were made to stay in place by pressing them part way into the banana fruit. We used 25-gauge needles on 5-cc syringes filled with water. The total cost for materials for 15 residents was approximately $5.

Informal feedback during the training session indicated that the trainees could distinguish the tactile sensations of introducing the needle through the banana peel and then through the skin of the bean into the meat of the bean. Based on a 5-point Likert scale, the training session was found to achieve its goals (score=4.7), be relevant to the trainees’ needs (score=4.8), and be well organized (score=4.5).

For graduating residents, the rate of procedural competency (determined by direct observation by faculty) in TPI before implementing this training was 20%–25%. After the first year of this simulation session, the rate increased to 33% and after 2 years jumped to 66%.

Our preliminary results suggest that use of a banana and bean model simulates well the live performance of TPI and helps prepare family medicine residents for practice of this common office procedure. At this residency program, simulation and other models are being incorporated into a formal protocol for training in office procedures.

Limitations of this study include (1) limited sample size and (2) lack of feedback from trainees after performing TPI on actual patients.

Roger K. Gerstle, MD
Munson Family Practice Center, Traverse City, Mich

References

Overseas Experience in Global Health: Travels to Bhopal, India, 20 Years After the Union Carbide Disaster

To the Editor:

Immigration to the United States and growth in international travel underscore the importance for future physicians to understand health determinants in a global context. This growing need to gain more meaningful insights into the health values and practices of patients from diverse cultures has contributed to a growing interest among US medical students to participate in overseas electives.

The value of such electives is often manifested by trainees’ greater appreciation for community-oriented primary care and by their improved knowledge of chronic disease prevention and control strategies for different populations around the globe. These valuable lessons were echoed recently by two medical students (JJ, JS) from our university who completed an overseas elective in the summer of 2005 at an urban medical clinic in the city of Bhopal, India, the site of the world’s worst industrial disaster in 1984—the Union Carbide explosion.

Historical Context and Travels to Bhopal, India

In 1984, a failed safety system at the Union Carbide plant in Bhopal, India, allowed 27 tons of methyl isocyanate (MIC) gas to escape into the atmosphere over a 1-hour period. This gas dispersed over 8 kilometers into the unsuspecting densely populated squatter communities of Jayaparakash Nagar, Kazi Camp, Chola Kenchi, and the Railway Colony. The MIC exposure-related death toll was estimated to be more than 20,000, with approximately 150,000 still suffering from varying degrees of injury or impairment.

Twenty-plus years later, the psychological impact of this man-made disaster remains. In our students’ recent travels and work at the clinic in Bhopal, patients and health care providers alike continued to attribute the frequency of many illnesses in the community to MIC exposure. Yet, on-site observation and conversations with survivors by the students suggested that inadequate sanitation, poor living conditions, and poor nutrition likely contributed more to the ailments common to the victims: eg, hypertension, diabetes, and gastroenteritis.

Lessons Learned

These travels to Bhopal, India, left our students with a lasting impression of the similarities and differences in chronic disease risk and health beliefs among the people of Bhopal and the United States. These travels also affected the students in other ways: changed world views; increased cultural sensitivity; enhanced community, social, and public health awareness; and a greater appreciation for community-oriented primary care. These positive lessons validate the need for making high-quality international experiences available to medical students interested in the global context of health, even if international health is not their career choice.

Jessica Jeffrey, MPH; Jacqueline Sztain; Tony Kuo, MD, MSHS, Department of Family Medicine, University of California-Los Angeles

References