



# THE CITY OF NEW YORK

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

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## **Inhalation Anthrax in a New York City Resident who Works with Untanned Animal Hides Information for Health Care Providers**

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### **What is Anthrax?**

- Anthrax is an infectious disease caused by the bacterium *Bacillus anthracis*, which is capable of forming spores that can survive in the environment for long periods of time.
- Anthrax infection can occur in three forms: cutaneous (skin), inhalation (lung), and gastrointestinal (stomach and intestines).
- Inhalation anthrax cannot be spread from person-to-person; there are rare case reports of person to person transmission of cutaneous anthrax.

### **What is the background on this recent case of inhalation anthrax?**

On February 22, 2006, the New York City Department of Health and Mental Hygiene (DOHMH), the Pennsylvania Department of Health and the Centers for Disease Control and Prevention (CDC) reported that a 44 year old male who lives in Manhattan was diagnosed with inhalation anthrax while visiting Pennsylvania. This patient makes drums from untanned animal hides (including goat and cow hides imported from Africa) in his workspace in a storage facility in downtown Brooklyn. (Tanning is the process for turning animal hides into leather).

### **How do we know this is a case of naturally occurring anthrax?**

The case patient works frequently with untanned animal hides obtained from areas of the world where anthrax is known to be common and he mechanically removed the hair from the hide using a razor, in a small, poorly ventilated workspace. The process is reported to generate a significant amount of aerosolized animal particles, and work was done without respiratory protection. Therefore, this appears to be an isolated case of naturally occurring anthrax. DOHMH is working closely with the New York Police Department and the Federal Bureau of Investigation, and there is no evidence of bioterrorism or risk to the general public.

### **When should I suspect that someone has actually been exposed to anthrax?**

Currently, the disease should be suspected in any patient who presents with a suggestive clinical presentation (see below) and reports working directly (e.g., mechanically removing hair with a razor) with untanned animal hides.

### **What are the symptoms of inhalation anthrax?**

- The symptoms of inhalation anthrax may be similar to other forms of pneumonia on presentation.
- Inhalation anthrax usually presents as an acute hemorrhagic mediastinitis with illness
- Occurring within 1 to 7 days of exposure (may be as long as 60 days). Typically it is a biphasic illness:
- Initial phase is characterized by flu-like symptoms: mild, non-specific respiratory illness, malaise, fatigue, myalgia, low-grade fever, non-productive cough, mild chest discomfort, ronchi may be heard on exam, but otherwise exam may be normal
- Acute phase is characterized by: acute severe respiratory distress, dyspnea, cyanosis, stridor and profuse diaphoresis, subcutaneous edema of chest and neck, markedly elevated temperature, pulse, and respiratory rate. Exam may reveal moist crepitant rales. Chest x-ray findings: mediastinal widening in an otherwise healthy person is a pathognomonic sign; pleural effusion may be present; evidence of pneumonia is often lacking.

### **What are the symptoms of cutaneous anthrax?**

(NOTE: The case-patient does not have any evidence of cutaneous anthrax.)

Cutaneous anthrax usually begins as a small papule, enlarges and progresses to a vesicle or bulla in 1 to 2 days. These vesicles may become hemorrhagic, with satellite vesicles. The lesion then ulcerates and forms a black eschar (necrotic ulcer) in 3 to 7 days. The lesion is usually painless and the tissue surrounding the skin lesions is often erythematous, and may have varying degrees of edema (brawny, gelatinous, non-pitting edema). Patients may have fever, malaise, headache, and regional lymphadenopathy. Cutaneous anthrax does not usually develop into a serious infection if it is treated with antibiotics.

### **How do I know if someone needs prophylaxis for anthrax now?**

At this time, persons will need prophylaxis only if it is determined by DOHMH that they were exposed or were likely to have been exposed to the untanned animal hides from the case-patient's storage facility. DOHMH is actively reaching out to all potentially exposed persons to interview them regarding risk exposures, and if indicated, arranging prophylaxis. To date, there are 7 persons who had exposure to the untanned animal hides associated with the case-patient and who were started on prophylaxis pending further epidemiologic and environmental investigation. These people either (a) mechanically removed hair from untanned animal hides obtained from the case-patient or (b) were in the room around the time hair was mechanically removed from the hides using a razor, and are at potential risk for inhalation anthrax.

If you suspect someone has been exposed – please contact DOHMH for further instructions. DOHMH asks that prophylaxis not be prescribed without discussing the situation first with a DOHMH medical epidemiologist (See contact numbers below).

