Dosimetry, Quality and Safety for Optimal Cancer Care

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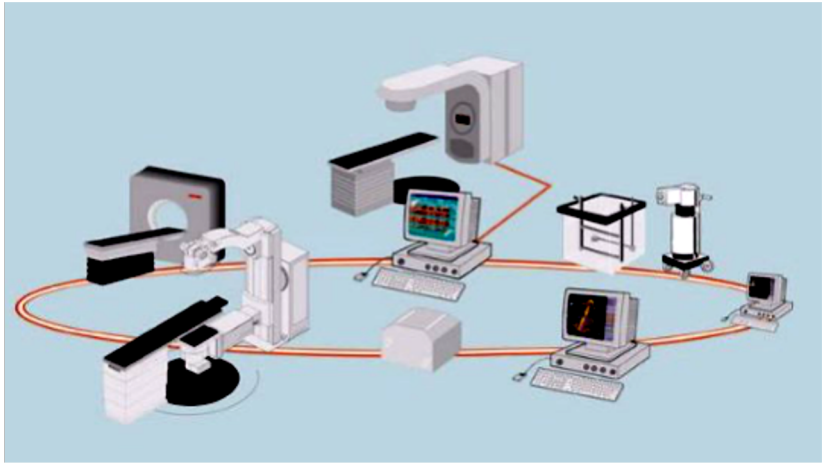
Advanced technologies must be used safely

To successfully offer control and cure of cervical cancer requires:

- Appropriately designed facilities
- Safety and quality assurance capabilities
- Adequate regulatory infrastructure
- Adequately trained staff



IAEA supports the safe use of radiation in the medicine

Supports the training in medical applications to radiologists, nuclear medicine physicians, radiation oncologists, medical physicists, radiographers, nuclear medicine technologists, radiotherapists and nurses in a team approach

Ensuring both quality and safety with guidance documents and safety standards

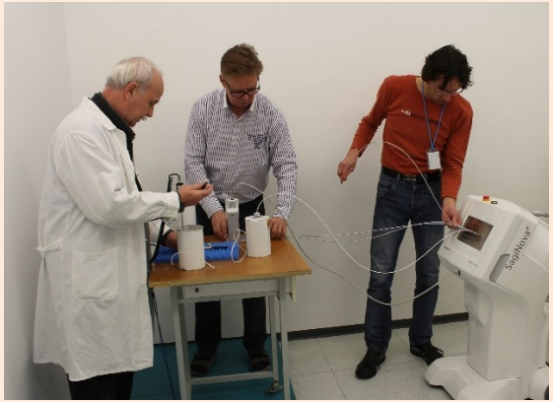
Supports audit program to help assess the quality and safety of medical radiation facilities around the world

Robust dosimetry program to assure the radiation dose delivered is what was ordered

Supports the development of a strong regulatory authority to assist member states in assuring that the equipment is used safely

Ensuring quality through accurate dosimetry

Brachytherapy source calibration



External beam dosimetry calibration

Brachytherapy and external beam calibration services
Dosimetry is used extensively in radiation technologies to confirm that the radiation administered to patients is accurate.

Dosimetry kit for audit missions

Postal Dose Audit Service

Calibration Services / Radiation Dosimetry

Secondary **S**tandards **D**osimetry **L**aboratories

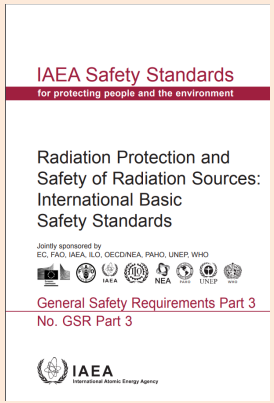
Services	Beams
Calibration of ion chambers: RT, DR, RP levels	X rays (10–300kV), ^{137}Cs, ^{60}Co beams
Calibration of well type ion chambers for brachytherapy (LDR/HDR)	^{137}Cs, ^{60}Co, ^{192}Ir
Comparison of RT level ion chamber calibrations for SSDLs	^{60}Co beams
RPLD audits for RT for SSDLs and hospitals	^{60}Co, h. e. X rays
OSDL audits for RP for SSDLs	^{137}Cs beams
Ref. irradiations of dosimeters for RT, RP	X rays (40–300 kV), ^{137}Cs, ^{60}Co beams

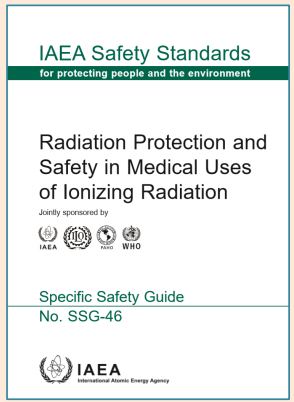
Calibration service for national dosimetry standards

