

Evidence Discussion

(AB 16.3)

EviCore
By EVERNORTH

Adrenal Insufficiency

CT scan of the abdomen is the recommended study to evaluate the etiology of primary adrenal insufficiency when the etiology is unclear

- If autoimmune or genetic screening tests are positive as a cause of primary adrenal insufficiency then imaging is not warranted.
- Other causes of primary adrenal insufficiency include adrenal hemorrhage, infiltrative diseases, infection such as tuberculosis and tumors, which are all identifiable by CT scan of the abdomen.
- The CT scan is usually readily available and is relatively quick to process and therefore is preferred over MRI as the initial study unless there is a contraindication.
- The CT scan can accurately identify the size, location and appearance of adrenal tumors, and can identify the presence of local or vascular invasion, lymph node involvement, and presence of distant metastases in the majority of patients.
- The CT scan can also identify hemorrhage of the adrenal gland with accuracy.
- An abdominal ultrasound is less expensive however it does not give the precise anatomic definition seen on a CT scan which makes CT scan the preferred study.

References

1. Bornstein SR, Allolio B, Arlt W, et al. Diagnosis and Treatment of Primary Adrenal Insufficiency: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab*. 2016;101(2):364-389.
2. Udelsman R, Fishman EK. Radiology of the adrenal. *Endocrinol Metab Clin North Am*. 2000 Mar;29(1):27-42, viii. doi: 10.1016/s0889-8529(05)70114-6. PMID: 10732262.
3. Badawy M, Gaballah AH, Ganeshan D, Abdelalziz A, Remer EM, Alsabbagh M, Westphalen A, Siddiqui MA, Taffel MT, Itani M, Shaaban AM, Elsayes KM. Adrenal hemorrhage and hemorrhagic masses; diagnostic workup and imaging findings. *Br J Radiol*. 2021 Nov 1;94(1127):20210753. doi: 10.1259/bjr.20210753. Epub 2021 Aug 31. PMID: 34464549; PMCID: PMC8553189.
4. Huang YC, Tang YL, Zhang XM, Zeng NL, Li R, Chen TW. Evaluation of primary adrenal insufficiency secondary to tuberculous adrenalitis with computed tomography and magnetic resonance imaging: Current status. *World J Radiol*. 2015 Oct 28;7(10):336-42. doi: 10.4329/wjr.v7.i10.336. PMID: 26516430; PMCID: PMC4620114.

