

# **Banner Clinical Practice for Management of Valley Fever**

For  
ACP Az Chapter Annual Meeting  
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# Disclosures

Drs. Galgiani

Has no conflicts of interest to disclose



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# What Is Valley Fever?

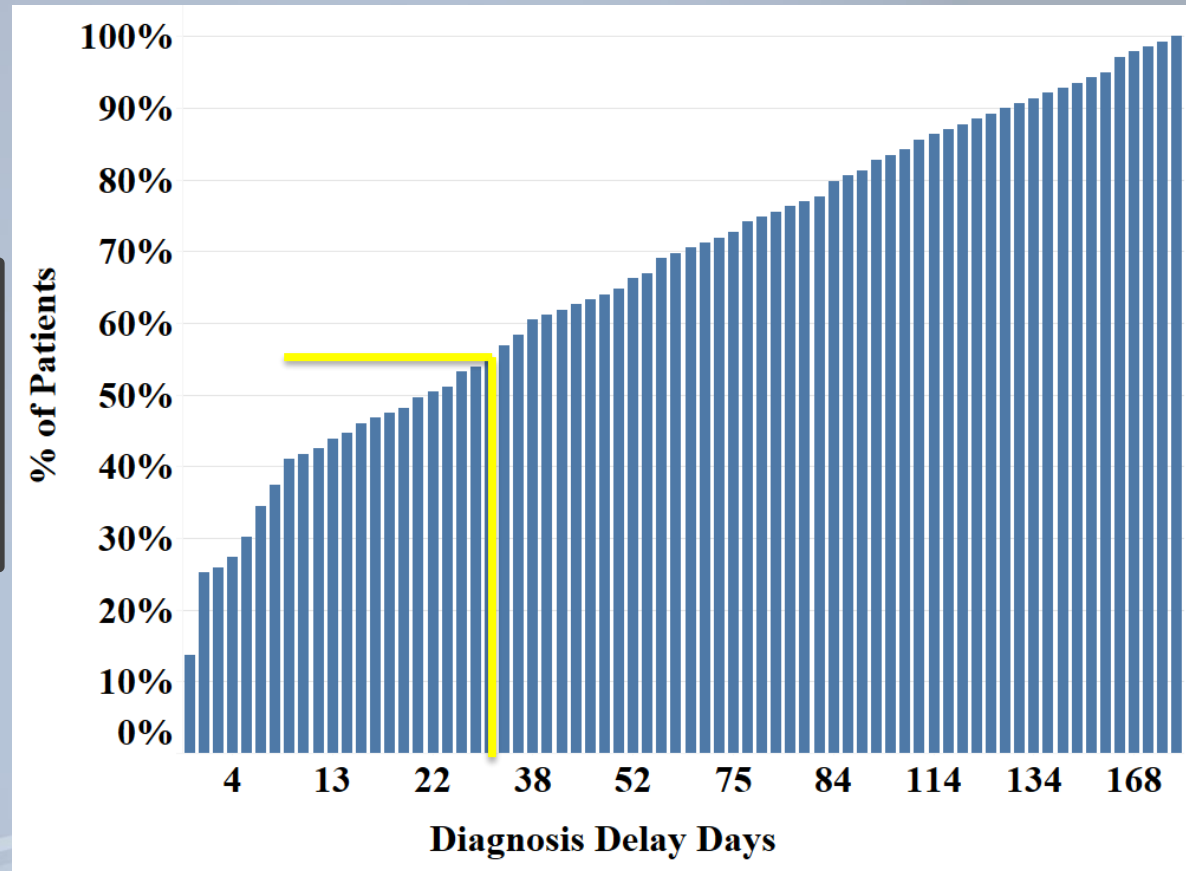
- Caused by soil fungi
  - Coccidioides immitis*
  - Coccidioides posadasii*
- Other names:
  - Coccidioidomycosis
  - “COCCI”
- Inhalation of one spore causes infection
- Spectrum of disease
  - Sub-Clinical: 60%
  - Self-Limited: 30%
  - Complicated: 10%
- After infection, most persons develop life-long immunity to a second infection



