

Evidence Discussion

(AB 35)

EviCore
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Indeterminate Renal Lesion

One benefit to ultrasound is that it requires no ionizing radiation and is readily available. Doppler ultrasound can differentiate between cystic and solid lesions, and can characterize flow quality, presence, and velocity. Ultrasound can also help to determine the next most appropriate advanced imaging study when characterization of a renal lesion is needed. Disadvantages of ultrasound include image quality may be degraded due to bowel gas, poor acoustic window acquisition, obesity, and or sonographer experience. Overall, ultrasound is relatively quick, available, and non-invasive for the evaluation for a renal lesion.

Advanced imaging, computer tomography (CT) and magnetic resonance imaging (MRI) offer excellent 3-dimensional resolution. CT scan exposes patients to a significant dose of ionizing radiation but the speed of image acquisition reduces the potential for motion artifact. MRI yields better soft contrast resolution than CT and does not expose individuals to ionizing radiation, but due to longer imaging time is motion artifact-prone and may require sedation. Another negative is contraindication in those with non MRI compliant implants or ferromagnetic foreign bodies.

The American Urological Association recommends that patients with a solid or complex cystic renal mass, high quality, multiphase, cross-sectional abdominal imaging be obtained to optimally characterize any renal lesion seen on ultrasound or found incidentally on other imaging or non-contrast enhanced abdominal imaging.

References

1. Campbell SC, Clark PE, Chang SS et al: Renal Mass and Localized Renal Cancer: Evaluation, Management, and Follow-Up: AUA Guideline Part I. J Urol 2021; **206**: 199.
2. Campbell SC, Uzzo RG, Karam JA, et al: Renal Mass and Localized Renal Cancer: Evaluation, Management, and Follow-up: AUA Guideline: Part II. J Urol 2021; **206**: 209.