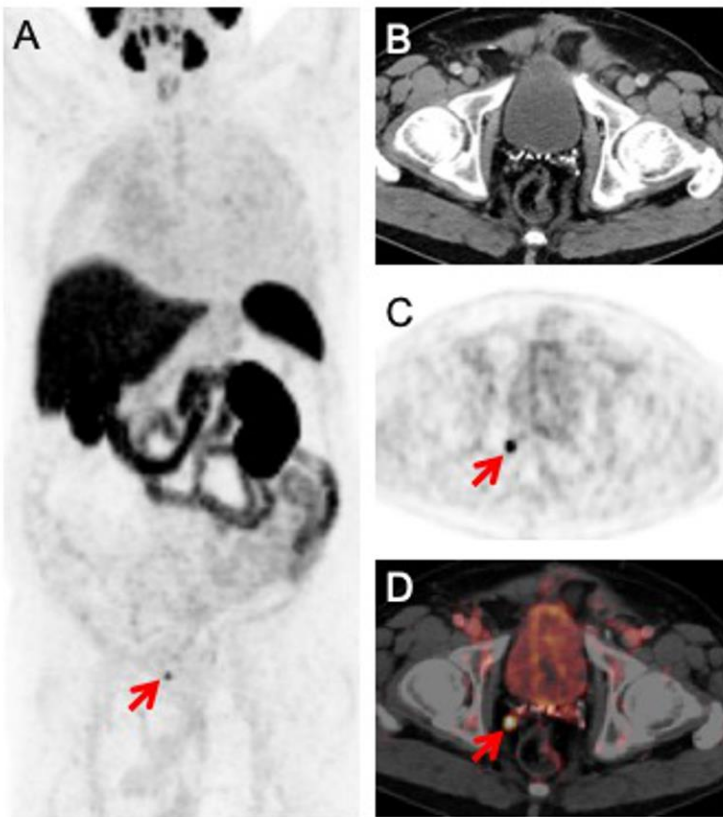


### Supplemental Fig. 1

Images from a 78-year old patient who underwent radical prostatectomy in 2016 (Gleason Score 8, pT3a, pN0) and had a rising PSA (0.35 ng/mL).

The whole-body MIP (A) and axial PET image (C) show intense  $^{18}\text{F}$ -rhPSMA-7 local uptake. The corresponding CT (B) shows no specific abnormality, but the uptake projects in the fused PET/CT image (D) in the region of the right seminal vesicle suggestive of local recurrence.



## Supplemental Fig. 2

Images from a 67-year old patient who underwent radical prostatectomy in 2013 (Gleason Score 8, pT2a, pN0), salvage radiation therapy (2016), stereotactic body radiation of two bone lesions (iliac bone, chest; 2017), but who was experiencing a rising PSA (1.94 ng/mL). The whole-body MIP (A) and axial PET image (C) show one intense focal PSMA expression in the region of the left hip. The corresponding CT (B) shows no specific abnormality but the uptake projects in the fused PET/CT image (D) on the left femur neck indicating a new bone metastasis.

