**Prophylaxis Related to Bioterrorism Fact Sheet**
for EMS, Public Safety, and First Responders

**What is prophylaxis?**
Infectious disease prophylaxis is the use of medications and/or vaccines to prevent disease or limit the severity of disease in people who have been exposed to certain bacteria or viruses.

**Why is prophylaxis important?**
Prophylaxis can prevent or reduce the severity of illness in people exposed to certain bacteria or viruses. Usually, prophylaxis must be given soon after exposure to be most effective, but in some cases the window for providing prophylaxis after exposure is several days.

**What are the primary bioterrorism diseases for which prophylaxis may be used?**
Anthrax, pneumonic plague (lung type), and smallpox are the diseases of most concern. These diseases have the potential to cause a large number of illnesses and deaths, public panic, and social disruption. It is possible to aerosolize (create a spray that can be inhaled) the germs that cause anthrax and plague. This could result in a large-scale terrorism attack that extends over a wide geographic area.

<table>
<thead>
<tr>
<th>Disease (organism causing it)</th>
<th>How it could be spread</th>
<th>Prophylaxis available</th>
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</thead>
<tbody>
<tr>
<td>Anthrax <em>(Bacillus anthracis</em> bacteria [spores])</td>
<td>Anthrax is NOT spread person-to-person. In a bioterrorism event, anthrax would most likely be aerosolized, causing inhalation (lung) anthrax. Cutaneous (skin) anthrax is caused when spores enter the skin, usually through a cut.</td>
<td>Exposed people (those who were in the area of an anthrax release) are given oral antibiotics and/or anthrax vaccine as prophylaxis.</td>
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<tr>
<td>Pneumonic plague <em>(Yersinia pestis</em> bacteria)</td>
<td>Pneumonic plague is spread person-to-person. A person can become infected with plague by breathing in plague bacteria from an aerosol release or from close contact with someone already infected.</td>
<td>Exposed people are given oral antibiotics as prophylaxis. There is no vaccine against pneumonic plague.</td>
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<tr>
<td>Smallpox <em>(variola virus)</em></td>
<td>Smallpox is spread person-to-person. A person can get smallpox from a close contact who is ill with the disease. Smallpox patients are very sick, usually not mobile and have a rash. The smallpox rash must be present for the infected person to be able to spread the disease to others.</td>
<td>People exposed to smallpox are given vaccine as prophylaxis. Vaccine can prevent smallpox if given up to a few days after exposure. Oral antibiotics are not given to prevent smallpox because they are not effective against viruses.</td>
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Who should receive prophylaxis?
The determination of who should receive prophylaxis always errs on the side of caution. Exposure occurs in one of two ways, as outlined in the chart above: 1) by being in the same immediate location as an aerosolized release or 2) having close contact with a person already infected (not just exposed) with a disease that spreads person-to-person. If exposure has not occurred and there is limited potential for future or ongoing exposure, then prophylaxis is not needed. Public health response always involves ongoing monitoring of the situation and if risk changes, prophylaxis may be recommended.

Why wouldn’t Public Safety Personnel and First Responders always receive prophylaxis?
Since Public Safety Personnel and First Responders interact with the general public in their work, you may understandably have questions about why you wouldn’t automatically be given prophylaxis during a bioterrorism event.

Prophylaxis may not be recommended for people who have not been exposed because:

- Prophylaxis must first be provided to exposed people because they have the greatest risk of getting sick or dying.
- Providing prophylaxis to unexposed Public Safety Personnel or First Responders could delay prophylaxis for exposed people.
- Prophylactic medications and vaccines may be in short supply and their use must be prioritized on the basis of risk.
- Prophylaxis of a large number of people is a very intensive undertaking, and diverting staff and resources away from the actual response to provide prophylaxis to Public Safety Personnel and First Responders is only justified if there is real risk to them.
- Side effects can occur as a result of prophylaxis and people should not receive prophylaxis unless it is indicated.
- Providing antibiotics to people who do not need them can lead to the development of antibiotic-resistant bacteria.
- Requests or demands from any person or group to receive prophylaxis when they have not been exposed can lead to the same expectations from the general public.

This could also cause disruption and chaos at the dispensing clinics where prophylaxis would be given.

What is the process for receiving prophylaxis?
On a day-to-day basis, when Public Safety Personnel and First Responders are exposed to diseases that are spread from one person to another (for example, pertussis [whooping cough], tuberculosis or meningococcal disease [meningitis], they may be prophylaxed via hospitals or the public health system. The Minnesota Department of Health and local public health agencies will coordinate prophylaxis for exposures to bioterrorism agents. In a large-scale bioterrorism event, antibiotics and/or vaccines needed for prophylaxis of exposed Public Safety Personnel and First Responders will be available quickly from regional caches, which can be made available 24/7 for emergency use, upon release by the Minnesota Department of Health.

Where can I get more information?
The Minnesota Department of Health and local public health agencies are resources for Public Safety Personnel and First Responders who have questions. Information on bioterrorism agents can be found online at: http://www.bt.cdc.gov/agent/agentlist.asp and infection control resources can be found at: http://www.health.state.mn.us/divs/idepc/dtopics/infectioncontrol/index.html.

For additional questions, you may contact the Minnesota Department of Health by telephone at 651-201-5414 (or toll free at 1-877-676-5414) or you may contact occupational health providers and/or infection control specialists through your workplace.

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