



## Complete Summary

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### GUIDELINE TITLE

Clinical practice guidelines for the management of sporotrichosis: 2007 update by the Infectious Diseases Society of America (IDSA).

### BIBLIOGRAPHIC SOURCE(S)

Kauffman CA, Bustamante B, Chapman SW, Pappas PG, Infectious Diseases Society of America. Clinical practice guidelines for the management of sporotrichosis: 2007 update by the Infectious Diseases Society of America. Clin Infect Dis 2007 Nov 15;45(10):1255-65. [PubMed](#)

### GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Kauffman CA, Hajjeh R, Chapman SW. Practice guidelines for the management of patients with sporotrichosis. For the Mycoses Study Group. Infectious Diseases Society of America. Clin Infect Dis 2000 Apr;30(4):684-7.

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## SCOPE

### DISEASE/CONDITION(S)

Sporotrichosis including the following types:

- Lymphocutaneous and cutaneous
- Osteoarticular
- Pulmonary

- Meningeal
- Disseminated (systemic)

### **GUIDELINE CATEGORY**

Management  
Treatment

### **CLINICAL SPECIALTY**

Dermatology  
Family Practice  
Infectious Diseases  
Internal Medicine  
Obstetrics and Gynecology  
Pediatrics

### **INTENDED USERS**

Physicians

### **GUIDELINE OBJECTIVE(S)**

To provide recommendations for the treatment of various forms of sporotrichosis

### **TARGET POPULATION**

Patients with sporotrichosis including pregnant women, children, and immunosuppressed patients

### **INTERVENTIONS AND PRACTICES CONSIDERED**

#### **Treatment**

1. Itraconazole and obtaining serum levels of itraconazole after 2 weeks of treatment
2. Terbinafine for lymphocutaneous and cutaneous sporotrichosis
3. Fluconazole for lymphocutaneous and cutaneous sporotrichosis
4. Amphotericin B (either lipid formulation or amphotericin B deoxycholate)
5. Local hyperthermia for cutaneous sporotrichosis
6. Saturated solution of potassium iodide (SSKI) for lymphocutaneous and cutaneous sporotrichosis
7. Surgery combined with amphotericin B for localized pulmonary disease

Refer to Table 2 in the original guideline document for information on dosages and preferred treatment.

### **MAJOR OUTCOMES CONSIDERED**

Effectiveness of treatment including cure/response rate and relapse rate

## METHODOLOGY

### **METHODS USED TO COLLECT/SELECT EVIDENCE**

Searches of Electronic Databases

### **DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE**

For the 2007 update, the Expert Panel reviewed and analyzed the literature on the treatment of sporotrichosis published since 2000, as well as literature noted in the 2000 Guidelines. Computerized literature searches of PUBMED from January, 2000 to July, 2006 from both the English and Spanish languages were performed. Searches were limited to human-only studies.

### **NUMBER OF SOURCE DOCUMENTS**

The search yielded 93 articles: 72 case reports, 17 reviews, 1 clinical practice guideline and 2 multicenter, randomized, controlled treatment trials.

### **METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE**

Weighting According to a Rating Scheme (Scheme Given)

### **RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE**

#### **Quality of Evidence**

- I. Evidence from  $\geq 1$  properly randomized, controlled trial
- II. Evidence from  $\geq 1$  well-designed clinical trial, without randomization; from cohort or case-controlled analytic studies (preferably from  $>1$  center); from multiple time-series studies; or from dramatic results from uncontrolled experiments
- III. Evidence from opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

### **METHODS USED TO ANALYZE THE EVIDENCE**

Systematic Review

### **DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE**

In evaluating the evidence regarding the management of sporotrichosis, the Panel followed a process used in the development of other Infectious Diseases Society of America (IDSA) guidelines. The process included a systematic weighting of the quality of the evidence and the grade of recommendation (see the "Rating Scheme for the Strength of the Evidence" and the "Rating Scheme for the Strength of the Recommendations" fields). Recommendations for the treatment of sporotrichosis were derived primarily from case reports and nonrandomized treatment trials (see Table 2 in the original guideline document).

