

**Conclusions:** These amounts of CASS collected were more than expected, but because the amount of aspirations with CASS had not been reported in detail yet, it is difficult to draw conclusions. There are some reports that CASS is effective for preventing VAP, so to aspirate the secretions effectively is necessary. As this survey found a significant difference among three types of tracheotomy tubes, specification of tracheotomy tubes is important. Moreover, procedure of aspiration and infection control measures such as oral health care must be investigated. Also, a randomized, clinical trial of CASS with regard to incidents of VAP, which identifies the bacteria causing VAP and are isolated from CASS, should be conducted.

**Keywords:** continuous aspiration of subglottic secretions (CASS); Japan; tracheotomy tubes; ventilator-associated pneumonia (VAP)

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## Major Biological Threats Facing the International Community

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The objective of this presentation is to provide an understanding of the biological threats facing the international community to be better informed to provide biological security (biosecurity) to the respective populations. Biosecurity may be defined as the state wherein people, animals, and plants, as well as the environment in which they live, are protected against dangers arising from the emergence of epidemics and epizootics of natural or laboratory etiology.

This presentation will discuss the limited concerted effort by intergovernmental agencies to meet the threat of biological threats of natural etiology by monitoring the incidence and spread of a few reportable diseases. A particularly threatening disease may at times become the target for concerted international action, such as the global response to severe acute respiratory syndrome (SARS), but so far this has been the exception. Usually once the biological threat has materialized (i.e., the disease is apparent and spreading), the responsibility for its management is assigned to national public health agencies, who use control methods based on epidemiology, preventive medicine, hygiene and sanitation, and quarantine. Given that infectious diseases do not respect political boundaries, a response that depends almost solely on the actions of local and national authorities could be substantially improved upon.

Research and development may engender biological threats by accident or design. A laboratory accident may release an agent under investigation into nature, where it could have incalculable effects on humans or the environment. Similarly, the field-testing of microorganisms designed for specific purposes may lead to those organisms spreading beyond the test site, again with incalculable effects. Currently, governments seek to reduce the level of hazard associated with research and testing by imposing strict regulations that dictate the parameters under which risky activities may be carried out. Because microorganisms are not contained by political borders, an international effort to control hazardous bioscientific activities is necessary.

Biological threats are, in effect, biological weapons. Society seeks to meet the threat of biological warfare through the 1972 Biological and Toxin Weapons Convention (BWC). The BWC State Parties extend the strictures spelled out in the Convention to their citizens through the adoption of implementing national legislation. However, as this presentation will discuss, the BWC's shortcomings limit its ability to prevent the proliferation of biological weapons. In particular, it lacks provisions for verification; i.e., State Parties are severely handicapped in their ability to verify whether a country indeed is complying with the treaty. The need for a stronger international biological arms control regime is apparent.

No international law is likely to prevent terrorists from acquiring and deploying biological weapons. Therefore, society may first learn of the existence of an illicit terrorist biological warfare program when its goals are met; i.e., when a biological weapon strikes a human, animal, or plant population. This presentation will briefly discuss how society might act to diminish the threat of terrorists acquiring biological weapons, though it should be clearly understood that whatever might be done will likely be ineffective.

**Keywords:** biological; Biological and Toxin Weapons Convention (BWC); international; security; society; terrorism

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## Free Papers Theme 20: CBRN-2

### The Truth Hurts: Hard Lessons from Exercise Supreme Truth, Australia's Largest Mass-Casualty Field Exercise with Contaminated Casualties

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Field exercises offer a number of advantages over tabletop exercises in planning for mass-casualty incidents. The opportunity to conduct them in real time within a hospital environment rarely presents itself because of the degree of disruption to normal patient care. The Royal Adelaide Hospital underwent a multi-million-dollar refurbishment in 2003–2004, part of which resulted in the creation of a new emergency department. The presence of two emergency departments at one site presented the opportunity to conduct Australia's largest mass-casualty field exercise with contaminated casualties.

Exercise Supreme Truth was conducted in May 2003. In the scenario, an explosion by a terrorist at a race course disseminated a toxic chemical into the crowd. To ensure as realistic an event as possible, there was no predeployment of emergency crews or materials, and hospital staff were not informed of the details of the event. A significant number of "victims" presented to the hospital under their own initiative, prior to decontamination. A total of 170 "smart casualties" were used in the event, and the largest fixed decontamination system in Australia was tested for the first time.

