

Radiotherapy

Advances, Clinical trials, Clinical care

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- Early Cancers
- Locally Advanced Cancers
- Metastatic Cancers

Early Cancers

Decrease Toxicity

- *Eliminate unnecessary treatment*
 - *DCIS, Early cancers of the Breast and Prostate*
- *Improved treatment planning*
 - *More accurate CTV delineation*
 - *Informed by patterns of failure and AI*
 - *Quantitative Imaging*
- *Novel Technology*
 - *FLASH, Non-ionizing modalities*

Locally Advanced Cancers

Improve tumor control

- *Higher doses, Smarter delivery*
 - *Accuracy, not just precision!*
- *Drugs added to RT*
- *Novel subatomic particles*
- *Non-ionizing modalities*
- *Radiopharmaceuticals*

Metastatic Cancers

- *Immunotherapies and RT*
 - *Radiation as “fire-starter”*
- *Radiopharmaceuticals and Radioligands*
- *Oligometastases (???)*

Quality Assurance in Radiotherapy

- Clinical Trials
 - *Radiation is the study question*
 - *Radiation is the backbone therapy*
- NCI-Funded Clinical Trials Networks
 - *RTOG, COG, GOG, etc.*
 - *Consolidated as NCTN and NCORP*
- NCI-Funded QA Centers
 - *RPC, QARC, ITC, RTOG-QA*
 - *Coordinated under ATC*
 - *Consolidated as IROC*

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