



Chemical/Biological Terrorism March 2004

1: Am J Epidemiol. 2004 Feb 1;159(3):217-24.

Comment in: Am J Epidemiol. 2004 Feb 1;159(3):225-7; discussion 228.

A generalized linear mixed models approach for detecting incident clusters of disease in small areas, with an application to biological terrorism.

Kleinman K, Lazarus R, Platt R.

Department of Ambulatory Care and Prevention, Harvard Medical School, Boston, MA 02215-3920, USA. ken@hsph.harvard.edu

Since the intentional dissemination of anthrax through the US postal system in the fall of 2001, there has been increased interest in surveillance for detection of biological terrorism. More generally, this could be described as the detection of incident disease clusters. In addition, the advent of affordable and quick geocoding allows for surveillance on a finer spatial scale

than has been possible in the past. Surveillance for incident clusters of disease in both time and space is a relatively undeveloped arena of statistical methodology. Surveillance for bioterrorism detection, in particular, raises unique issues with methodological relevance. For example, the bioterrorism agents of greatest concern cause initial symptoms that may be difficult to distinguish from those of naturally occurring disease. In this paper, the authors propose a general approach to evaluating whether observed counts in relatively small areas are larger than would be expected on the basis of a history of naturally occurring disease. They implement the approach using generalized linear mixed models. The approach is illustrated using data on health-care visits (1996-1999) from a large Massachusetts managed care organization/multispecialty practice group in the context of syndromic surveillance for anthrax. The authors argue that there is great value in using the geographic data.

PMID: 14742279 [PubMed - indexed for MEDLINE]

2: Am J Health Syst Pharm. 2003 Nov 1;60(21):2176, 2180, 2184.

Experts warn drug industry, government about weaknesses in drug supply chain.

Young D.

Publication Types: News

PMID: 14619107 [PubMed - indexed for MEDLINE]

3: Am J Infect Control. 2003 Dec;31(8):511-4.

An innovative approach to training hospital-based clinicians for bioterrorist attacks.

Filoromo C, Macrina D, Pryor E, Terndrup T, McNutt SD.

University of Alabama at Birmingham, Department of Human Studies, Birmingham, Alabama USA.

The recent attacks of September 11, 2001, and the subsequent dissemination event of anthrax in the United States demonstrated the necessity for hospitals to initiate bioterrorism education for clinicians. Events such as the release of sarin gas into the Tokyo subway by the Aum Shinrikyo cult provided some insight into how quickly emergency medical personnel may be overwhelmed by causalities of unconventional weapons. Educational interventions to prepare hospital-based practitioners for such disasters must fit among the demands of patient care, administrative duties, and continuing education within specialties. In addition, the priority placed on the topic, confusion about reputable resources to consult, and concerns of funding for preparedness training mandate the need for an authoritative, comprehensive, and easily accessible approach. A pilot project supported in part by the Agency for Healthcare Research and Quality was developed to facilitate streamlining of preparedness efforts through the implementation of interactive screen savers as an alternative to traditional educational modalities. This report presents the successful application of this model, which was quantified with pretests and posttests given to users of the system.
PMID: 14647116 [PubMed - indexed for MEDLINE]

4: *Ann Emerg Med.* 2004 Mar;43(3):329-32.
Chinese curses, anthrax, and the risk of bioterrorism.
Schultz CH.

Department of Emergency Medicine, University of California-Irvine College of Medicine, and the Emergency Department, University of California-Irvine Medical Center, Orange, CA, USA.
PMID: 14985658 [PubMed - in process]

5: *Arch Pediatr Adolesc Med.* 2004 Feb;158(2):106-7.
Comment on: *Arch Pediatr Adolesc Med.* 2004 Feb;158(2):146-52.
Can preparedness for biological terrorism save us from pertussis?
Duchin JS.

Publication Types: Comment Editorial
PMID: 14757599 [PubMed - indexed for MEDLINE]

6: *Br J Psychiatry.* 2003 Dec;183:491-7.
Biochemical terrorism: too awful to contemplate, too serious to ignore: subjective literature review.
Alexander DA, Klein S.
University Medical School, University of Aberdeen, UK.
BACKGROUND: It is important not to foster unnecessary public anxiety with regard to the risk of a biochemical terrorist incident, but the authorities need to consider their response strategy, particularly with regard to mental health issues. AIMS: To describe the likely effects of a terrorist incident involving biochemical agents and to identify important response issues. METHOD: Literature survey. RESULTS: Observations following conventional terrorist incidents and other major trauma, including biochemical and nuclear accidents, suggest that a biochemical terrorist incident would have widespread public effects. The mental health services should play a major role in designing an effective multi-disciplinary response, particularly with regard to the reduction of public anxiety, identifying at-risk individuals and collaborating with medical and emergency services, as well as providing care for those who develop post-traumatic psychopathology. CONCLUSIONS: We should not feel helpless in the face of a biochemical threat; there is considerable knowledge and experience to be tapped. A well-designed, well-coordinated and rehearsed strategy

based on empirical evidence will do much to reduce public anxiety and increase professional confidence.

