

## EMERGENCY DEPARTMENT PREPAREDNESS FOR RADIATION EMERGENCIES IN THE PHILADELPHIA AREA

### To the Editor:

We would like to thank Dr Steven Becker and Sarah Middleton for their insightful report on preparedness for radiological terrorism.<sup>1</sup> Becker and Middleton's focus group research confirmed that emergency departments are not prepared to handle a radiation disaster.

The September 11, 2001, terrorist attacks reaffirmed the urgent need to have disaster plans in place. Hospital plans typically address natural, biological, chemical, explosive, and to a lesser extent radiological disasters. It is imperative for emergency physicians to recognize radiological disasters as a potential threat and possess a working knowledge of the standard evaluation and treatment of radiation emergencies. The US Department of Homeland Security now includes radiation disaster training in their Homeland Security Exercise and Evaluation Program,<sup>2</sup> but hospital preparedness for radiation disasters remains poor. Hsu et al<sup>3</sup> noted in a 2007 report that hospitals prepare the least for radiation emergencies among all types of disaster threats.

Three points raised by Becker and Middleton's research were alarming to our group, including the participants' lack of familiarity with radiation principles, inadequate preparedness training, and insufficient hospital preparedness. Becker and Middleton note that hospital-based disaster preparedness training typically focuses on natural, chemical, biological, and blast terrorism and devotes far less time to radiation disasters. Almost one-third of their subjects reported that they had not received focused radiation preparedness training. A physician stated, "I don't think we have a protocol" for radiation evaluation and treatment. Even worse, a nurse noted that his or her department did not have 24-hour access to a Geiger counter. These gaps in preparedness are likely common in urban and suburban hospitals in the United States and must be addressed.

As emergency physicians and medical toxicologists with training in the evaluation and treatment of radiation emergencies, we recently surveyed 28 of the 40 Philadelphia-area physician emergency department (ED) directors to assess the preparedness of EDs for the evaluation and treatment of radiation emergencies, and found that their staff are undertrained and inadequately prepared to handle these emergencies.<sup>4</sup> Sixteen of the directors surveyed (57%) indicated that their hospital did not have specific training in radiation emergencies. Ten (36%) stated that either their ED did not have a radiation-specific disaster protocol or they were unaware of one. Only 10.5% noted that a Geiger counter was

present in the ED. Although 57% reported receiving training in the past 5 years, none felt "very capable" of handling radiation emergencies.

Becker and Middleton's findings suggest that these findings are not isolated to the Philadelphia area. We hope that studies such as theirs will provide an impetus for increased awareness and better training for emergency physicians regarding radiation emergencies.

Joseph L. D'Orazio, MD,  
and Michael I. Greenberg, MD, MPH  
Department of Emergency Medicine, Division of Medical  
Toxicology, Drexel University College of Medicine

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### Becker and Middleton reply:

We are grateful to Drs D'Orazio and Greenberg for their thoughtful comments and for sharing the results of their important new survey of hospital emergency departments (EDs) in the Philadelphia area. Their findings—that a majority of hospitals had no specific training in radiation emergencies, that just 1 in 10 hospitals had a Geiger counter in the ED, and that no hospital felt "very capable" of handling a radiation emergency—complement our own research and serve to further emphasize the urgent need for more attention to radiological/nuclear preparedness. In the event of a terrorist attack using radioactive materials (eg, a "dirty bomb" or even an improvised nuclear weapon), the dedicated, skilled professionals who work in the nation's hospital EDs will be on the front line in terms of caring for the sick and injured and addressing the effects of the incident. Based on our research and the research by Drs D'Orazio and Greenberg, it is clear that the nation needs to do more to ensure that hospitals and ED professionals have the tools, information, and training they need to deal effectively with this emerging threat.

Steven M. Becker, PhD, and Sarah A. Middleton, MPH  
University of Alabama at Birmingham

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