**Helicobacter pylori Diagnostic Algorithm**

**Legend**

1. Breath test, stool antigen, histology with special staining for *H pylori* organisms, and/or culture are the gold standard tests for diagnosis of *H pylori* infection.
2. Mayo Medical Laboratories utilizes the POCone Infrared Spectrophotometer; performance characteristics for this instrument have not been established for persons under age 3. For patients 3 to 17 years, age, weight and height must be included in test request for appropriate result interpretation.
3. According to the 2007 American College of Gastroenterologists guidelines, serology should be avoided in low prevalence populations or positive results should be confirmed with a test that identifies an active infection such as the urea breath test or stool antigen test.
4. Confirmation of eradication testing should not be ordered until 2 to 4 weeks after cessation of treatment. Proton pump inhibitors and antisecretory drugs should be discontinued for at least 1 week prior to assessment of *H pylori* eradication.
5. Culture is not routinely used for initial diagnosis of *H pylori* infection in the Mayo Clinic practice, but is required for antibiotic susceptibility testing if physicians suspect antibiotic resistance in patients who have previously failed therapy.

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**Alarm Features:** eg, melena, hematemesis, weight loss, persistent vomiting, dysphagia, anemia.

**Adults <55 years**

- Urea breath test: 
  - UBT / *Helicobacter pylori* Breath Test
  - OR
  - Stool antigen: 
    - HPSA / *Helicobacter pylori* Antigen, Feces
    - OR
    - Serology: 
      - SHELG / *Helicobacter pylori* Antibody, IgG, Serum

**Adults ≥55 years**

- Evaluate for other causes of dyspepsia

**POSITIVE**

- Treat for *Helicobacter pylori* infection

**NEGATIVE**

- Evaluate for other causes of dyspepsia

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**Children**

- Stool antigen: 
  - HPSA / *Helicobacter pylori* Antigen, Feces (preferred)
  - OR
  - Urea breath test: UBT / *Helicobacter pylori* Breath Test for children ≥3 years

**POSITIVE**

- Evaluate for other causes of dyspepsia

**NEGATIVE**

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**Endoscopy with biopsy for histology or rapid urease testing**

**POSITIVE**

- Treat for *Helicobacter pylori* infection

**NEGATIVE**

- Evaluate for other causes of dyspepsia

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**Optional:**

- Monitor treatment efficacy or confirmation of eradication:
  - Urea breath test: UBT / *Helicobacter pylori* Breath Test
  - OR
  - Stool antigen: HPSA / *Helicobacter pylori* Antigen, Feces

**POSITIVE**

- Evaluate for other causes of dyspepsia

**NEGATIVE**

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**Consider treatment failure due to antibiotic resistance: repeat endoscopy. Order HELIS / *Helicobacter pylori* Culture with Antimicrobial Susceptibilities for culture and antibiotic susceptibility testing or submit isolated organism for ZMMLS / Antimicrobial Susceptibility, Aerobic Bacteria, MIC.**

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