# Delay of Outpatient VF Diagnosis

**BUMC-P**  
45% of Diagnoses  
Delayed > 1 month

Ginn et al. EID, 2019

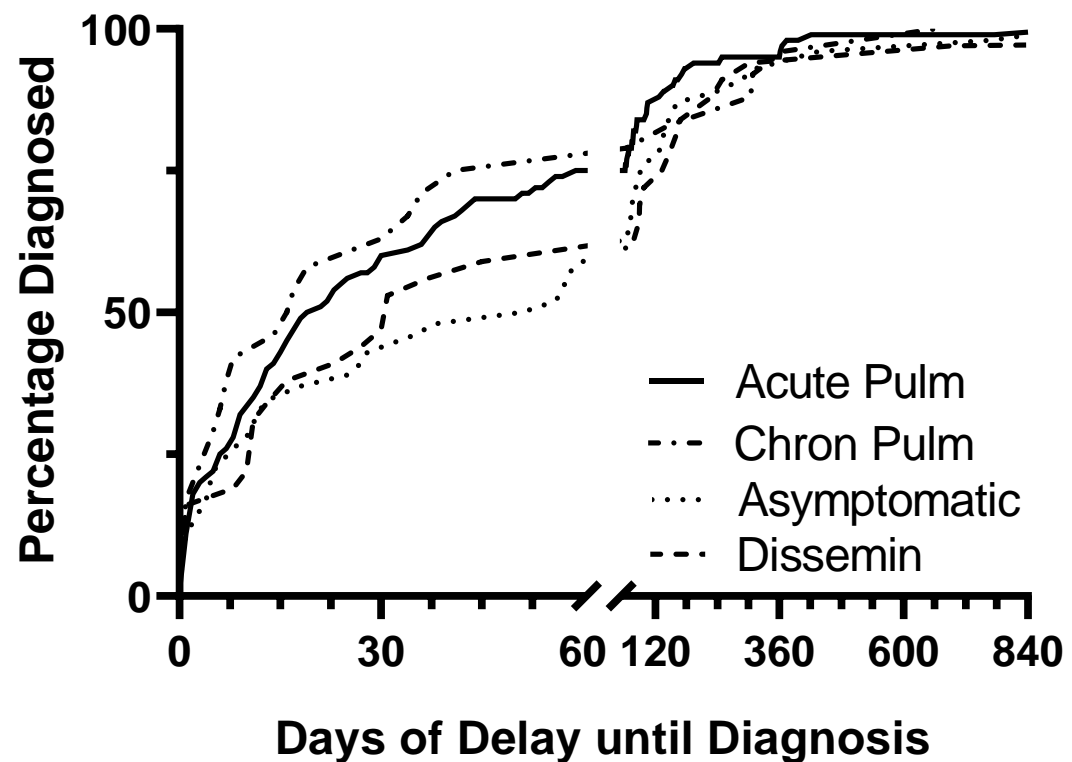


# Delay of Outpatient VF Diagnosis

**BUMC-T**  
43% of Diagnoses  
Delayed > 1 month

Donovan et al. EID, 2019

Figure 1.



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# Valley Fever

(Coccidioidomycosis)

A Training Manual for  
Primary Care Professionals

Prepared by



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# Primary Care of Coccidioidomycosis

C onsider the diagnosis  
O rder the right tests  
C heck for risk factors  
C heck for complications  
I nitiate management



## Recognition, Evaluation and Management of *Coccidioidomycosis* (Valley Fever)

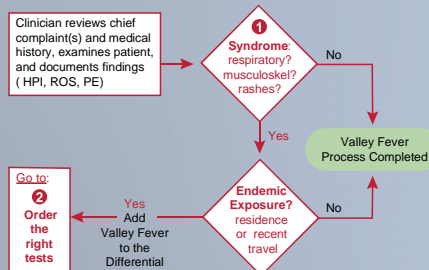
Just Remember **C-O-C-C-I**

### RECOGNITION

#### C 1 Consider the diagnosis

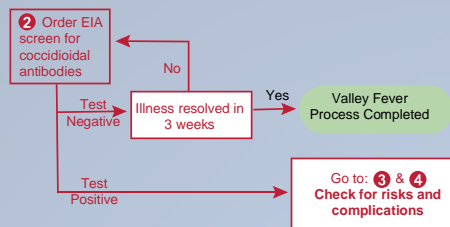
Respiratory: Previous visit, needs X-ray or antibacterial Rx?  
Musc/Skel: More than one week, associated with fever or fatigue.

Rashes: *E. nodosum* or *E. multifforme*



### RECOGNITION continued

**O 2 Order the right tests**  
EIA screen for coccidioidal antibodies with reflex to immunodiffusion and quantitative CF.