Publication Types: Review Review Literature
PMID: 14645019 [PubMed - indexed for MEDLINE]

7: Bull World Health Organ. 2003;81(10):762-7. Epub 2003 Nov 25.

Smallpox and bioterrorism.

Pennington H.

Department of Medical Biology, University of Aberdeen, Medical School Building, Foresterhill, Aberdeen AB25 2ZD, United Kingdom. t.h.pennington@abdn.ac.uk

Smallpox was declared to be eradicated on 8 May 1980, during the Thirty-third World Health Assembly. However, concerns about the possible use of the virus as a weapon of bioterrorism have increased in recent years. Governments have responded by initiating selective vaccination programmes and other public health measures. This review uses historical data from 20th century outbreaks to assess the risks to current populations (which have declining immunity) from a deliberate release of virus. The data presented supports the conclusion of a previous reviewer (Mack) that "smallpox cannot be said to live up to its reputation. Far from being a quick-footed menace, it has appeared as a plodding nuisance with more bark than bite." Its R value (the average number of secondary cases infected by a primary case) is lower than that for measles, human parvovirus, chickenpox, mumps, rubella, and poliomyelitis; only the value for severe acute respiratory syndrome (SARS) is lower. Like SARS, close person-to-person contact is required for effective spread of the disease, and exposure to the virus in hospitals has played an important role in transmission for both viruses. In the present paper the dangers of mass vaccination are emphasized, along with the importance of case isolation, contact tracing, and quarantine of close contacts for outbreak control. The need for rapid diagnosis and the continued importance of maintaining a network of electron microscopes for this purpose are also highlighted.

Publication Types: Review Review, Tutorial
PMID: 14758439 [PubMed - indexed for MEDLINE]

8: Camb Q Healthc Ethics. 2003 Fall;12(4):455-65.

Ethical resource distribution after biological, chemical, or radiological terrorism.

Iseron KV, Pesik N.

Program in Bioethics, University of Arizona College of Medicine, Tucson, Arizona, USA.

PMID: 14619379 [PubMed - indexed for MEDLINE]

9: Can HIV AIDS Policy Law Rev. 2002 Mar;6(3):48.

US CDC revises model bioterrorism law to exclude HIV/AIDS.

[No authors listed]

Publication Types: Newspaper Article
PMID: 14979255 [PubMed - indexed for MEDLINE]

10: Can HIV AIDS Policy Law Rev. 2002 Mar;6(3):53-4.

Canada/US: bioterrorism highlights double standard for access to medicines.

Elliott R.

In September 2001, shortly after terrorist attacks in the United States, the issue of bioterrorism--and specifically fear about reported cases of anthrax in the US--led the Canadian Minister of Health to be concerned about the available stocks of the drug ciprofloxacin to treat this disease.

Publication Types: Newspaper Article
PMID: 14979262 [PubMed - indexed for MEDLINE]

11: Clin J Oncol Nurs. 2004 Feb;8(1):51-5.
Oncology nursing implications related to smallpox bioterrorism preparations.
Mack K.
Kelly.Mack@usoncology.com

Although smallpox was globally eradicated in 1977, the current threat of smallpox as a bioterrorism agent is unknown. Based on intelligence reports, the U.S. government and public health sectors have recommended smallpox vaccination for very select individuals. Patients with cancer are at particular risk for complications from the smallpox vaccine because of potential immunosuppression. Vaccinated nurses caring for these patients also need to take special precautions because of the possibility of secondary transmission of this live vaccine to patients. This article reviews background information on bioterrorism, the presentation and clinical features of smallpox, contraindications to the smallpox vaccine, and implications for oncology nurses.
PMID: 14983764 [PubMed - in process]

12: Clin Lab Sci. 2004 Winter;17(1):35-9.
Francisella tularensis: possible agent in bioterrorism.
Gallagher-Smith M, Kim J, Al-Bawardy R, Josko D.
University of Medicine and Dentistry of New Jersey School of Health Related Professions, Newark, NJ 07107, USA.
Francisella tularensis, the causative agent of tularemia, is a highly infectious gram-negative coccobacillus. Due to its high infectivity it is of major concern to public health officials as a possible biological weapon. Although accidental exposure can occur through arthropod bites, handling infected animals, or breathing in aerosols, cases are usually isolated and contained. In the event of an intentional exposure such as in a bioterrorist attack, inhalation of aerosols can result in devastating consequences with much causality. Although a vaccine is available, sufficient quantities may not be readily accessible in an actual attack. Therefore, it is very important for both medical professionals and public health officials to be prepared to contain and control the situation should it actually occur.
PMID: 15011979 [PubMed - in process]

