

ASID Policy On Biological and Toxin Weapons

(ratified at the Annual General Meeting of the Society 17/8/02)

Recognising that:

1. Every major new technology has come to be exploited for hostile as well as peaceful purposes. Biological weapons are no exception, and have been developed and used over centuries.
2. In recent decades, a number of states and non-state organisations have conducted programs to develop and acquire biological weapons. These weapons may remain viable for many years after such programs have been shut down. Both intentional and unintentional releases may contaminate, injure or kill. In addition, it cannot be excluded that some such programs remain active, or that new efforts may be made to acquire biological weapons.
3. Advances in and spread of biotechnology, and increased accessibility of related information, offer new tools to any country or ill-minded group intending to develop a biological weapon. The spread of industrial microbiology has enhanced the accessibility of biological agents on a large scale (WHO, 2001).
4. Deliberate dissemination of anthrax through contaminated letters in the late 2001 in the US resulted in human cutaneous and pulmonary infections, some deaths and thousands of persons exposed and requiring chemoprophylaxis; highlighting the disruptive potential of even very localised malevolent releases of biological or toxin agents.
5. Public health infrastructure throughout most of the world is stretched to the limit coping with natural health hazards (WHO, 2001).
6. Preparedness for deliberate releases of biological agents can be enhanced most effectively by strengthening public health infrastructure, particularly surveillance and response capacities. These same capacities are key to an effective response to any disease outbreak, and should be integrated in national emergency planning.

Early consideration of the possibility of deliberate exposure by informed and alert clinicians, and swift and effective liaison between clinicians, laboratories and public health authorities would be vital to an effective response to use of a biological weapon.

7. Infectious disease physicians have particular responsibilities including:

- For patients under their care or about whom they are consulted, to consider when appropriate the possibility of illness related to biological weapons exposure; to ensure that relevant laboratory specimens are taken and handled appropriately; and to ensure that close liaison with public health authorities is initiated promptly
 - Taking a leading role in educating themselves and other health professionals about medical aspects of biological weapons; including general characteristics, clinical presentation, diagnosis, treatment and prophylaxis of the most important relevant diseases
 - Ensure that appropriate measures are put in place to minimise the spread of communicable bioterrorism agents within health care establishments.
8. Although development of detection, treatment and prevention capabilities could reduce casualties from a small-scale attack, major protection from a large-scale attack could not be guaranteed, and elaborate measures to defend against specific agents are likely to be a large and wasteful effort.
 9. As noted by WHO (2001), there is a danger that overoptimistic evaluation of protective preparations may distract attention from the continuing importance of prevention.
 10. The Biological Weapons Convention (BWC) which entered into force in 1975 is the main international legal instrument to prevent development or acquisition of biological or toxin weapons. However unlike the Chemical Weapons Convention, it lacks verification and compliance provisions.

An Ad Hoc Group of 50 countries has worked since 1994 to develop an enforceable international compliance Protocol to strengthen the BWC, modelled largely on the Chemical Weapons Convention, which has such provisions, and a dedicated international organisation to implement them.

In December 2001, the 5th five yearly BWC Review Conference ended in disarray with no agreed outcome and was suspended for one year, principally as a result of the US government's rejection of the Protocol and the mandate of the Ad Hoc Group.

In notable contrast to its leading role in the development and implementation of the Chemical Weapons Convention; and despite Australian expertise in relevant, including animal health areas, and an Australian contribution in the drafting of the Protocol, the Australian government is currently disavowing any leadership role in strengthening the BWC.

11. The statement by the World Health Assembly (Resolution WHA20.54 of 1967) that "scientific achievements, and particularly in the field of biology and medicine - that most humane science - should only be used for [hu]mankind's benefit, but never to do it any harm" remains as valid today as it was then.

The Australian Society for Infectious Diseases therefore resolves that:

1) The Society should take an active role in educating its members, the medical and other health professional communities regarding the medical implications of biological weapons.

