

APR17-2016-030043

Abstract for an Invited Paper
for the APR17 Meeting of
the American Physical Society

Particle Beam Therapy In The U.S.

JACEK CAPALA, Radiation Research Program, Division of Cancer Treatment and Diagnosis, NCI/NIH

The U.S. National Cancer Institute (NCI) has a long tradition of supporting research and development efforts in particle beam radiation therapy (PBRT) of cancer. Many preclinical studies investigating the effects of particle beams on tumor and normal tissues have been funded over the last five decades. In the 1970s and 1980s, NCI supported clinical trials using a variety of particle beams, many of them at the U.S. Department of Energy (DOE) facilities. Renewed interest in particle therapy led to a 2013 joint NCI/DOE workshop on particle RT-related RD questions. Currently, clinical trials involving protons are being carried out by NCI-funded National Clinical Trials Network and under a collaborative agreement between NCI, MD Anderson Cancer Center, and Massachusetts General Hospital. To encourage establishment of a research center adjunct to a planned, independently created and funded clinical facility for PBRT, two exploratory project grants have been awarded. In addition, NCI has issued a contract to conduct a randomized phase III clinical trial of carbon ion vs. conventional (x-ray) RT for unresectable pancreatic cancer.

Keywords: Cancer, Particle Beam Radiotherapy, Accelerators