13: Clin Microbiol Infect. 2003 Sep;9(9):984-6.
Antibiotic susceptibility of isolates of Bacillus anthracis, a bacterial pathogen with the potential to be used in biowarfare.
Jones ME, Goguen J, Critchley IA, Draghi DC, Karlowsky JA, Sahm DF, Porschen R, Patra G, DelVecchio VG.
Focus Technologies, Herndon, VA, USA. mjones@focustechnologies.com
Bacillus anthracis is a bacterial species that could be used in a bioterrorist attack. We tested a collection of isolates with a range of relevant antimicrobial compounds. All isolates tested were susceptible to ciprofloxacin and doxycycline. Penicillin and amoxicillin, with or without clavulanate, showed in vitro activity against all B. anthracis isolates. Ceftriaxone demonstrated lower-level in vitro activity compared to penicillin-related compounds against B. anthracis. In vitro data from this study are in keeping with available guidelines.
PMID: 14616693 [PubMed - indexed for MEDLINE]

14: Conn Med. 2004 Jan;68(1):27-35.

Bioterrorism preparedness--Part II. Smallpox vaccination in a hospital setting.

Jacobs LM, Emanuelsen K, McKay C, Burns K.

Department of Traumatology and Emergency Medicine, Hartford Hospital, 80 Seymour Street, P.O. Box 5037, Hartford, CT 06102, USA. Ljacobs@harthosp.org

The threat of using smallpox as an agent for bioterrorism resulted in a directive for the creation of smallpox response teams. In Connecticut, The Commissioner of the Department of Public Health convened public health and hospital leadership to plan for the vaccination of these teams. The purpose of this paper is to provide a description of the vaccination program at Hartford Hospital, a Center of Excellence for Bioterrorism Preparedness, and to report the results of a survey of the vaccinees regarding the vaccination experience. Ninety persons were vaccinated. Six individuals experienced low-grade fever and 10 had axillary node swelling. One individual experienced significant fatigue. A total of six persons lost time from work. Four lost one day and two persons lost between four to five days of work. There was no autoinoculation, transfer inoculation, vaccinia or any other significant complication. Survey results indicate that most vaccinees felt positive about the experience.

Publication Types: Review Review, Tutorial

PMID: 14752914 [PubMed - indexed for MEDLINE]

15: Curr Neurol Neurosci Rep. 2003 Nov;3(6):476-82.

Bioterrorism and the nervous system.

Han MH, Zunt JR.

Department of Neurology, Harborview Medical Center, Box 359775, 325 Ninth Avenue South, Seattle, WA 98104, USA.

Recent events of war, terrorist attacks, and mail-borne anthrax exposure have produced increasing awareness of potential bioterrorism attacks in the United States and other parts of the world. Physicians and healthcare personnel play a key role in identifying potential bioterrorist attacks. Early recognition and preparedness for bioterrorism-associated illnesses is especially important for neurologists because most bioterrorism agents can directly or indirectly affect the nervous system. This article reviews the neurologic manifestations, diagnosis, and treatments of syndromes caused by potential bioterrorism agents, as well as the potential side effects of vaccines against some of these agents.

Publication Types: Review Review, Tutorial

PMID: 14565901 [PubMed - indexed for MEDLINE]

16: Dis Mon. 2004 Jan;50(1):6-40.

Disaster and terrorism preparedness: what pediatricians need to know.

Redlener I, Markenson D.

National Center for Disaster Preparedness Associate Dean, Mailman School of Public Health, Columbia University, New York, NY, USA.

PMID: 14743181 [PubMed - indexed for MEDLINE]

17: Drug Discov Today. 2004 Mar 1;9(5):205-6.

The development of antimicrobials and vaccines against bacterial bioterrorism agents--where are we?

Gilligan PH.

Publication Types: Letter
PMID: 14980537 [PubMed - in process]

18: EMBO Rep. 2003 Jun;4 Spec No:S61-4.
Strengthening the BTWC. The role of Biological and Toxin Weapons Convention in combating natural and deliberate disease outbreaks.
Walker JR.
Arms Control and Disarmament Research Unit, Foreign and Commonwealth Office, London, UK. john.r.walker@fco.gov.uk
PMID: 12789410 [PubMed - indexed for MEDLINE]

19: EMBO Rep. 2003 Jun;4 Spec No:S57-60.
Genetic engineering and biological weapons. New technologies, desires and threats from biological research.
van Aken J, Hammond E.
Jan van Aken and Edward Hammond are at The Sunshine Project in Hamburg, Germany, and Austin, Texas, USA. van.aken@sunshine-project.de
Publication Types: Historical Article
PMID: 12789409 [PubMed - indexed for MEDLINE]

