

1. Record Nr.	UNINA9910957160603321
Titolo	Potential radiation exposure in military operations : protecting the soldier before, during, and after / / Committee on Battlefield Radiation Exposure Criteria, Fred A. Mettler, Jr., chairman ; Susan Thaul and Heather O'Maonaigh, editors ; Medical Follow-up Agency, Institute of Medicine
Pubbl/distr/stampa	Washington, D.C., : National Academy Press, 1999
ISBN	9786610186006 9780309173025 0309173027 9781280186004 1280186003 9780309581103 0309581109 9780585076102 0585076103
Edizione	[1st ed.]
Descrizione fisica	1 online resource (159 p.)
Collana	Compass series
Altri autori (Persone)	MettlerFred A. <1945-> ThaulSusan O'MaonaighHeather
Disciplina	616.9/89705
Soggetti	Ionizing radiation - Dosage Radiation - Safety measures Soldiers - Health and hygiene
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Support for this project was provided by the U.S. Army Medical Research and Materiel Command under Contract No. DAMD17-96-C-6095"--T.p. verso.
Nota di bibliografia	Includes bibliographical references (p. 113-118).
Nota di contenuto	Potential Radiation Exposure in Military Operations -- Copyright -- Reviewers -- Preface -- Acknowledgments -- Radiation Unit Conversion Chart -- Acronyms -- Contents -- Summary -- HISTORICAL PERSPECTIVE AND RATIONALE -- RADIATION PHYSICS, RADIATION BIOLOGY, AND RADIATION SAFETY AND PROTECTION --

RECOMMENDATIONS FROM THE INTERIM REPORT -- Underlying
Philosophy -- Terminology -- Prospective Risk Assessments --
Dosimetry -- Reference Levels for Operational Exposure Guidance --
ETHICAL FRAMEWORK -- Justifying Placing Individuals at Risk of Harm
-- Training, Recordkeeping, and Reporting -- COMMITTEE
RECOMMENDATIONS -- Balancing Future and Present Harm --
Philosophy of Radiation Protection -- Communicating Risk -- Radiation
Dosimetry, Records, and Reporting -- Follow-Up -- 1 Introduction --
BACKGROUND -- REPORT LAYOUT -- ETHICS -- Military Context -- 2
Fundamentals of Radiation Safety and Protection -- RADIATION
PHYSICS -- RADIATION UNITS AND MEASUREMENTS -- Radiation Units
-- Absorbed Dose -- Equivalent Dose -- Radiation Measurement --
SOURCES OF RADIATION EXPOSURE -- RADIATION DOSE REDUCTION --
RADIATION BIOLOGY -- Deterministic Effects -- Stochastic Effects --
ASSESSMENT OF RADIOGENIC TUMOR RISK -- Risk Factors -- Dose
Range Covered by the Guidelines in This Report -- Modification of Risk
-- Age -- Sex -- Type of Radiation -- Dose Rate and Magnitude --
Tissue -- Heritable and In Utero Effects -- Interaction with Other
Exposures -- How to Apply Risk Factors -- Putting the Risks in
Perspective -- 3 Standard Practices in Occupational Radiation
Protection -- CONTROL PHILOSOPHY -- RADIATION SAFETY TRAINING
FOR OCCUPATIONAL EXPOSURES -- Requirements of the Nuclear
Regulatory Commission -- Risk Communication-An Important Function
in Decisions for Radiation Safety -- Training and Radiation Risk
Perceptions -- RECORDS AND RECORDKEEPING -- REPORTING.
4 Current Paradigms for Radiation Protection in the U.S. Army --
OCCUPATIONAL EXPOSURE -- NON-OCCUPATIONAL EXPOSURES UP TO
700 MILLISIEVERT -- HIGH-LEVEL EXPOSURES IN NUCLEAR WAR --
SUMMARY OF EXISTING ARMY PROGRAMS -- 5 Army Radiation
Protection and Safety Programs in Light of Civilian Standard Practices
and Recommendations for Improvement -- REVIEW OF THIS
COMMITTEE'S INTERIM REPORT -- Underlying Philosophy of Radiation
Protection -- Interim Report Recommendations -- Terminology --
Interim Report Recommendations -- Prospective Risk Assessment --
Interim Report Recommendations -- Definition of a Radiological Area
-- Dosimetry Requirements -- Dose Units -- Internal Dose -- Dose
Cumulation Times -- Interim Report Recommendations -- Reference
Levels for Operational Exposure Guidance -- Interim Report
Recommendations -- Recordkeeping -- GUIDANCE ON RADIATION
PROTECTION -- Training -- Recordkeeping and Reporting
Requirements -- Recordkeeping in Military Settings -- 6
Decisionmaking by Commanders -- INFORMATION -- JUSTIFICATION
-- OPTIMIZATION -- COMMUNICATION -- 7 Follow-Up of Persons with
Known or Suspected Exposure to Ionizing Radiation -- MEDICAL
FOLLOW-UP -- Medical Assessment -- Medical Monitoring -- Medical
Monitoring for Delayed Deterministic and Stochastic Effects of
Radiation -- Effects of Accuracy of Monitoring and Disease Prevalence
-- Assessment of the Benefit of Medical Monitoring -- Costs of Medical
Monitoring -- Monitoring Sensitive Populations -- Screening for
Specific Cancers -- Summary of Medical Monitoring Considerations --
Medical Testing -- Medical Care -- Medical Care for Early and Delayed
Deterministic Effects -- Medical Care for Stochastic Effects -- Ethical
and Legal Considerations: Follow-Up Programs -- EPIDEMIOLOGIC
FOLLOW-UP -- Description and Rationale -- Issues of Study Design.
Choice of Population and Outcome to be Studied -- Data Sources and
Quality -- Military and Radiation-Specific Study Design Issues --
Ethical Issues -- Examples of Epidemiologic Studies of Military
Exposures -- PSYCHOLOGICAL EFFECTS AND THEIR MANAGEMENT -- 8

Recommendations -- BALANCING FUTURE AND PRESENT HARM --
PHILOSOPHY OF RADIATION PROTECTION -- COMMUNICATING RISK --
RADIATION DOSIMETRY, RECORDS, AND REPORTING -- FOLLOW-UP --
References -- Appendix A The ACE Directive -- Appendix B Participants
in Committee Meetings and Workshop -- Appendix C Biographical
Summaries -- COMMITTEE MEMBERS -- STAFF.

Sommario/riassunto

In 1996, NATO issued guidance for the exposure of military personnel to radiation doses different from occupational dose levels, but not high enough to cause acute health effects-and in doing so set policy in a new arena. Scientific and technological developments now permit small groups or individuals to use, or threaten to use, destructive devices (nuclear, biological, chemical, and cyber-based weaponry, among others) targeted anywhere in the world. Political developments, such as the loss of political balance once afforded by competing superpowers, have increased the focus on regional and subregional disputes. What doctrine should guide decisionmaking regarding the potential exposure of troops to radiation in this changed theater of military operations? In 1995, the Office of the U.S. Army Surgeon General asked the Medical Follow-up Agency of the Institute of Medicine to provide advice. This report is the final product of the Committee on Battlefield Radiation Exposure Criteria convened for that purpose. In its 1997 interim report, Evaluation of Radiation Exposure Guidance for Military Operations, the committee addressed the technical aspects of the NATO directive. In this final report, the committee reiterates that discussion and places it in an ethical context.
