

# Primary Aldosteronism Testing

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**INDICATIONS FOR TESTING**  
 Suspicion of primary aldosteronism  
 Manifestations: hypertension (consistently >150/100 mmHg or treatment resistant), hypokalemia, metabolic alkalosis

**Before testing**

- Attempt to correct low potassium
- Encourage liberal sodium intake
- Withdraw agents that significantly affect ARR (eg, potassium-wasting diuretics, licorice root products, etc.) for at least 4 wks

**ORDER**  
 Aldosterone-renin activity ratio  
**OR**  
 Aldosterone-direct renin ratio  
 (both are best assessed in the morning)

ARR within normal range based on laboratory-defined cutoffs  
**Primary aldosteronism unlikely**

ARR results inconclusive based on laboratory-defined cutoffs  
 Remove agents with a lesser effect on ARR (eg, NSAIDs, beta blockers, etc.)  
 Repeat ARR testing after 2 wks

ARR above normal range based on laboratory-defined cutoffs  
**Primary aldosteronism possible**

- Spontaneous hypokalemia
- Plasma renin below limit of detection
- Plasma aldosterone >20 ng/dL

**Primary aldosteronism confirmed**

**PERFORM**  
 One of the following confirmatory tests

- Oral sodium loading
- Saline infusion
- Fludrocortisone suppression
- Captopril challenge

**AND**  
 One or both of

- Plasma aldosterone concentration
- Urinary aldosterone concentration

Equivocal  
 Repeat testing in 3 mos

Nonsuppressible aldosterone  
**Primary aldosteronism confirmed**

Suppressible aldosterone  
**Primary aldosteronism unlikely**

Adrenal CT scan (MRI does not add to sensitivity)

Normal, micronodularity or bilateral masses  
 Bilateral AVS  
 Lateralization  
 No  
**CONSIDER Genetic testing for GRA**  
 Negative  
**IAH**  
 Positive  
**GRA**

Unilateral macroadenoma nodule >1 cm but <4 cm  
 >35 yrs  
 Yes  
**APA or UAH: unilateral adrenalectomy**  
 No

Unilateral mass ≥4 cm  
 Likely adrenal carcinoma

**Abbreviation Key**

APA	aldosterone-producing adenoma
ARR	aldosterone-renin ratio
AVS	adrenal venous sampling
CT	computed tomography
GRA	glucocorticoid-remediable aldosteronism
IAH	idiopathic adrenal hyperplasia
MRI	magnetic resonance imaging
NSAID	nonsteroidal anti-inflammatory drug
UAH	unilateral adrenal hyperplasia

**Reference**  
 Funder JW, Carey RM, Mantero F, et al. The management of primary aldosteronism: case detection, diagnosis, and treatment: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab.* 2016;101(5):1889-1916.