### **Are other people who work with untanned animal hides at risk for anthrax?**

There are reports in the medical literature of anthrax infections due to handling of contaminated untanned goat, sheep, or cattle hides; these are predominantly cutaneous infections. Most of the previous inhalation anthrax cases associated with contaminated animal hides occurred in industrial settings (e.g., goat hair processing mills) before safe work conditions (including proper ventilation) were in place.

There is a small risk of anthrax in people who manipulate (e.g., *scraping fur off the hide with a razor*) untanned animal hides that come from areas of the world where anthrax is enzootic in animals. Anthrax in animals is common in parts of Asia, Africa, South and Central America, southern and Eastern Europe; anthrax in animals also occurs in the United States, mostly in the Midwestern and western states.

### **What should I advise patients who report that they work with untanned animal hides that potentially come from enzootic areas?**

Persons that handle untanned hides from cattle, sheep, or goats should consider the use of personal protective equipment, such as disposable gloves (latex), and should conduct work in a well ventilated area that does not exhaust to other work or living areas. Careful cleaning of hands and any exposed skin (i.e., with soap and water) after touching untanned hides is strongly encouraged. Persons should also change and launder their work clothing and shower prior to engaging in other activities. Persons engaged in handling these items should avoid wherever possible all activities, such as vigorously shaking, beating, or scraping hides, that may generate aerosols. Such persons should be advised to report any febrile or respiratory illness or skin lesions immediately to their physician and inform him/her of their exposure to untanned animal hides. Persons with ongoing exposure to untanned animal hides should consult with a professional to determine appropriate personal protective equipment and risk mitigation measures. While this may help reduce the risk of acquiring anthrax infection, this cannot be presumed to eliminate it.

**If someone reports working with untanned animal hides that came from an enzootic area, do they need antibiotic prophylaxis?**

Antibiotic prophylaxis for anthrax is to protect against inhalation disease, and is not used to prevent cutaneous infections. Since anthrax infections due to handling of contaminated hides is rare, and when it occurs, is almost always cutaneous, antibiotic prophylaxis is not routinely recommended for persons handling untanned hides.

Although the recent case of inhalation anthrax in a New York City resident is thought to be due to working with (scraping the hairs off) contaminated animal hides in a small, unventilated work space without respiratory protection, this is an extremely rare occurrence. Therefore, the DOHMH is only recommending prophylaxis to persons who were in this patient's workspace in Brooklyn or who also worked with an untanned animal hides obtained from this patient.

**Are people who have bought hand made African drums at risk for anthrax exposure?**

Once the hides have been tanned and the drums are finished, there is no known risk of inhalational anthrax.

**Has the index-patient sold his drums through commercial music stores, and could people who have purchased his drums be at risk for anthrax?**

No. The drums made by this person were sold individually through word of mouth. However, as above, the risk of inhalation anthrax once the drums are finished is thought to be nil. Therefore, the DOHMH is focusing its epidemiologic investigation on identifying persons who worked with the untanned animal hides associated with this case-patient.

**Are other dancers in the case-patient's dance company or persons who attended a performance at risk if they were not exposed to these untanned animal hides?**

No. There is not thought to be any risk of anthrax among persons who either danced in or attended a performance of this dance company. The DOHMH is contacting all members of the dance company to interview them about their risks of exposure to the untanned hides and to determine if they have any symptoms. No other cases or suspected cases of anthrax have been identified to date.

**Are there any results from the environmental investigation and has the source of the anthrax identified?**

Environmental testing at the case patient's West Village home, his Brooklyn storage/work area and the van he used to transport untanned hides have tested positive for anthrax. The risk to individuals other than those who were in his workspace or directly exposed to the untanned hides is believed to be very low and antibiotic prophylaxis is not indicated. A plan for cleaning these areas is being developed in conjunction with EPA.

**Where do we refer the public if they have questions concerning anthrax or prophylaxis?**

The public may call 311.

**Where will the FAQs and Health Alerts be posted?**

The FAQs and the Health Alerts will be posted on the NYC DOHMH web page, [www.nyc.gov/health](http://www.nyc.gov/health), as well as on the NYC DOHMH Health Alert Network located at [www.nyc.gov/health/nycmed](http://www.nyc.gov/health/nycmed). The Health Alert Network requires a registration and a password for access.

**We ask that health care providers report all suspect cases of anthrax infections by calling the following numbers:**

**During business hours: 212-788-9830**

**After hours, contact the Poison Control Center: 212-764-7667 or 1-800-222-1222**