

[Clinic name]

[Internal coding]

[Contact information]

RADIOLOGY REQUEST FORM: TOTAL KIDNEY VOLUME (TKV)

Patient Information Date of Birth: _____

Patient Name: _____

Sex: _____ Height: _____ Weight: _____ Phone Number: _____

Referring Doctor: _____

Appointment Information

Date: _____

Time: _____

MRI **CT**

Non-contrast Contrast to evaluate*: _____

Left kidney dimensions (mm):	Right kidney dimensions (mm):
Maximal kidney length on the sagittal plane _____	Maximal kidney length on the sagittal plane _____
Maximal kidney length on the coronal plane _____	Maximal kidney length on the coronal plane _____
Maximal kidney width on the transverse (axial) plane _____	Maximal kidney width on the transverse (axial) plane _____
Maximal kidney depth on the transverse (axial) plane _____	Maximal kidney depth on the transverse (axial) plane _____

TKV (mL): _____

T₂-weighted imaging is preferred for better visualization of cysts.¹

*Contrast is not needed for the sole purpose of using the image to estimate TKV.

Radiologist's contact information

Name: _____

Email: _____

Telephone: _____

Fax: _____

Doctor's Signature: _____

Date of Request: _____

The information contained in this transmission may contain privileged and confidential information, including patient information protected by federal and state privacy laws. It is intended only for the use of the person(s) named above.

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Calculate a TKV Measurement (if not provided)

Ellipsoid formula²

- Review image to determine if typical* or atypical[†] PKD
- If typical, calculate TKV

LEFT KIDNEY	+	RIGHT KIDNEY	=	TKV
$\frac{\pi}{6} \times (L \times W \times D)$		$\frac{\pi}{6} \times (L \times W \times D)$		

Units for kidney dimensions are in mm. To get kidney volume in mL, multiply by 0.001.

The length should be the average of the sagittal and coronal lengths.

Note: Convert the TKV to a height-adjusted TKV by dividing TKV by height in meters.

You can also visit QxMD.com to help calculate a TKV measurement.

*Bilateral and diffuse distribution, with mild, moderate, or severe replacement of kidney tissue by cysts, where all cysts contribute similarly to TKV.

[†]Unilateral, segmental, asymmetric, or lopsided presentation, or a bilateral presentation with acquired unilateral atrophy and significant renal enlargement or bilateral kidney atrophy without significant renal enlargement.

ADPKD=autosomal dominant polycystic kidney disease; PKD=polycystic kidney disease; L=length; W=width; D=depth.

References: **1.** Zhang W, Blumenfeld JD, Prince MR. MRI in autosomal dominant polycystic kidney disease. *J Magn Reson Imaging.* 2019;50(1):41-51.
2. Magistroni R, Corsi C, Marti T, Torra R. A review of the imaging techniques for measuring kidney and cyst volume in establishing autosomal dominant polycystic kidney disease progression. *Am J Nephrol.* 2018;48(1):67-78. doi:10.1159/000491022