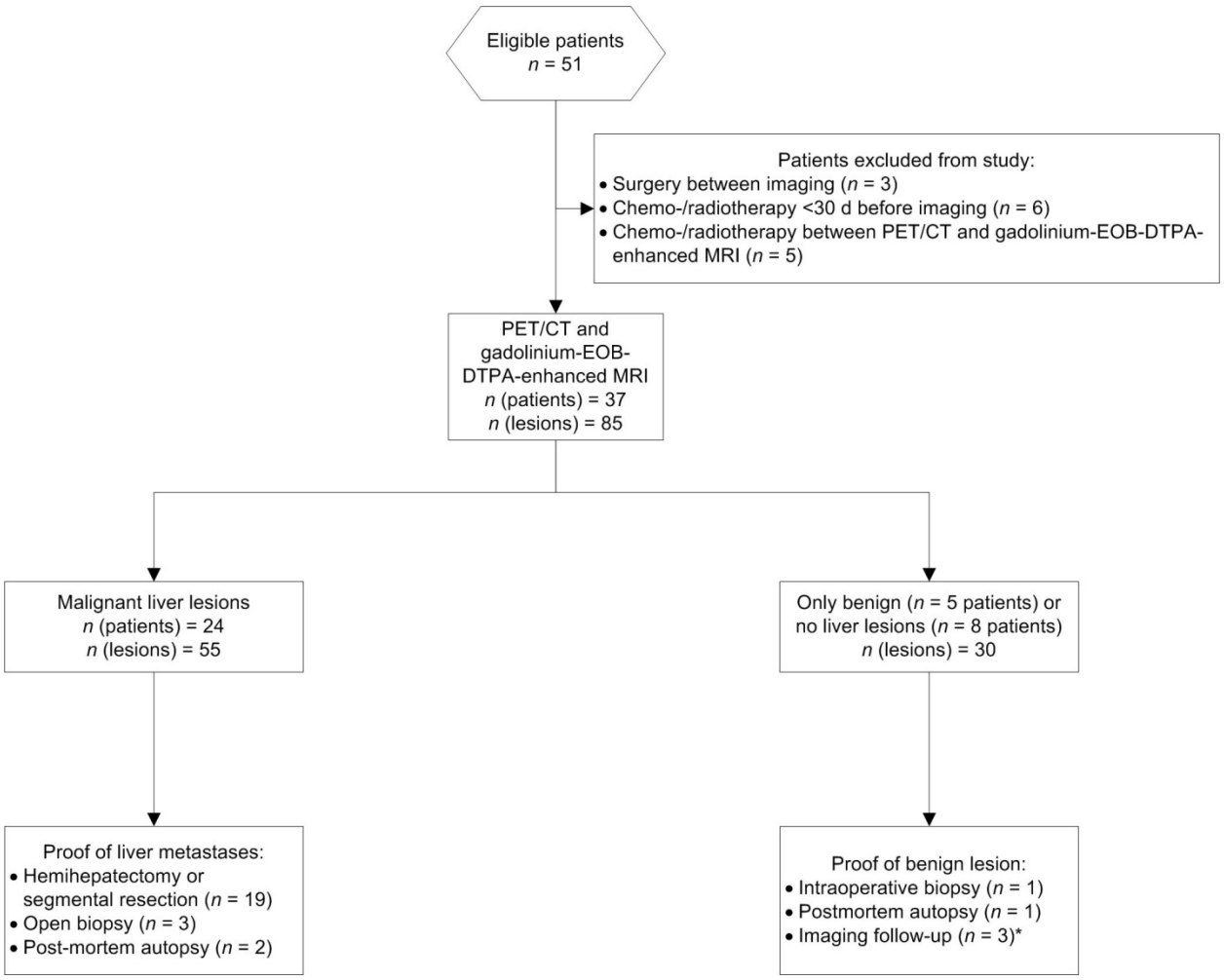