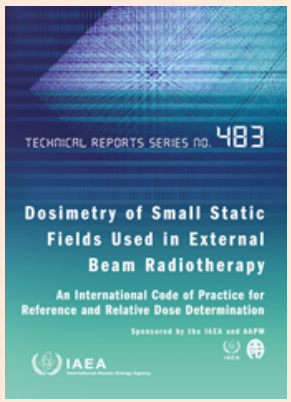
Support training

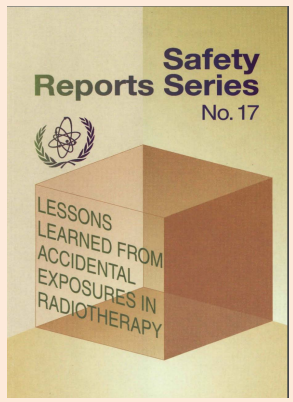
Supports team training through expert missions and scientific visits to expand medical professionals competency in advanced technologies

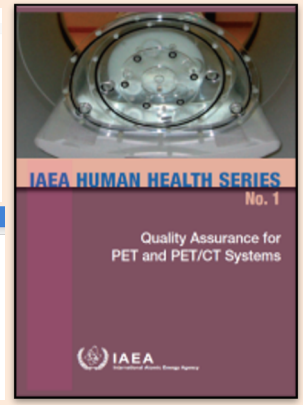
Therapy and imaging professionals must be trained in the latest advanced technologies to assure that safety and quality are a priority

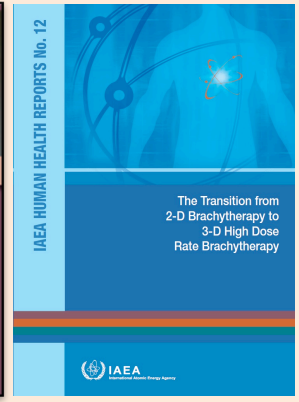












Ensuring quality and safety through guidance

- Equipment quality assurance
- Training material Human Health Campus and Radiation Protection of Patients web training
- Standards and Guidance
- Incident learning
- Code of practices

Radiotherapy, nuclear medicine and imaging equipment must meet both safety and quality standards to ensure effective treatment

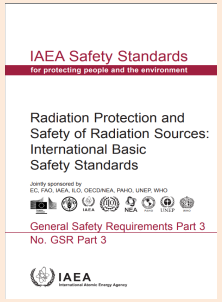
Regulatory authority to assure radiation sources are managed safely and securely

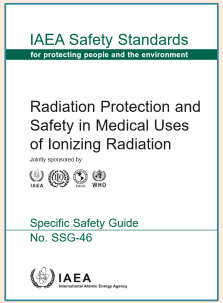
Regulations

Inspection for compliance

Authorizations

Regulatory Infrastructure must be in place to assure that safety and quality requirements are maintained from the concept, implementation and final approval to offer patient services





Audit program

QUATRO
audits for radiotherapy

QUAADRIL
audits for diagnostic radiology centres

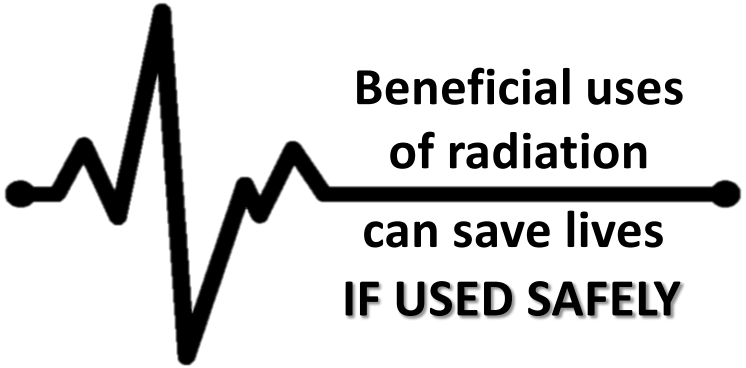
QUANUM
audit for nuclear medicine centres

The audits conclude with a written report that assesses the current quality of the programme and makes suggestions for improvement.

These audits provide independent quality audits through comprehensive reviews of practices.

Audits include a self assessment and a one week visit from external peer reviewers (speciality specific physician, medical physicist and radiographer)

Audits are peer reviews of practices and management at the appropriate medicine centre.



Beneficial uses of radiation can save lives IF USED SAFELY

For patient safety all of these are needed.

IAEA supports and encourages the safe use of radiation technologies in medicine through:

- Education and training
- Dosimetry, quality and safety services
- Publications and guidance for medical facilities and the regulatory authorities
- Audits


screening
preventable
HEALTHCARE
CERVICAL
PREVENTION
Women
JANUARY
CANCER
HEALTH
PREVENTION
AWARENESS MONTH
HOPE
DISEASE
Pap test
IPV
PREVENTION
MONTH
HEALTH
MATTERS
infection
Thank you
Sexual Health
EARLY
DETECTION