Despite months of planning, and an attempt at anticipating all potential outcomes, a number of unexpected problems in the management of multiple contaminated casualties developed. Footage of the exercise will be shown, and details of the many lessons learned will be presented.

Many of these lessons from Exercise Supreme Truth now have become incorporated into Australian practice, but still more questions remain unanswered.

**Keywords:** Australia; contamination; Exercise Supreme Truth; field exercise; mass casualty; terrorism

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### The Bioterrorism Preparedness and Response Wall Chart

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Prior to the anthrax attacks in the United States, the Principle Investigators for the Bioterrorism Preparedness and Response Wall Chart were addressing the American Emergency Medical community's preparedness for a bioterrorism attack. The stealth nature of bioterrorism agents is inherent in their varied incubation periods, initial "non-specific" manifestations, and ability to be disseminated covertly, making recognition, diagnosis, and prompt treatment challenging.

Bioterrorism agent information was available, but lacked comprehensiveness and user-friendly packaging. One solution was the development of the Bioterrorism Preparedness and Response Wall Chart—a ready reference tool that could be hung in emergency departments and other clinical venues and used as a diagnostic aid.

The Bioterrorism Preparedness and Response Wall Chart captures nuances of the 13 aerosolized bioterrorism agents most likely to be deployed, using a systematic approach. Clinical manifestations for dermatological, gastrointestinal, neurological, respiratory, ocular, systemic, and other systems are listed. Agent-specific manifestations are denoted by "classic", "less common", "rare", and "hallmark" as they pertain to findings, and color-coded to enhance recognition. Additional agent-specific information is also provided.

Other features of the Wall Chart include: (1) an Infection Control section specifying precautions for each agent; (2) a list of Covert Assault Clues; (3) addresses for online resources; and (4) space where critical contact numbers can be inserted.

The Memorial Institute for the Prevention of Terrorism (MIPT) funded development, printing, and shipping to all United States emergency departments. Since debuting in 2003, nearly 30,000 Bioterrorism Preparedness and Response Wall Charts have been provided for emergency departments, first responders, and other clinicians by the MIPT.

**Keywords:** Bioterrorism Preparedness and Response Wall Chart; emergency departments; first responders; preparedness; terrorism

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### Disaster Nursing and Emergency Preparedness for Chemical, Biological, and Radiological Terrorism: An International Curriculum for the Twenty-First Century

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The extent to which we are able to address the complex challenges of the 21st Century, respond to the ubiquitous threat of terrorism, and continue to improve world health depends, in large part, upon the quality and preparedness of our healthcare workforce, particularly nurses. Nurses number the largest sector of any workforce, and as such, are certain to be "first responders" to any major public health event.

This publication is a comprehensive curriculum designed to prepare a global nursing workforce with the knowledge and skill-set to respond to any type of disaster or major public health emergency. This project represents the Companion Curriculum to the textbook, *Disaster Nursing and Emergency Preparedness for Chemical, Biological and Radiological Terrorism and Other Hazards* that was published in 2003 by Springer Publishers and won the 2003 AJN Book of the Year Award.

This interactive workshop will present twenty critical modules that include response strategies for all types of natural and man-made disasters, public health emergencies, and international, complex human emergencies. The content reflects the most current and reliable information available on each topic of interest. All content was subjected to a lengthy peer review process by expert reviewers, and was mapped to the educational competencies for nurses responding to disasters published by the International Nursing Coalition for Mass-Casualty Education. The curriculum includes a series of PowerPoint presentations, case studies, disaster scenarios, and methods for evaluation.

**Keywords:** curriculum; international; nurses; preparedness; terrorism

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### "Sentinel" Drills for Emergency Departments—A Way to Assess Bio-Terrorism Preparedness

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**Introduction:** In October and November 2001, 22 American civilians were infected with anthrax. Five of them died. Letters sent through the United States Postal Service (USPS) spread the spores. Eleven (50%) of the cases were respiratory anthrax, a disease characterized by respiratory symptoms, pulmonary and/or mediastinal radiographic findings, and meningeal involvement (rare). If discovered and treated early, respiratory anthrax is a fatal disease that can be cured. The disease can be prevented by early administration of preventive antibiotic therapy to individuals who were exposed to the bacteria. Therefore, early diagnosis of the first case can improve the prognosis