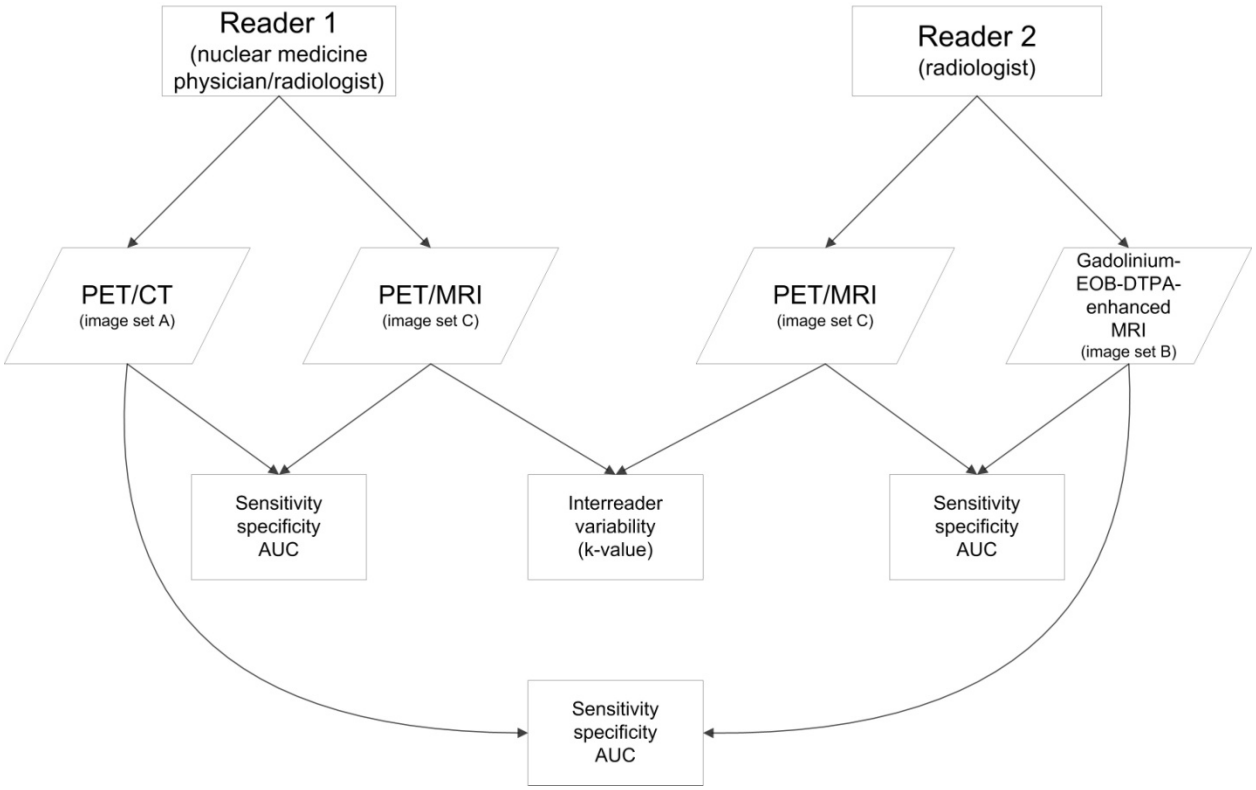
