



INTRODUCTION TO BIOTERRORISM

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Biological Warfare:

The intentional use of microorganisms or toxins derived from living organisms to produce death or disease in humans, animals or plants

Biological Terrorism:

The threat or use of biological agents by individuals or groups motivated by political, religious, ecological or other ideological objectives

Clues to Bioterrorism attack:

1. Unusually large number of acutely ill patients
2. Unusual clinical presentation
3. Unusual or impossible agent for the geographical area
4. Unusual distribution of disease
5. Unexplained number of dead animals

Biological Warfare Agent Considerations:

- Historical devastation
- Infectivity
- Disease to infection ratio
- Case fatality ratio
- Communicability
- Stability (easy to produce and deploy?)
- Ease of production
- Countermeasures available?

Potential sources for Biological Agents:

- Natural environment
- Legitimate suppliers
- Theft-pharma, microbiology labs
- Self-production
- Purchase from clandestine sources

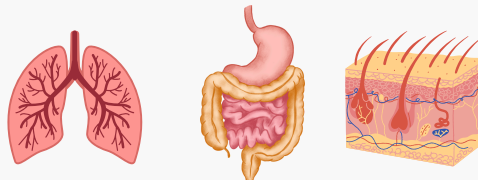
Making bioweapons uses common technology needed for legitimate production of Beer, wine, vaccines, pharmaceuticals

Can be hidden in plain sight!

Biological Warfare, the Ultimate Weapon?

- Easy to obtain
- Relatively easy and inexpensive to produce
- Readily available delivery modes
- Dissemination over large areas w/o detection
- Large number of casualties possible
- Even threat of use would create fear, panic
- Perpetrators could escape days before effects seen (incubation period)

Portals of entry of biological agents:



Lungs, GI tract, Skin

Optimal Delivery System:

Aerosol delivery

- Generation of particles 1-5 microns
- Settles in lower respiratory tract
- Not detectable by our senses

Considerations for the Severity of Bioterrorism Threats:

dispersed in aerosol, highly lethal, production capability knowledge available, lack of treatment or vaccine, spreads person-to-person

Countering Bioterrorism:

- Intelligence (agent, delivery systems, organization, surveillance)
- Education and training (Mil. And Civ. Health, care providers, electronic communication, distance learning)
- Medical countermeasures (vaccines/prophylaxis, diagnosis, therapeutics)
- Physical countermeasures (detection, physical protection, decontamination)

Summary:

Biological weapons are a very real threat to military forces and could be a potent terrorist weapon against civilian targets. Mass casualties could be produced. Medical defenses are available against some threat agents. Early recognition and response is key to reducing illness.

Suspect a biological attack in the setting of mass casualties with similar clinical syndrome.

CDC Category "A" Threat Agents/Diseases (Highest threat)
Anthrax, Botulism, Plague, Smallpox, Viral Hemorrhagic Fever, Tularemia

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