20: EMBO Rep. 2003 Jun;4 Spec No:S53-6.
Advances in life sciences and bioterrorism. Risks, perspectives and responsibilities.
Beck V.
Advisor to the Federal Government Commissioner for Disarmament and Arms Control at the German Foreign Office in Berlin, Germany. beckvolker@aol.com
PMID: 12789408 [PubMed - indexed for MEDLINE]

21: EMBO Rep. 2003 Jun;4 Spec No:S1-3.
Infectious diseases and bioweapons. Science and political economics of affliction.
Stefansson H.
Head of the Science and Society Office of the European Molecular Biology Laboratory in Heidelberg, Germany. halldor.stefansson@embl-heidelberg.de
PMID: 12789396 [PubMed - indexed for MEDLINE]

22: EMBO Rep. 2003 Jun;4 Spec No:S47-52.
The history of biological warfare. Human experimentation, modern nightmares and lone madmen in the twentieth century.
Frischknecht F.
Friedrich Frischknecht is at the Malaria Biology and Genetics Unit, Department of Parasitology, Institut Pasteur, 25-28 Rue du Dr Roux, 75015 Paris, France. freddy@pasteur.fr
Publication Types: Historical Article
PMID: 12789407 [PubMed - indexed for MEDLINE]

23: Ethn Dis. 2003 Summer;13(3 Suppl 3):S3-58-62.
Responding to bioterrorism.
Wetterhall SF.
DeKalb County Board of Health, Center for Public Health Preparedness, Atlanta, Georgia, USA.
PMID: 14552456 [PubMed - indexed for MEDLINE]

24: Eur J Emerg Med. 2003 Sep;10(3):169-75.

Resuscitative challenges in nerve agent poisoning.

Ben Abraham R, Weinbroum AA.

Department of Anesthesiology and Critical Care Medicine, Tel Aviv Sourasky Medical Center and the Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel.

The threat of weapons of mass destruction such as nerve agents has become real since last year. The medical community has established protocols for the rapid evacuation and decontamination of affected civilians. However, protocols for resuscitative measures or acute perioperative care in cases of life-saving surgical interventions in toxic-traumatized casualties are still lacking. The database concerning the effects of nerve agent poisoning in humans is limited, and is largely based on reports of unintentional exposures to pesticide organophosphate poisoning and similar chemical substances. In this review, we summarize the knowledge on the possible pharmacological interactions between nerve agents and acute care.

Publication Types: Review Review, Tutorial

PMID: 12972890 [PubMed - indexed for MEDLINE]

25: Expert Rev Mol Diagn. 2003 Nov;3(6):759-68.

Automated biological agent testing systems.

Byrne KM, Fruchey IR, Bailey AM, Emanuel PA.

Battelle Memorial Institute, Aberdeen, MD 21001, USA.

The events of September 11, 2001 revealed a need for regular monitoring of infrastructure systems. Efficient aerosol collection systems are currently in place in a variety of settings in order to sample the immediate surroundings. However, the consequence of regular monitoring is an exponential increase in the number of samples requiring rapid analysis. Automated biological agent testing systems offer a solution by providing the ability to rapidly handle large numbers of samples with fewer personnel. In addition, automated testing also offers the advantage of increased consistency and accuracy compared with human systems.

Publication Types: Review Review, Tutorial

PMID: 14628903 [PubMed - indexed for MEDLINE]

26: Expert Rev Mol Diagn. 2003 Sep;3(5):605-16.

Molecular diagnostic techniques for use in response to bioterrorism.

Firmani MA, Broussard LA.

Department of Clinical Laboratory Sciences, Louisiana State University Health Sciences Center, 1900 Gravier Street, New Orleans, LA 70112-2223, USA.

mfirma@lsuhsc.edu

The use of micro-organisms as agents of biological warfare is considered inevitable for several reasons, including ease of production and dispersion, delayed onset of symptoms, ability to cause high rates of morbidity and mortality and difficulty in diagnosis. Therefore, the clinical presentation and pathogenesis of the organisms posing the highest threat (variola major, Bacillus anthracis, Yersinia pestis, Clostridium botulinum toxin, Francisella tularensis, filoviruses, arenaviruses and Brucella species), as well as the available diagnostic techniques and treatments for such infections, will be reviewed in this article. Due to the necessity of rapid identification and diagnosis, molecular techniques have been the ongoing focus of current research. Consequently, the molecular diagnostic techniques that have recently been developed for the diseases associated with these agents will be emphasized.

