



Title	Positron Emission Tomography Update: Descriptive Analysis of Experience with PET in VA and Systematic Reviews of FDG-PET as a Diagnostic Test for Cancer and Alzheimer's Disease
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Aim

To track the published literature on clinical positron emission tomography (PET) and the use of PET in the Veterans Health Administration (VHA) since 1996 to support optimal clinical use and resource allocation for provision of PET services in VA.

Conclusions and results

Recent changes in FDA regulation of PET drug products and expansion of Medicare coverage has helped fuel interest in clinical PET. VA experience confirms the importance of PET as a basic research tool and a growing interest in its diagnostic capability. Existing evidence on either traditional or modified PET as a routine diagnostic test in selected applications is preliminary and methodologically flawed. Variations in study populations, imaging protocols, and methods for defining disease on PET images may limit the generalizability of findings across institutions. Systematic reviews from other agencies using similar review methods underscore the deficiencies in PET literature and the need for further clinical research.

Recommendations

Clinicians should await the results of ongoing or planned cooperative trials, including a VHA Cooperative Study of PET in managing solitary pulmonary nodules, before incorporating PET into routine diagnostic strategies. VA should maintain its moratorium on additional PET centers at this time.

Methods

Surveys were conducted of VA PET centers to gather data on clinical diffusion, operations, and research activities related to PET since 1996. A qualitative systematic review of published literature of PET in diagnosing selected cancers (head and neck, breast, lung, colorectal) and Alzheimer's disease was undertaken. Comprehensive literature searches were conducted using MEDLINE and other databases from September 1996 through July 1998, with hand searching of reference lists. Primary stud-

ies and systematic reviews published in English using fluorodeoxyglucose-positron emission tomography (FDG-PET) for selected indications were included, and a critical appraisal framework was applied.

Further research/reviews required

Rigorous prospective research is needed on the clinical consequences of PET in the routine diagnostic workup, and several cooperative studies are under way.