

ISSUES

Radiation protection requires a thorough understanding of the effects on human health of low doses of ionising radiation. Today, assessment of these effects relies on extrapolation from high doses and on epidemiological studies based on the "average" individual response in an exposed population.

However :

→ clinical observations of adverse reactions to radiotherapy show large variations in individual radiosensitivity.

→ linear dose/effect relationship is questioned

RISC-RAD proposes to help bridging the gap of scientific knowledge of effects of low doses.

To achieve this goal, it is important to identify all the relevant parameters determining differences in individual responses to radiation exposure. RISC-RAD strategy is to gain detailed understanding of processes involved in radiation-induced carcinogenesis.

In this project, leading European research teams join forces and work towards answering the following specific questions :

- ✓ **Who is at higher risk ?**
- ✓ **What are the risks of low and protracted doses ?**
- ✓ **What are the mechanisms through which risk factors act ?**
- ✓ **When and how do modifying risk factors exert their influence ?**
- ✓ **Is there a link between individual high dose (short term) and low dose (long term) radiosensitivity ?**

We stress that the identification of genetic factors in the processing of radiation induced DNA damage is vital for re-evaluation of current radiation protection policies and the development of future protective procedures.

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DNA damage responses, Genomic instability and Radiation-induced cancer



The problem of risk at low and protracted doses



SIXTH FRAMEWORK PROGRAMME