Publication Types: Review Review, Tutorial

PMID: 14510181 [PubMed - indexed for MEDLINE]

- 27: Genome Biol. 2003;4(12):121. Epub 2003 Nov 27.
For the good of the state.
Petsko GA.
Rosenstiel Basic Medical Sciences Research Center, Brandeis University, Waltham,
MA 02454-9110, USA. petsko@brandeis.edu
Recent advances in biology and medicine, from the sequence of the human genome
to the cloning of mammals have made many lay people profoundly uneasy about the
future of humanity.
PMID: 14659005 [PubMed - indexed for MEDLINE]
- 28: Harv Health Lett. 2001 Dec;27(2):6-7.
Bioterrorism. Lessons learned so far.
[No authors listed]
PMID: 11751087 [PubMed - indexed for MEDLINE]
- 29: Hastings Cent Rep. 2003 Sep-Oct;33(5):17-25.
Threats to the common good. Biochemical weapons and human subjects research.
London AJ.
Carnegie Mellon University, USA.
PMID: 14696276 [PubMed - indexed for MEDLINE]
- 30: Hastings Cent Rep. 2003 Sep-Oct;33(5):26-33.
The smallpox vaccination of health care workers: professional obligations and
defense against bioterrorism.
May T, Aulisio MP, Silverman RD.
Center for the Study of Bioethics, Medical College of Wisconsin, USA.
PMID: 14696277 [PubMed - indexed for MEDLINE]
- 31: Health Serv Res. 2004 Feb;39(1):xi-xv.
AHRQ's bioterrorism research portfolio: real linkages in real time.
Phillips S, Burstin H, Dillard CD, Clancy CM.
Bioterrorism Preparedness Research Program, Center for Primary Care, Prevention
and Clinical Partnerships, Agency for Healthcare Research and Quality, USA.
sphillip@ahrq.gov
PMID: 14965073 [PubMed - indexed for MEDLINE]
- 32: Healthc Inform. 2004 Jan;21(1):45-6.
The Healthcare Collaborative Network. Its worth can be calculated in lives saved.
Nardone B.
IBM Business Consulting Services, Waltham, Mass., USA.
PMID: 14763107 [PubMed - indexed for MEDLINE]
- 33: Hosp Health Netw. 2004 Feb;78(2):78-80.
Health departments remain ill-prepared to respond to public health emergencies.
[No authors listed]
PMID: 15011708 [PubMed - indexed for MEDLINE]
- 34: Infect Control Hosp Epidemiol. 2004 Feb;25(2):146-55.

Health system preparedness for bioterrorism: bringing the tabletop to the hospital. Henning KJ, Brennan PJ, Hoegg C, O'Rourke E, Dyer BD, Grace TL. Division of Infectious Diseases, Department of Medicine, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania, USA.

OBJECTIVE: To evaluate the acceptance and usefulness of a hospital-based tabletop bioterrorism exercise. DESIGN: A descriptive study of responses to a smallpox scenario delivered as a tabletop exercise in three modules. SETTING: A large, multi-institutional urban health system. PARTICIPANTS: Healthcare workers representing 16 hospital departments. RESULTS: Thirty-nine (78%) of 50 invited employees from 4 hospitals participated. Key responses highlighted the importance of pre-event planning in intra-departmental communication, identification of resources for the dependents of healthcare workers, clarification of the chain of command within the hospital, establishment of a link to key governmental agencies, and advanced identification of negative pressure rooms for cohorting large numbers of patients. Almost one-fourth of the participants described their hospital department as poorly prepared for a bioterrorism event of moderate size. At the conclusion of the tabletop, 79% of the participants stated that the exercise had increased their knowledge of preplanning activities. Seventy-nine percent of all participants, 94% of physicians and nurses, and 95% of participants from non-university hospitals ranked the exercise as extremely or very useful. The exercise was completed in 3 1/2 hours and its total direct cost (excluding lost time from work) was 225 dollars (U.S.). CONCLUSIONS: Tabletop exercises are a feasible, well-accepted modality for hospital bioterrorism preparedness training. Hospital employees, including physicians and nurses, rank this method as highly useful for guiding preplanning activities. Infection control staff and hospital epidemiologists should play a lead role in hospital preparedness activities. Further assessment of the optimal duration, type, and frequency of tabletop exercises is needed. PMID: 14994941 [PubMed - in process]

35: J Am Osteopath Assoc. 2003 Dec;103(12):574-5.
Lessons learned in bioterrorism can be applied to medical practice.
McFee RB.

Publication Types: Letter
PMID: 14740978 [PubMed - indexed for MEDLINE]

36: J Clin Microbiol. 2003 Dec;41(12):5372-6.
Surge capacity for response to bioterrorism in hospital clinical microbiology laboratories.
Shapiro DS.

