Wilson Disease Testing Algorithm

**Normal CP and serum Cu**
- Normal 24-hour urine Cu
- Normal liver function tests
- K-F ring absent

**WDZ / Wilson Disease, Full Gene Analysis**
- Follow-up

**Decreased CP and serum Cu**
- Increased 24-hour urine Cu
- K-F ring present

**WDZ / Wilson Disease, Full Gene Analysis**
- If histology is required for confirmation
- If liver Cu quantitation is required

**Decreased CP and serum Cu**
- Increased 24-hour urine Cu
- K-F ring present

**WDZ / Wilson Disease, Full Gene Analysis**
- No mutations identified AND Clinical picture consistent with WD

**No mutations identified AND Clinical picture supports an alternative diagnosis**
- Continue evaluation for alternative diagnosis

**Any of the following combinations:**
- Two mutations identified
- Two mutations identified AND consistent histology regardless of Cu level
- No mutations identified AND increased Cu >250 mcg/g dry weight and consistent histology in the absence of long-standing (>1 year) liver failure or obstruction

**No mutations identified**
- Cu <250 mcg/g dry weight and inconsistent histology

**Normal CP and serum Cu**
- Normal 24-hour urine Cu
- K-F ring absent

**Diagnostic for WD, liver biopsy not required**
- Continue evaluation for alternative diagnosis

**No mutations identified AND Clinical picture supports an alternative diagnosis**
- Continue evaluation for alternative diagnosis

**No mutations identified**
- Cu <250 mcg/g dry weight and inconsistent histology

**Wilson disease excluded**
- No mutations

**Begin with:**
- AST, ALT, ALP, total and conjugated bilirubin, albumin, CBC
- Serum ceruloplasmin (CP)
- Serum copper (Cu)
- 24-Hour urine Cu
- Slit-lamp exam for Kaiser-Fleischer (K-F) ring
- Brain MRI for neurologic symptoms