cleaners.

4. Personal Protective Equipment for Workers in Mail-handling/processing Sites

Personal protective equipment for workers in mail-handling/processing work sites must be selected on the basis of the potential for cutaneous or inhalational exposure to *B. anthracis* spores. Handling packages or envelopes may result in cutaneous exposure. In addition, because certain machinery (e.g., electronic mail sorters) can generate aerosolized particles, persons who operate, maintain, or work near such machinery may be exposed through inhalation. Persons who hand sort mail or work at other sites where airborne particles may be generated (e.g., where mailbags are unloaded or emptied) may also be exposed through inhalation.

Recommendations for Workers Who Handle Mail

Protective, impermeable gloves should be worn by all workers who handle mail. In some cases, workers may need to wear cotton gloves under their protective gloves for comfort and to prevent dermatitis. Skin rashes and other dermatological conditions are a potential hazard of wearing gloves. Latex gloves should be avoided because of the risk of developing skin sensitivity or allergy

Gloves should be provided in a range of sizes to ensure proper fit.

The choice of glove material (e.g., nitrile, vinyl) should be based on safety, fit, durability, and comfort. Sterile gloves (e.g., surgical gloves) are not necessary.

Different gloves or layers of gloves may be needed depending on the task, the dexterity required, and the type of protection needed. Protective gloves can be worn under heavier gloves (e.g., leather, heavy cotton) for operations where gloves can easily be torn or if more protection against hand injury is needed.

For workers involved in situations where a gloved hand presents a hazard (e.g., close to moving machine parts), the risk for potential injury resulting from glove use should be measured against the risk for potential exposure to *B. anthracis*.

Workers should avoid touching their skin, eyes, or other mucous membranes since contaminated gloves may transfer *B. anthracis* spores to other body sites.

Workers should consider wearing long-sleeved clothing and long pants to protect exposed skin.

Gloves and other personal protective clothing and equipment can be discarded in regular trash once they are removed or if they are visibly torn, unless a suspicious piece of mail is recognized and handled. **If a suspicious piece of mail is recognized and handled, the worker's protective gear should be handled as potentially contaminated material (See Guideline For Hand washing And Hospital Environmental Control, 1985, available at http://www.cdc.gov/ncidod/hip/guide/handwash.htm**

Hands should be thoroughly washed with soap and water when gloves are removed, before eating, and when replacing torn or worn gloves. Soap and water will wash away most spores that may have contacted the skin; disinfectant solutions are not needed.

Additional Recommendations for Workers Who May Be Exposed through Inhalation

Persons working with or near machinery capable of generating aerosolized particles (e.g., electronic mail sorters) or at other work sites where such particles may be generated should be fitted with NIOSH-approved respirators that are at least as protective as an N95 respirator.

Persons working in areas where oil mist from machinery is present should be fitted with respirators equipped with P-type filters.

Because facial hair interferes with the fit of protective respirators, workers with facial hair (beards and or large moustaches) may require alternative respirators (such as powered air-purifying respirators [PAPRS] with loose-fitting hoods).

Workers who cannot be fitted properly with a half-mask respirator based on a fit test may require the use of alternative respirators, such as full facepiece, negative-pressure respirators, PAPRs equipped with HEPA filters, or supplied-air respirators. If a worker is medically unable to wear a respirator, the employer should consider reassigning that worker to a job that does not require respiratory protection.

In addition, the use of disposable aprons or goggles by persons working with or near machinery capable of generating aerosolized particles may provide an extra margin of protection.

In work sites where respirators are worn, a respiratory-protection program that complies with the provisions of OSHA [29 CFR 1910.134] should be in place. Such a program includes provisions for obtaining medical clearance for wearing a respirator and conducting a respirator fit-test to ensure that the respirator fits properly. Without fit testing, persons unknowingly may have poor face seals, allowing aerosols to leak around the mask and be inhaled. (See December 11, 1998, *MMWR*, available at http://www.cdc.gov/mmwr/preview/mmwrhtml/00055954.htm