

For patients with ADPKD

# When ordering a TKV, either ask for

**maximal bilateral  
kidney dimensions**

**or**

**a calculated total  
kidney volume**

## Why TKV is important:

In patients with ADPKD, kidney growth and damage often occur before kidney function declines.<sup>1,2</sup> Height-adjusted TKV (htTKV), calculated using a patient's height and total kidney volume, can be used to determine a patient's ADPKD imaging classification and help identify a patient's risk of ADPKD progression and appropriateness for treatment.<sup>3,4</sup>

ADPKD=autosomal dominant polycystic kidney disease;  
TKV=total kidney volume.



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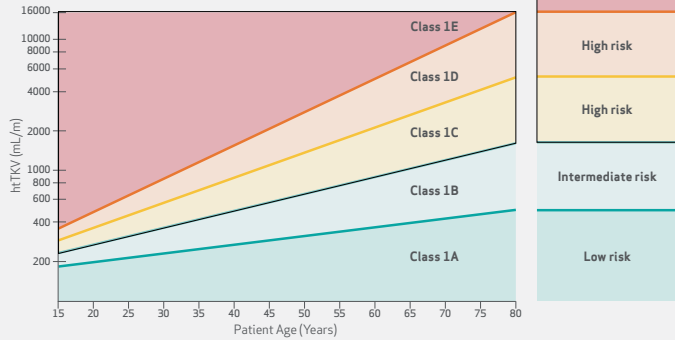
# When you receive your radiology report:



If you receive maximal bilateral kidney dimensions, electronically calculate TKV and htTKV using the QxMD calculator. Scan the QR code or visit [QxMD.com](https://www.qxmd.com)

L=length; W=width; D=depth.  
Units for kidney dimensions are in mm.  
To get kidney volume in mL, multiply by 0.001.  
TKV in mL and height in m for a htTKV in mL/m.

## Once you calculate htTKV, plot on the Mayo Imaging Classification tool to determine the risk of progression<sup>5,6</sup>



Class	1E	1D	1C	1B	1A
Estimated kidney growth rate: yearly percentage increase	>6.0%	4.5% - 6.0%	3.0% - 4.5%	1.5% - 3.0%	<1.5%
Estimated slope of change in eGFR	-4.78	-3.48	-2.63	-1.33	-0.23

eGFR units=mL/min/1.73m<sup>2</sup>/yr.

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eGFR=estimated glomerular filtration rate.

**References:** 1. Grantham JJ, Chapman AB, Torres VE. Volume progression in autosomal dominant polycystic kidney disease: the major factor determining clinical outcomes. *Clin J Am Soc Nephrol.* 2006;1(1):148-157. 2. Grantham JJ, Mulamalla S, Swenson-Fields KI. Why kidneys fail in autosomal dominant polycystic kidney disease. *Nat Rev Nephrol.* 2011;7(10):556-566. 3. Chapman AB, Bost JE, Torres VE, et al. Kidney volume and functional outcomes in autosomal dominant polycystic kidney disease. *Clin J Am Soc Nephrol.* 2012;7(3):479-486. 4. Yu ASL, Shen C, Landsittel DP, et al. Baseline total kidney volume and the rate of kidney growth are associated with chronic disease progression in autosomal dominant polycystic kidney disease. *Kidney Int.* 2018;93(3):691-699. 5. Magistri 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;48:67-78. 6. Irazabal MV, Rangel LJ, Bergstralh EJ, et al. Imaging classification of autosomal dominant polycystic kidney disease: a simple model for selecting patients for clinical trials. *J Am Soc Nephrol.* 2015;26(1):160-172.



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