



Joint Symposium 3

Dosimetry Committee + EANM/ESTRO

Monday, October 19, 08:00–09:30

Session Title

Understanding Radiobiological Parameters for Dose–Response Correlations

Chairpersons

Caroline Stokke (Oslo, Norway)

Francesco Cicone (Catanzaro, Italy)

Programme

08:00–08:30 **Anna Sarnelli** (Meldola, Italy): Core Radiobiological Parameters for Dose Comparisons: RPT vs. EBRT

08:30–09:00 **Alan McWilliam** (Manchester, United Kingdom): Dose–Effect Correlations in Radiation Therapies: Identifying Which Dose Metrics Predict Outcome Best?

09:00–09:30 **Caroline Stokke** (Oslo, Norway) & **Francesco Cicone** (Catanzaro, Italy): A Roadmap for Dose–Effect Correlations in RPT: Making Better Use of What Is Available!

Educational Objectives

1. To understand the fundamental radiobiological metrics and their differential applications to RPT and EBRT.
2. To understand the challenges associated with the definition of dose–effect correlations in radiation therapies.
3. To understand current and future frameworks for the definition of dose–effect correlations in RPT.

Summary

This joint symposium builds on previous collaborative initiatives between the EANM Dosimetry Committee and ESTRO, organised during the 2023 and 2024 EANM Annual Congresses, with the aim of facilitating cultural exchange between specialties performing different radiation treatments. Indications for radiopharmaceutical therapies (RPT) are expanding, and internal dosimetry is constantly evolving towards clinical application. As the combination of different radiation treatments has come of age, there is an increasing need for the community to understand the fundamental radiobiological parameters used in external beam radiotherapy (EBRT) and in RPT, and how these can be applied within combination strategies to predict treatment effects. The symposium will represent the state of the art of radiobiological metrics as applied differently to EBRT and RPT. Moreover, the challenges associated with prediction of dose–effect correlations will be covered, especially for those treatments where radiobiology is under constant development, such as RPT and other particle therapies.

Key Words

Dosimetry; Radiobiology; Dose–Response Effects; Radiation Treatments