Section of Infectious Diseases, Department of Medicine, and Clinical Microbiology and Molecular Diagnostics Laboratories, Boston University School of Medicine, Boston, Massachusetts, USA. dshapiro@bu.edu

Surge capacity is the ability to rapidly mobilize to meet an increased demand. While large amounts of federal funding have been allocated to public health laboratories, little federal funding has been allocated to hospital microbiology laboratories. There are concerns that hospital laboratories may have inadequate surge capacities to deal with a significant bioterrorism incident. A workflow analysis of a clinical microbiology laboratory that serves an urban medical center was performed to identify barriers to surge capacity in the setting of a bioterrorism event and to identify solutions to these problems. Barriers include a national shortage of trained medical technologists, the inability of clinical laboratories

to deal with a dramatic increase in the number of blood cultures, a delay while manufacturers increase production of critical products and then transport and deliver these products to clinical laboratories, and a shortage of class II biological safety cabinets. Federal funding could remedy staffing shortages by making the salaries of medical technologists comparable to those of similarly educated health care professionals and by providing financial incentives for students to enroll in clinical laboratory science programs. Blood culture bottles, and possibly continuous-monitoring blood culture instruments, should be added to the national antibiotic stockpile. Federal support must ensure that companies that manufacture essential laboratory supplies are capable of rapidly scaling up production. Hospitals must provide increased numbers of biological safety cabinets and amounts of space dedicated to clinical microbiology laboratories. Laboratories should undertake limited cross-training of technologists, ensure that adequate packaging supplies are available, and be able to move to a 4-day blood culture protocol.

PMID: 14662913 [PubMed - indexed for MEDLINE]

37: J Contemp Health Law Policy. 2003 Spring;19(2):379-414.

Modernizing local responses to public health emergencies: bioterrorism, epidemics, and the model state emergency health powers act.

Reich DS.

Publication Types: Legal Cases Review Review, Tutorial

PMID: 14748251 [PubMed - indexed for MEDLINE]

38: J Law Med Ethics. 2003 Winter;34(4 Suppl):39-40.

Workshop on smallpox legal preparedness: what have we learned from smallpox legal preparedness?

Matthews GW, Murphy AM, Lopez W, Orenstein WA.

Office of General Counsel, Centers for Disease Control and Prevention, Atlanta, GA, USA.

Publication Types: Addresses

PMID: 14968617 [PubMed - indexed for MEDLINE]

39: J Law Med Ethics. 2003 Winter;34(4 Suppl):13-20.

From smallpox to SARS: is the past prologue?

Hamre JJ, Young JG, Shurtleff M.

Center for Strategic and International Studies, Washington, DC, USA.

Publication Types: Addresses

PMID: 14968613 [PubMed - indexed for MEDLINE]

40: J Occup Environ Med. 2003 Nov;45(11):1136-43.

Incidence of lung, eye, and skin lesions as late complications in 34,000 Iranians with wartime exposure to mustard agent.

Khateri S, Ghanei M, Keshavarz S, Soroush M, Haines D.

Chemical Warfare Victims Unit, Organization of Veterans Affairs, Tehran, Iran.

Approximately 34,000 Iranians known to have sustained mustard agent exposure during the Iran-Iraq war of 1980-1988 and survived over a decade afterwards were screened for distribution of the most commonly occurring medical problems. In order of greatest incidence, these include lesions of the lungs (42.5%), eyes (39.3%), and

skin (24.5%). Within each subpopulation, patients were ranked according to severity of lesions. Twenty-three percent to 37% of patients exhibited at least mild coverage, with 1.5% to 4.5% classed as moderate, and a much smaller population (0.023-1.0%) of the 34,000 patients exhibiting extensive (severe) lesional coverage. These results provide a comprehensive overview of the medical problem most common among mustard victims and could serve as a predictor of the likely impact of these weapons on health status of populations exposed to them during ongoing military conflicts.

Publication Types: Review Review, Tutorial
PMID: 14610394 [PubMed - indexed for MEDLINE]

41: J Occup Environ Med. 2003 Nov;45(11):1133-5.
Preparedness: where is occupational and environmental health?
Sokas RK, Perrotta DM.
Publication Types: Editorial
PMID: 14610393 [PubMed - indexed for MEDLINE]

42: J R Soc Med. 2004 Jan;97(1):32.
Nerve gas antidotes.
Smythies J, Golomb B.
Center for Brain and Cognition, UCSD, La Jolla, CA 92093-0109, USA.
smythies@psy.ucsd.edu
Publication Types: Review Review, Tutorial
PMID: 14702366 [PubMed - indexed for MEDLINE]

43: Lancet. 2003 Dec;362 Suppl:s20-1.
Non-lethal weapons: operational and policy developments.
Lewer N.
University of Bradford, UK. N.Lewer@Bradford.ac.uk
PMID: 14698115 [PubMed - indexed for MEDLINE]

