Clinical suspicion:
- Weakness, fatigue, nausea, musculoskeletal pain, dizziness, volume depletion, abdominal pain, hypotension, hyponatremia, hyperkalemia, hyperpigmentation, hypoglycemia

For patient in adrenal crisis, defer diagnostic workup until patient is stabilized.

ORDER
ACTH stimulation test
AND
Baseline plasma ACTH test

ADDITIONAL TESTING
Measure aldosterone and renin

Normal cortisol response
- Adrenal insufficiency not likely

Low cortisol response
- Adrenal insufficiency likely
  - High baseline ACTH
    - Primary adrenal insufficiency
      - For infants and patients with suspected CAH
        ORDER
        17-hydroxyprogesterone test
          - Markedly elevated
            CAH
            Refer to ARUP Consult Congenital Adrenal Hyperplasia topic
          - Mildly elevated or normal
            Genetic syndromes

    - Secondary adrenal insufficiency
      Evaluate pituitary function
      Refer to Hypopituitarism (Anterior Pituitary) Testing Algorithm

  - Low or normal baseline ACTH

For patients >6 mos
ORDER
21-hydroxylase antibody test

Negative
Even with undetectable antibodies, autoimmune etiology is still most likely
- Also consider other etiologies
  - Steroid drug replacement
  - CAH
  - Adrenoleukodystrophy
  - Infection
  - Cancer

Positive
Autoimmune adrenal insufficiency

Abbreviations:
ACTH adrenocorticotropic hormone
CAH congenital adrenal hyperplasia