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## Preface

This set of expanded definitions of terms is intended to encompass those popular in planar, SPECT, and PET imaging protocols of nuclear medicine. It includes both nuclear-based scanner operations and intimately associated popular data analyses approaches. Other imaging modalities, such as x-ray, CT, MRI and a number of other modalities used in an encompassing field of molecular imaging, except for common terms, are beyond its scope – each requiring a dictionary of its own. The nuclear medicine imaging component of medical physics is intended to be exhaustively treated from a terminology standpoint. However, general biological, physiological, and pharmaceutical terminology, while also associated with scans, are not covered. These are already well summarized in various medical dictionaries, encyclopedias, and texts. A limited number of mathematical concepts likely to be somewhat frequently encountered in nuclear medicine imaging are included. Where terms have multiple meanings or can be somewhat general and generic, it is just their relevance to nuclear medicine imaging that is emphasized here.

A deliberate somewhat pedantic approach is used to explain what would otherwise be terse definitions. These include many examples. In these, the mathematical nature of nuclear imaging is deliberately kept very simple. No pretense is made to standardize any terminology. In fact colloquial usages, common in the literature, are identified as such even if ambiguous or ill-chosen when taken out of context, as noted in the Appendix.

Many definitions are based on and adapted from the authoritative National Cancer Institute (NCI) Thesaurus and Metathesaurus.<sup>1</sup> Effort is made when needed to orient these toward imaging uses. The author is indebted to personnel of the NCI for mutually beneficial contacts, and to Dr. Karl F. Hubner of the University of Tennessee Medical Center for helpful suggestions.

Comments and suggestions are invited.

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<sup>1</sup> NCI Thesaurus, National Cancer Institute, <http://ncit.nci.nih.gov>. Accessed September 30, 2011.

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