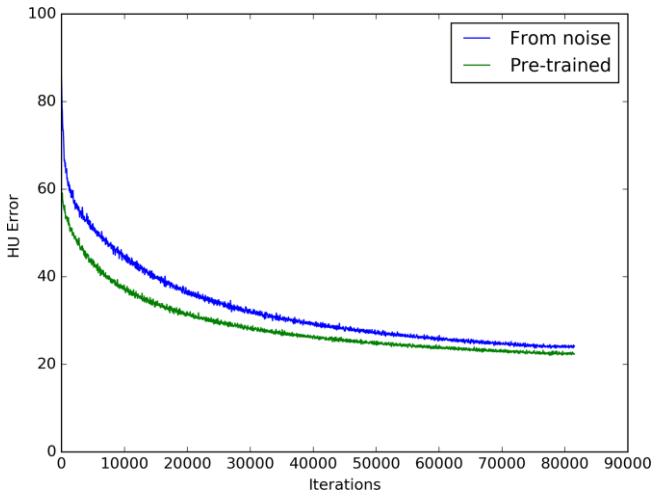
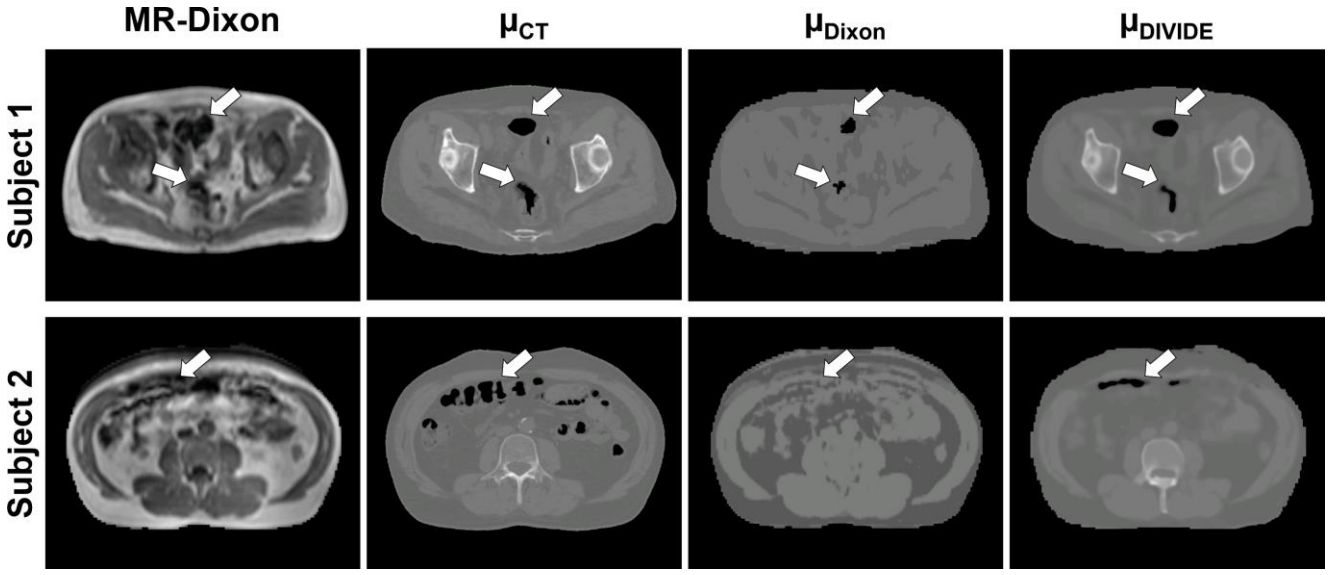



**Supplemental Figure 1.** Training error as a function of the number of iterations of the pretrained model compared to training from a noise distribution. Hounsfield Units (HU) error was computed as the L1-norm between the ground truth CT and the output pseudo-CT in each iteration.




