

Program Design and Content

An exhaustive list of competencies is impractical to include in this application; however, at a minimum, competence must be demonstrated in the following major areas of responsibility:

- 1 Calibration of therapy equipment.
- 2 Measurement and calculation of dose.
- 3 Computer-assisted radiation treatment planning - both external beam and brachytherapy
- 4 Functional understanding of all computer network software programs necessary for clinical operations, including, but not limited to, the R&V program (IMPAC), MU calculation program (RadCalc), daily and monthly QA programs, and various database management programs.
- 5 Functional understanding and operation of all the radiation detection device hardware, and the matching software if applicable.
- 6 Quality assurance of all kinds; both patient-specific QA, and more generic QA processes.
- 7 Acceptance testing and commissioning of hardware and software used in planning and treating patients.
- 8 Education of medical dosimetry and radiation therapy students, and training and supervision of staff therapists and dosimetrists.
- 9 Communication skills necessary to explain the clinical relevance of physics to other CARTI colleagues, and to the medical staff.
- 10 Maintenance of records necessary to maintain Arkansas state health department licensure, and the ability to present these records to state health regulators for regular inspections.
- 11 Development of computer skills necessary to collect, organize, analyze and present data which contribute to the daily functioning of the clinic.

In order to achieve these objectives, the resident shall complete clinical rotations in each of the following major categories:

- 1) Treatment equipment (linear accelerators)
- 2) Conventional simulators
- 3) CT-simulators
- 4) Patient treatment
- 5) Radiation safety
- 6) Brachytherapy - QA and Planning
- 7) Radiation Detection
- 8) In vivo patient dosimetry
- 9) Additional categories as deemed necessary by the CARTI physics staff