**Fabry Disease Testing Algorithm**

Fabry disease is an X-linked disorder; males will be symptomatic, carrier females may or may not be symptomatic. Genetic consultation is recommended.

Patients with at least 1 of the following indications*:
- Positive or suspected family history
- Angiokeratomas
- Peripheral neuropathy
- Proteinuria
- Cardiovascular disease
- Or any associated feature

*A separate algorithm is available for positive newborn screen results, see Fabry Disease: Newborn Screen-Positive Follow-up algorithm.

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**Males**

Positive family history with mutation identified

- Recommended initial evaluation (select 1)
  - AGA / Alpha-Galactosidase, Leukocytes
  - AGABS / Alpha-Galactosidase, Blood Spot
  - AGAS / Alpha-Galactosidase, Serum**

Normal enzyme activity

- Fabry disease highly unlikely (<1% of affected males have leukocyte enzyme values within the normal range); consider evaluation for other diseases

Reduced enzyme activity

- FABRZ / Fabry Disease, Full Gene Analysis (can be performed on specimen received for AGA or AGABS test)

- No mutation
  - Reduced enzyme result suggests Fabry disease
  - Suggests the presence of a mutation that is undetectable by this method

- Mutation detected
  - Confirmed diagnosis of Fabry disease
  - Consider performing FMTT / Familial Mutation, Targeted Testing for at-risk family members

**Females**

Positive family history with mutation identified

- Recommended initial evaluation: (select 1)
  - AGA / Alpha-Galactosidase, Leukocytes
  - AGABS / Alpha-Galactosidase, Blood Spot
  - AGAS / Alpha-Galactosidase, Serum**

Due to low sensitivity of enzyme testing for females, the following evaluations are also recommended:
- CTSA / Ceramide Trihexosides and Sulfatides, Urine
- Ophthalmology exam with slit-lamp
- Cardiac evaluation for Fabry disease
- Renal evaluation for Fabry disease

Any abnormal finding

- FABRZ / Fabry Disease, Full Gene Analysis
- Consider performing FMTT / Familial Mutation, Targeted Testing for at-risk family members

No abnormal finding

- Family history of Fabry disease

- If proband is available, determine family mutation by testing proband first
- If proband is not available, perform FABRZ / Fabry Disease, Full Gene Analysis on the female patient

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*An interpretive report is provided for all tests in this algorithm.

**Molecular genetic testing cannot be added to this specimen type and would require a new specimen collection.