

# Abstract

Pérez, M. del R.<sup>1</sup>

<sup>1</sup>World Health Organization

## Patient Safety in Medical Imaging: WHO's perspectives

The medical use of ionizing radiation has expanded worldwide. Advanced imaging technology has opened new horizons to medical diagnostics and improved patient care. The use of radiation in health care is by far the largest contributor to the radiation exposure of the general population from artificial sources.

The frequency of radiological medical procedures continue increasing, particularly in industrialized countries and emerging economies. While modern technology improves the safety of new applications, an inappropriate or incorrect use can lead to unnecessary or unintended radiation exposures with associated radiation risks for patients and staff. Radiographers and radiation technologists have a key role for safely and accurately performing radiological medical procedures.

As health professionals working in the interface between the patient and the radiation technology, radiographers and radiation technologists are key players in maintaining and improving radiation safety culture in health care. Managing the risks of medical exposures demands policies that both recognize the multiple health benefits that can be obtained, while addressing and minimizing health risks.

This is based on the two principles of radiation protection in medicine: justification of radiological medical procedures and optimization of protection to manage the radiation dose commensurate with the medical purpose. As the international benchmark for radiation safety requirements, the International Basic Safety Standards (BSS) for Protection against Ionizing Radiation and for the Safety of Radiation Sources represent the culmination of international efforts towards global harmonization of standards for radiation protection. Cosponsored by six UN organizations (IAEA, ILO, WHO, FAO, PAHO, UNEP) and two intergovernmental organizations (OECD/NEA and EC), the BSS include a robust framework of safety requirements for medical exposures.

An international conference on Radiation Protection in Medicine was held in Bonn, Germany, in December 2012, organized by the IAEA and cosponsored by WHO. Its main outcome was a Call for Action identifying ten priority actions to improve radiation protection in medicine in the next decade:

- 1) enhancing implementation of justification of procedures
- 2) enhancing implementation of optimization of protection and safety
- 3) strengthening manufacturers' contribution to radiation safety
- 4) strengthening RP education and training of health professionals
- 5) shaping and promoting a strategic research agenda for RP in medicine
- 6) improving data collection on radiation exposures of patients and workers
- 7) improving primary prevention of incidents and adverse events
- 8) strengthening radiation safety culture in health care
- 9) fostering an improved radiation benefit-risk-dialogue
- 10) Strengthening the implementation of safety requirements globally.

The WHO is conducting a Global Initiative on Radiation Safety in Health Care Settings aimed to engage the medical community towards the implementation of the BSS and the Bonn Call for Action. This initiative brings together health authorities, international organizations, professional and scientific societies, patient associations and other key stakeholders in concerted action to improve safety and quality in the medical uses of ionizing radiation.