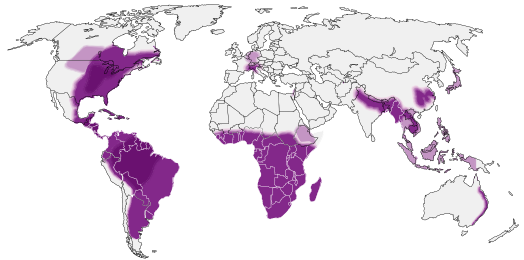
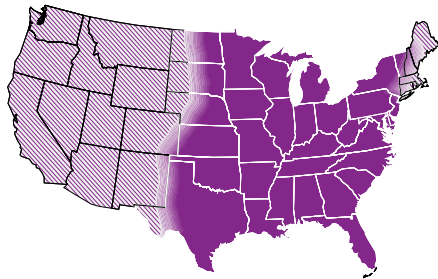




# Community-Acquired Pneumonia (CAP) When to Think Fungus: Histoplasmosis

Accessible version: <https://www.cdc.gov/fungal/diseases/histoplasmosis/diagnosticalgorithms>

**Patient living in or having traveled to a disease-endemic area**  
(note: although less common, people have acquired disease outside of the shaded regions)



 Areas *Histoplasma* is more likely to live  
 Potential range of *Histoplasma*

These maps are approximations. *Histoplasma* is not distributed evenly and may not be present everywhere within the shaded areas. It may also be present outside of the areas indicated.

**CAP of unknown etiology not responding to a course of empiric antibiotics**

OR

**Initial CAP visit if:**

- Notable exposure to bird or bat droppings (cave or demolition/remodeling exposure; note that many patients do not recall a specific exposure) OR
- Chest X-ray showing new nodules or lymphadenopathy OR
- Link to known histoplasmosis outbreak

**Consider enzyme immunoassay (EIA) urine antigen and immunodiffusion (ID) or complement fixation (CF) serum antibody testing\***

Antigen or antibody positive

**Probable acute pulmonary histoplasmosis\***

**Positive**

Antigen and antibody negative

High degree of suspicion

Consider alternative diagnoses

Retest†

Consider consulting infectious diseases or pulmonology

**Negative**

Consider alternative diagnoses

\* In the first two weeks of infection, false-negative tests may occur with antigen testing. Depending on availability, serum antibody testing for *Histoplasma* can be considered to increase sensitivity, particularly if clinical suspicion is high; however, a positive serum antibody test may indicate previous infection. Enzyme immunoassay (EIA or ELISA) antigen testing is typically considered first because of a quicker turnaround and higher sensitivity; however, it has a high rate of cross-reactivity with *Blastomyces*. Immunodiffusion and complement fixation antibody tests can be used if EIA is not available or if clinicians want to rule out *blastomycosis* or other fungal diseases.

† Repeat antibody testing, since testing may be negative early in illness, or order sputum or bronchoalveolar lavage (BAL) culture and microscopy.



U.S. Department of  
Health and Human Services  
Centers for Disease  
Control and Prevention

This product was made in collaboration with the Mycoses  
Study Group Education & Research Consortium

CS333421-B

| Test   | Sensitivity | Specificity                                  | Population studied                       |
|--|-------------|--|--|
| <b>Antibody tests</b>                          |             |  |  |
| EIA antibody <sup>8</sup>                      | 98%         | 97% (high cross-reactivity with Blastomyces) | Immunocompromised & healthy populations  |
| Complement fixation (CF) antibody <sup>9</sup> | 72%–95%     | 70%–80%                                      | Adult populations                        |
| Immunodiffusion (ID) antibody <sup>9</sup>     | 70%–95%     | 100%   | Adult populations                        |
| <b>Antigen tests</b>                           |             |  |  |
| EIA urine antigen <sup>7</sup>                 | 79%         | 99%  | Adult population, people living with HIV |
| EIA serum antigen <sup>7</sup>                 | 82%         | 97%  | Adult population, people living with HIV |
| <b>Other tests</b>                             |             |  |  |
| Culture <sup>10</sup>                          | 15%–85%     | 100%   | Acute or subacute, disseminated disease  |
| Microscopy/histopathology <sup>10</sup>        | 9%–43%      | 100%   | Acute or subacute, disseminated disease  |