

## Are you prepared for a bioterrorist attack?

Learn how to respond if your community becomes a target.

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**P**icture this: You're caring for more than 40 patients in severe respiratory distress following a bioterrorist release of aerosolized pneumonic plague. While you and your colleagues decide which patients to treat with the six available mechanical ventilators, you must also be ready for an influx of new patients, some desperately ill.

How well would you handle this nursing nightmare?

Since October 2001, when anthrax disseminated through the mail and started taking lives, Americans have been taking the threat of bioterrorism seriously. If a large-scale attack were to occur, the rules you practice by today wouldn't necessarily apply. Even if you're a seasoned nurse, you've never practiced in these extreme circumstances.

You don't want to make up the rules as you go along. Make sure your facility has protocols in place ahead of time so you and your colleagues can work as effectively and fairly as possible in an emergency, whether it's a biological, chemical, or radiological incident or a natural disaster. Using the mnemonic PREPARE, we'll tell you how to lay the groundwork.

### **P**lan with an emphasis on identifying risks

Bioterrorism readiness initiatives begin with a thorough self-assessment of your current knowledge. If you're like most health care professionals and lack the basics, begin educating yourself. Review the epidemiology of a likely bioterrorism attack, clinical presentation and treatments for potential biologic agents, and decontamination issues. ☛

Numerous articles, conferences, and seminars on these topics are available. Also consider informal resources, such as talking with an infection control professional at your facility or searching out educational opportunities on the Internet. Once you've established a personal base of knowledge, look at your facility or your community.

At first, this may seem daunting, but it can be done when members of several key departments work together. Most likely an epidemiologist or infection control specialist will lead a team of staff from security, safety, environmental health, infectious diseases, and nursing. Invite nurses who work in nonhospital settings to join the team because nurses from many settings may volunteer or be reassigned during a crisis.

As a team member, you should be familiar with the facility's bioterrorism response plan, your role in it, and what resources will be available in a crisis. No single organization will respond to an attack alone, so your facility's plan must mesh with that of local, state, and regional agencies, including the health department. The plan will outline participants' roles and facility-specific protocols.

## **R**eview likely bioterrorism agents and know the signs and symptoms they cause

The organisms most likely to be used in a mass attack aren't routine in clinical practice, so quick and accurate identification will be essential to save lives if they strike. Most of them cause flu-like signs and symptoms in the early stages, but they also have differences from naturally occurring diseases that should make you suspicious. For example, inhalation anthrax causes flulike symptoms *and* a widened mediastinum on chest X-ray. Pneumonic plague resembles community-acquired pneumonia in many ways *and* it causes hemoptysis. If you recognize a trend of atypical

**If you recognize a trend of atypical presentations, trust your instinct that something's wrong.**

presentations, trust your instinct that something's wrong. (For Web sites where you can learn more, see *Where to Learn about the Diseases*.)

## **Where to learn about the diseases**

The Centers for Disease Control and Prevention (CDC) has identified anthrax, smallpox, plague, tularemia, botulism, and viral hemorrhagic fever as the most likely diseases to be spread in a bioterrorist attack. Quick identification of the organism is critical to saving lives. Go to these Web sites for information about prophylaxis, treatment, and recommendations for decontamination based on each agent and your type of work setting.

- Center for the Study of Bioterrorism and Emerging Infections: <http://www.bioterrorism.slu.edu>
- CDC Public Health Emergency Preparedness & Response: <http://www.bt.cdc.gov>
- The Association for Professionals in Infection Control and Epidemiology, Inc.: <http://www.apic.org/bioterror/news>.

## **E**xplore epidemiology

You have to know what's normal before you can identify the abnormal, so develop a sense of the typical patterns in your department and your community. For example, diseases seen in an emergency department are much different from those in an outpatient surgical center. Learn about seasonal disease patterns in the community, the signs and symptoms, and the number and types of patients seen with them in a given period.

Once you recognize what's normal, contact your local health department if you notice the following:

- a sudden change in patterns of disease incidence or symptoms among your patient population
- an influx of patients with flulike illness when it isn't flu season
- an unusual number of people developing the same signs and symptoms at the same time. Outbreaks of naturally occurring diseases increase and decrease gradually. Many people suddenly developing similar signs and symptoms may have been exposed to a biological agent simultaneously.

