

▶ International Legislation Governing Radiation Protection and Dose Reduction Principle for the Patients Performing Nuclear Medicine Procedures

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Each country with a nuclear industry has at least one nuclear regulatory agency; some have many more. The United Nations possesses at least four agencies, which are related with radiation exposure: the UN Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), the World Health Organization (WHO), the International Atomic Energy Agency (IAEA) and the UN Environment Programme (UNEP). In Europe there is a similar structure, with the addition of a complex network of cooperating non-governmental organisations that can work in cooperation with the European Commission. To understand the complexity of such a system, one must identify the roles of each agency and their interdependency. At the centre of the radiation community is the International Commission on Radiological Protection (ICRP). Despite of not having any legal power, this private scientific body provides regular information fundamental to elaborate standards on radiation protection worldwide. Many official documents include reference to ICRP methodology, including the recent revision directive on exposure to ionizing radiation issued by the European Commission. Therefore, dose reduction must be accomplished in conformity with modern modelling techniques, which allow for a more detailed discernment of exposure limits. At a regulatory point of view, dose reduction can be achieved either with a revision of the frameworks on medical devices manufacturing, for example the U.S. Food and Drug Administration (FDA), or at a non-binding level, producing orientation documents. The implementation of International Diagnostic Reference Levels (DRL), can sometimes be difficult, once they are advisory and their implementation is pending on regional, national and local authorized bodies.

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