

The purpose of this presentation is to familiarize persons in other areas medical physics with the basic physics of imaging with PET. In this discussion three areas in PET imaging are examined: The creation and propagation of the signal, the corrections to the data, and the reconstruction of the images from the data. Within these areas computational tools such as Monte Carlo and simple image reconstruction programs are used to provide more a more intuitive understanding of the basic physics and the performance of PET cameras.

Learning Objectives:

1. Understand the physical phenomena involved in PET imaging.
2. Understand how data corrections are used to improve the accuracy of imaging the tracer distribution.
3. Understand how PET images are generated.