AbstractID: 7242 Title: PET in Radiation Therapy Planning

There is a rising interest in molecular imaging and its potential use in the planning and monitoring of therapy. Positron Emission Tomography is one example of using molecular image data to aid in the diagnosis and management of cancer. The use of tracers to measure tumor energetics, proliferation rate, state of hypoxia, and receptor densities are just a few examples. One area that is being developed is that of using such tracers to define volumes for boost protocols in radiation therapy. This presentation will review some of the basics of PET imaging and the tracers currently in use for measuring response to therapy and for defining volumes for planning boost fractions. Examples of theses applications will be presented.

Educational Objectives:

1. Review the basic principles of PET imaging
2. Provide an overview of the major PET radiotracers currently in use.
3. Provide examples of the use of PET in staging, following response to therapy, and treatment planning.
4. Provide information on current problems and some future directions