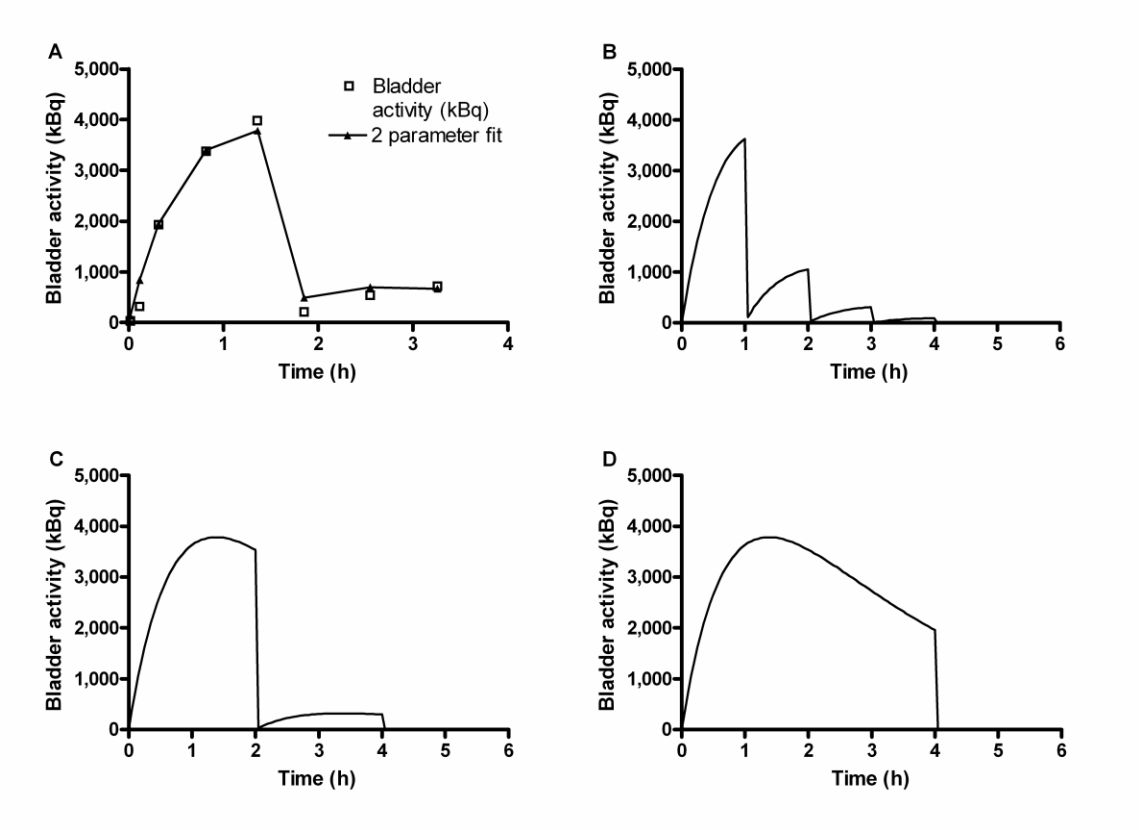
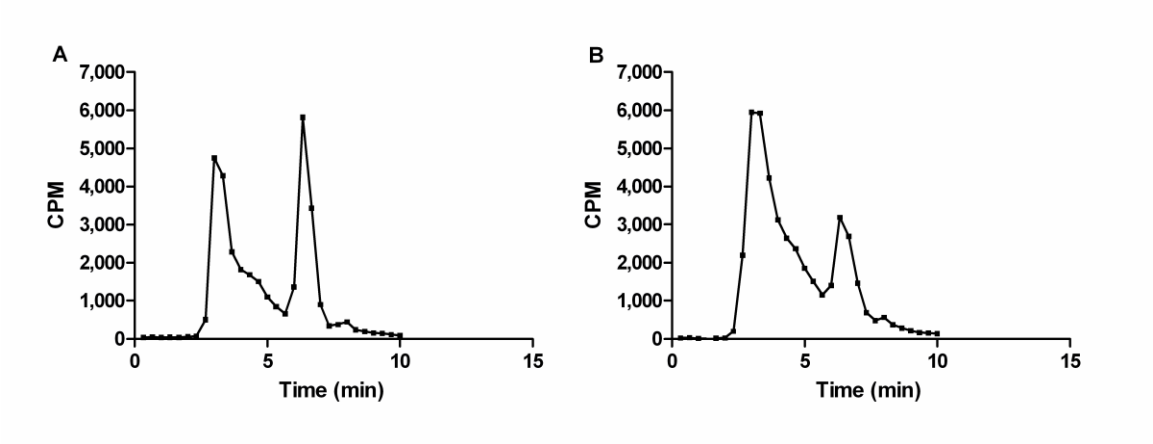


SUPPLEMENTAL FIGURE 1: Representative bladder fits for a subject. (**A**) The measured image and urine sample-derived time activity curves (TACs) for one subject and the fitted function Eq. 2 (both shown uncorrected for radioactive decay). The fitted functions extrapolated to the following voiding scenarios: complete bladder voids (**B**) every hour, (**C**) every 2 hours, and (**D**) every 4 hours post tracer administration.



SUPPLEMENTAL FIGURE 2: Typical high-performance liquid chromatography (HPLC) chromatogram of ^{18}F-D4-FCH and its metabolite ^{18}F-D4-betaine in urine. Analysis of the metabolism of ^{18}F-D4-FCH at **(A)** 90 min, **(B)** 240 min post tracer injection, shows predominant excretion of ^{18}F-D4-betaine.

SUPPLEMENTAL TABLE 1: Comparison between ^{18}F-D4-FCH, ^{11}C-choline and ^{18}F-FCH

	^{11}C-Choline * **(*1*)**	**^{11}C-Choline†** **(*2*)**	**^{18}F-FCH*** ***(21)***	**^{18}F-D4-FCH†** **(*this study*)**
Absorbed dose (mGy/ MBq)				
Kidney	0.018	0.021	0.16	0.106
Liver	0.017	0.02	0.061	0.094
Pancreas	0.013	0.029		0.066
Urinary Bladder		0.003	0.065	0.047
Adrenals		0.004		0.046
Stomach wall		0.006		0.04
Spleen	0.008	0.009	0.055	0.038
ED (mSv/ MBq)				
	0.0028	0.0044‡	0.020‡	0.025‡
Urinary Excretion (% of injected activity)				
		2% in 1.5 h	3.4% in 1 h	4% in 1h, 6% in 2h, 7% in 4h

*Estimated using MIRDOSE
†Estimated using OLINDA/EXM
‡The higher radiation dose of ^{18}F-FCH compared to that of ^{11}C-choline is due to the longer half life of ^{18}F

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