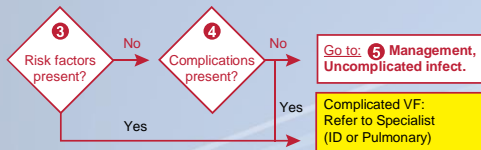
### EVALUATION

#### C 3 Check for Risk Factors

Immunosuppression (HIV, organ recipient, Rheum/GI/Derm response modifier Rx, renal failure)  
Diabetes, major cardiac or pulmonary comorbidities, pregnancy

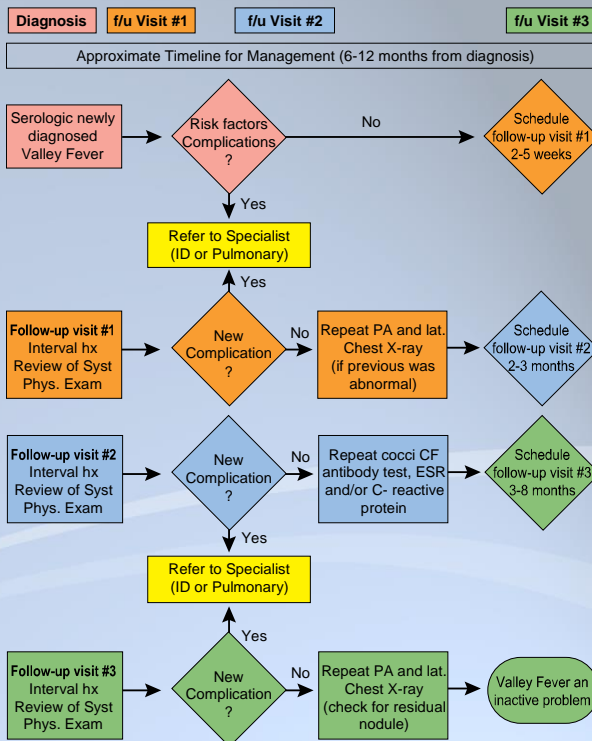
#### C 4 Check for complications evident by physical exam or imaging

Focal ulceration or skin/soft tissue inflammation.  
Asymmetric skeletal pain, joint effusions.  
Progressive or unusual headache.



### MANAGEMENT

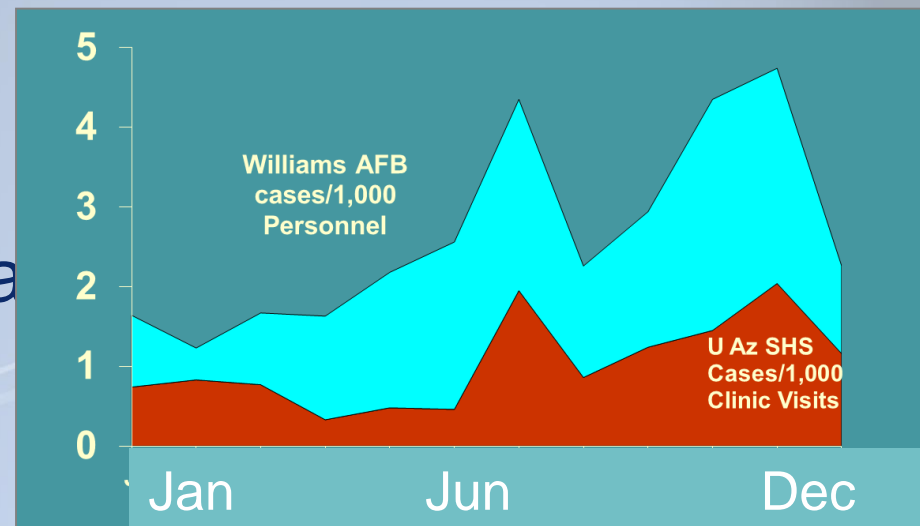
#### I 5 Initiate Management, Uncomplicated VF





# Consider the diagnosis in Arizona

- In Arizona, Valley Fever is very common. It should be in the differential often.
- More frequent between the monsoons and the winter rains.
- Syndromes:
  - Always in community acquired
  - Rheumatism.
  - Rashes.



# Oder the Right Tests: EIA screen for Coccidioidal Antibodies

## Enzyme Immunoassay (EIA) test

- **A positive test** is very specific and usually is diagnostic.
- **A negative test** never rules out Valley Fever. Repeated testing improves diagnostic sensitivity.



# Check for Risk Factors

## Pulmonary Complications

- Diabetes mellitus
- Cardio-pulmonary or other co-morbidities (Evidence: “common sense”).