2) The Society should communicate to the Australian community and government its view that:

- Current international measures to prevent the acquisition and use of biological weapons need to be strengthened
- The collapse of the BWC 2001 Review Conference and lack of progress towards implementing an enforceable protocol to strengthen the Convention is a matter of regret and concern
- The Australian government should actively work towards a strengthened international regime to prevent the use of biological weapons, and agreement on implementation of such measures at the Biological Weapons Convention Review Conference set to resume in November 2002

3) The Society should ensure as far as possible that members do not participate in the development or use of biological weapons

Reference:

World Health Organisation. Public health response to biological and chemical weapons - WHO guidance. [Pre-publication issue]. Geneva; WHO, November 2001.

ASID Summary of Selected Potential Agents of Bioterrorism

Disease	Statistics	Common Clinical Manifestations	Diagnosis	Isolation Precautions	Initial treatment	Post exposure prophylaxis
Cutaneous Anthrax	<p>Incubation 1 to (?) 7 days</p> <p>Mortality 5-15% develop systemic infection.</p>	<p>Pruritic papule at site of inoculation, with surrounding oedema, local lymphadenopathy.</p> <p>Usually progresses to painless eschar within 3-7 days.</p>	<p>Gram stain, culture and PCR of biopsy of lesion.</p>	<p>Universal precautions only - no person to person spread seen.</p> <p>NB laboratory precautions.</p>	<p>Ciprofloxacin 500mg o (or 400mg IV) bd, or Doxycycline 100mg o bd ?? ampicillin in infants/pregnancy.</p>	<p>Outbreak: ciprofloxacin or doxycycline for 60 days.</p>
Inhalation Anthrax	<p>Incubation 1 to > 48 days</p> <p>Mortality 100% without Rx, ~40% in US outbreak.</p>	<p>Prodrome flu like (hours-days) Then fulminant toxin mediated disease (death by day 3 usual) with haemorrhagic mediastinal lymphadenitis on CT or widened mediastinum CXR. Pleural effusion common, consolidation not rare. Most bacteraemic, ~ 50% have meningitis.</p>	<p>Blood cultures. CSF cultures. Pleural fluid.</p> <p>NB: Review of isolate (and PCR) by PHLN (BSL3) Lab.</p> <p>? Serology.</p>	<p>Universal precautions only - no person to person spread seen.</p> <p>NB laboratory precautions: lab acquired infection have occurred.</p>	<p>Ciprofloxacin 500mg o (or 400mg IV) bd, or Doxycycline 100mg o bd. ?? ampicillin in infants/pregnancy.</p>	<p>Outbreak: ciprofloxacin or doxycycline for 60 days, or ciprofloxacin or doxycycline for 4 weeks plus accelerated vaccine course.</p> <p>Exposure to substance claimed to be anthrax: consider ciprofloxacin or doxycycline until substance identified</p>
Pneumonic Plague	<p>Incubation 2-3 days</p> <p>Mortality 70% untreated, ~5% with early Rx.</p>	<p>Acute, severe pneumonia and sepsis with high early mortality. Often bilateral. Haemoptysis and prominent GI symptoms common</p>	<p>Blood cultures Sputum cultures</p>	<p>Respiratory precautions (HIGH risk of spread by respiratory droplets)</p>	<p>Gentamicin 5mg/kg IV/day, or ciprofloxacin 500mg o bd or doxycycline 100mg bd. <i>In outbreak treat presumptively all with fever or new cough</i></p>	<p>Household & close (<2m) contacts doxycycline 100mg o bd x 7 days</p> <p>No vaccine available</p>

Disease	Statistics	Common Clinical Manifestations	Diagnosis	Isolation Precautions	Initial treatment	Post exposure prophylaxis
Smallpox (Variola Major)	Incubation 7-17 days Mortality 20-50%	Prodrome (days) high fever, prostration, head & back ache. Infectious period: Rash face and extremities THEN trunk and limbs. Maculopap -> vesicles (day 2-3) -> deeply embedded pustules. Lesions in one area all same age. Involves palms, soles, mucosae. Death from toxæmia or 2° infection in 2nd week. NB atypical presentations: malignant, hæmorrhagic.	Vesicle fluid (on cotton swab) or pustule scab for viral studies. BSL3-4 lab.	Respiratory and contact (gown, glove and mask)- HIGH risk of person to person transmission (2° spread rare before rash develops)	Supportive.	Ideally to all face to face contacts <i>since the onset of fever</i> Vaccine (limited availability) within 4 days of exposure -> greatly reduces risk of fatal disease. <i>NB vaccination many years previously may NOT give reliable immunity - revaccinate if exposed</i> Cidofovir may be equivalent to vaccine as PEP
Botulism (from inhaled or ingested toxin)	Incubation 6 hours - 10 days (dose dependent) Mortality ~10% in outbreaks	Symmetrical descending paralysis in alert, afebrile patient. Cranial nerve palsies -> descending motor weakness -> respiratory failure GIT prodrome with ingested but not inhaled toxin. Diplopia the only "sensory" symptom	Clinical Toxin from serum or stool. CSF protein normal (cf GBS). Tensilon test -ve (cf Myasthenia).	Universal precautions only	Supportive monitor vital capacity and intubate if <12ml/kg. Antitoxin single dose (if available) after skin testing	None available NB avoid aminoglycosides for intercurrent problems - may prolong neuromuscular blockade