## **METHODS USED TO FORMULATE THE RECOMMENDATIONS**

Expert Consensus

### **DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS**

A panel of experts composed of infectious diseases specialists who were from North and South America and who were experts in sporotrichosis was convened. The panelists had both clinical and laboratory experience with sporotrichosis. Panel participants are listed in Appendix 1 of the original guideline document.

#### **Consensus Development Based on Evidence**

The Panel met via teleconference on three occasions to complete the work of the guideline. The purpose of the teleconferences was to discuss the questions to be addressed, make writing assignments and discuss recommendations. All members of the panel participated in the preparation and review of the draft guideline. Feedback from external peer reviews was obtained.

## **RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS**

### **Strength of Recommendation**

- A. Good evidence to support a recommendation for use
- B. Moderate evidence to support a recommendation for use
- C. Poor evidence to support a recommendation

## **COST ANALYSIS**

A formal cost analysis was not performed and published cost analyses were not reviewed.

## **METHOD OF GUIDELINE VALIDATION**

External Peer Review  
Internal Peer Review

## **DESCRIPTION OF METHOD OF GUIDELINE VALIDATION**

All members of the Panel participated in the preparation and review of the draft guideline. Feedback from external peer reviews was obtained. The guideline was reviewed and approved by the Standards and Practice Guidelines Committee (SPGC) and the Board of Directors prior to dissemination.

# **RECOMMENDATIONS**

## **MAJOR RECOMMENDATIONS**

Definitions of the levels of evidence (I-III) and grades of recommendation (A-C) are provided at the end of the "Major Recommendations" field.

### **What Is the Treatment for Lymphocutaneous and Cutaneous Sporotrichosis?**

- For cutaneous and lymphocutaneous sporotrichosis, itraconazole 200 mg orally daily is recommended to be given for 2 to 4 weeks after all lesions have resolved, usually a total of 3 to 6 months **(AII)**.
- Patients who do not respond should be given a higher dosage of itraconazole, 200 mg twice daily **(AII)**, terbinafine at a dosage of 500 mg orally twice daily **(AII)**, or saturated solution of potassium iodide (SSKI) initiated at a dosage of 5 drops (using a standard eye-dropper) 3 times daily, increasing as tolerated to 40 to 50 drops 3 times daily **(AII)**.
- Fluconazole at a dosage of 400 to 800 mg daily should be used only if the patient cannot tolerate these other agents **(BII)**.
- Local hyperthermia can be used for treating patients, such as pregnant and nursing women, who have fixed cutaneous sporotrichosis and who cannot safely take any of the previous regimens **(BIII)**.

### **What Is the Treatment for Osteoarticular Sporotrichosis?**

- Itraconazole 200 mg orally twice daily for at least 12 months is recommended **(AII)**.
- Amphotericin B, given as a lipid formulation at 3 to 5 mg/kg daily, or amphotericin B deoxycholate, 0.7 to 1.0 mg/kg daily, can be used for initial therapy **(BIII)**. After the patient has shown a favorable response, therapy can be changed to itraconazole, 200 mg orally twice daily to complete a total of at least 12 months of therapy **(BIII)**.
- Serum levels of itraconazole should be obtained after the patient has been on this agent for at least two weeks to ensure adequate drug exposure **(AIII)**.

### **What is the Treatment for Pulmonary Sporotrichosis?**

- For severe or life-threatening pulmonary sporotrichosis, amphotericin B, given as a lipid formulation at 3 to 5 mg/kg daily, is recommended **(BIII)**. Amphotericin B deoxycholate, 0.7 to 1.0 mg/kg daily, could also be used **(BIII)**.
- After the patient has shown a favorable response to amphotericin B, therapy can be changed to itraconazole, 200 mg orally twice daily to complete a total of at least 12 months of therapy **(BIII)**.
- For less severe disease, itraconazole 200 mg orally twice daily for at least 12 months is recommended **(AIII)**.
- Serum levels of itraconazole should be obtained after the patient has been on this agent for at least two weeks to ensure adequate drug exposure **(AIII)**.
- Surgery combined with amphotericin B is recommended for localized pulmonary disease **(BII)**.

