

It is prudent that a thorough evaluation be performed on scintillation cameras to insure that manufacturer's specifications are met and also serve as a baseline for future checks. A thorough checkout includes checks of the mechanical functions of the camera, operation in the planar mode, and tomography. The mechanical checkout includes checks of the motions, alignment, and accuracy of readouts. Planar testing concerns intrinsic parameters involved with uniformity (all nuclides), spatial resolution, spatial linearity, count rate-performance, and multi-energy registration. Extrinsic testing involves system uniformity, spatial resolution and sensitivity of the different collimators purchased. As a camera is heavily used in the tomographic mode in this day and time, further requirements are placed on the imaging system and particular attention will be placed on tomographic evaluation. A discussion of the procedures and tests that can be used to perform the above evaluations are presented with a view to practical approaches and accepted standards of testing. Some suggestions for testing of new technologies that have been added to scintillation cameras in recent years are presented.

Objectives:

1. To provide knowledge on acceptance testing and an approach to a thorough testing of a camera, including planar and tomographic imaging
2. To provide information on different approaches and methods for performing the evaluations.
3. To show examples of different problems that might be found during the testing process.