| Group	Age at PET scan	CSF Aß	CSF Total Tau	CSF Total Tau:Aß	Composite Memory z-score	Composite Visuospatial z-score	Composite Language z-score
EOAD	62	115	23	0.2	-2.6	-4.3	-1.6
EOAD	60	128	187	1.45	-1.5	-1.6	0.17
EOAD	69	NA	NA	NA	-0.91	-1.4	-0.43
EOAD	53	113	40	0.35	-1.3	-1.0	-0.62
EOAD	63	NA	NA	NA	-1.1	-2.0	-0.050
EOAD	51	228	240	1.05	-1.3	-2.4	-1.7
lvPPA	63	152	61	0.4	4.0	-0.60	-1.4
lvPPA	64	172	271	1.57	3.6	1.2	-1.6
lvPPA	69	118	190	1.61	0.85	0.097	-1.2
lvPPA	55	152	69	0.45	2.6	0.39	-1.2
PCA	58	204	89	0.44	-2.2	-3.8	-2.3
PCA	59	104	109	1.05	0.73	-1.9	-0.13
PCA	55	149	102	0.69	2.0	-2.0	-1.0
PCA	58	66	31	0.47	0.47	-0.82	-0.73
PCA	57	183	98	0.53	0.59	-4.4	0.49

Supplemental Table 1: Luminex CSF measurements and composite cognitive test scores by subject. CSF samples were obtained 1-39 months prior to ^{18}F-flortaucipir PET. Aß= ß-amyloid.
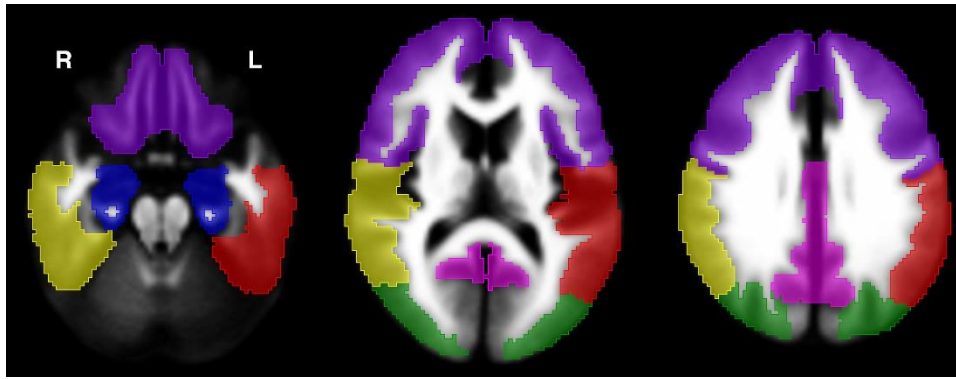
Supplemental Figure 1: Illustrations showing eight pre-defined AD subtype-specific ROIs generated from the Hammers N30R83 atlas encompassing regions predicted to show varying neurodegeneration