### **What is the Treatment for Meningeal Sporotrichosis?**

- Amphotericin B, given as a lipid formulation at a dosage of 5 mg/kg daily for 4 to 6 weeks, is recommended for initial treatment of meningeal

- sporotrichosis **(BIII)**. Amphotericin B deoxycholate, 0.7 to 1.0 mg/kg daily, could also be used but was not preferred by the panel **(BIII)**.
- Itraconazole, 200 mg twice daily, is recommended as step-down therapy after the patient responds to initial treatment with amphotericin B and should be given to complete a total of at least 12 months of therapy **(BIII)**.
  - Serum levels of itraconazole should be obtained after the patient has been on this agent for at least two weeks to ensure adequate drug exposure **(AIII)**.
  - For patients with acquired immunodeficiency syndrome (AIDS) and other immunosuppressed patients, suppressive therapy with itraconazole, 200 mg daily, is recommended to prevent relapse **(BIII)**

### **What is the Treatment for Disseminated (Systemic) Sporotrichosis?**

- Amphotericin B, given as a lipid formulation at a dosage of 3 to 5 mg/kg daily, is recommended for disseminated sporotrichosis **(BIII)**. Amphotericin B deoxycholate, 0.7 to 1.0 mg/kg daily, could also be used but was not preferred by the panel **(BIII)**.
- Itraconazole, 200 mg twice daily, is recommended as step-down therapy after the patient responds to initial treatment with amphotericin B and should be given to complete a total of at least 12 months of therapy **(BIII)**.
- Serum levels of itraconazole should be obtained after the patient has been on this agent for at least two weeks to ensure adequate drug exposure **(AIII)**.
- Lifelong suppressive therapy with itraconazole, 200 mg daily may be required in patients with AIDS and other immunosuppressed patients if immunosuppression cannot be reversed **(BIII)**.

### **What is the Treatment for Sporotrichosis in Pregnant Women and in Children?**

- Amphotericin B, given as a lipid formulation at a dosage of 3 to 5 mg/kg daily, or amphotericin B deoxycholate, given as 0.7 to 1 mg/kg daily, is recommended for severe sporotrichosis that must be treated during pregnancy **(BIII)**; azoles should be avoided.
- Local hyperthermia can be used for cutaneous sporotrichosis in pregnant women **(BIII)**.
- Itraconazole, at a dosage of 6 to 10 mg/kg to a maximum of 400 mg orally daily, is recommended for children with cutaneous or lymphocutaneous sporotrichosis **(BIII)**.
- An alternative for children is SSKI initiated at a dosage of 1 drop (using a standard eye-dropper) 3 times daily, increasing as tolerated up to a maximum of 1 drop/kg or 40 to 50 drops 3 times daily, whichever is lowest **(BIII)**.
- For children with disseminated sporotrichosis, amphotericin B, 0.7 mg/kg daily should be the initial therapy followed by itraconazole, 6 to 10 mg/kg up to 400 mg daily maximum as step-down therapy **(BIII)**.

### **Performance Measures**

1. Lymphocutaneous sporotrichosis should be treated with itraconazole or SSKI in countries in which the latter is the standard of care. When other azole agents are used, the medical record should document the specific reasons that they were chosen over itraconazole or SSKI.

2. Patients with disseminated or severe pulmonary sporotrichosis should be treated with an amphotericin B formulation initially. When amphotericin B is used, the patient's electrolytes, renal function, and blood counts should be monitored several times a week and documented in the medical record.

**Definitions:**

**Quality of Evidence**

- I. Evidence from  $\geq 1$  properly randomized, controlled trial.
- II. Evidence from  $\geq 1$  well-designed clinical trial, without randomization; from cohort or case-controlled analytic studies (preferably from  $> 1$  center); from multiple time-series; or from dramatic results from uncontrolled experiments.
- III. Evidence from opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

**Strength of Recommendation**

- A. Good evidence to support a recommendation for use.
- B. Moderate evidence to support a recommendation for use.
- C. Poor evidence to support a recommendation

**CLINICAL ALGORITHM(S)**

None provided

**EVIDENCE SUPPORTING THE RECOMMENDATIONS**

**TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS**

The recommendations for the treatment of sporotrichosis were derived primarily from case reports and nonrandomized treatment trials.

