

## Supplementary Material

### Supplementary methods. Repeatability and reproducibility coefficients of mTKV and eTKV, and inter-technique reproducibility agreement determination

Repeatability coefficient was estimated as:

$$\text{Repeatability coefficient} = 1.96 \cdot \sqrt{2} \cdot wSD,$$

where  $wSD$  is the mean within-subject standard deviation, which is equal to the mean SD of paired differences from the first reading and second reading (of a given reader) divided by  $\sqrt{2}$  when only two measures are performed (ref 19). Similarly, reproducibility coefficient for mTKV and eTKV and inter-technique reproducibility agreement were computed respectively from the mean SD of paired differences from the first reader and second reader (for a given technique), and from the first technique and second technique (for a given reader). Note these coefficients may be derived directly from limits of agreement of Bland-Altman plots.

**Supplementary Table 1. Patient characteristics according to analysis performed**

	Total cohort (n=140)	Patients with repeatability and reproducibility of mTKV (n=10)	Patients with repeatability and reproducibility of eTKV (n=22)	Patients with agreement between mTKV and eTKV in junior reader (n=53)
Age (years)	45 ± 13	44 ± 12	46 ± 12	46 ± 14
Male gender (%)	56 (40)	4 (40)	10 (45)	21 (40)
Body mass index (kg/m <sup>2</sup> )	26 ± 5	26 ± 2	26 ± 4	26 ± 5
eGFR (ml/min/1,73m <sup>2</sup> )	71 ± 31	57 ± 33	55 ± 33	61 ± 35
Right kidney volume (ml)	803 ± 733	1058 ± 700	1254 ± 1026	1034 ± 942
Left kidney volume (ml)	894 ± 832	1130 ± 773	1277 ± 993	1098 ± 915
Total kidney volume (ml)	1697 ± 1538	2188 ± 1433	2531 ± 2000	2132 ± 1841
MCIC (1A-1B-1B-1C-1D-1E)	9 - 42 - 48 - 33 - 8	0 - 2 - 3 - 4 - 1	0 - 7 - 4 - 9 - 2	2 - 15 - 20 - 14 - 2
Total liver volume (ml)	2316 ± 1209	2512 ± 1585	2512 ± 1585	2512 ± 1585

mTKV, measured total kidney volume; eTKV, estimated total kidney volume; eGFR, estimated glomerular filtration rate; MCIC, Mayo Clinic Imaging Classification.

**Supplementary Table 2. Mayo Clinic Imaging Classification according to mTKV vs eTKV in the total cohort (n=140)**

		MCIC according to eTKV				
N=140		1A	1B	1C	1D	1E
MCIC according to mTKV	1A	8	1			
	1B	6	36			
	1C		8	39	1	
	1D			4	29	
	1E				1	7