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Supplemental Figure 1. TKV measurement using ellipsoid method in two patients with Class 2Ae.

These MRI images are from the same two patients illustrated in Fig. 1. Three longest linear measurements are delineated on each kidney over the largest cross-sectional longitudinal and transverse imaging planes before (*left*) and after (*right*) excluding exophytic cysts. **(A)** TKV was measured 723 mL before and 551 mL after exclusion of exophytic cysts (as a comparison, TKV in Fig. 1. was 956 mL before and 631 mL after exclusion of exophytic cysts). **(B)** TKV was measured 2,119 mL before and 857 mL after exclusion of exophytic cysts (as a comparison, TKV in Fig. 1. was 2,080 mL before and 845 mL after exclusion of exophytic cysts).

Supplemental Table 1. Area under ROC curve with original versus recalculated htTKV

Model	All participants	Class 1	Class 2Ae
Unadjusted, original htTKV	0.74 (0.70, 0.78)	0.75 (0.71, 0.79)	0.70 (0.47, 0.87)
Unadjusted, recalculated htTKV	0.76 (0.72, 0.80)	0.76 (0.71, 0.79)	0.78 (0.56, 0.93)
Adjusted, original htTKV*	0.87 (0.83, 0.90)	0.88 (0.84, 0.91)	0.88 (0.65, 0.97)
Adjusted, recalculated htTKV*	0.88 (0.84, 0.90)	0.88 (0.85, 0.91)	0.91 (0.71, 0.99)

*Covariates in the adjusted model: baseline age, eGFR, BMI, sex and race

Supplemental Table 2. Predicted %CKD with original versus recalculated htTKV

Model	All participants	Class 1	Class 2Ae
Unadjusted, original htTKV	29.91% (25.75, 34.34)	29.43% (25.18, 33.95)	39.13% (19.71, 61.46)
Unadjusted, recalculated htTKV	30.57% (26.38, 35.01)	31.26% (26.93, 35.85)	17.39% (4.95, 38.78)
Adjusted, original htTKV*	44.52% (39.85, 49.26)	43.53% (38.76, 48.39)	63.64% (40.66, 82.80)
Adjusted, recalculated htTKV*	44.07% (39.41, 48.81)	44.00% (39.22, 48.86)	45.45% (24.39, 67.79)

*Covariates in the adjusted model: baseline age, eGFR, BMI, sex and race

Predicted probability > 0.5.

Supplemental Table 3. Goodness of Fit P-value according to Hosmer-Lemeshow test

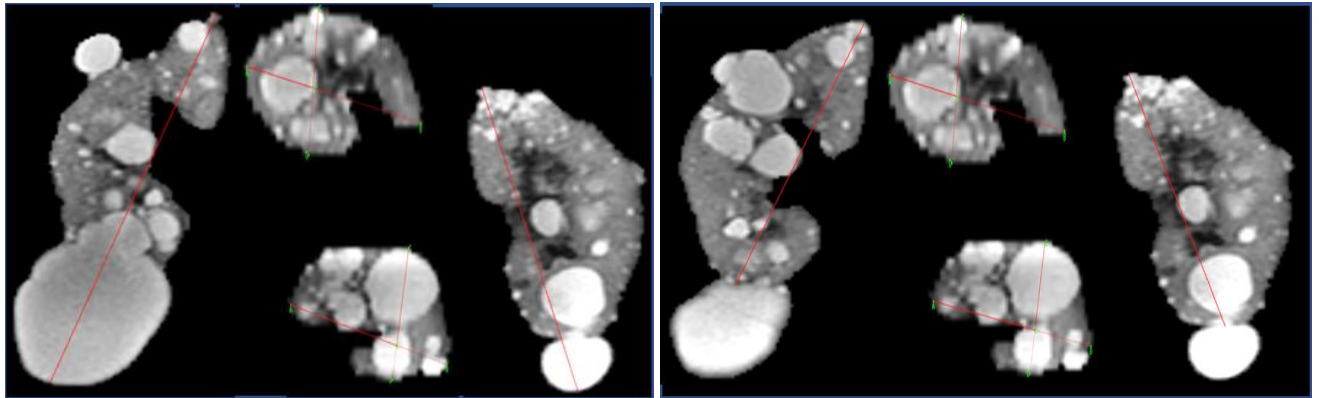
Model	All participants	Class 1	Class 2Ae
Unadjusted, original htTKV	0.4598	0.7164	0.0138
Unadjusted, recalculated htTKV	0.5967	0.4805	0.8260
Adjusted, original htTKV*	0.2749	0.4322	0.0025
Adjusted, recalculated htTKV*	0.2411	0.1883	0.3130