44: Med Law Int. 2002;5(3):181-97.
Duty of care in immunisation against biological warfare agents.
Gibson TM.
Health Services (RAF), HQ Personnel and Training Command, Royal Air Force
Innsworth, Gloucester, GL3 1EZ, UK.
In peacetime, the Crown owes a duty of care to members of the Armed Forces to provide adequate medical support. This includes the provision of safe and effective vaccines. A Serviceman who considers himself harmed by immunization against biological warfare (BW) agents would have access to legal action in the tort of negligence. However, the outcome would be uncertain because of the absence of clear precedent in respect of the Crown's duty of care in the period of transition between peace and war and the statutory right of the Government to bar proceedings against the Crown for alleged negligence during time of war. Moreover, no claimant has yet succeeded in any common law action in the United Kingdom for vaccine damage because of the difficulty of proving causation. The Serviceman would not be covered by the Criminal Injuries Compensation (Overseas) Scheme. Likewise, he would not be eligible for payment under the Vaccine Damage Payments Act 1979 unless the Act was amended. The Serviceman would therefore have to rely on the current pension system that is accessible, relatively generous and, until recently, independent of the Ministry of Defence.
PMID: 14983881 [PubMed - indexed for MEDLINE]

45: Med Law Int. 2002;5(3):161-79.

A shot in the arm for the military: consent to immunisation against biological warfare agents.

Gibson TM.

Health Services (RAF), HQ Personnel and Training Command, Royal Air Force
Innsworth, Gloucester, GL3 1EZ, UK.

The risk to Britain's Armed Forces from Biological Warfare (BW) is low but without protection their use would be devastating. Available protective measures include immunisation. The Government owes a legal duty of care to Servicemen to provide protection against a range of hazards, including those of BW. The State also owes Servicemen a duty of care to allow free and informed consent or free and informed refusal to medical procedures, including immunisation. However, refusal by key personnel to accept BW immunisation could degrade operational capability. Resolution between these two, potentially conflicting, duties of care may be controversial. To override a soldier's expressed interests would rank society's needs higher than those of the individual. Yet there are circumstances, such as exposure of Servicemen to BW used by an aggressor, where this would be ethically acceptable. The State's interests, combined with the best interests of the Servicemen, provide adequate ethical argument for both occupational immunisation (where it is an entry criterion for the Armed Forces) and mandatory immunisation (where disciplinary action may be taken against the non-compliant). Historically, both approaches have been used for public health immunisations and the legal framework already exists for both.

PMID: 14983874 [PubMed - indexed for MEDLINE]

46: Mil Med. 2003 Nov;168(11):876-9.

Intubating laryngeal mask airway versus laryngoscopy and endotracheal intubation in the nuclear, biological, and chemical environment.

Wedmore IS, Talbo TS, Cuenca PJ.

Department of Emergency Medicine, Madigan Army Medical Center-University of Washington Emergency Medicine Residency, Fort Lewis, WA 98234, USA.

OBJECTIVE: Intubation is a difficult skill under normal circumstances and more so with a limited visual field such as wearing a protective mask in a chemical or biological incident. This study sought to determine whether successful intubation using the intubating laryngeal mask airway (ILMA) under protective mask conditions was equivalent to standard endotracheal intubation. **METHODS:** A pilot study was conducted using emergency medicine personnel. Participant's attempted intubation of a manikin while wearing a standard U.S. Army M-40 protective mask. Two attempts were performed with each method. **RESULTS:** One hundred percent of the ILMA placements were successful with only 78% success with endotracheal intubation ($p = 0.1$). Time to successful intubation and ventilation was significantly less for the ILMA versus endotracheal intubation ($p = 0.005$).

CONCLUSION: This study suggests that under simulated chemical and biological conditions using an M-40 protective mask, intubation is accomplished faster and with more success with the ILMA.

Publication Types: Evaluation Studies

PMID: 14680040 [PubMed - indexed for MEDLINE]

47: Mil Med. 2003 Nov;168(11):864-71.

Genome projects and gene therapy: gateways to next generation biological weapons. Black JL 3rd.

Desk 2A, Generose Building, Saint Marys Hospital, Mayo Clinic and Foundation, 200 First Street SW, Rochester, MN 55905, USA.

Genomic and gene therapy research promise important gains into the treatment of human, animal, and plant diseases. However, there is a military aspect to this research that must be recognized. This research enables a new form of biological warfare named genomic warfare. This is the first peer-reviewed scientific article to discuss this threat in-depth. This article advocates that we begin to deal with this threat. Despite that the United States and many signatories of previous bioweapons treaties have agreed not to use biological weapons, mankind has a track record of using all of the weapons at its disposal. This article has a review of the literature and a basic overview of genomic research and gene therapy, which is followed by a discussion of how this therapy can be weaponized. How genomic warfare weapons might be deployed, how deployment may be detected, and the policies and research that would reduce this threat will be described. It is the aim of this article to clearly articulate that this risk exists and to encourage public health, scientific, political, and military leaders to take action to deal with the risk.

Publication Types: Review Review, Tutorial
PMID: 14680038 [PubMed - indexed for MEDLINE]

48: MLO Med Lab Obs. 2004 Feb;36(2):34-8.

Homeland security and bioterrorism applications: detection of bioweapon pathogens by microfluidic-based electrophoretic DNA analysis.

Gluodenis T, Harrison S.