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

**BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS**

**POTENTIAL BENEFITS**

Appropriate treatment of various forms of sporotrichosis

**POTENTIAL HARMS**

- *Itraconazole oral solution* is associated with gastrointestinal side effects. Absorption of the capsule formulation is erratic. Drug-drug interactions are frequent with itraconazole

- *Terbinafine* is associated with gastrointestinal side effects and can cause liver toxicity.
- *Saturated solution of potassium iodide* is inconvenient to take and its common side effects include metallic taste, nausea, abdominal pain, salivary gland enlargement, and rash.
- Lipid formulations of *amphotericin B* are associated with decreased toxicity as compared with amphotericin B deoxycholate, but still cause nephrotoxicity and can cause infusion reactions.

## CONTRAINDICATIONS

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Azoles should be avoided in pregnancy because of the teratogenic potential of this class of drugs.

## QUALIFYING STATEMENTS

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It is important to realize that guidelines cannot always account for individual variation among patients. They are not intended to supplant physician judgment with respect to particular patients or special clinical situations. Infectious Diseases Society of America (IDSA) considers adherence to these guidelines to be voluntary, with the ultimate determination regarding their application to be made by the physician in the light of each patient's individual circumstances.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

### IMPLEMENTATION TOOLS

Personal Digital Assistant (PDA) Downloads

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Getting Better

### IOM DOMAIN

Effectiveness

## IDENTIFYING INFORMATION AND AVAILABILITY

### **BIBLIOGRAPHIC SOURCE(S)**

Kauffman CA, Bustamante B, Chapman SW, Pappas PG, Infectious Diseases Society of America. Clinical practice guidelines for the management of sporotrichosis: 2007 update by the Infectious Diseases Society of America. Clin Infect Dis 2007 Nov 15;45(10):1255-65. [PubMed](#)

### **ADAPTATION**

Not applicable: The guideline was not adapted from another source.

### **DATE RELEASED**

2000 Apr (revised 2007)

### **GUIDELINE DEVELOPER(S)**

Infectious Diseases Society of America - Medical Specialty Society

### **SOURCE(S) OF FUNDING**

Infectious Diseases Society of America (IDSA)

### **GUIDELINE COMMITTEE**

Infectious Diseases Society of America (IDSA) Standards and Practice Guidelines Committee

### **COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE**

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### **FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST**

C.A.K. Has research grants with Merck, Astellas and Schering-Plough and is on the Speaker's Bureau for Merck, Pfizer, Astellas and Schering-Plough

B.B. has a research grant from Schering-Plough

P.G.P. has research grants from Merck, Astellas, Pfizer and Schering-Plough and is on the speaker's bureau of Merck, Pfizer, Astellas and Schering-Plough

S.W.C. No conflicts

### **GUIDELINE STATUS**

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### **GUIDELINE AVAILABILITY**

Electronic copies: Available from the [Infectious Diseases Society \(IDSA\) Web site](#).

Print copies: Available from Dr. Carol A. Kauffman, Infectious Diseases Section, VA Medical Center (111-I), 2215 Fuller Rd., University of Michigan Medical School, Ann Arbor, MI 48105; E-mail: [ckauff@umich.edu](mailto:ckauff@umich.edu).

### **AVAILABILITY OF COMPANION DOCUMENTS**

A PDA version of the original guideline document is available from [www.idsaguidelinesforhandhelds.org](http://www.idsaguidelinesforhandhelds.org).

### **PATIENT RESOURCES**

None available

### **NGC STATUS**

This summary was completed by ECRI on May 1, 2001. The information was verified by the guideline developer as of June 29, 2001. This NGC summary was updated by ECRI Institute on October 24, 2007. The updated information was verified by the guideline developer on November 8, 2007.

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