



Fig 4. Flowchart for managing for a completely characterized solid renal mass or renal mass too small to characterize on CT or MRI performed both without and with IV contrast. ¹If the mass contains fat attenuation (a region of interest < -10 HU), refer to [Figure 5](#). ²Too small to characterize. ³Size = largest diameter in any plane, follows TNM version 7 staging criteria. ⁴Well-circumscribed TSTC renal masses, either calcified or noncalcified but that are otherwise homogeneous and either visually much lower than the renal parenchyma on any phase or much higher than the unenhanced renal parenchyma, are probably benign cystic lesions that do not need further evaluation. ⁵MRI is preferred for characterizing smaller renal masses (<1.5 cm) and for detecting enhancement in suspected hypovascular masses. ⁶A renal mass without change in imaging features *and* with an average growth of ≤ 3 mm per year for at least 5 years is considered stable and likely of no clinical significance. ⁷Growth is defined as ≥ 4 mm per year average; morphologic change is any change in heterogeneity, such as a change in contour, attenuation, or number of septa. ⁸Consider biopsy, especially if hyperattenuating on unenhanced CT, or hypointense on T2WI MRI, because these are suggestive of a fat-poor angiomyolipoma. ⁹If a pathologic diagnosis is desired to determine management but biopsy is technically challenging, or there is another relative contraindication to biopsy, consider MRI to assess the signal intensity on T2WI. Fat-poor angiomyolipoma and papillary renal cell carcinoma may be hypointense on T2WI in contrast to clear cell renal cell carcinoma, which is typically heterogeneous and mildly hyperintense on T2WI. HU = Hounsfield unit; IV = intravenous; T2WI = T2-weighted imaging; WO&W = without and with; W/U = work-up.