## Disseminated Infection

- Major and critical
  - Cell immunodeficiency
  - Pregnancy
- Minor and small effect
  - Males > Females
  - Racial background
  - Adults > Children



# Check for Complications

- Most complications are focal
- **A review of systems and physical examination will usually detect or exclude the possibility of complications.**
- New focal findings warrant either evaluation or referral for Infectious Diseases or Pulmonary consultation.



# Widely Disseminated Coccidioidomycosis



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# Disseminated Coccidioidomycosis



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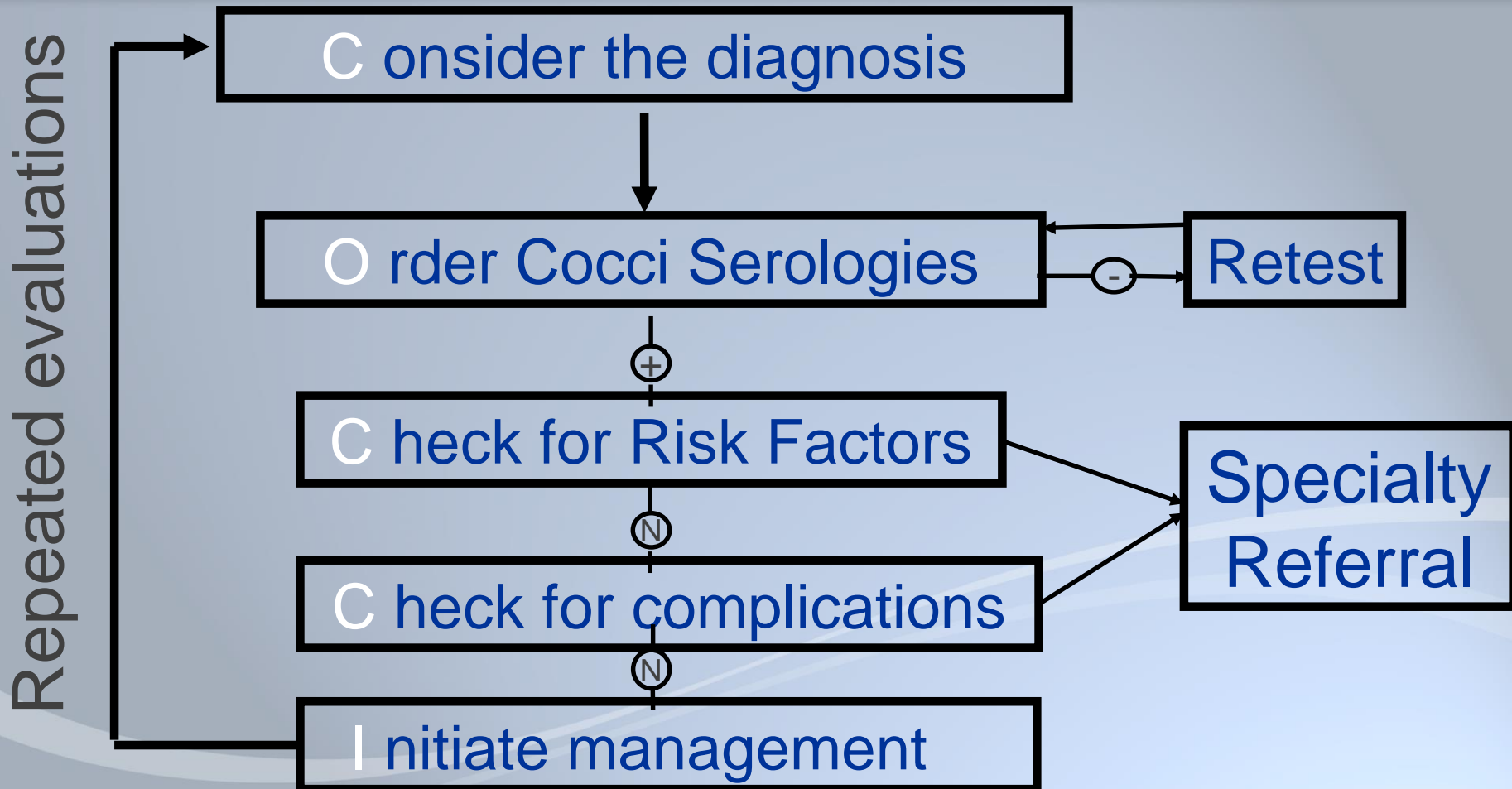
# Disseminated Coccidioidomycosis



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# Primary Care of Coccidioidomycosis



