FDG-PET + clinical diagnosis vs. clinical diagnosis for diagnosing AD

Study	Methodology/ Design	Study Population	Results				Validity /Conclusions
Jagust et al 2007 Study type: Retrospective cohort Objective: To evaluate the potential ability of both clinical and imaging diagnoses to detect AD. Primary outcomes: Sensitivity and specificity.	Initial clinical evaluation *Versus* Final evaluation *Versus* Clinical evaluation + FDG-PET Gold Standard: Postmortem pathologic diagnosis. Blinding: FDG-PET raters were blinded to the clinical and pathologic diagnosis.	Inclusion: Subjects with a clinical evaluation, pathologic examination, and a FDG-PET scan. Exclusion: Uninterpretable PET scan. Sample size: N=44 Baseline characteristics: 66% men and mean age at initial examination 75 years.	**Sensitivity, specificity, PPV, and NPV of clinical diagnosis at the initial and final examination and the addition of FDG-PET to the initial examination**				Validity: -Diagnosis was established by a multidisciplinary team. -Two raters reviewed the results of each PET scan. -Confidence intervals were not reported. -Small sample size. -There was a delay between initial examination and PET examination. PET imaging was performed an average of 1.3 years after initial examination. Conclusion: The results of this study suggest that the addition of FDG-PET to the initial clinical diagnosis of AD increased the sensitivity and specificity of the diagnosis; however, it is unknown whether these results will translate into clinical practice as two reviews rated each PET scan and the diagnosis of AD was determined at a multidisciplinary conference after review of all clinical data.
				Initial	**Initial + PET**	**Final**	
			Sensitivity	76%	84%	88%	
			Specificity	58%	74%	63%	
			PPV	70%	81%	76%	
			NPV	65%	78%	80%	
			Abbreviations: PPV= positive predictive value; NPV= negative predictive value. **Inter-rater reliability** There was modest agreement between the two raters (kappa 0.43).				