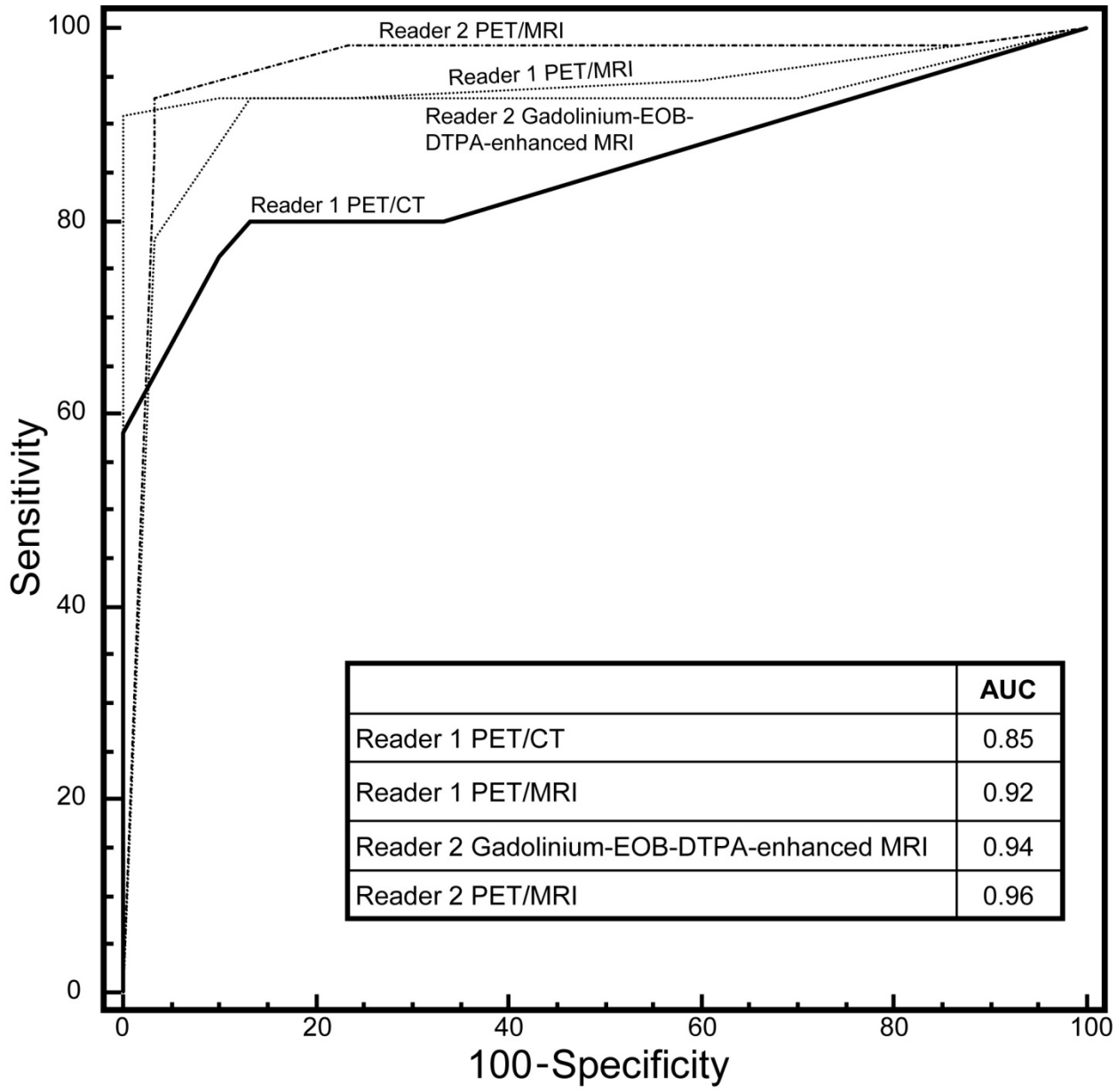