PMID: 15002151 [PubMed - in process]

49: Mod Pathol. 2004 Mar 5 [Epub ahead of print]

Histologic and molecular diagnosis of tularemia: a potential bioterrorism agent endemic to North America.

Lamps LW, Havens JM, Sjostedt A, Page DL, Scott MA.

1Department of Pathology, University of Arkansas for Medical Sciences, Little Rock, AR, USA.

Francisella tularensis (FT), a zoonotic bacterium that causes tularemia, has received attention as a possible bioterrorism threat. We developed a PCR assay for use in fixed, processed tissues, which are safer to handle and allow archival testing. PCR analysis for a 211-bp fragment of the FT lipoprotein gene was performed on tissues from 16 cases of tularemia. In all, 14/15 cases with intact DNA (93%) were positive for FT by PCR. Frequent histologic findings in PCR-positive tissues included irregular microabscesses and granulomas in liver, spleen, kidney, and lymph nodes, and necrotizing pneumonia. Unusual cases featuring suppurative leptomeningitis and gastrointestinal ulcers were also seen. As this disease is endemic in North America, and has been identified as a potential bioterroristic threat, awareness of the clinicopathologic spectrum of disease and available detection methods is increasingly important. This PCR assay, the first designed for use in processed tissues, is an excellent method for diagnosis of tularemia. *Modern Pathology* advance online publication, 5 March 2004; doi:10.1038/modpathol.3800087

PMID: 15001997 [PubMed - as supplied by publisher]

50: N Engl J Med. 2004 Feb 19;350(8):800-8.

Acute chemical emergencies.

Kales SN, Christiani DC.

Cambridge Health Alliance, Department of Medicine, Occupational and Environmental Health, Harvard Medical School, Cambridge, Mass 02139, USA.
skales@challiance.org
Publication Types: Review Review, Tutorial
PMID: 14973213 [PubMed - indexed for MEDLINE]

51: N S W Public Health Bull. 2003 Nov-Dec;14(11-12):221-3.
Laboratory investigation of suspected bioterrorism incidents, New South Wales, October 2001 to February 2002.
James G, Yuen M, Gilbert L.
Centre for Infectious Diseases and Microbiology, Institute of Clinical Pathology and Medical Research, Westmead, New South Wales.
PMID: 14981557 [PubMed - in process]

52: Nat Biotechnol. 2004 Mar;22(3):256-7.
US budget emphasizes bioterrorism countermeasures.
Fox JL.
Washington DC.
PMID: 14990938 [PubMed - in process]

53: Nature. 2004 Feb 26;427(6977):767.
Labs urged to pre-empt bioterrorism threat.
Check E.
Publication Types: News
PMID: 14985722 [PubMed - in process]

54: Nature. 2004 Feb 12;427(6975):580-1.
Green explosives: collateral damage.
Giles J.
Publication Types: News
PMID: 14961090 [PubMed - indexed for MEDLINE]

55: Roum Arch Microbiol Immunol. 2002 Jul-Sep;61(3):231-5.
Quo vadis bioterrorism research?
Panait ML, Szegli G, Negut M.
National Institute of Research-Development for Microbiology and Immunology
Cantacuzino, Bucharest, Romania.
PMID: 14752986 [PubMed - indexed for MEDLINE]

56: ScientificWorldJournal. 2001 Oct 24;1:588-9.
Terrorist attacks: do we know how to assess the results?
Manning WJ.
University of Massachusetts, Amherst, MA, USA. aamanning@mindspring.com
On September 11, 2001, terrorists destroyed the World Trade Center (WTC) in New York City. Explosions and fires resulted in the complete collapse of the two WTC towers. The collapsing towers served as enormous point sources of gaseous and particulate air pollution, seen as huge plumes of smoke and dust. The smoke contained volatile organic compounds and fine particles and aerosols. The dust fraction contained parts of ceiling tiles, carpets, concrete, adhesives, asbestos, chromium, lead, titanium, and many other elements and materials. Whether there were unusually toxic ingredients in the plumes is largely unknown.
PMID: 12805853 [PubMed - indexed for MEDLINE]

57: Thorax. 2004 Mar;59(3):265-7.
Respiratory medical societies and the threat of bioterrorism.
O'Riordan TG, Smaldone GC.
Division of Pulmonary/Critical Care Medicine, Stony Brook University, New York.
Respiratory medical societies throughout the world have an important role in
helping governments to develop public policy to counter the threat of bioterrorism.
PMID: 14985568 [PubMed - in process]

58: Thorax. 2004 Mar;59(3):188-9.
Bioterrorism: the lung under attack.
Maynard RM, Tetley TD.
Department of Health, Skipton House, London Road, London SE1 6LH, UK. National
Heart & Lung Institute, Imperial College, Dovehouse Street, London SW3 6LY, UK.
PMID: 14985548 [PubMed - in process]