*Covariates in the adjusted model: baseline age, eGFR, BMI, sex and race

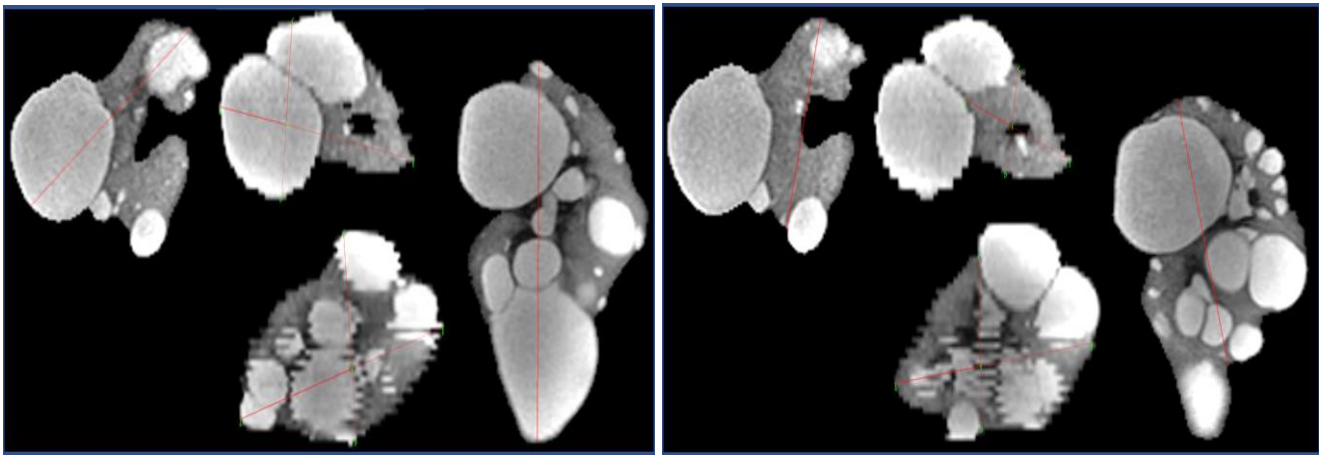
Less significance implies better fit.

Supplemental Table 4. TKV measured using slice-by-slice vs ellipsoid methods in Class 2Ae before and after exclusion of exophytic cysts

Case No.	Slice-by-slice (mL)		Ellipsoid (mL)	
	Inclusion	Exclusion	Inclusion	Exclusion
1	537	394	781	442
2	603	449	604	464
3	716	350	834	470
4	756	533	1007	639
5	804	329	769	383
6	821	427	697	499
7	860	550	980	343
8	888	555	748	540
9	956	631	723	551
10	1021	556	1124	583
11	1040	493	1443	618
12	1103	565	1189	410
13	1235	568	1303	791
14	1286	836	1526	599
15	1305	661	1433	740
16	1345	901	1590	768
17	1458	729	1489	820
18	1535	807	1811	772
19	1643	863	1722	882
20	2032	796	1986	626
21	2080	845	2119	857
22	2351	1215	2617	1134
23	2384	1367	2684	1060
24	3374	1703	3607	1940
25	4379	2126	5197	2050



(A)



(B)

Supplemental Figure 1. TKV measurement using ellipsoid method in two patients with Class 2Ae. These MRI images are from the same two patients illustrated in Fig. 1. Three longest linear measurements (red lines) are delineated on each kidney over the largest cross-sectional longitudinal and transverse imaging planes before (*left*) and after (*right*) excluding exophytic cysts. **(A)** TKV was measured 723 mL before and 551 mL after exclusion of exophytic cysts (in comparison, TKV in Fig. 1. was 956 mL before and 631 mL after exclusion of exophytic cysts). **(B)** TKV was measured 2,119 mL before and 857 mL after exclusion of exophytic cysts (in comparison, TKV in Fig. 1. was 2,080 mL before and 845 mL after exclusion of exophytic cysts).