

60 Years

Atoms for Peace and Development

Factsheet for Decision Makers

Radiation Protection of the Public

NON-MEDICAL IMAGING

Why is it important?

Non-medical imaging is the imaging of humans for purposes other than medical diagnosis, medical treatment or biomedical research. These procedures are widespread in society, but the public may not always be aware that they involve the use of radiation.

What do I need to know?

Particular care is necessary because these procedures need to be justified by the government or regulatory body in order to ensure that they are carried out by professionally trained staff or in appropriate facilities.

In some cases, the exposures occur unintentionally. For radiation protection purposes, the exposed persons are neither workers nor patients, and therefore they are regarded as members of the public.

Examples of non-medical imaging include:

- Imaging the abdomen of suspected drug couriers;
- Imaging someone for the detection of concealed objects for security purposes, e.g., imaging of passengers prior to boarding an aircraft or the imaging of visitors to a prison;
- Imaging people for age determination;
- Inadvertent exposure of persons inside vehicles or cargo that are being screened by security or custom authorities for anti-smuggling purposes.



The International Basic Safety Standards (BSS) are the international benchmark for radiation safety. The BSS are used in many countries as the basis for national legislation to protect workers, patients, the public and the environment from the risks of ionizing radiation.

IAEA Safety Standards for protecting people and the environment

Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards

Jointly sponsored by
EC, FAO, IAEA, ILO, OECD/NEA, PAHO, UNEP, WHO



General Safety Requirements Part 3
No. GSR Part 3

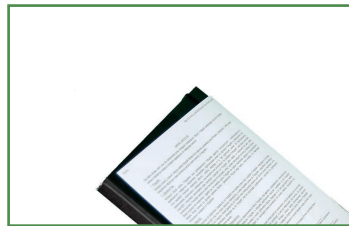


IAEA
International Atomic Energy Agency



The BSS are based on the most recent scientific evidence on the effects of ionizing radiation and take into account practices and experiences from around the world in the use of ionizing radiation and nuclear techniques. Eight international organizations sponsor the BSS.

What actions are required?



The regulatory body is responsible for identifying those non-medical imaging procedures that are being carried out in the country.

The regulatory body is responsible for ensuring that a justification process for all non-medical imaging procedures has been carried out.

The regulatory body is responsible for ensuring that all non-medical imaging procedures that are considered to be justified are subject to regulatory control. Regulatory control addresses several factors mentioned below.

Regulatory control ensures that:

- The use of the equipment is authorized by the regulatory body;
- A safety assessment has been carried out;
- The operators of the equipment are appropriately trained;
- Where appropriate, criteria are developed for the selection of individuals to undergo the procedure;
- The equipment conforms to the applicable standards of the International Electrotechnical Commission or the International Organization for Standardization or to equivalent national standards;
- The appropriate dose constraint or dose limit for the public is applied to the procedure.



Resources

Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, No. GSR Part 3
http://www-pub.iaea.org/MTCD/publications/PDF/Pub1578_web-57265295.pdf

Justification of Practices, Including Non-medical Human Imaging
<http://www-pub.iaea.org/MTCD/Publications/PDF/Pub1650web-23654722.pdf>