

AbstractID: 4432 Title: Shielding I: New NCRP Report: General Report background and formulation

This Report was prepared through a joint effort of the AAPM Task Group 57 and the NCRP Scientific Committee 46-13. It addresses the structural shielding design and evaluation for medical use of megavoltage x rays and gamma rays for radiotherapy and supersedes related material in NCRP Report No. 49, which was issued in 1976.

This first presentation will review the general formalisms used for primary and secondary barrier designs at energies below and above the 10MeV maximum energy that was considered by the old Report 49. While most of the formalisms and data can be found in the published literature, the goal of the report was to bring together in one work all the required methods for shielding modern radiotherapy accelerators. This overview will be followed on the second day by a review of the methods and equipment that are necessary to survey the final facility and then the equations and data presented will be used extensively in the third day's presentation to work a number of detailed example calculations.

Learning Objectives:

1. Understand the history and rationale behind this report,
2. Understand the appropriate use of the equations and data for calculating shielding for medical accelerators,
3. Understand the limitations of the proposed methods.