treated were checked only among their lifesaver colleagues. Since 2002, the education system of Japanese lifesavers has been reconstructed with a focus on medical control. Textbooks, that include CPR were revised in conjunction with the 2000 Guidelines, and the instructors were gathered and lectured about the changes and their scientific backgrounds. All lifesavers receive CPR Training Courses and learn how to use an automated external defibrillator (AED). Regional clubs that encountered a resuscitation case on the beach must report the details to the Medical Committee of the JLA. The Medical Committee of the JLA was informed about the prognosis of the patient transferred to hospital. Now ,the lifesavers are able to attend and see how to manage the drowning patient in some emergency centers, the final ring of the chain of survival.

Conclusions: Lifesavers are the first responders for drowning patients and are an important part of improving the quality of the prehospital care especially for drowning victims.

Keywords: drowning; education; Japan; lifesavers; prehospital care
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Recommended Modifications and Applications of the Hospital Emergency Incident Command System

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Introduction: Since the inception of the Hospital Emergency Incident Command System (HEICS) in 1991, several events have transformed the requirements of hospital emergency management, including the 1995 Tokyo Subway sarin attack, the 2001 United States anthrax letter attacks, and the 2003 severe acute respiratory syndrome (SARS) outbreaks in eastern Asia and Toronto, Canada. Several modifications and new applications of the HEICS are suggested to match the needs of hospital emergency management today.

Methods: Recommendations were developed based on practical experiences with implementing the HEICS in acute-care hospitals and applying the HEICS to hospital emergency management in actual emergencies in Taiwan, Turkey, and the United States.

Results: It is recommended that the HEICS add: (1) an Incident Consultant in the Administration Section to provide expert advice directly to the Incident Commander in chemical, biological, radiation, and nuclear (CBRN) emergencies as needed; (2) new unit leaders in the Operations Section to coordinate the management of contaminated or infectious patients in CBRN emergencies; (3) new unit leaders in the Operations Section to coordinate mental health support to patients, guests, and healthcare workers in terrorism-related emergencies or events that produce significant mental health needs; (4) a new Decedent/Expectant Unit Leader in the Operations Section to coordinate the management of both types of patients together; and (5) a new Information Technology Unit Leader in the Logistics Section to coordinate the management of information technology and systems. Also, new uses of the HEICS are recommended, including the adoption of the HEICS as the conceptual framework for organizing all phases of hospital emergency management and the application of the HEICS not only to healthcare facilities, but to healthcare systems as well. Finally, three levels of healthcare worker competencies in HEICS are suggested: (1) basic understanding of the HEICS for all hospital healthcare workers; (2) advanced understanding and proficiency in the HEICS for hospital healthcare workers likely to assume leadership roles in hospital emergency response; and (3) special proficiency in constituting the HEICS ad hoc from existing personnel for healthcare workers likely to work in resource-deficient settings.

Conclusion: The HEICS should be viewed as a work in progress that will mature as additional challenges arise and hospitals gain further experience with its use.

Keywords: health care; hospital emergency incident command system (HEICS); recommendations
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Estimated Vaccination of Population and Number of Clinics for Area Populations

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Part of the healthcare community response to an infectious disease emergency or disaster will be the ability to immunize a large population in a timely manner to prevent and interrupt the spread of disease. Vaccination clinics must be set up in convenient locations and in places that will not interfere with or interrupt the timely care of the sick at hospitals and emergency care centers. Recruitment and education of healthcare workers, as well as the establishment of clinic locations and hours of operation for the vaccination of vulnerable populations during the window of opportunity must be planned in advance.

A simulation vaccination clinic for smallpox was constructed to estimate the required time for vaccination of 1,000 patients including registration, orientation, screening, education, vaccination, mental health counseling, if needed, special needs access, and actual simulation of all components of an actual clinic. Plans for access, ingress and egress, and floor plans of the stations of the clinic were drafted in advance. Plans also were drafted to recruit screened and credentialed healthcare workers as volunteers.

These volunteer healthcare workers and volunteer patients were recruited to simulate all of the steps in an actual mass vaccination clinic. The simulation was timed from the first registration to the last discharge of patient volunteers to get an estimate of the timing required to vaccinate 1,000 patients. The number of clinics needed for a large population and the hours of operation required to vaccinate that population in a four-day window of exposure to a smallpox outbreak was estimated. The evaluation and vaccination process could be generalized to other infectious disease vaccination clinics.

The amount of supplies estimated for the 1,000 patients fully were utilized except for actual needles. Universal pre-