Bioterrorism Web Resources

<http://www.idsociety.org/BT/toc.htm>

IDSA BT information and resources (July 2002).

www.bt.cdc.gov/HealthProfessionals/index.asp

CDC Public Health Emergency Preparedness & Response (Lab & Health Professionals) index. Includes: fact sheets, guidelines, and webcasts for anthrax, smallpox and other BTAs, and links to MMWR & EID BT articles, Case definitions etc. (5 April 2002).

www.bt.cdc.gov/misc/webcasts/iceid/index.asp

CDC BT webcasts with downloadable slides from ICEID Mar 2002. Good update on US anthrax and smallpox preparedness. (17 April 2002)

<http://nejm.org/earlyrelease/index.asp>

NEJM smallpox papers, including vaccine dilution studies, and an excellent clinical review paper. (28 March 2002)

<http://www.fas.org/bwc/news/anthraxreport.htm>

Federation of American Scientists BWC site. An alternative to the official US line. "Home site" for Barbara Rosenberg - and a careful and complete analysis of the US Domestic anthrax outbreak. Strong BWC focus including most relevant link sites. Includes agricultural biowarfare. Cites relevant articles from N Y Times and Washington Post. (22 March 2002)

www.nbc-med.org/others/Default.html

US military open access server for Nuclear, Biological and Chemical Agents. Searchable. Extensive links. Downloadable handbooks (including Medical Management of Biological Casualties Handbook 4th ed, Feb 2001 (18 March 2002)

www.icaac.org/Community.asp

ICAAC Summaries and webcasts Dec 2001, including downloadable plenary on BT, and a BT resource list (13 March 2001).

www.cdc.gov/ncidod/EID/bio_links.htm

CDC: PDF's of Emerging Infectious Diseases BT-related articles. (2 March 2002)

<http://www.upmc-biosecurity.org/>

Johns Hopkins Center for Civilian Biodefense Strategies are now affiliated with the Center for Biosecurity of the **University of Pittsburgh Medical Center** (UPMC).

<http://www.who.int/csr/en/>

WHO BT site. Includes links to resources such as the WHO Public Health Response to Biological and Chemical weapons. (Jan 2002)

www.health.gov.au/pubhlth/strateg/bio/index.htm

Australian health authorities response to biohazard issues index. Local statements (mainly anthrax and dated), plus a list of links to Australian State Health Depts., and US BT resources. (18 Dec 2001).

Contact Details In Case of a Suspected Bioterrorism Event

The following contact details are provided on the [Australian Department of Health & Ageing](#) website dated December 2001. Regional contacts may be available on the individual state health departments' websites, or contact your nearest Public Health Unit or the Infectious Diseases Physician at your nearest hospital.

W.A.	Department of Health	08 9388 4999 (BH) 08 9480 4960 (AH)
TAS	Dr Avner Mirachi David Coleman	1800 671 738
VIC	Dr Graham Tallis	(03) 9637 4182 AH 132222 (pager 46870)
QLD	Dr Linda Selvey	(07) 3234 1152
S.A.	Dr Robert Hall	(08) 8226 7177
N.T.	Dr Vicki Krause	(08) 8922 8510 AH 8922 8888
N.S.W.	Central Sydney Public Health Unit	Ph (02) 9515 3180 Fax (02) 9515 3182
A.C.T.	Communicable Diseases Unit	(02) 6205 2155