The difference in the means for the second attempts at ETT with and without CPE was 2.3 seconds (95%CI 0.2 –4.4, p = 0.035). The difference in the means for the first attempts with and without CPE was 0.9 seconds (95%CI -7.0–8.9, p = 0.816) and the difference in the means for the second attempts with and without CPE was 9.7 seconds (95%CI -5.0 –24.5, p = 0.184). The difference in the means for the first attempts with and without CPE was 1.39 seconds (95%CI 0.3–2.5, p = 0.012). The difference in the means for the second attempts a King LT with and without CPE was 1.2 seconds (95%CI -0.4–2.8, p = 0.136).
Conclusions: No clinically significant differences in the times to placement of these airway devices were found. In a controlled environment, ETT placement is recommended to definitively secure the airway.

Keywords: airway; cadaver; chemical; disaster health; endotracheal tube; laryngeal mask airway; laryngoscopy
Prehosp Disast Med 2009;24(2):s159–s160

(D37) Effect of Wearing Chemical Protective Equipment on Gaining Intraosseous Access Using the Bone Injection Gun in a Cadaver

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Background: Medical personnel may be called to provide life-saving techniques while wearing chemical protective equipment (CPE). The effect of obtaining intraosseus (IO) access using the Bone Injection Gun (BIG) while wearing the Joint Services Lightweight Integrated Suit Technology, butyl rubber gloves, and the M-40 protective mask was evaluated.
Methods: Ten emergency medicine residents each placed a total of four IO needles in random order using the BIG in six unembalmed cadavers: two while wearing CPE and two using only standard precautions. The mean difference in time to placement was evaluated using a paired t-test. Placement was verified by aspiration of marrow and was recorded in a 2 x 2 table for analysis using Fischer's Exact.
Results: The time to placement for the first and second attempts without CPE was 29.6 and 23.3 seconds, respectively. The time to placement for the first and second attempts with CPE was 46.1 and 28.9 seconds, respectively. The difference between mean times with and without CPE was 11.0 seconds (95% CI 2.8–19.2, p = 0.014). All 20 BIG placements were successful when placed without CPE and 16 of 20 were successful with CPE (80%, 95% CI 57.8–92.5, p = 0.053).
Conclusions: Intraosseous access is an alternative to placing an intravenous line. The difference in time to gain IO access while wearing CPE was not clinically significant. All four unsuccessful attempts were placed appropriately, however, were pulled out when the BIG was removed. Increased training with the BIG while in CPE may improve success rates.

Keywords: Bone Injection Gun; cadaver; chemical; chemical protective equipment; disaster health; intraosseous access
Prehosp Disast Med 2009;24(2):s160

(D38) A New Tool for Managing Casualties in the Emergency Department during a Radiation Disaster

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Introduction: Mass-casualty incidents involving radiation are rare but potentially devastating events. Even incidents with a small number of casualties are challenging due to the specific nature of the information and decisions required, and the rate of decay of knowledge about radiation. A package of specific forms and guidelines could assist emergency department (ED) physicians with this process.
Methods: A seven-page tool was developed as part of a project (METER 2008) funded by the Canadian Chemical, Biological, Radiological, and Nuclear Research and Training Initiative (CRTI) to facilitate the ED management of radiation casualties. These forms cover triage, the history and physical examination, diagrams to mark areas of contamination, standing orders, and a means of estimating Acute Radiation Syndrome severity. The tool was piloted at a workshop in Quebec City in November 2007. Later, a questionnaire was distributed to participants to assess the usefulness. The tool will be further tested at other workshops across Canada during the winter.
Results: Participants found the tool to be useful, Their comments and improvements will be presented.
Conclusions: The tool demonstrated in this presentation can be used to assist ED staff with the triage and management of casualties with exposure to radiation.

Keywords: emergency department; guidelines; preparedness; radiological; tool; training
Prehosp Disast Med 2009;24(2):160

(D39) Dirty Bomb Algorithm

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Introduction: Radiation exposure is a concern to emergency department staff. We developed a dirty bomb algorithm for a free-standing pediatric hospital. We tested the algorithm during a drill and will report our findings.
Methods: The dirty bomb algorithm was tested during a disaster drill. The drill scenario was that a bomb had gone off near a local school and radioactive material was released. Fifteen victims were given different roles to play, ranging from the worried well to being seriously injured. The drill was observed and critiqued by experts in disaster planning and radiation exposure.
Results: The algorithm was able to sort the victims into the categories of: (1) no exposure/no contamination; (2) exposed, no contamination; (3) contaminated (needs decontamination); and (4) needs medical assessment for radiation exposure. The decontamination team was able to follow the algorithm and decontaminate the appropriate patients. The emergency department staff had very limited knowledge of radiation exposure or contamination.
Conclusions: The algorithm developed can help sort a large number of people who may have been exposed or con-