## **P**rotect yourself, your patients, and the community

Follow appropriate infection control practices at all times and take a conservative approach adhering to your facility's infection control policies. For example, in addition to following universal and standard precautions, consider using a surgical mask for ad-

## Calling all agents

Your facility's disaster plan should outline the correct sequence for reporting potential and actual bioterrorist incidents to your local health department and the Federal Bureau of Investigation (FBI). The plan should include the phone number for the local health department and those of adjacent regions for easy access during a crisis.

The FBI hot line number is **1-800-424-8802**. The earlier the FBI learns of a potential attack, the more easily it'll be able to get crucial evidence.

You'll also need to alert your infection control specialist, hospital epidemiologist, or infectious-disease physician.



ditional respiratory protection when caring for a patient who's coughing. If you suspect a contagious disease, isolate the patient promptly and appropriately and don't discontinue isolation until you're certain he no longer represents a transmission risk.

## Assess patients carefully and thoroughly

To help pinpoint the infectious agent and the possible exposure source of a bioterrorist attack, identify and document as much information about your patient's history and symptoms as possible. Here are key areas of focus:

- body site affected
- exposure route
- severity of illness
- time line, including the date of symptom onset and the amount of time between exposure and symptoms, if known
- progression of symptoms
- date and source of exposure, if known.

The incubation period is a critical piece of the puzzle. It helps distinguish between organisms, such as pneumonic plague and inhalation anthrax, which cause similar early signs and symptoms. Pneumonic plague incubates for a few days, but inhalation anthrax can incubate for months. Aside from providing clues about the causative agent, the incubation period helps pinpoint the date of the bioterrorist attack. This helps identify others at risk for the dis-

ease who should receive prophylaxis.

This information will be gathered as part of the epidemiologic investigation, most likely spearheaded by the public health department. You may be asked to assist. If you are, you'll receive protocols and forms to guide the process.

## Ready yourself

If possible, take part in drills at your facility to practice responding quickly and appropriately to a bioterrorist event. Having an incident command system in place provides structure so everyone knows the chain of command. The San Mateo County (Calif.) Emergency Medical Services Agency has developed an excellent model. To learn about it, go to <http://www.emsa.cahwnet.gov/dms2/heics3.htm>.

Communicating with a community-based emergency team is vital to an effective response. Phone numbers for the team of health care representatives, local law enforcement, federal agencies (including the military), public health agencies, and emergency medical service personnel should be part of your facility's disaster plan.

Although decontamination isn't generally an issue with biological agents, your facility should have a policy on handling patients whose contamination status is unknown. If an attack is announced within 12 to 24 hours after a release, tell exposed individuals to bathe with soap and water, change their clothes, and place their clothing in a sealed plastic bag for investigative purposes.

Transport vehicles and stretchers don't generally need decontamination. However, for infectious agents such as smallpox and viral hemorrhagic fever, which can spread hand to hand or through contact with fomites, all exposed surfaces should be cleaned with hospital-grade germicide approved by the Environmental Protection Agency.

Know how to access reliable information. As we learned on

September 11, 2001,

phone, fax, and Internet access may be limited after an attack, so you can't rely on these avenues to reference material or expert advice. Have textbooks,

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other printed materials, personal data assistants (PDAs), or CD-ROMs on hand or store information on your computer's hard drive so you'll have reference materials available in a hurry.

Finally, don't panic. Patients, families, and the community will count on health care professionals to remain calm and in control.

## **E**ducate yourself about the disaster plan

Know what to expect if your facility implements its disaster plan—especially your role. Find out what investigative procedures to follow and be prepared to help collect evidence. You'll have to learn to follow the chain of custody documentation from the moment of collection, regardless of where evidence is collected.

## **Prepared for a crisis**

As a nurse, you'd be asked to join the response to a bioterrorist attack, but you need preparation to do it. Once you learn about the potential agents, expand your assessment and patient-care

skills, and investigate emergency response systems, you'll be ready to help if such a crisis ever strikes your community. **U**

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