# Management

## Low Risk, Simple Early Infection

- Follow-up office visits
- Serial body weights
- Check for new symptoms or signs
- Repeat coccidioidal antibody testing
- Repeat Chest PA and Lateral X-rays
- Most patients do not need therapy



*Clinical Infectious Diseases*

**IDSA GUIDELINE**



Infectious Diseases Society of America



hiv medicine association



# 2016 Infectious Diseases Society of America (IDSA) Clinical Practice Guideline for the Treatment of Coccidioidomycosis

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**Clin Infect Dis, 2016**



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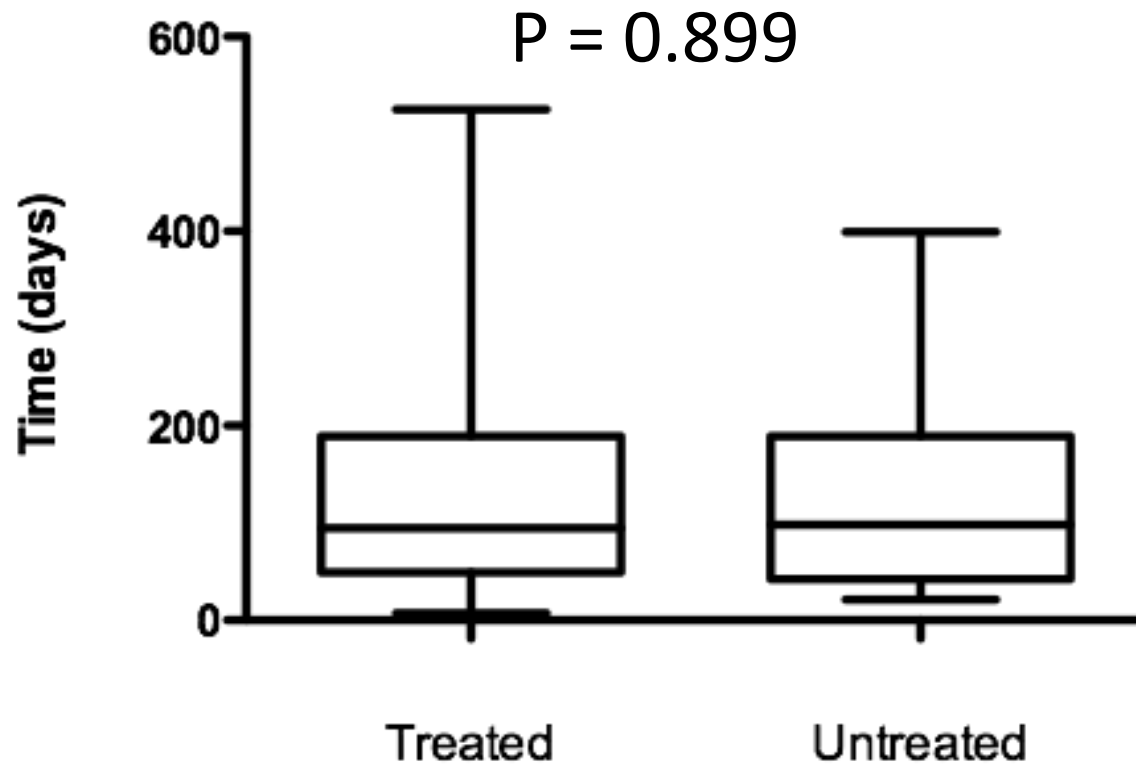
# 2016 IDSA Guidelines

## Treatment of Coccidioidomycosis

“It should be emphasized that no randomized trials exist to assess whether antifungal treatment either shortens the illness of early uncomplicated coccidioidal infections or prevents later complications.”



# Median days to $\geq 50\%$ decline in total clinical score



# Outcome of Subjects (> 1 month follow-up)

- 50 not treated
  - Median follow-up: 3.1 years
  - All without complications
- 51 treated
  - Median follow-up: 2.9 years
  - 38 off-therapy and without complications
  - 5 remained on treatment
  - 8 had relapses
    - 5 with pulmonary disease
    - 3 with extrapulmonary dissemination
    - Relapses occurred up to 2 years after stopping treatment





# Summary

- Banner Health and the UA Valley Fever Center for Excellence are changing the way Arizona clinicians recognize and manages patients with Valley Fever.
- Central to this change will be the expanded roll of primary care clinicians in earlier diagnosis and management of uncomplicated Valley Fever.



# New Banner Clinical Practice for Management of Valley Fever Thank-You

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Fever



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For more information:

<http://vfce.arizona.edu/toolkit>