Supplemental Figure 1: Flowchart of the study enrolment population based on the recommended standards for reporting diagnostic accuracy (*1*) and proof of lesion malignancy. *Imaging follow-up was performed by means of computed tomography and/or MRI (mean follow-up time, 21.2±6.3 months).

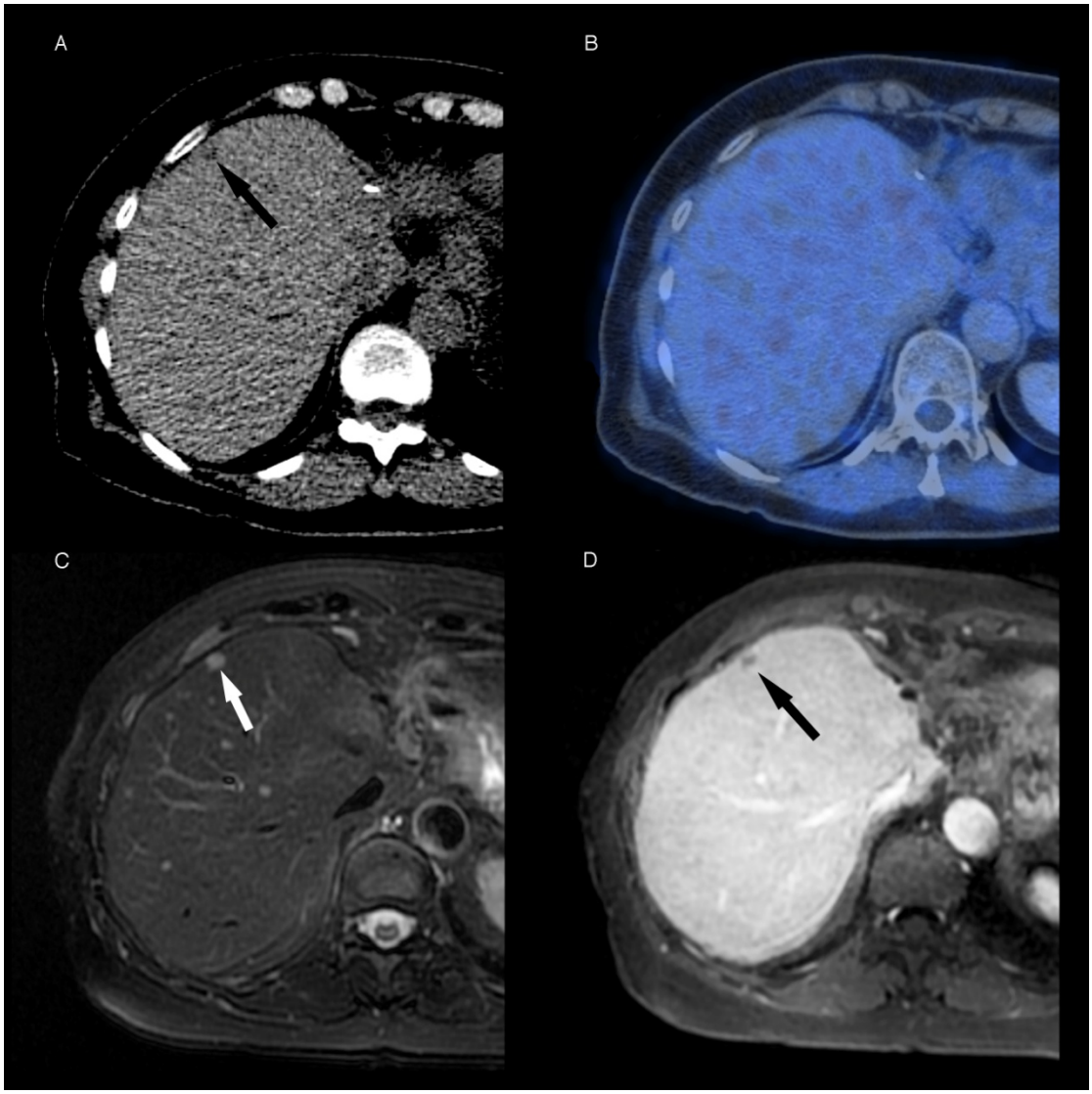


Supplemental Figure 2: Image Analysis and data evaluation. Reader 1 evaluated PET/CT images (Image set A) and Reader 2 evaluated Gd-EOB-DTPA enhanced MRI images (Image set B). Both readers evaluated PET/MRI fused data (Image set C). AUC values, sensitivities and specificities were evaluated and compared as shown. Interreader variability between both readers interpreting Image set C was evaluated using unweighted k-statistic.



	AUC
Reader 1 PET/CT	0.85
Reader 1 PET/MRI	0.92
Reader 2 Gadolinium-EOB-DTPA-enhanced MRI	0.94
Reader 2 PET/MRI	0.96

Supplemental Figure 3: ROC curves considering all liver lesions. For Reader 1 and Reader 2, PET/MRI shows highest AUC compared to other modalities.



Supplemental Figure 4: 62-year-old patient with neuroendocrine carcinoma of the pancreas and liver metastases. On CT (A) and PET/CT (B) the lesion in liver segment VIII (arrow) was rated to be probably malignant (Grade 4). On unenhanced T2w FSE MR image (c), the lesion shows hyperintense signal with enhancement on arterial phase (not shown) and washout on portal venous phase (D) following intravenous administration of Gd-EOB-DTPA. Evaluating Gd-EOB-DTPA enhanced MRI and PET/MRI this lesion was rated to be definitely malignant (Grade 5), thus entailing an increase in confidence as compared to PET/CT.

REFERENCE

1. Bossuyt PM, Reitsma JB, Bruns DE, et al. Towards complete and accurate reporting of studies of diagnostic accuracy: the STARD initiative. *Radiology.* 2003;226:24–28.