between atypical AD syndromes, shown in template space. Right and left ROI were defined for the lateral temporoparietal region (yellow, red). Combined bilateral ROI were defined for the medial parietal/posterior cingulate (pink), frontal lobes (purple), occipital lobe (green), and medial temporal lobes (blue).
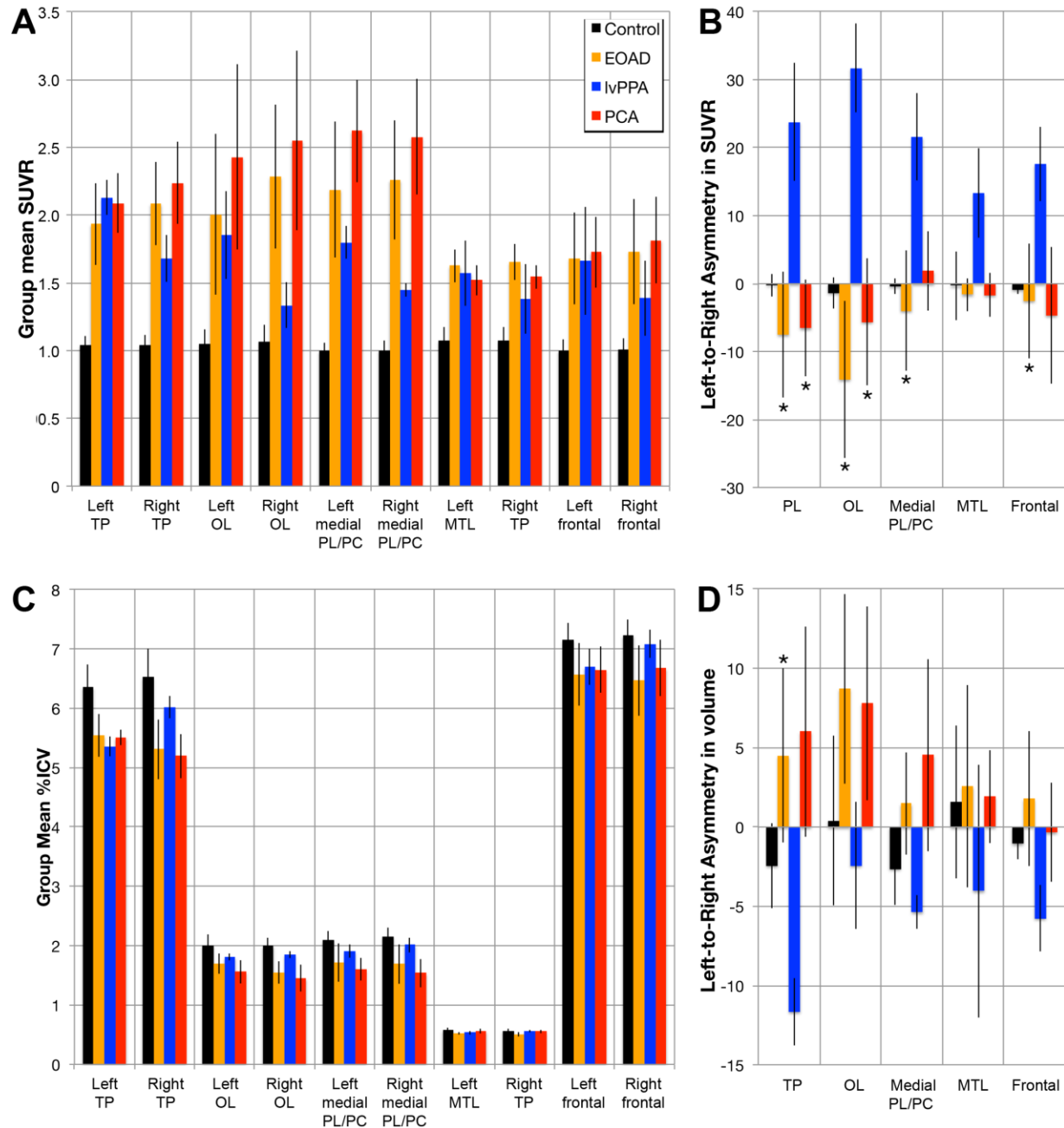
Supplemental Figure 2: Comparison of uncombined left and right ROIs. SUVR shows expected trends, with left greater than right asymmetry in lvPPA and high posterior uptake in PCA (A). Findings are not statistically significant using strict Bonferroni correction in this post-hoc analysis. Asymmetry index shows significant differences in left lateralization in lvPPA compared to AD in most ROI and compared to PCA in parietal and occipital lobes for ^{18}F-flortaucipir.

Similar comparisons of MRI (C) show lower effect sizes and only one statistically significant

difference in asymmetry (D). TP= temporoparietal, OL= occipital lobe, PL/PC= parietal

lobe/posterior cingulate, MTL= medial temporal lobe. *p_{corr}<0.05 compared to lvPPA.