**Supplemental Figure 2.** Comparison of original MR and corresponding CT- and MR-based attenuation maps for a subject without (subject 1) and with (subject 2) air pockets displacement between acquisitions. Subject 1 shows a good agreement between air pockets observed in the $\mu_{CT}$ and $\mu_{DIVIDE}$, while $\mu_{Dixon}$ fails to capture the whole extent of the air pockets. Subject 2 shows an acceptable agreement between air pockets observed in the original MR and $\mu_{DIVIDE}$, while more and fewer air pockets were observed in the $\mu_{CT}$ and $\mu_{Dixon}$, respectively.

| ID | Disease | Age | Gender | Weight | BMI | Radiotracer | Injected Dose (MBq) |
|---|---|---|---|---|---|---|---|
| **01** | RCa | 80 | M | 80 | 23.39 | $^{18}$F-FDG | 286 |
| **02_01** | RCa | 67 | M | 82 | 24.55 | $^{18}$F-FDG | 425 |
| **02_02** | | 68 | | 55 | 16.47 | $^{18}$F-FDG | 419 |
| **02_03** | | 68 | | 82 | 24.55 | $^{18}$F-FDG | 425 |
| **03** | PCa | 71 | M | 78 | 23.35 | $^{18}$F-FDG | 259 |
| **04** | PCa | 77 | M | 64 | 19.16 | $^{18}$F-FDG | 412 |
| **05_01** | RCa | 44 | F | 69 | 21.17 | $^{18}$F-FDG | 413 |
| **05_02** | | 44 | | 69 | 21.17 | $^{18}$F-FDG | 415 |
| **06_01** | RCa | 66 | F | 53 | 17.43 | $^{18}$F-FDG | 339 |
| **06_02** | | 66 | | 53 | 17.43 | $^{18}$F-FDG | 311 |
| **07** | PCa | 62 | M | 92 | 24.21 | $^{18}$F-Choline | 273 |
| **08_01** | RCa | 57 | F | 75 | 24.35 | $^{18}$F-FDG | 389 |
| **08_02** | | 58 | | 80 | 25.97 | $^{18}$F-FDG | 418 |
| **08_03** | | 58 | | 70 | 22.73 | $^{18}$F-FDG | 416 |
| **09** | PCa | 67 | M | 73 | 21.10 | $^{18}$F-Choline | 348 |
| **10_01** | RCa | 54 | F | 80 | 24.24 | $^{18}$F-FDG | 421 |
| **10_02** | | 55 | | 62 | 18.79 | $^{18}$F-FDG | 383 |
| **10_03** | | 56 | | 58 | 17.58 | $^{18}$F-FDG | 404 |
| **11** | PCa | 70 | M | 78 | 23.21 | $^{18}$F-FDG | 187 |
| **12_01** | RCa | 46 | M | 82 | 23.30 | $^{18}$F-FDG | 413 |
| **12_02** | | 46 | | 82 | 23.30 | $^{18}$F-FDG | 404 |
| **13** | RCa | 52 | M | 110 | 29.73 | $^{18}$F-FDG | 423 |
| **14** | RCa | 48 | M | 80 | 22.22 | $^{18}$F-FDG | 410 |
| **15** | RCa | 66 | F | 61 | 20.33 | $^{18}$F-FDG | 387 |
| **16** | PCa | 59 | M | 75 | 21.80 | $^{18}$F-Choline | 252 |
| **17** | RCa | 74 | F | 55 | 18.33 | $^{18}$F-FDG | 446 |
| **18** | RCa | 54 | M | 86 | 23.50 | $^{18}$F-FDG | 359 |
| **19** | RCa | 53 | F | 55 | 18.33 | $^{18}$F-FDG | 289 |
| **Summary** | 6PCa/13RCa | 61.42±10.63 | 12M/7F | 75.16±13.88 | 22.30±2.80 | 16FDG/3Cho | 378.12±64.10 |

**Supplemental Table 1.** Patient demographics, disease diagnoses, PET radiotracers and injected doses.