HISTORY CORNER

Atoms for Peace (and Health)

This year's 50th anniversary of the founding of the SNM coincides with the 50th anniversary of the Atoms for Peace speech, with which President Dwight D. Eisenhower persuasively introduced the notion of turning one of the most frightening products of the second World War into a force for the betterment of humankind. Eisenhower delivered the speech on December 8, 1953, before the General Assembly of the United Nations in New York, NY. At that time the future of nuclear research seemed grim. The Soviet Union had developed an atomic bomb in 1949 and by 1953 possessed hydrogen bombs with 1,000 times more potentially devastating effects than those dropped on Hiroshima and Nagasaki. Eisenhower outlined 3 goals to harness nuclear technology for good: (1) to work with the Soviet Union to transform military uses of atomic energy into peaceful applications; (2) to negotiate nonproliferation agreements with the Soviet Union; and (3) to involve nations throughout the world, large and small, in peaceful efforts to develop atomic energy for beneficial purposes. He said:

> It is not enough to take this weapon out of the hands of soldiers. It must be put in the hands of those who know how. . . to adapt it to the arts of peace. . . . This greatest of destructive forces can be developed into a great boon for the benefit of all mankind. . . . If the entire body of the world's scientists and engineers had adequate amounts of fissionable material with which to test and develop their ideas, this capability would be rapidly transformed into universal, efficient, and economic usage.

These proposals resulted in the establishment of the International Atomic Energy Agency (IAEA) in 1959 and in substantial efforts with the United States Atomic Energy Commission.

Those of us in nuclear medicine and our patients all over the world have benefited enormously from the efforts of Eisenhower and other political leaders and government officials who have followed in his footsteps. In countries all over the world, professionals in nuclear medicine have been encouraged, educated, and supported by the IAEA. In the United States, the Department of Energy (DOE) played a dominant role, including, for example, the establishment of the Office of Biology and Energy Research, dedicated to advancing nuclear medicine and biology. In a lecture more than 20 years ago at Oak Ridge, TN, I noted: "The field of nuclear medicine has been and will continue to benefit from the efforts of the DOE. No force in the country or in the world has done more to develop nuclear medicine than the DOE." When we look at the enormous number of radioisotopes that we use today and the invention of instruments—including the rectilinear scanner, Anger camera, computer, and the human genome project—all developed largely through the National Laboratories and extramural research out of the DOE, who can deny that this statement is as true today as it was 20 years ago?

Henry N. Wagner, Jr. MD

Yet, we must deal with both sides of the coin of atomic energy—the bad as well as the good. We in nuclear medicine can help make the public's understanding of radiation more rational, pointing out warranted fears and reassuring them about its safety and beneficial uses. The public's greatest fear of radiation began at 10:00 PM on August 9, 1945, when President Harry Truman, speaking from the White House, reported that atomic bombs had destroyed the cities of Hiroshima and Nagasaki. This fear was increased during the Cold War. The accidents at the Three Mile Island nuclear power plant in 1979 and at Chernobyl in 1986 kept the fires of fear burning. The attack on the World Trade Center in 2001 made it clear that terrorists present even greater threats. No one can deny that the fear of nuclear weapons is as great today as it was in 1953. Added to these now engrained fears is a new worry—that terrorists can cause panic with "dirty bombs" (officially called radiation dispersal devices).

As described in the accompanying article by Dr. Links, it behooves all nuclear medicine professionals to increase our efforts to educate the public and our political leaders about all aspects of radiation. We can be inspired by the optimism expressed by Eisenhower as we help the public and political leaders adopt a more sound view of issues related to nuclear energy and the efforts of international agencies such as the IAEA in their nonproliferation work.

How has the fear of radiation affected nuclear medicine, and what should we be doing about it? Over the years, people have become more and more concerned about the risk of radiation. Almost 80% of people surveyed believe they are subject to more risk today than 30 years ago. Perception of risk changes over time. Today there is more concern about the risks of genetic modification of food than about food irradiation. The fear of risks is imposed upon us at much higher levels than we would naturally accept ourselves. Fortunately, nuclear medicine procedures are at the lowest end of the risk spectrum. I personally have never had a patient who refused a nuclear medicine procedure because of fear of radiation.

Henry N. Wagner, Jr., MD
SNM Historian